

The Northern Ontario Perinatal and Child Health Survey Highlights Report: A First Look

A Perinatal and Child Health Survey Strategies Initiative



Northern Ontario Perinatal and Child Health Survey Consortium
December 2002

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PROJECT LEAD

Public Health Research, Education and Development (PHRED) Program

In partnership with the

Northern Ontario Perinatal and Child Health Survey Consortium

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Muskoka-Parry Sound Health Unit
North Bay & District Health Unit
Northwestern Health Unit
Porcupine Health Unit
Sudbury & District Health Unit**

**Thunder Bay District Health Unit
Timiskaming Health Unit
Northern Health Information Partnership
Lakehead University
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Nipissing University**

Consortium coordinated by the
Public Health Research, Education and Development (PHRED) Program
Sudbury & District Health Unit

December 2002

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The Northern Ontario Perinatal and Child Health Survey Highlights Report: A First Look

SECTION I: INTRODUCTION

BACKGROUND

In September 2000, an agreement was reached by the First Ministers on funding for the "Early Years". As a result, the Ministry of Health and Long-Term Care, Public Health Branch received \$9.74 million from an allocation of \$114 million to the Province of Ontario. The \$9.74 million allotment was subsequently divided so that each health unit received an individual grant to develop Early Years projects, including perinatal and child health survey strategies. Each of the northern health units was eligible for approximately \$45,000 in 2002 for survey projects.

The four key action areas identified as priorities for funding included:

- Promoting healthy pregnancy, birth and infancy
- Improving parenting and family supports
- Strengthening early childhood development, learning and care and
- Strengthening community supports

In January 2002, a teleconference was organized by the Public Health Research, Education & Development (PHRED) Program at the Sudbury & District Health Unit, and Northern Health Information Partnership (NHIP), and included research and program staff from eight northern health units (Algoma, Muskoka-Parry Sound, North Bay & District, Northwestern, Porcupine, Sudbury & District, Thunder Bay District, and Timiskaming), and Lakehead and Laurentian Universities. The purpose of the teleconference was to share ideas and discuss the best approach to move forward on the development of perinatal and child health survey strategies.

In addition, the teleconference participants discussed the benefits that could be gained by collaborating on specific elements of the initiative, especially sharing data collection, processing and dissemination strategies. As a result, a consortium of research and program staff emerged. The consortium, coordinated by the Sudbury PHRED Program, consisted of representatives from the eight northern health units, NHIP, Laurentian and Lakehead Universities and staff from the PHRED Program. In addition, Nipissing University joined the partnership at a later stage, thereby creating a consortium that included all northern universities.

The consortium decided that pooling the allocated funds and developing a joint project could provide a unique opportunity to address the development of perinatal and child health survey strategies in a way that far exceeded the work that could be accomplished by any single health unit. The survey results obtained would be comparable across Northern Ontario, and the cooperative effort would result in a more comprehensive report with increased scientific rigour and program relevance. In addition to the data that would be produced, it was felt that the project also provided a unique opportunity for northern health units and community partners to strengthen existing northern partnerships through further collaboration. Pooling resources also provided support to some health units that had less access to research and epidemiological resources.

Letters from each northern health unit confirming their participation in the joint northern initiative were forwarded to the Ministry of Health and Long-Term Care. For Ministry reporting, project contacts were identified for each health unit (Appendix A). The northern health unit representatives also acted as key information links to their communities, identifying information needs, key indicators, dissemination strategies and ensuring relevance of data. The project had two key outcomes: quality data to guide northern child health program and policy decisions, and a strong collaboration between northern health units, northern universities, NHIP and the Sudbury PHRED Program.

Consortium members agreed that the Sudbury PHRED would act as the coordinating site for the project, and it was given responsibility for organizing teleconferences, facilitating close collaboration, coordinating the shared budget, and ensuring that reporting requirements were met. To ensure the best possible product, frequent consultations between all partners, program staff and research staff took place, including monthly teleconferences of consortium members and one face-to-face meeting.

KEY DELIVERABLES

The consortium identified the projects that would make up the activities of the Northern Ontario Perinatal and Child Health Survey Strategies Initiative. Three separate but closely linked and complementary initiatives were planned:

- A new Northern Ontario Perinatal and Child Health Survey (Coordinated by the PHRED Program, with analysis led by Lakehead University)
- Northern Ontario Baseline Child Health Information Report: Analysis of Secondary Data (Led by NHIP)
- Child Health Module Development for the Rapid Risk Factor Surveillance System (RRFSS) (Led by the PHRED Program)

The **Northern Ontario Perinatal and Child Health Survey (NOPCHS)** was an extensive project to gather new data on perinatal and child health across Northern Ontario and at the individual health unit level by means of a telephone survey. Health units and community partners will use the data to improve intervention strategies targeting children aged 0-6 and their families in Northern Ontario.

The main topic areas of the Northern Ontario Perinatal and Child Health Survey are:

- Parenting (among parents/caregivers of children aged 0-6)
- Breastfeeding
- Unintentional Injuries and Safety
- Asthma
- Food Security
- Prenatal and Child Nutrition

The **Northern Ontario Baseline Child Health Information: Analysis of Secondary Data Report** outlines existing perinatal and child health information from a variety of data sources. The focus of the analyses is on secondary sources that contain information on children 6 years of age and younger who reside in Northern Ontario, and, where feasible, the parents of these children. The “Baseline” Report, led by NHIP, is the complementary companion report to this Survey report and provides a comprehensive summary of existing northern child health data.

The third project, the **Child Health Module Development for the Rapid Risk Factor Surveillance System (RRFSS)**, was carried out in collaboration with the RRFSS Working Group. This initiative created an opportunity to work on two additional child health modules: Breastfeeding Policy and Awareness, and Childhood Injury Prevention. These topics were identified as two priority information areas through consultation with Early Years and health unit program staff. The RRFSS component adds to the other two initiatives by building on data gathered to date and offering an option for ongoing surveillance information on selected perinatal and child health indicators.

The focus of this Highlights Report is on two of the northern collaborative projects:

1. Northern Ontario Perinatal and Child Health Survey
2. Child Health Module Development for the Rapid Risk Factor Surveillance System

The purpose of this report is to provide a “first look” at the wealth of data that was collected.

This report is closely linked to the companion report on the Northern Ontario Baseline Child Health Information: Analysis of Secondary Data.

SECTION II: METHODS

QUESTIONNAIRE DEVELOPMENT

The main objective of the first phase of this project was to develop a valid and reliable questionnaire that could be used in a telephone survey to collect data about perinatal and child health.

Potential survey questions and pertinent topics were solicited from various organizations such as Health Canada, Statistics Canada, and the partner health units. Wherever possible, questions for the survey were drawn from existing tools that have a demonstrated level of reliability and are valid for use in community samples, e.g., National Longitudinal Survey of Children and Youth, and the National Population Health Survey – Child Health Module. Likewise, regular consultations took place with program staff, Early Years project coordinators, and other health professionals in regard to content areas.

A Delphi process was used to discuss the selection and organization of questions in each of the six identified topic areas. At each step of the Delphi process, the entire group received a draft copy of the questionnaire soliciting feedback to meet the tight time constraints in the development of the questionnaire.

The final questionnaire was submitted to the Sudbury & District Health Unit Research and Ethics Committee for ethical review and the necessary changes were made as requested. The questionnaire was translated into French by an accredited translator.

A project methodology group was created to oversee the analysis. All recommendations were discussed at the consortium meetings.

Please see Appendix B for sources of survey questions. A copy of the survey is available upon request.

TELEPHONE SURVEY DATA COLLECTION

Three telephone data collection agencies were contacted in order to obtain quotes for conducting 650 phone interviews of mothers of children 0-6 years of age per health unit across eight northern health units (total sample of 5200). Based on both their capabilities and offered price, Oraclepoll Research Limited was selected to conduct the phone surveys. Each health unit agreed to provide 300 names of mothers who had consented to participate in the study, from their respective catchment areas, with the remaining 350 to be contacted by random digit dialling. The survey was directed towards mothers of children aged 0-6, and did not exclude mothers of adopted children. It was decided to contact only mothers for the survey since certain topic areas such as breastfeeding and folic acid intake during pregnancy were only applicable to mothers. In the Northern Ontario Perinatal and Child Health Survey, the child who celebrated the birthday most recently was

selected as the 'target child' if a mother had more than one child less than 7 years of age.

A protocol was developed to extract names randomly from the Integrated Services for Children Information System (ISCIS) database. The ISCIS database contains the names and contact information of mothers of newborn children who are residents of the respective health unit's catchment area. The extraction protocol was as follows: starting from the last day of the month, approximately 50 names were obtained for each month between September 2000 and August 2001. Contact was made with each mother by trained lay home visitors, who asked for her consent to be contacted by the surveyors. Contacts were made until 300 consents were obtained, with these names then being provided to Oraclepoll Research Limited. The Sudbury PHRED developed a consent script, which was approved through an ethics review process, as well as a package to train the lay home visitors who were to carry out the subject recruiting. The training took place via teleconference. A representative at each of the health units oversaw the recruitment process. A one-page summary information sheet that could be mailed out to individuals requiring additional information was also developed. All the material was made available in both English and French.

Pilot testing demonstrated that the time to complete the survey was greater than the intended duration of 20 minutes. As a result, the consortium again used a Delphi approach to reduce the number of questions to a time-manageable set while maintaining the construct validity of the survey tool. Through the Delphi approach, any question could be removed if there was consensus among three or more project members including program staff, who independently submitted their suggested deletions. Questions were kept when they were considered essential to public health program planning.

Oraclepoll Research Limited used a principal components analysis on a trial sample of survey respondents to determine the redundancy of questions. Based on these results, the consortium made final revisions to the questionnaire. A subcommittee of the research consortium monitored the telephone survey. Individuals from the health units were provided with an opportunity to monitor the initial pilot testing of telephone surveys and provide feedback on question revisions. The revised version of the survey was pilot tested in both French and English, and after minor revisions, data collection began at the end of March 2002 and was completed by the end of June. Oraclepoll Research Limited made a minimum of 15 calls to a number provided from ISCIS database, until the respondent could be reached. The average refusal rate for the sample was 19.7%. Among the general public, 5.3% of the eligible respondents (families with children under 7 years) refused to participate in the survey.

SAMPLE SIZE

The initial sample size for each health unit was determined using the formula of Pagano and Gauvreau,¹ with prevalence of 50%, 80% power ($\beta=.20$) and $\alpha=.05$. This gave sample sizes in the range of 550 to 650 per health unit from smallest to largest health unit. The population on which the sample was determined was the number of households with children age 0 to 6. To estimate the number of households with children age 0-6, 8% of total population in each health unit area was used. The population for each health unit was calculated based on information from the 1996 Census. Population numbers in the north have generally decreased between the 1996 and 2001 censuses. The original sample size was generous, allowing for sub-group analysis. Due to the length of the survey, resource constraints and difficulty in recruiting mothers with children aged 0-6 through random digit dialing, the sample size was reduced, while still maintaining sufficient numbers per health unit area to ensure reliable estimates for the primary questions of interest. Those health units that were able to recruit more mothers through the ISCIS database received a larger final sample size. The final sample size for each health unit can be found in Part 1 of the Findings section of the report.

ANALYSIS

Due to the nature of the sample, weighting must be applied to provide estimates that accurately reflect the population being surveyed. The weight assigned to respondents is based on two factors. First, a weight was calculated so that the distribution of children's ages 0-6 matched the population distribution within each health unit area, correcting for over-representation of younger children in our sample. The over-representation of younger children was due to the sample of mothers, contacted from the names extracted for ISCIS database, who had given birth more recently. The second level of weighting was for health unit population, in order to account for proportional under-representation of mothers in larger health unit areas in the calculation of northern rates. Therefore, a weight was calculated to adjust the proportion of mothers to the distribution of mothers by health unit area. The final weight is a product of the two weights.

For the Highlights Report the primary analyses were: frequency distributions for all northern health units combined, for individual health units, for all years combined and for specific years. Unweighted frequencies were first determined first. Any cell size with a count of less than 30 was excluded from the weighted analysis. Weighted frequency distributions were then computed and are the basis of the results presented with the exception of Table 1.1 and Figure 1.1. If missing values/non-responses were less than 5%, then the entire data set was used. If missing values were greater than 5%, it was reported separately and excluded from the analysis.

LIMITATIONS

During the development, collection and analysis stages of the Northern Perinatal and Child Health Survey, the consortium became aware of several limitations in the development of the questionnaire and collection of data:

- As with all telephone surveys, those people without phones are excluded from participating. This may lead to under-representation of lower socioeconomic status families.
- Respondent fatigue may have occurred due to the length of the survey. The length was a result of the attempt to cover many important child health issues.
- Some sub-group comparisons will not be possible due to the reduction in sample size required due to the length of the survey and difficulty in recruiting enough households with mothers of children aged 0-6 years.
- Social desirability may influence respondents' answers resulting in an under-representation of negative, and an over-representation of positive, health behaviors.
- Children living within institutions were excluded from this survey.
- Information in the survey is based on responses of mothers with children aged 0-6 and does not include fathers.

SECTION III: FINDINGS

The results are presented by section, based on the content areas of the questionnaire, including:

- Profile of the sample
- Parenting
- Breastfeeding
- Unintentional injuries and Safety
- Asthma and respiratory-related disorders
- Food security
- Prenatal and child nutrition

With the exception of Table 1.1 and Figure 1.1, the results represent weighted estimates as outlined in the Methods section.

PART 1 – PROFILE OF THE SAMPLE

The overall sample size was 3456.

Table 1.1 represents the unweighted distribution for the 'target child' by gender, across all northern health units. Table 1.2 represents the weighted percentage by gender of 'target children' across all northern health units. This illustrates a fairly even distribution of male and female children.

Table 1.1 Response distribution by gender of the 'target child' (unweighted data), all northern health units

Health Units	Males	%	Females	%	Totals
North Bay & District Health Unit	221	48.5	235	51.5	456
Northwestern Health Unit	207	51.8	193	48.3	400
Sudbury & District Health Unit	234	52.0	216	48.0	450
Timiskaming Health Unit	196	49.0	204	51.0	400
Algoma Health Unit	249	55.3	201	44.7	450
Thunder Bay District Health Unit	236	52.4	214	47.6	450
Porcupine Health Unit	203	50.6	198	49.4	401
Muskoka-Parry Sound Health Unit	248	55.2	201	44.8	449
Total for all northern health units	1794	51.9	1662	48.1	3456

Table 1.2 Percentage of 'target children' by gender (weighted data), all northern health units

Health Units	Males	Females
North Bay & District Health Unit	48.8	51.2
Northwestern Health Unit	51.8	48.2
Sudbury & District Health Unit	52.3	47.7
Timiskaming Health Unit	50.1	49.9
Algoma Health Unit	55.4	44.6
Thunder Bay District Health Unit	53.9	46.1
Porcupine Health Unit	46.6	53.4
Muskoka-Parry Sound Health Unit	52.1	47.9
Total for all northern health units	51.8	48.2

Figure 1.1 illustrates the unweighted distribution of individuals across the age categories, while Figure 1.2 illustrates the weighted distribution across age categories. This comparison demonstrates the 'balanced effect' that is achieved by weighting the sample.

Figure 1.1 Unweighted age distribution of 'target child', all northern health units

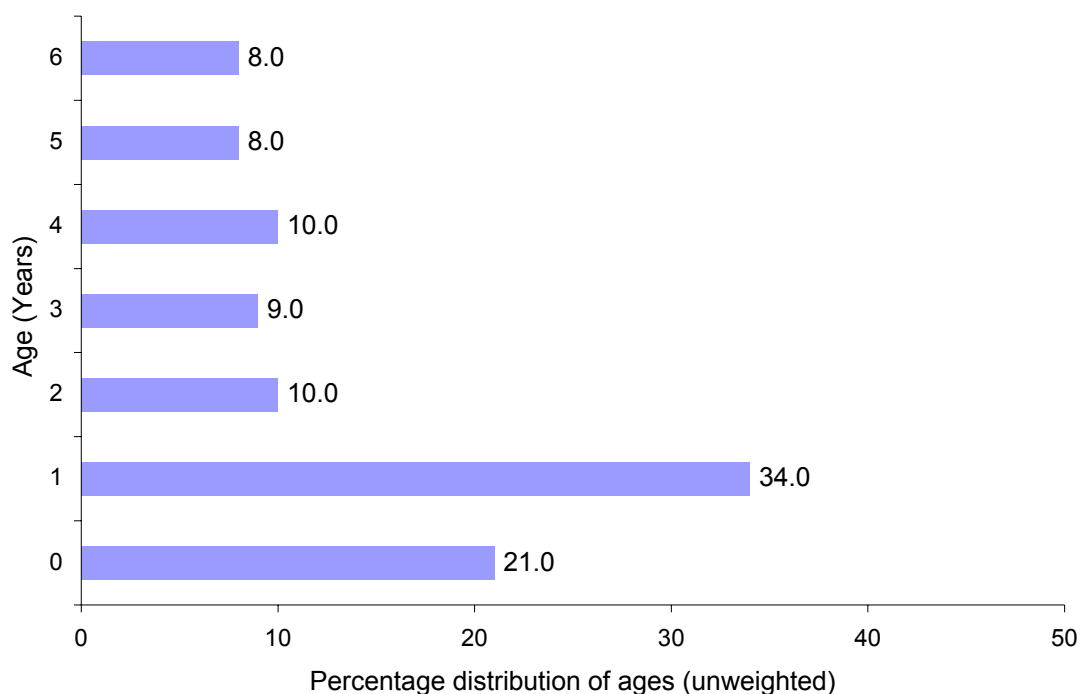
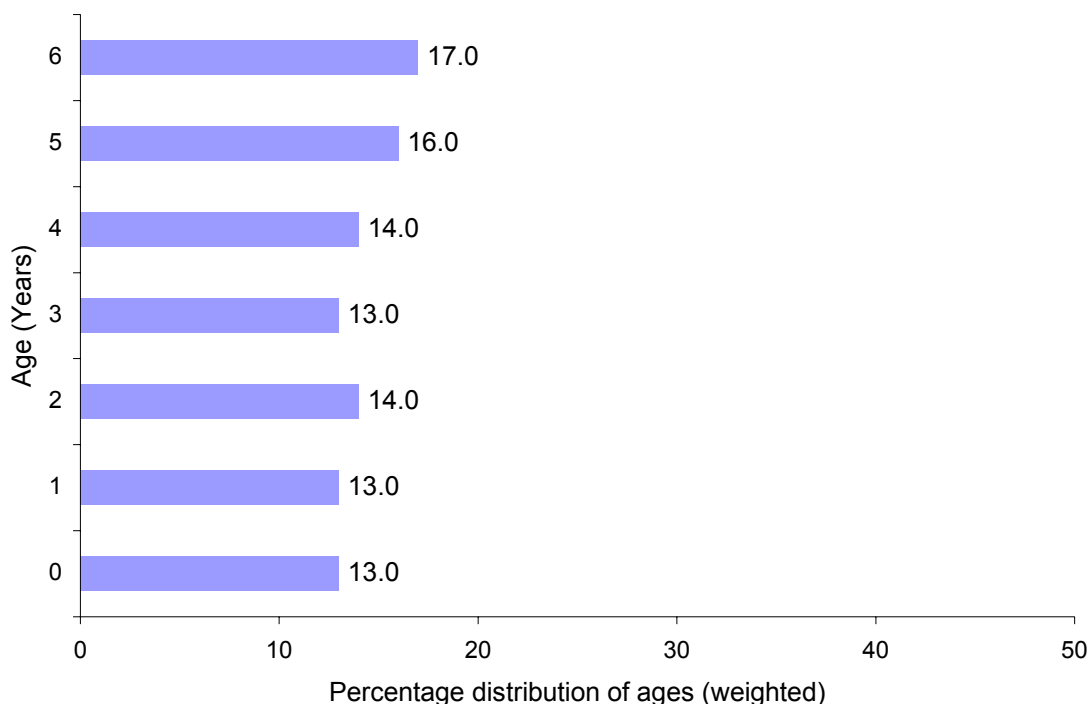


Figure 1.2 Weighted age distribution of 'target child', all northern health units



Tables 1.3 and 1.4 represent the weighted data for male and female children across the age groups for each health unit.

Table 1.3 Weighted age distribution for male 'target children' in percentages, all northern health units

Health Units	Age in Years						
	0	1	2	3	4	5	6
North Bay & District Health Unit	12.3	14.0	11.2	12.2	14.0	14.8	21.5
Northwestern Health Unit	14.3	14.0	14.0	10.6	17.3	11.5	18.2
Sudbury & District Health Unit	14.6	12.8	15.9	9.8	14.4	17.5	15.1
Timiskaming Health Unit	12.4	13.9	13.7	13.1	11.9	19.5	15.5
Algoma Health Unit	12.1	13.8	14.5	10.6	16.6	14.8	17.6
Thunder Bay District Health Unit	13.7	11.7	12.5	12.6	15.1	15.4	19.0
Porcupine Health Unit	14.8	16.3	10.7	15.7	14.6	17.4	10.4
Muskoka-Parry Sound Health Unit	14.9	14.3	12.5	15.7	15.2	12.0	15.4
Total for all northern health units	13.8	13.5	13.5	12.0	15.1	15.5	16.7

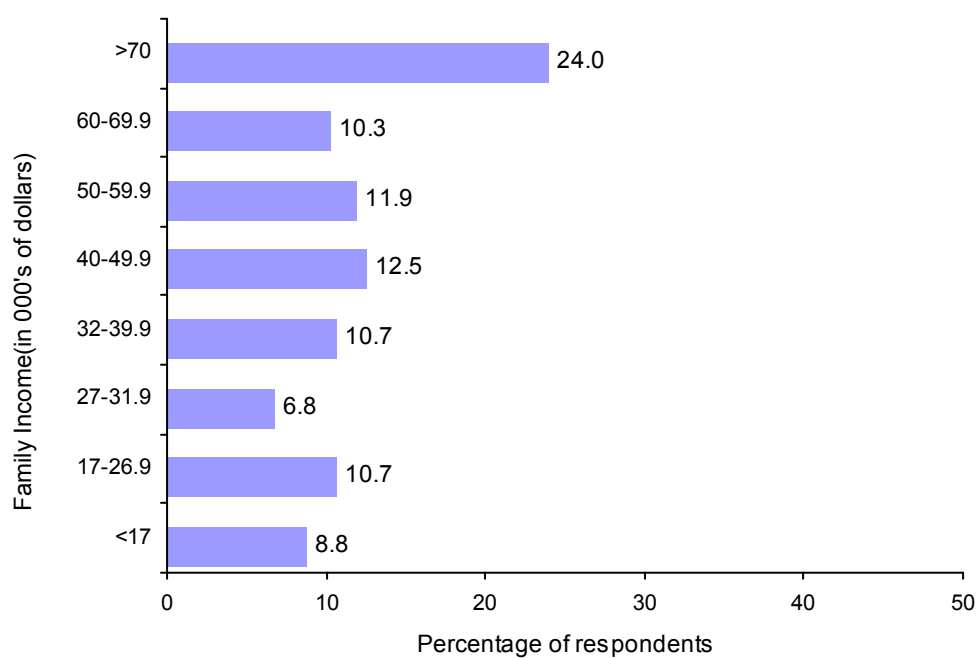
Table 1.4 Weighted age distribution for female 'target children' in percentages, all northern health units

Health Units	Age in Years						
	0	1	2	3	4	5	6
North Bay & District Health Unit	15.2	13.3	16.0	15.5	12.3	16.4	11.3
Northwestern Health Unit	12.9	14.0	13.4	17.0	12.1	17.8	12.8
Sudbury & District Health Unit	12.7	14.6	10.6	17.0	12.7	15.0	17.4
Timiskaming Health Unit	17.2	15.4	11.6	15.2	16.6	9.8	14.1
Algoma Health Unit	15.3	12.6	10.8	15.7	11.9	17.3	16.4
Thunder Bay District Health Unit	12.7	14.6	14.7	13.9	14.4	15.9	13.9
Porcupine Health Unit	11.8	10.9	17.0	11.8	13.4	14.0	21.2
Muskoka-Parry Sound Health Unit	10.6	11.3	13.2	10.6	12.9	20.9	20.5
Total for all northern health units	13.2	13.4	13.4	14.8	13.1	16.0	16.1

1.1 Demographic Profile of the 'Target Child' and the 'Respondent'

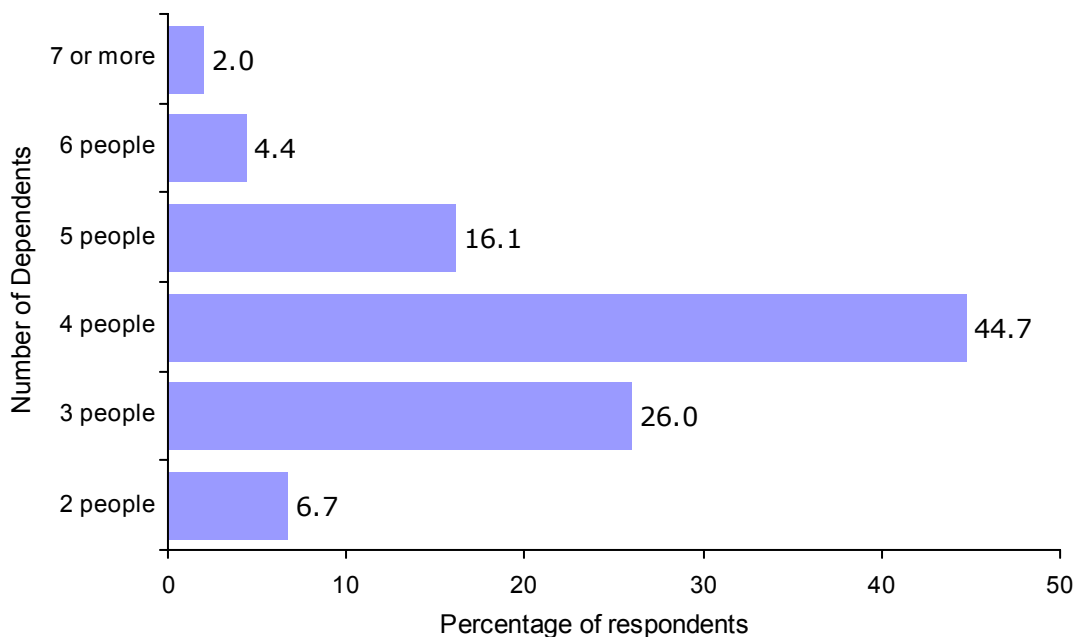
Respondents were asked specific questions about household income, marital status, education level, employment, current main activity and ethnic background. Figures 1.3 and 1.4 present income variables for the total group of respondents. Surveyors asked, "What was your approximate family income from all sources, before taxes, during the previous year (January 1, 2001 to December 31, 2001)?" and "How many people in total are supported by your family's income?"

Figure 1.3 Percentage of respondents by family income from all sources*, all northern health units



*Non-respondents/refused to answer = 16.8%

Figure 1.4 Number of individuals within the household that are dependent on family income, all northern health units



Fourteen percent of respondents were single parents (divorced, separated, widowed, or single). Seventy-two percent of the respondents indicated that they were married at the time of the survey, while 14.5% were in a common-law relationship. Figures 1.5 and 1.6 illustrate the education level of the mother and her partner, respectively.

Figure 1.5 Highest education of the mother, all northern health units

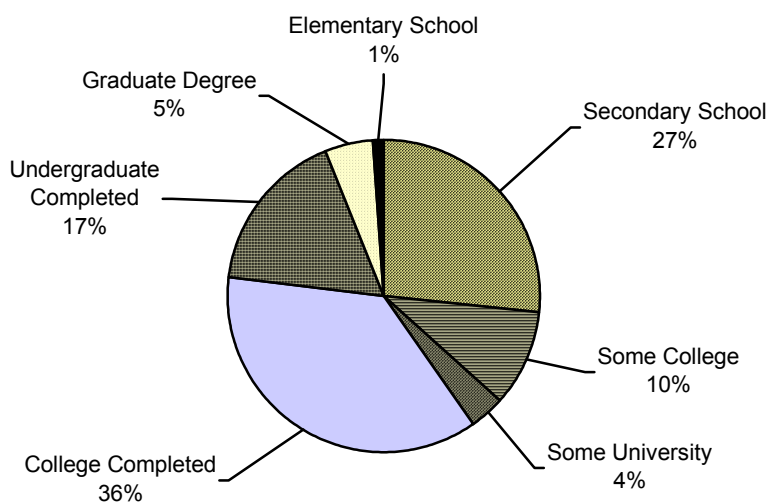
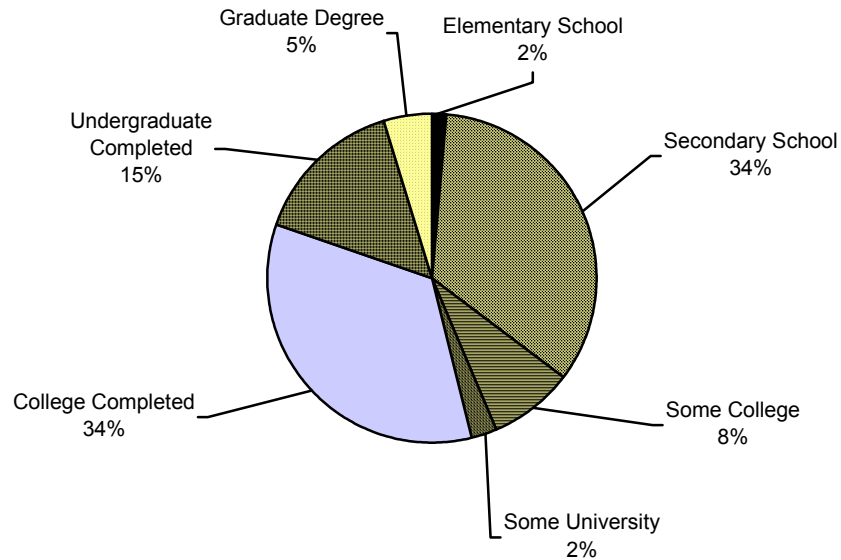


Figure 1.6 Highest education of the mother’s partner, all northern health units



Of interest was the mother’s main activity as reported in Table 1.5. These data are based on the question, “What do you consider to be your current main activity? (for example, working for pay, caring for family)”. About 8% of mothers reported being on parental leave, while overall 39% of mothers are taking on the responsibilities of family care and working for pay or profit.

Table 1.5 Current main activity of the mother, all northern health units

Health Units	Parental leave (%)	Working for pay or profit (%)	Caring for family (%)	Caring for family and working for pay or profit (%)
North Bay & District Health Unit	9.8	9.5	34.4	40.6
Northwestern Health Unit	--	--	39.1	44.8
Sudbury & District Health Unit	10.8	11.2	38.7	37.4
Timiskaming Health Unit	7.9	8.3	40.2	39.2
Algoma Health Unit	6.8	10.8	40.5	39.8
Thunder Bay District Health Unit	9.1	12.2	38.2	36.1
Porcupine Health Unit	5.7	11.6	40.1	39.3
Muskoka-Parry Sound Health Unit	--	9.6	45.1	38.9
Total for all northern health units	8.1	10.7	39.2	39.0

In Table 1.6, ethnicity of the mother was determined by response to the question “To which ethnic or cultural group(s) did your ancestors belong?”. As is commonly the case in such surveys, a number of respondents (one quarter) indicated that their ethnicity was ‘Canadian’.

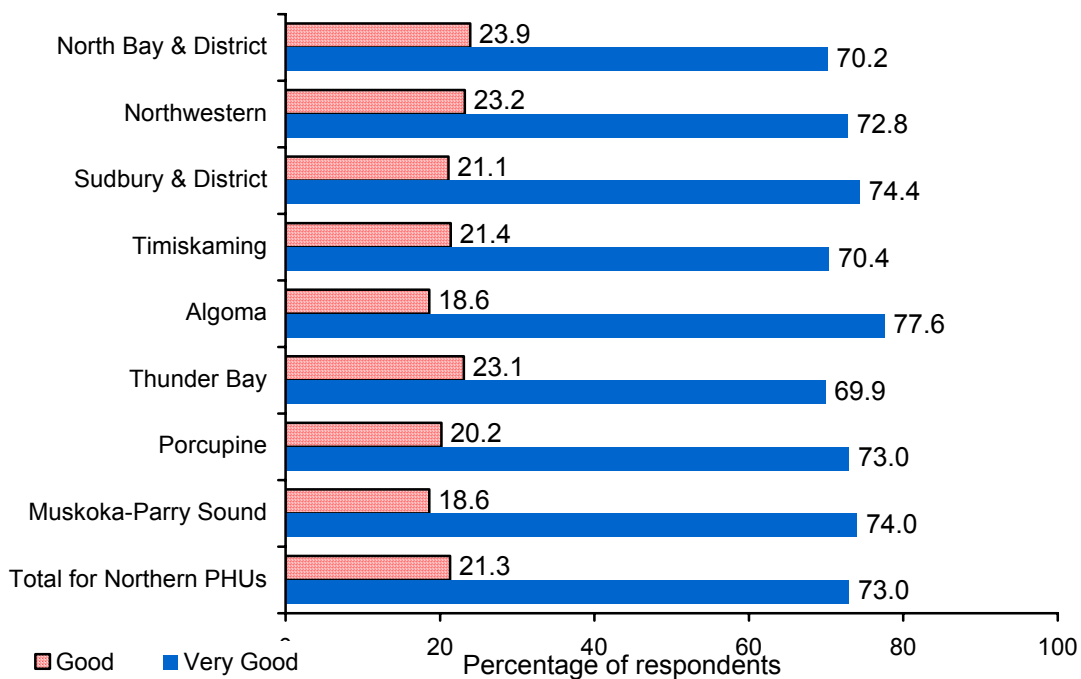
Table 1.6 Ethnicity of the mother, all northern health units

Ethnic Categories	Percentage of Respondents
Canadian	25.2
French	22.5
English	17.0
Scottish	7.0
Italian	5.4
Irish	4.5
Aboriginal	4.0
German	3.4
Ukrainian	2.5
Polish	1.7
Dutch	1.3
South Asian	0.6
Other	4.8
Total	100.0

1.2 General Health Indicators

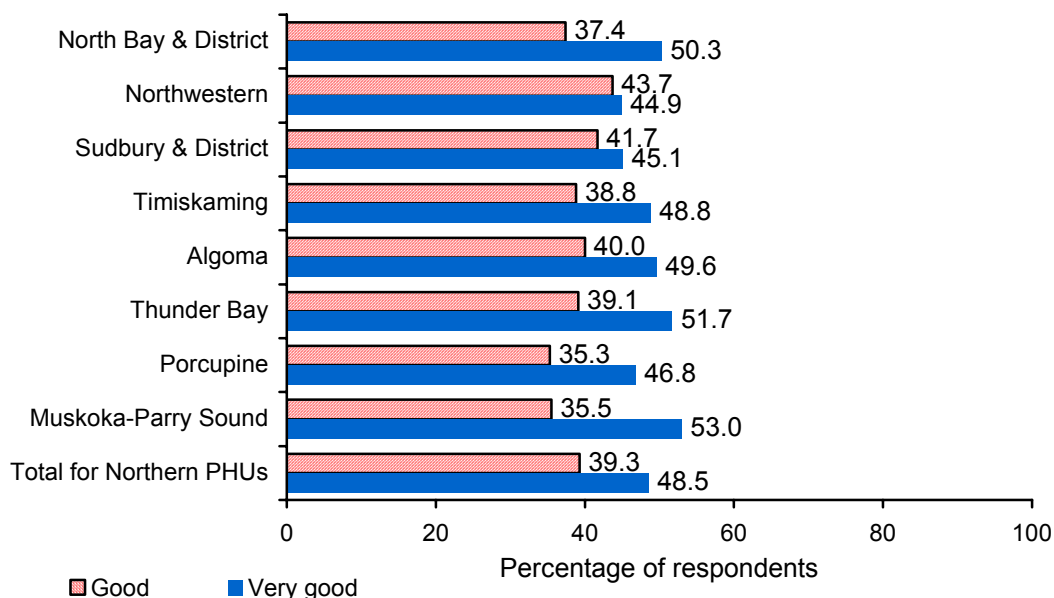
Self-reported health is recognized as a useful indicator of general health status. Respondents were asked about their own health status and that of the ‘target child’. Surveyors asked the question, “In general, would you say the health of <the target child> is...”, and then “in general, would you say your health is...”. The responses for the all northern health units (Figure 1.7) indicated that the majority of children were felt to be healthy, with 94.3% of respondents reporting that the health of the ‘target child’ was “good” or “very good” (with “very good” as the highest possible rating).

Figure 1.7 Percentage of 'target children' whose general health was reported as "good" or "very good", all northern health units



More than 87% of mothers described their own health as "good" or "very good". Figure 1.8 illustrates the distribution of perceived health of the mothers, from "good" to "very good", organized by health unit.

Figure 1.8 Self-reported health of the mother, all northern health units



Access to health care, including access to a family physician, is an ongoing issue in Northern Ontario. As illustrated in Figure 1.9, more than 94% of respondents indicated that they have a family doctor. The distribution of families having family physicians by health unit area is presented in Figure 1.9, with Timiskaming reporting the lowest percentage.

Figure 1.9 Percentage of mothers who report having a family physician, all northern health units

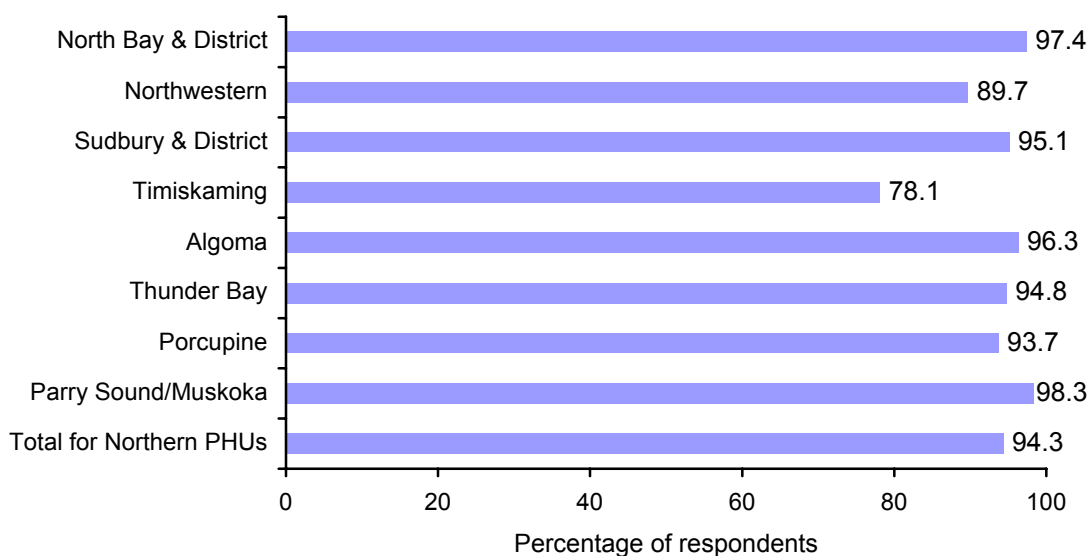


Figure 1.10 illustrates that the majority of respondents reported visiting a physician with the 'target child' in the past 12 months.

Figure 1.10 Percentage of respondents indicating that their child visited a physician in the past 12 months, all northern health units

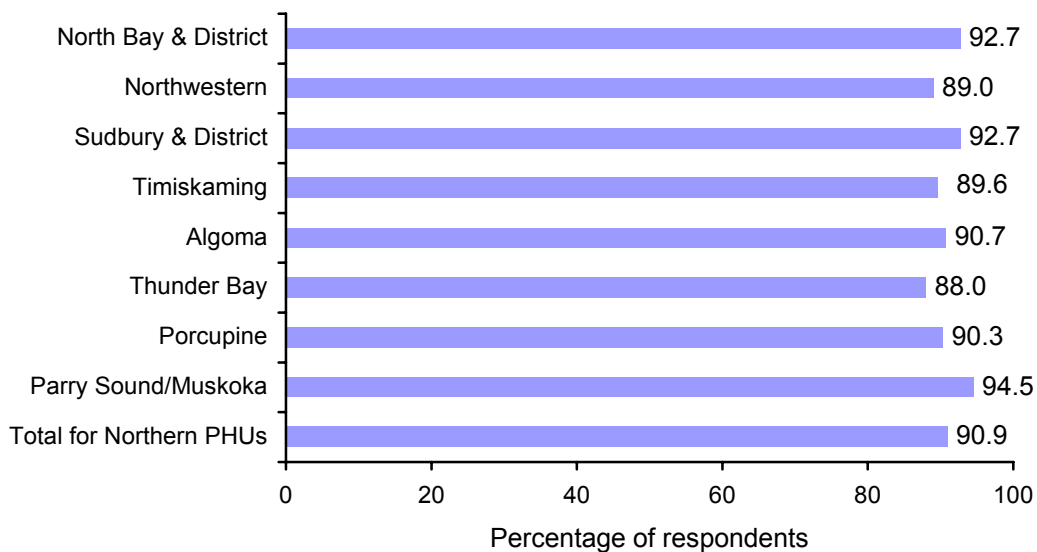
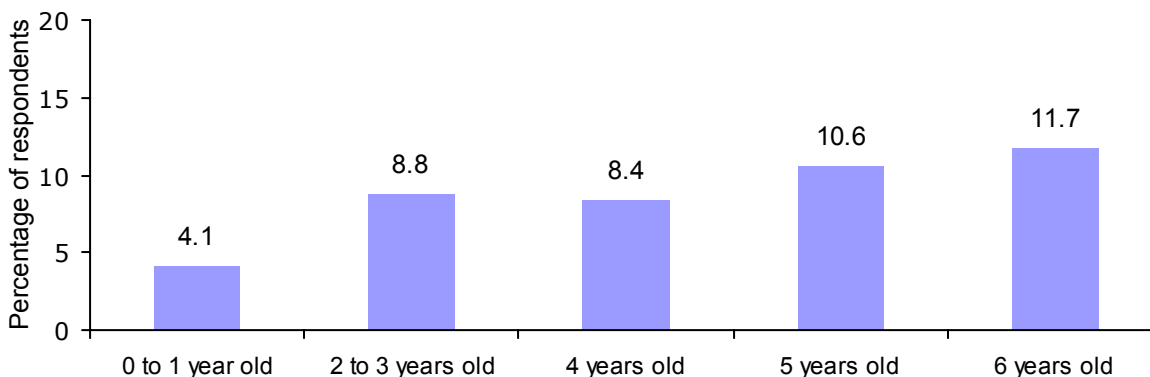


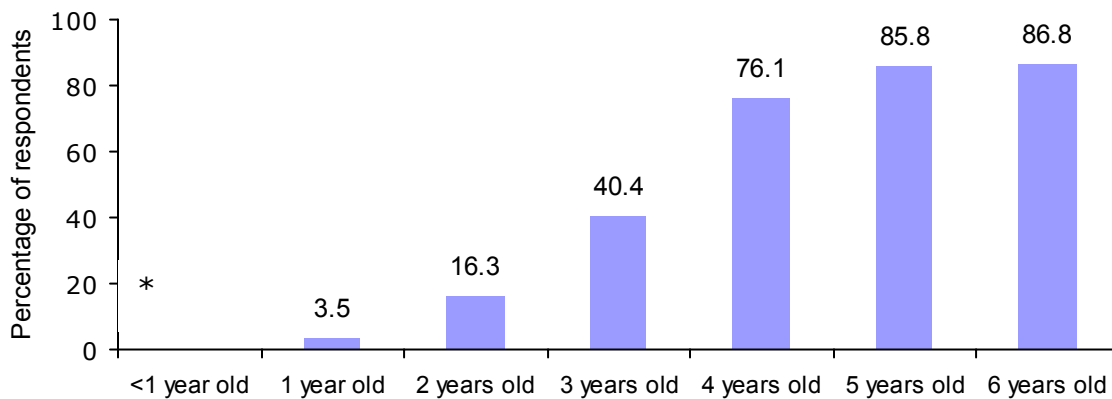
Figure 1.11 represents the percentage of respondents who indicated that their child was diagnosed with a serious illness, disability or special need. Not surprisingly, this percentage increases with age. Overall, 8.2% of 'target children' had been diagnosed with a serious illness, disability or special need.

Figure 1.11 Percentage of children diagnosed with a serious illness, disability or special need, by 'target child' age, all northern health units



Nearly 20% of children 2 years of age or under had visited a dentist in the past 12 months. At age 4, more than 75% of the 'target children' had visited a dentist in the past year, and at age 6, more than 86% had visited a dentist. Figure 1.12 illustrates, by age in years, the percentage of respondents who indicated that their children had visited a dentist in the past year.

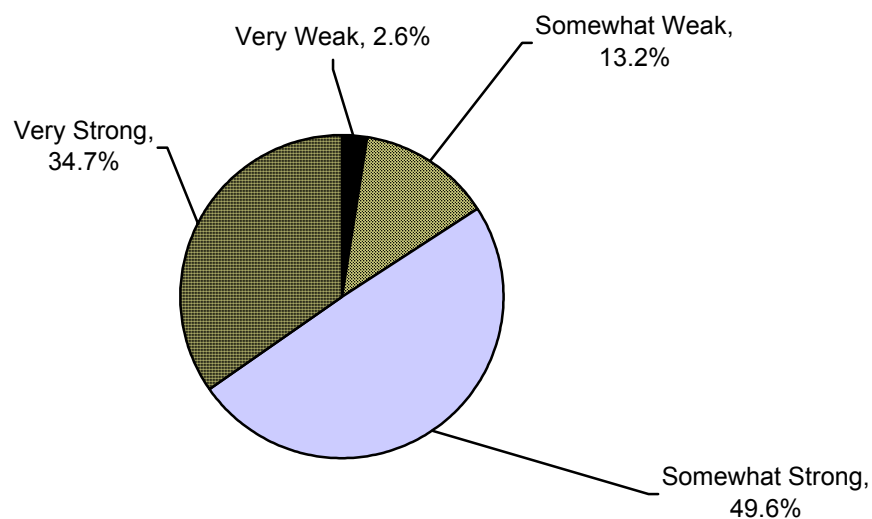
Figure 1.12 Percentage of children who visited a dentist in the past 12 months, by 'target child's' age, all northern health units



* Cell size less than 30

Sense of belonging to the community is a known determinant of health. This variable was measured by the question, "How would you describe your sense of belonging to your local community?". The majority of the respondents felt a "strong" to "very strong" sense of belonging to their community (Figure 1.13).

Figure 1.13 Sense of belonging to the community as reported by the mother, all northern health units

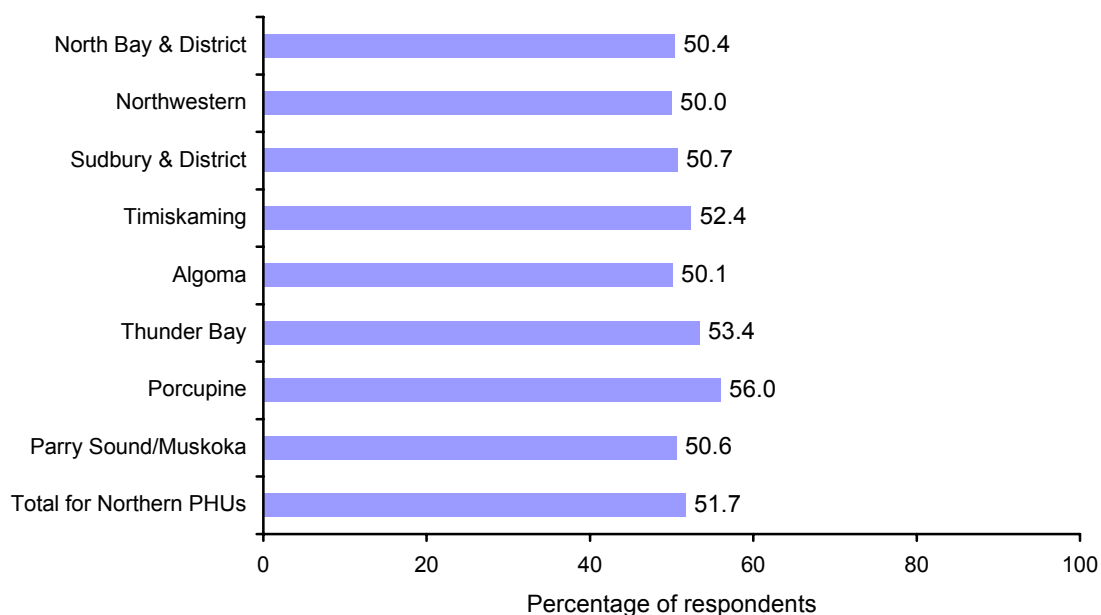


PART 2 – PARENTING

2.1 The Experience of Parenting

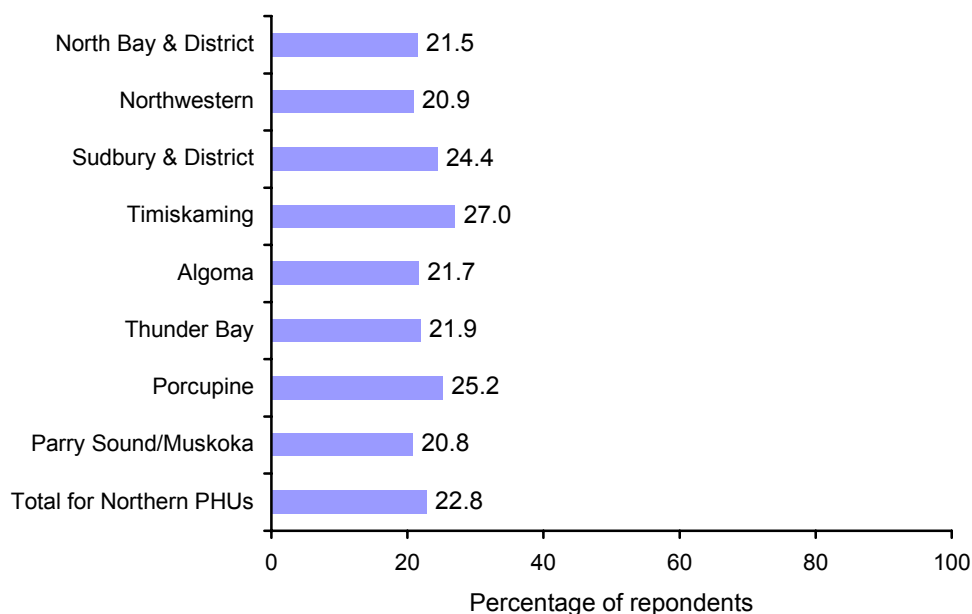
Parenting is one of the most important tasks in our society, and it carries with it many rewards and stresses. Since the survey collected breastfeeding and prenatal information, parenting data was limited to the mother’s perspective. We were particularly interested in the mother’s experience of being a parent, and the discipline strategies she uses as a parent. With respect to her experience of being a parent, the mother was asked to rate several statements related to parenting, from “strongly disagree” to “strongly agree”. The first statements focused on the parent’s reaction to the task of parenting: “parenting leaves you feeling drained and exhausted” and “being a parent makes you tense and anxious”. The responses are presented in Figures 2.1 and 2.2. Although about half of the mothers indicated that they were left feeling drained and exhausted by the tasks of parenting (Figure 2.1), fewer mothers (approximately 23%) reported that parenting made them tense or anxious (Figure 2.2). The data presented in Figures 2.1 and 2.2 represent the combined responses of “agree” and “strongly agree”.

Figure 2.1 Percentage of mothers responding that parenting left them feeling drained and exhausted *, all northern health units



* Combines 'agree' and 'strongly agree'

Figure 2.2 Percentage of mothers responding that parenting made them feel tense and anxious*, all northern health units



* Combines 'agree' and 'strongly agree'

The survey also asked mothers to describe their parenting behaviours when the child "breaks the rules or does things that he/she is not supposed to". To ensure that responses were age-appropriate, analyses were restricted to 'target children aged 2 or more years. The question was phrased as: "How often do you do each of the following:"

- How often do you tell him/her to stop?
- How often do you ignore it, do nothing?
- How often do you raise your voice, scold or yell at him/her?
- How often do you calmly discuss the problem?
- How often do you describe alternative ways of behaving that are acceptable?
- How often do you take away privileges or put him/her in his/her room?

The responses for all northern health units combined are presented in Figures 2.3 to 2.8.

Figure 2.3 Tell the child to stop

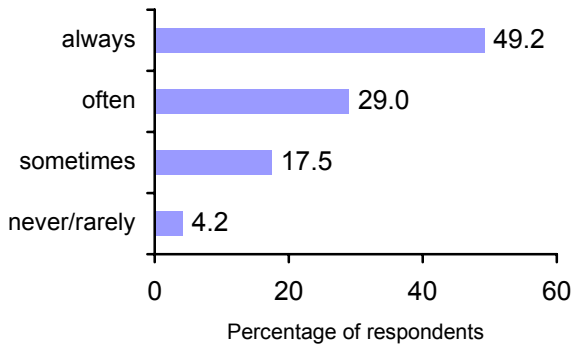


Figure 2.4 Ignore the behaviour

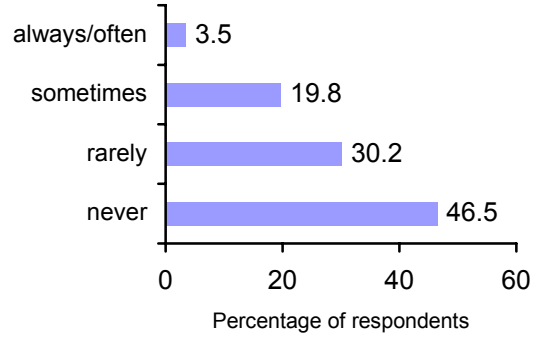


Figure 2.5 Raise your voice

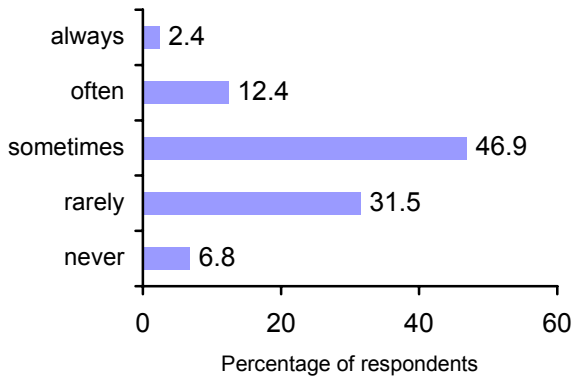


Figure 2.6 Calmly discuss

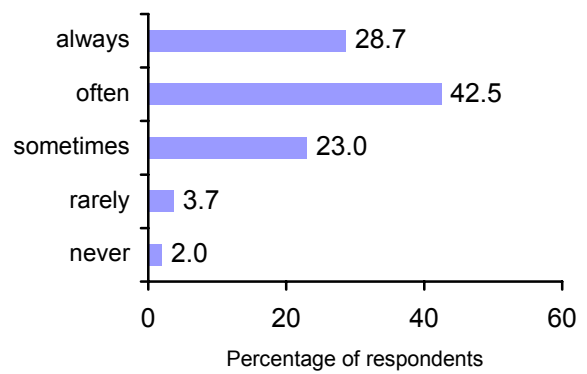


Figure 2.7 Suggest alternatives

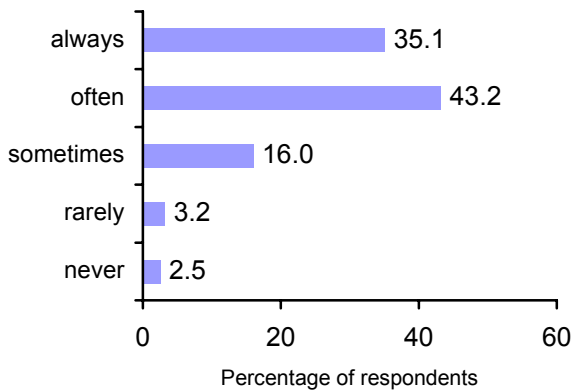
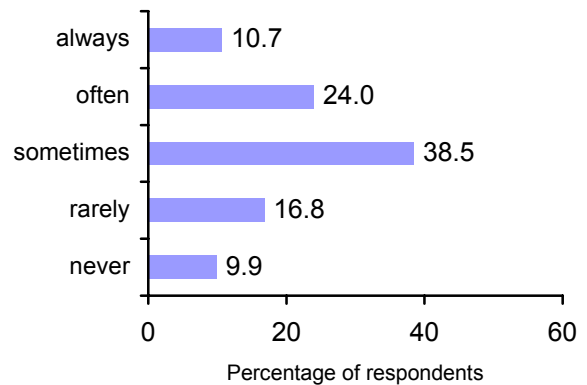


Figure 2.8 Take away privileges



2.2 Support Systems

Access to services and supports for all children and families is a particular concern in Northern Ontario and, therefore, was an area of interest for this survey. The survey included several questions about whether specific services were available close to where the respondent lived, and whether they had used the service in the previous year. The responses are summarized below.

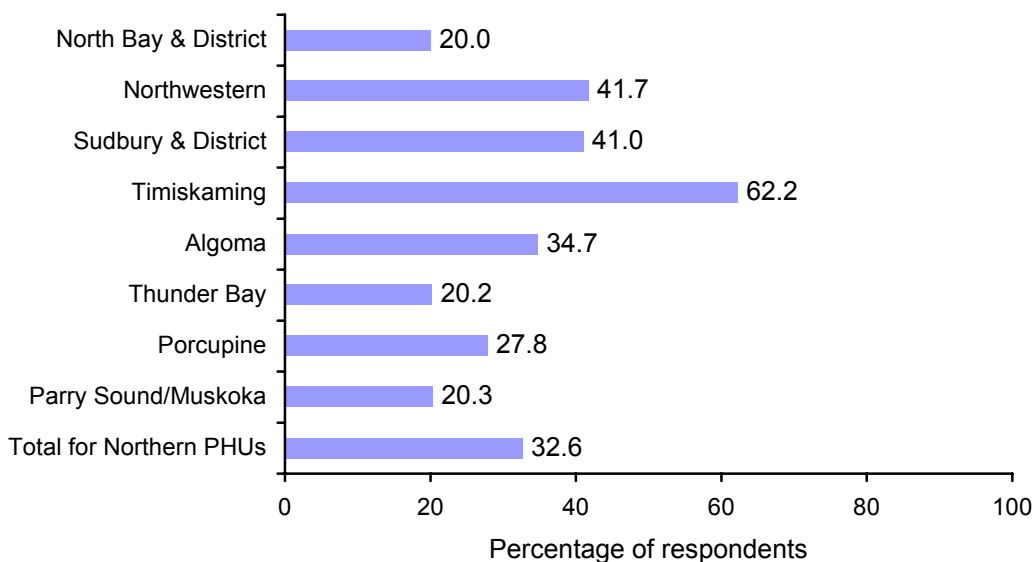
- Fifty-five percent of respondents stated that there was a family resource centre close to where they lived; however, family resource centres had only been used in the previous year by 21% of the above respondents.
- More than 55% of respondents who had access to library services used them in the last year. Not surprisingly, the services were more often used by families with older children. Among those who had used libraries, the breakdown by age of 'target child' was as follows: less than 1 year of age=6.2%, 1 and 2 years of age=19.6%, 3 and 4 years of age=31.5%, 5 and 6 years of age=42.7%.
- Sixty-eight percent of respondents reported that they had a toy library close to where they lived, although there were notable regional differences. For example, more than 88% of respondents within the Northwestern Health Unit area indicated that a toy library was available close to where they lived, whereas 45% of respondents in the Thunder Bay District reported having a toy library nearby. Overall, 36.7% of respondents who have access to this service indicated that they had used a toy library in the previous year.
- Ninety-four percent of respondents to the survey had not used services for children with emotional or behavioural problems in the previous year.
- With respect to availability of children's recreational services and programs, more than 83% indicated that such services were available close to where the respondents lived.
- Fifty-five percent of respondents indicated that they had parent support groups available close to their homes. Conversely, this means that almost half were not aware of the availability of parent support groups.
- Although more than 92% of respondents with a child under 1 year of age indicated that prenatal classes were available in their area, fewer than 45% of respondents, who had children less than 1 year of age, indicated that they had attended the courses in the previous year.
- Fewer than 12% of the total sample had used a parent information line in the previous year.
- Regarding the use of health unit clinics for child services such as Breastfeeding Clinics and Well-Baby/Pre-school Clinics, 71% of respondents indicated that these services were available close to their home. Of those who said the services were available close to their home, approximately 24% of respondents with children aged 3 years and under reported that they had used the available health unit services, whereas fewer than 13% of respondents with children aged 4 years and older reported that they had used the available health unit services.

Table 2.1 and Figure 2.9 present results of analyses for respondents who had a child aged 1 year or younger (n=1892 in the unweighted data). Although more than 77% of these respondents indicated that health unit clinics for child services such as Breastfeeding Clinics and Well-Baby Clinics were within close proximity to their home (Table 2.1), most of these respondents had not used the available services, as illustrated in Figure 2.9. Further exploration of potential factors explaining regional differences, such as access to physicians or type of promotional strategies, would be of interest.

Table 2.1 Percentage of mothers with children aged one year or younger who indicated that health unit clinics for children are available close to home, all northern health units

Health Units	Health unit clinics are available close to home (%)
North Bay & District Health Unit	69.4
Northwestern Health Unit	81.8
Sudbury & District Health Unit	76.3
Timiskaming Health Unit	90.7
Algoma Health Unit	84.2
Thunder Bay District Health Unit	73.1
Porcupine Health Unit	79.9
Muskoka-Parry Sound Health Unit	73.3
Total for all northern health units	77.4

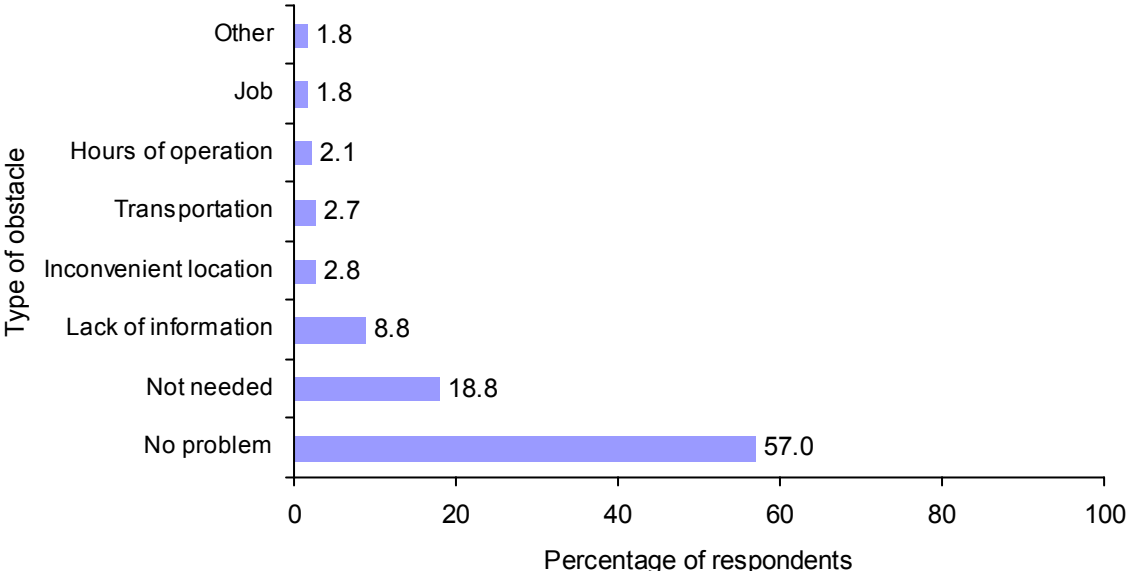
Figure 2.9 Percentage of mothers* with children aged one year or younger who indicated that they had used available health unit clinics for children, all northern health units



* Mothers who report having health unit clinics close to home.

In an attempt to determine the barriers to utilization of the services for families and children, respondents were asked about the obstacles that may have prevented them from accessing or using the services. Figure 2.10 illustrates reported obstacles that respondents identified. Most importantly, 57% of respondents had not experienced any difficulties with using the services, while 18.8% said they did not need the service. Among those respondents who stated a difficulty, lack of information about the services was the most commonly mentioned problem.

Figure 2.10 Main barriers/obstacles to the use of services for children and families, all northern health units



The mothers were asked about their level of satisfaction with the support programs and services offered for parents with young children. The data indicate that across all of the northern health units, 85% of the mothers were “satisfied” or “very satisfied” with the support programs and services offered.

Existence of an adequate level of support is an essential element in establishing parenting capacity, but knowing where support can be attained may be as important as the existence of the support. Mothers were asked if they knew where to go in their community to receive support and assistance when it was needed. The results indicated that on average more than 88% “knew where to go for help within the community when needed.”

2.3 Children’s Exposure to Second-Hand Smoke

The following section addresses issues of smoking during pregnancy, during breastfeeding months, and children’s exposure to second-hand smoke.

As can be seen in Figure 2.11, more than 20% of pregnant mothers smoked during their last pregnancy. Figure 2.12 shows that among mothers who breastfed, more than 15% smoked while they were breastfeeding. These findings present an ongoing challenge to be addressed in our area, and in part reflect higher smoking rates in Northern Ontario. As noted in the Baseline Report, 21% of Northern Ontario pregnant women smoked in 1996/97 versus 14% of pregnant women in the rest of Ontario (see Baseline Report, Figure 36).²

Figure 2.11 Percentage of mothers indicating that they smoked during their last pregnancy, all northern health units

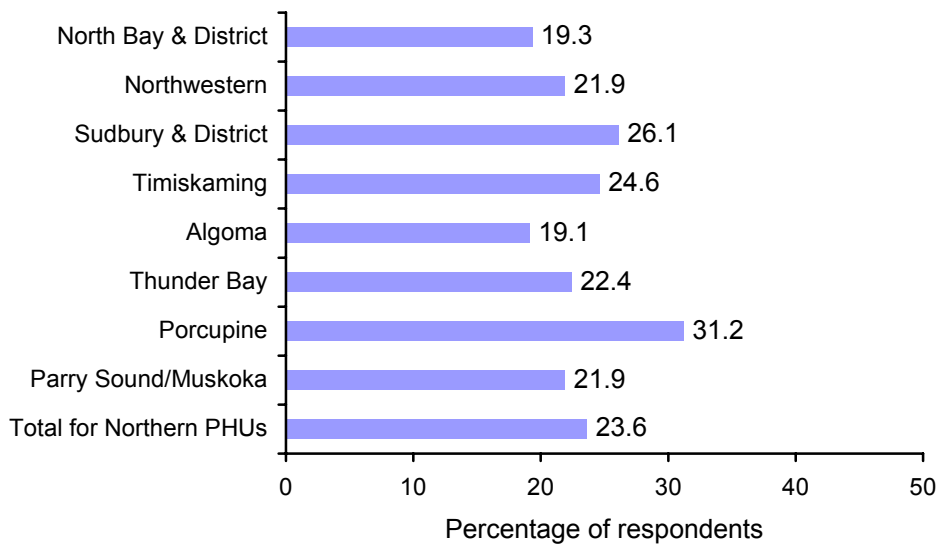
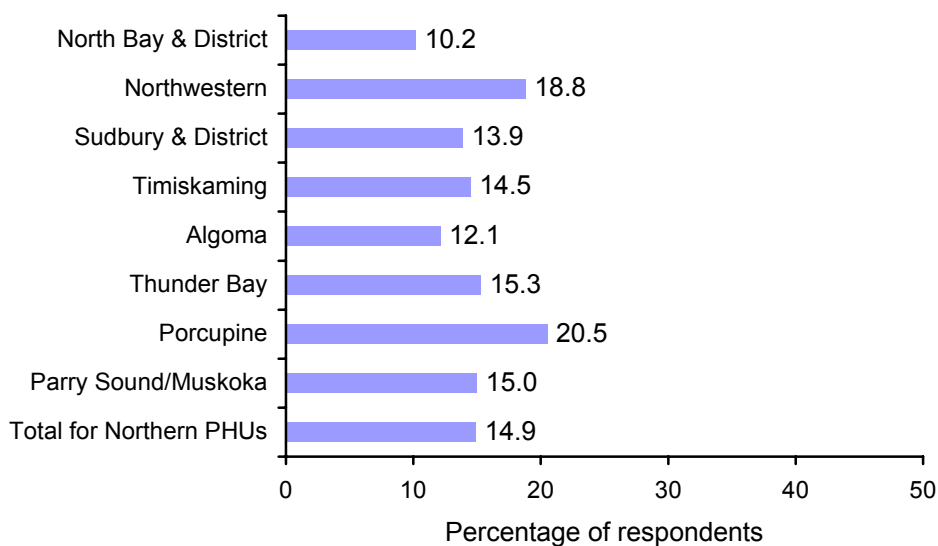
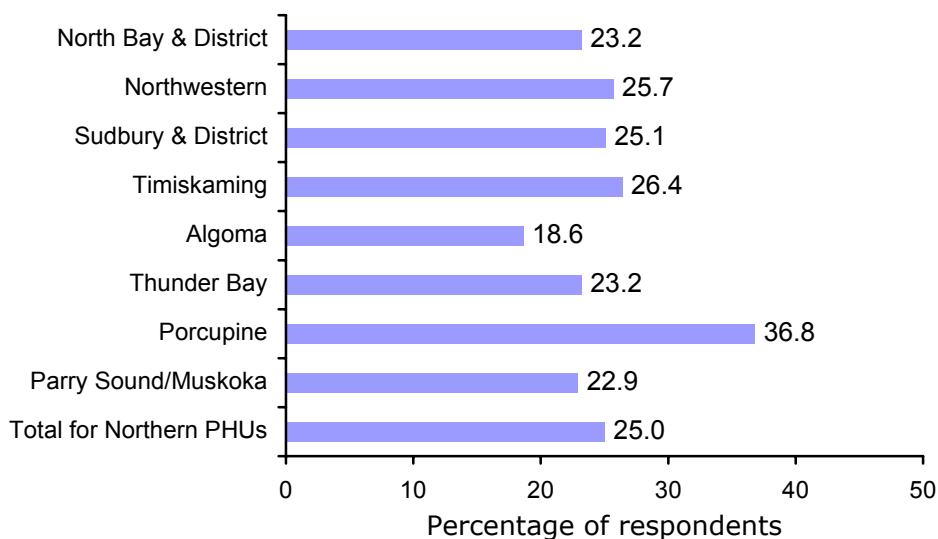


Figure 2.12 Percentage of mothers who breastfed indicating that they smoked while breastfeeding their last baby, all northern health units



According to Health Canada, there is no known safe level of second-hand smoke. Children who breathe second-hand smoke are more likely to suffer from asthma, respiratory problems, middle ear infections and other problems.³ As illustrated in Figure 2.13, one quarter of mothers report that their child was exposed to second-hand smoke during the pregnancy or within the six months after birth. Rates of exposure to second-hand smoke are known to be higher overall in Northern Ontario versus the rest of the province: As shown in Baseline Report (Figure 37) in 1996/97,⁴ 40% of individuals in Northern Ontario were exposed to second-hand smoke at home, versus 29% of individuals in the rest of Ontario.

Figure 2.13 Percentage of mothers reporting that the baby was exposed to second-hand smoke during the pregnancy or within 6 months after birth, all northern health units



Conclusion

The data on parenting behaviours and services offer useful information for service providers. Over half of parents of young children report feeling drained and exhausted. Other studies⁵ indicate that full-time employed mothers still devote five to six hours per day caring for children under 6 years of age; this declines to two to three hours when children are older. In this survey, almost one quarter of parents express feelings of anxiety around parenting, and this signals a need to increase supports to parents of young children. The overview of access and barriers to services and support systems for parents will be particularly useful in planning such supports in each health unit area. The data on child exposure to second-hand smoke will also be relevant for program planning, given that approximately one quarter of children are reportedly exposed to smoke in utero and as infants.

PART 3 – BREASTFEEDING

Breastfeeding of infants is universally recognized as having significant health benefits for mothers and babies. Step 6 of *The Ten Steps to Successful Breastfeeding* (which is the cornerstone of The Baby-Friendly Hospital Initiative) states: “Give newborn infants no food or drink other than breast milk unless medically indicated”.⁶ Promotion of breastfeeding is an integral part of child health promotion. This section of the report presents results from questions related to breastfeeding initiation, duration, education, support, and comfort level – information useful to guide program planning decisions.

3.1 Breastfeeding Initiation

Respondents were asked how they were feeding their child in the first 48 hours after birth. The breastfeeding initiation rates during the first 48 hours, for the ‘target child’s’ birth year from 1995 to 2002 are illustrated in Figure 3.1 below. The results suggest that since 1995, there may be a small increasing trend in breastfeeding initiation rates in Northern Ontario. In general, the available data suggest that more mothers are choosing to breastfeed versus bottle feed in the newborn’s first 48 hours.

Figure 3.1 Percentage of respondents that chose to breastfeed during the first 48 hours (1995-2002), all northern health units

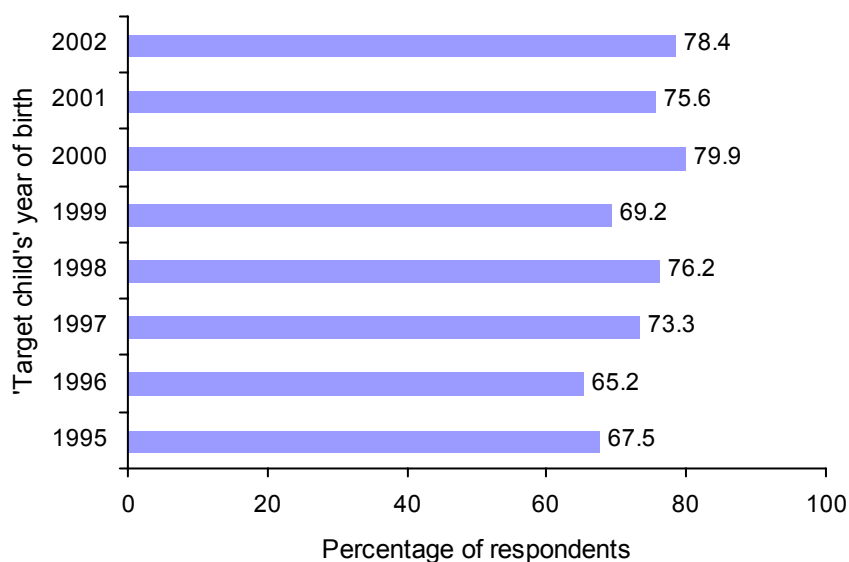
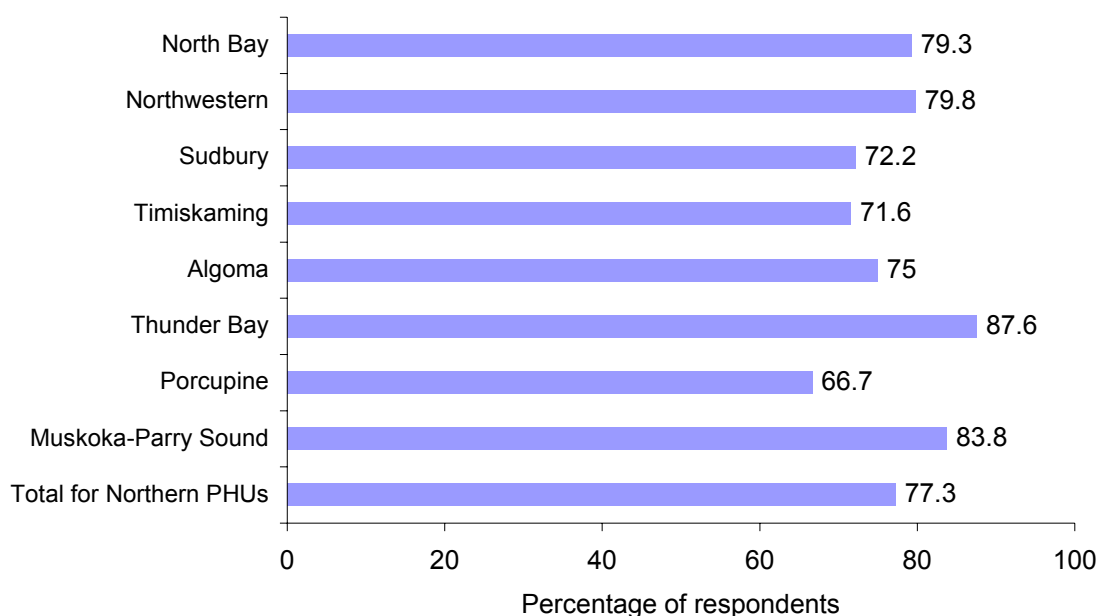


Figure 3.2 illustrates the breastfeeding initiation rates for each northern health unit for the years 2000 and 2001. There were insufficient data to report on other years for each health unit.

Figure 3.2 Percentage of mothers, with children born in 2000 and 2001, that exclusively breastfed in the first 48 hours after birth, all northern health units



Although the majority of respondents were breastfeeding in the first 48 hours, approximately 20% of respondents were bottle feeding, and another 2-3% were both breast and bottle feeding. Further analysis of the reasons for both bottle and breastfeeding will provide insight into factors that contribute to these practices.

3.2 Education and Support for Breastfeeding

The survey included questions about who provided support for breastfeeding and how helpful their support was. Approximately 26% of the total sample gained information from a lactation consultant, and in the majority of cases this was helpful in providing support for breastfeeding. Support was also received from the baby's doctor, the mother's spouse/partner, and the mother's family and friends. The percentages of respondents indicating that they received help from these sources are presented in Figures 3.3 to 3.5. The baby's doctor was a helpful support to 79% of respondents across all northern health units. Spouses/partners and family/friends were described as providing significant helpful support for breastfeeding, with the overall rate above 90%.

Figure 3.3 Percentage of respondents indicating that they had positive support for breastfeeding from their baby’s doctor, all northern health units

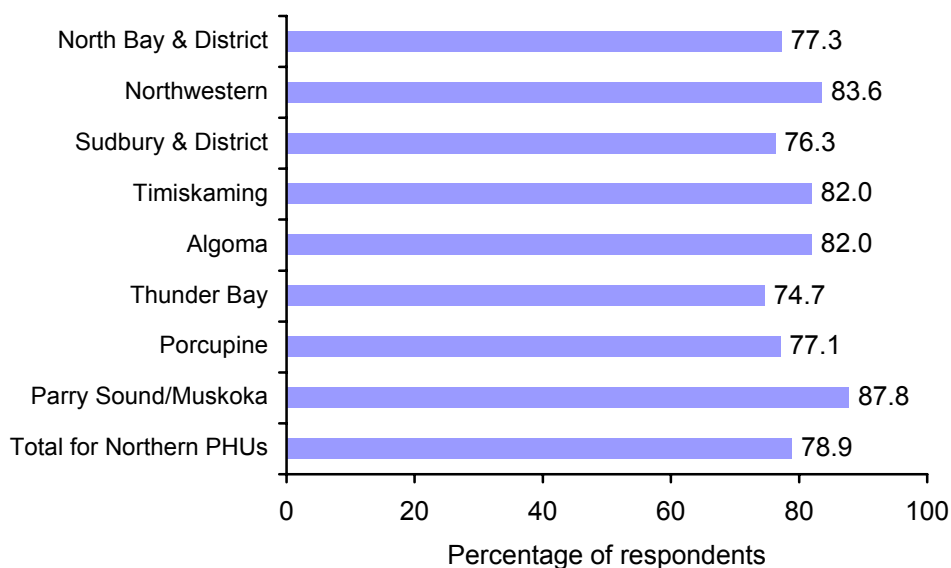


Figure 3.4 Percentage of respondents indicating that they had positive support for breastfeeding from their spouse/partner, all northern health units

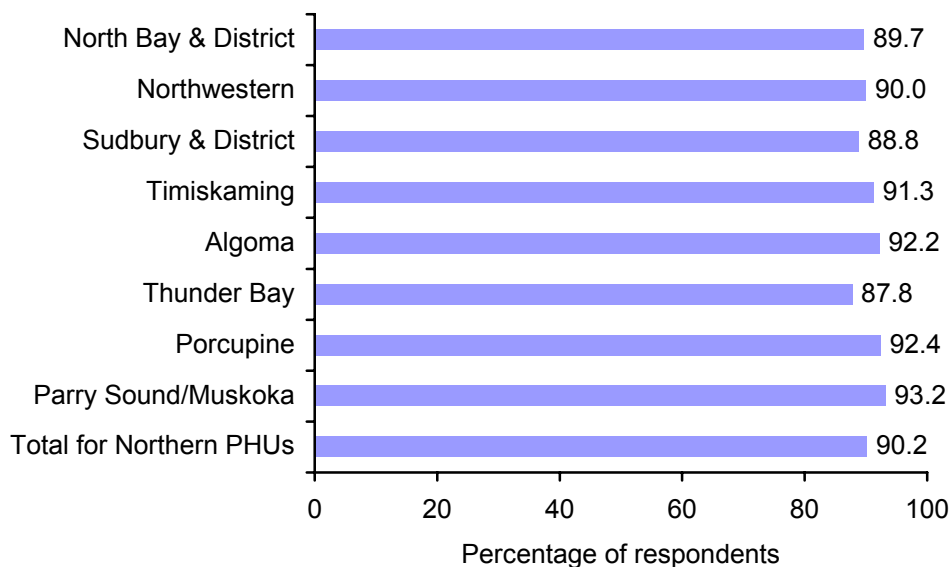
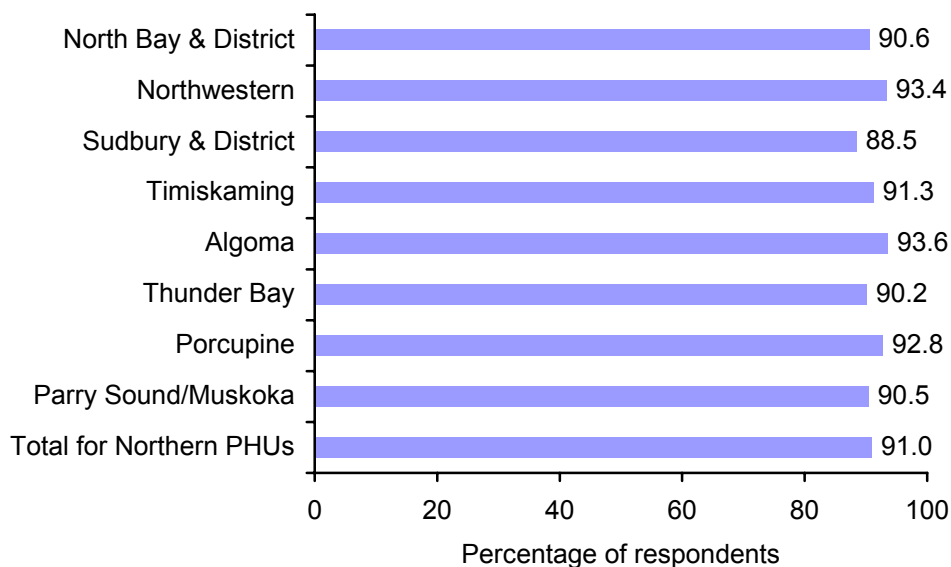


Figure 3.5 Percentage of respondents indicating that they had positive support for breastfeeding from their family/friends, all northern health units



The most common reason reported for a mother's choice to breastfeed was to benefit her baby (81.8% of respondents across the eight health units). Other commonly reported reasons were benefits for the mother herself, and for convenience.

Upon hospital discharge, respondents were asked to describe their degree of comfort, shortly after the birth, with the following aspects of breastfeeding: positioning of the baby at the breast, baby's latching (baby's mouth joining the breast), recognizing baby's cues, and recognizing signs that the baby is feeding adequately. The responses to each of these issues, organized by health unit, are presented in Figures 3.6 to 3.9. These data will help hospital staff as well as health units with their telephone consultation to breastfeeding mothers. The results on comfort with positioning and latching are somewhat lower than results on comfort with recognizing cues and signs of adequate feeding, which may suggest areas in which additional support to breastfeeding mothers may be required.

Figure 3.6 Percentage of respondents reporting being “not at all/not very comfortable” and “somewhat/very comfortable” with the positioning of the baby at the breast, all northern health units

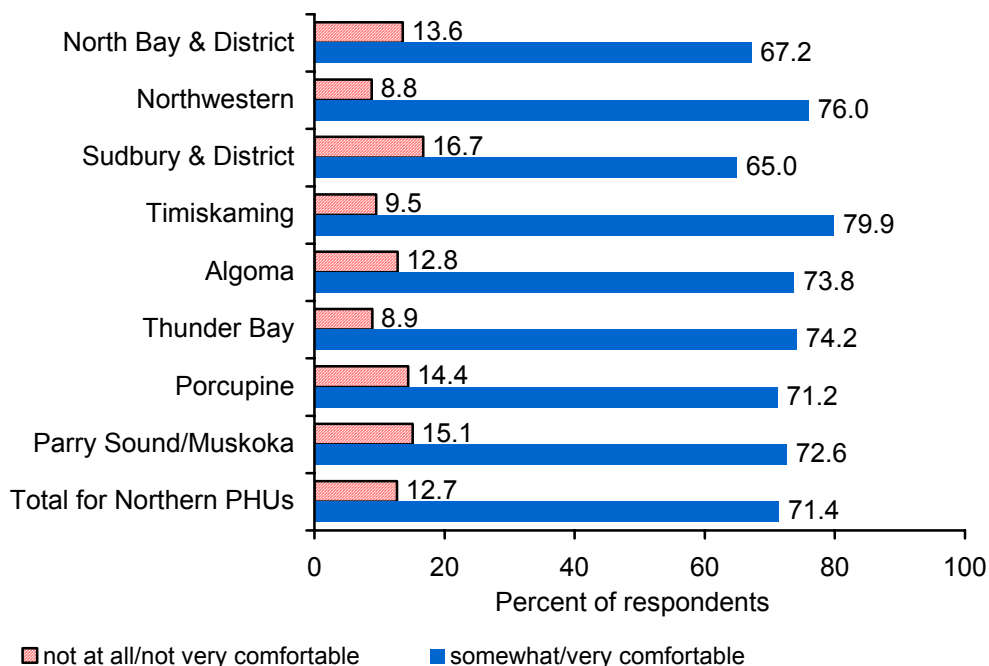


Figure 3.7 Percentage of respondents reporting being “not at all/not very comfortable” and “somewhat/very comfortable” with the baby's latching (baby's mouth joining the breast), all northern health units

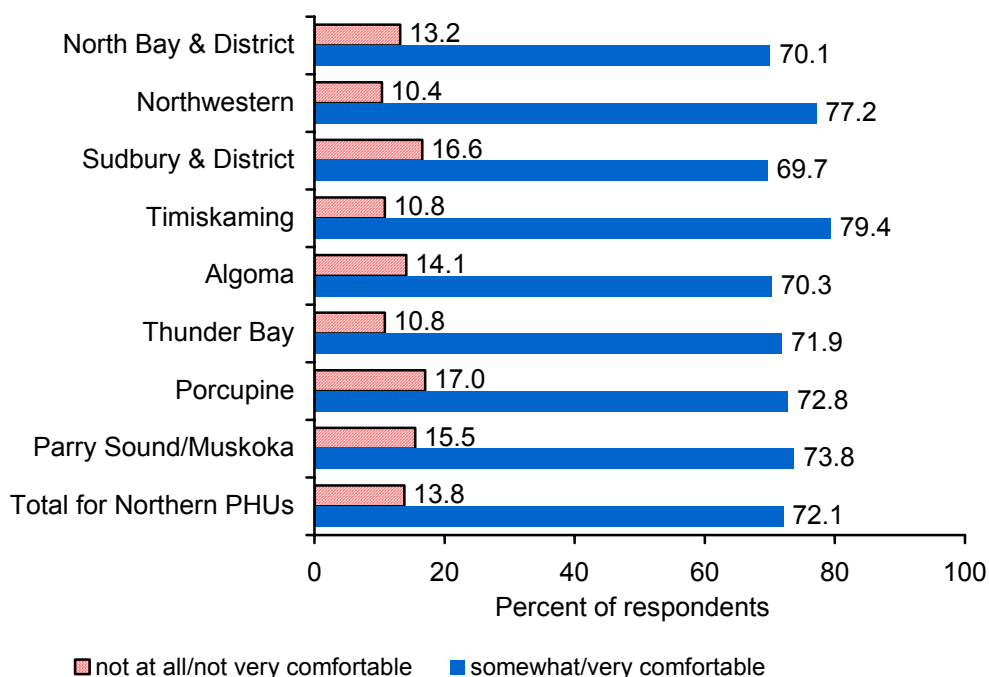


Figure 3.8 Percentage of respondents reporting being “not at all/not very comfortable” and “somewhat/very comfortable” with recognizing the baby’s cues, all northern health units

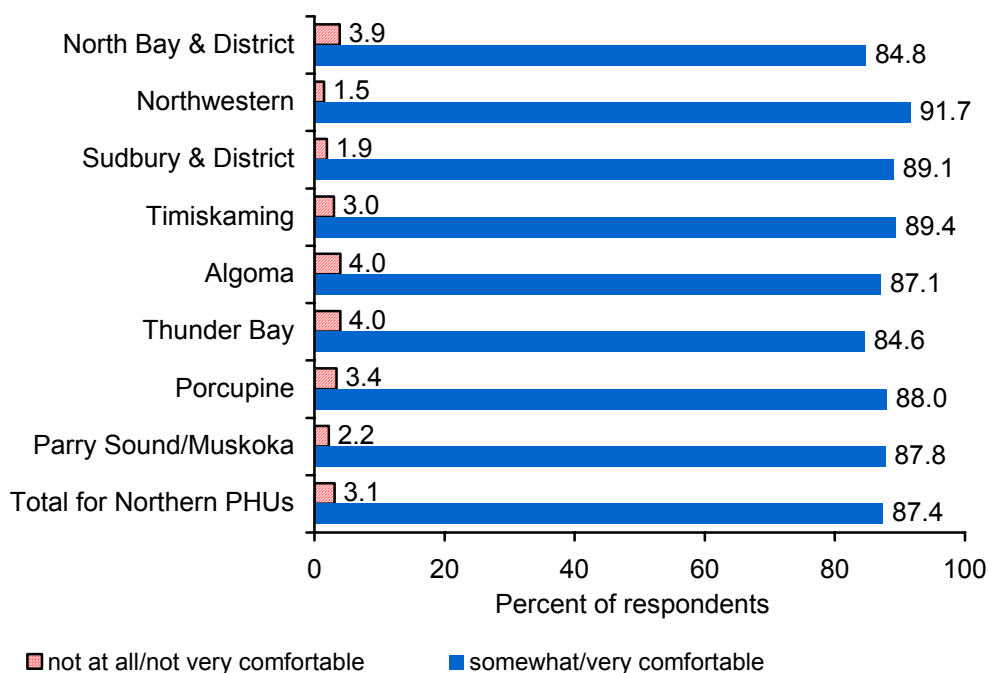
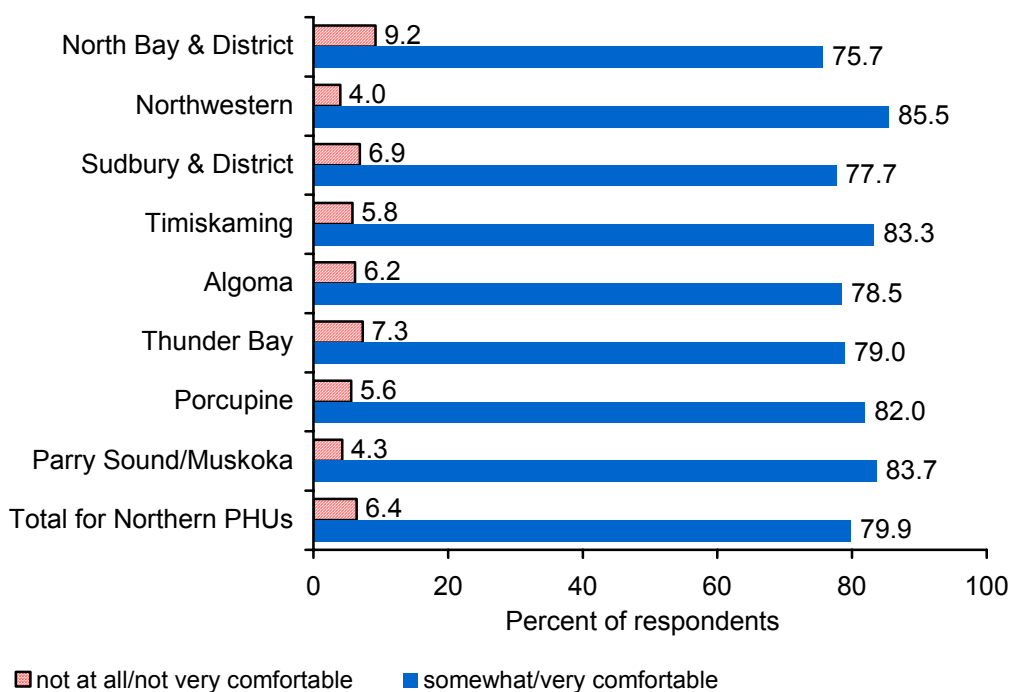
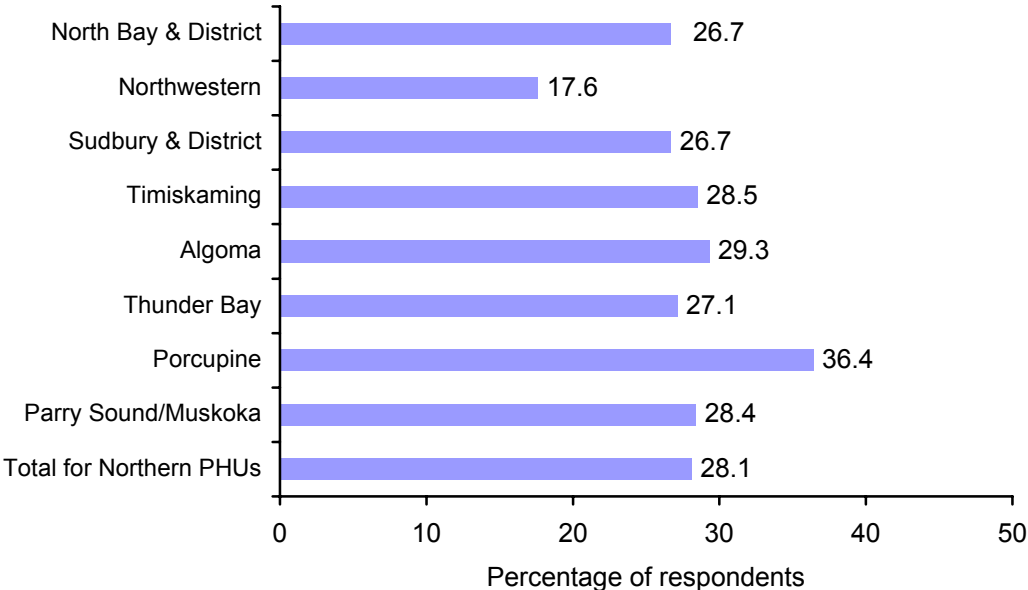


Figure 3.9 Percentage of respondents reporting being “not at all/not very comfortable” and “somewhat/very comfortable” with recognizing signs that the baby is feeding adequately, all northern health units



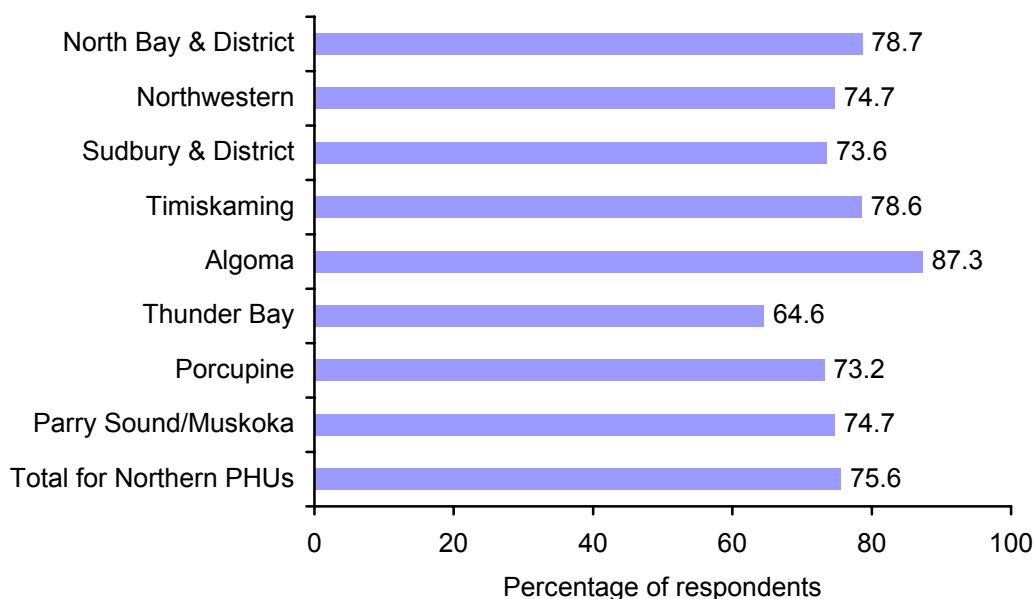
Those mothers who decided to bottle feed (in the first 48 hours) were asked if they were shown how to prepare formula either while in hospital or by a midwife. Ideally, when a mother decides not to breastfeed, the health care provider will support her in her decision and ensure that she can provide formula in a safe and nurturing way. Responses from bottle feeding mothers were analyzed, and 28% of the mothers who were bottle feeding in the first 48 hours indicated that they were shown how to prepare formula while in hospital or by a midwife. The rates across health unit range from 18% to 36% as shown in Figure 3.10. Further examination of the variation in rates between health units is warranted.

Figure 3.10 Percentage of bottle feeding mothers indicating that they were shown how to prepare formula, all northern health units



The percentage of mothers stating that they were “very confident” in breastfeeding after discharge from hospital was 75% for northern health units, as shown in Figure 3.11.

Figure 3.11 Percentage of mothers indicating that they were very confident in breastfeeding the baby after discharge from hospital, all northern health units



In response to the question, “Did you have any problems at home with breastfeeding?” the majority of mothers (70%) indicated that they did not have a problem. The 30% of respondents who indicated that they did have a problem were asked to specify what the problems were. The two problems indicated most often were “worried you did not have enough milk” (15% of those with problems) and “sore nipples” (13%). Over 80% of these mothers sought help for their problem.

3.3 Breastfeeding Duration

Results from all northern health units suggest that on average, breastfeeding duration lasted for 6.7 months, as illustrated in Table 3.1.

Table 3.1 Breastfeeding duration (in months), all northern health units

Health Units	Duration
North Bay & District Health Unit	6.2
Northwestern Health Unit	8.1
Sudbury & District Health Unit	6.0
Timiskaming Health Unit	6.1
Algoma Health Unit	6.4
Thunder Bay District Health Unit	7.4
Porcupine Health Unit	6.4
Muskoka-Parry Sound Health Unit	7.2
Total for all northern health units	6.7

Table 3.2 lists the most important reason mothers gave for stopping breastfeeding.

Table 3.2 Most important reason for stopping breastfeeding, all northern health units

Reported reasons for stopping breastfeeding	Percentage of respondents
Not enough milk	17.6
Child weaned him / herself	15.3
Returned to work / school	15.1
Inconvenience / fatigue	14.6
Planned to stop at this time	9.6
Sore nipples / engorged breasts / mastitis	6.6
Child was biting	5.5
Illness	4.7
Difficulty with breastfeeding techniques	4.6

3.4 Importance of Having Places to Breastfeed

Respondents were asked about the importance of having a special place in various settings for mothers who breastfeed or express milk. These data were intended to assist in advocating policies to support breastfeeding in a variety of “non-traditional sites”. Figures 3.12 to 3.14 illustrate the levels of agreement to questions about how important it is for mothers who breastfeed or express milk to have a special place in malls, restaurants and the workplace. The highest agreement was to have a special place in malls followed by workplace, then restaurants.

Figure 3.12 Percentage of breastfeeding mothers indicating that they felt it is “very important” for mothers who breastfeed or express milk to have a special place in malls, all northern health units

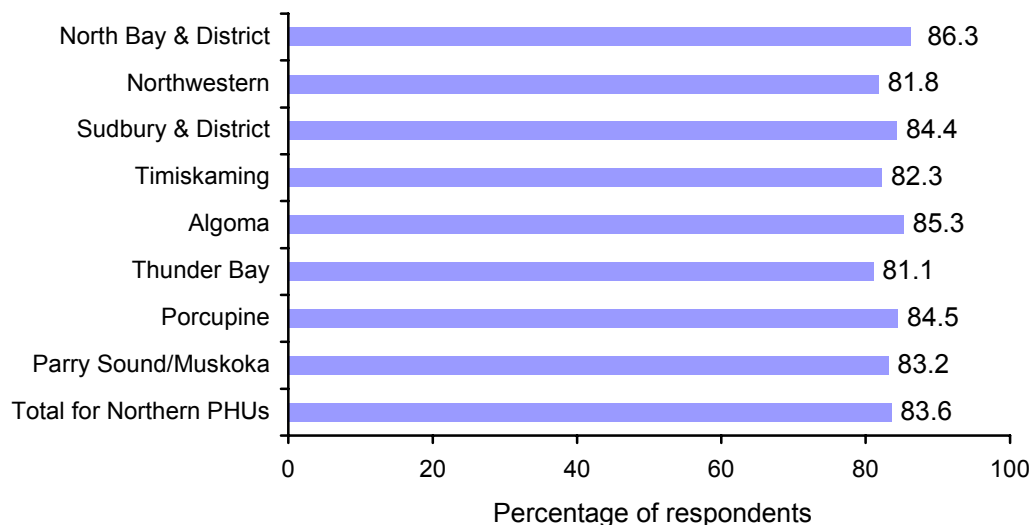


Figure 3.13 Percentage of breastfeeding mothers indicating that they felt it is “very important” for mothers who breastfeed or express milk to have a special place in restaurants, all northern health units

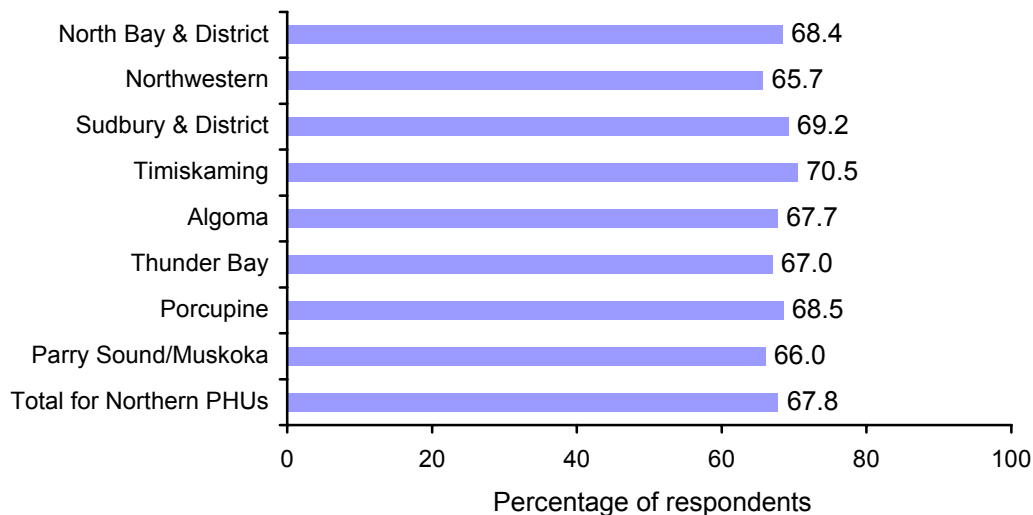
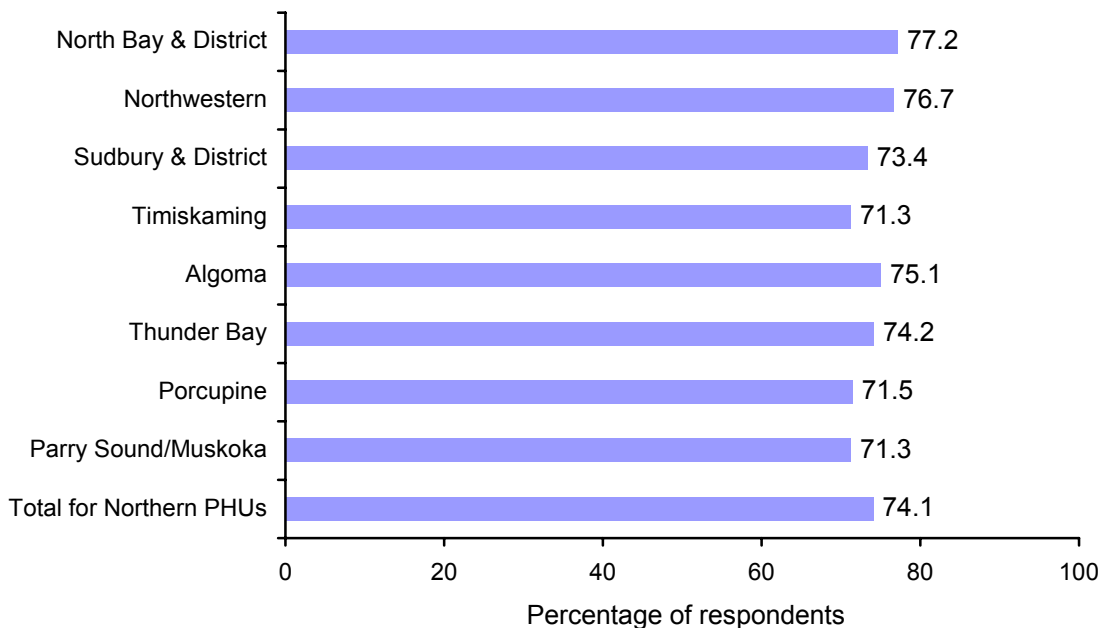


Figure 3.14 Percentage of breastfeeding mothers indicating that they felt it is “very important ” for mothers who breastfeed or express milk to have a special place in the workplace, all northern health units



Conclusion

This section provides highlights of the level of breastfeeding initiation, and breastfeeding support for Northern Ontario. It appears that breastfeeding initiation is on the increase. Mothers appear to be relatively comfortable with the different aspects of breastfeeding upon hospital discharge. The majority receive positive support from their doctor, family/friends and spouse/partner. The results indicate support for special places for breastfeeding in public places, particularly malls.

Some of the implications of these findings are related to the health unit's mandate to promote breastfeeding. The main activities required by the health units include dissemination:

- Ongoing distribution of information by various communication tools to the general public
- Work with health professionals to enhance knowledge about breastfeeding to support their counselling efforts
- Advocate and assist in the development of policies to support breastfeeding in workplaces, restaurants, shopping malls and other public places
- Provide telephone consultation to breastfeeding mothers
- Provide assistance to community groups to establish telephone lines, centres, clinics, drop ins, peer support groups
- Participate in a coalition to support breastfeeding
- Provide recruitment and training of peer educators to act as breastfeeding advocates and provide in-home support⁷.

In addition to this, community agencies that work with breastfeeding mothers are encouraged to implement best practices that promote, protect and support breastfeeding.

A global campaign to assist with breastfeeding support is an initiative supported by WHO and UNICEF and in Canada by the Breastfeeding Committee for Canada. This initiative advocates for all community agencies to strive for "Baby-Friendly" designation. To achieve the Baby-Friendly designation, community agencies are required to implement policy and practice changes as outlined in the following summary of "The Seven Point Plan for the Protection, Promotion and Support of Breastfeeding in Community Health Services".⁸

1. Have a written breastfeeding policy that is routinely communicated to all staff and volunteers.
2. Train all health care providers in the knowledge and skills necessary to implement the breastfeeding policy.
3. Inform pregnant women and their families about the benefits and management of breastfeeding.
4. Support mothers to establish and maintain exclusive breastfeeding to six months.

5. Encourage sustained breastfeeding beyond six months with appropriate introduction of complementary foods.
6. Provide a welcoming atmosphere for breastfeeding families.
7. Promote collaboration between health care providers, breastfeeding support groups and the local community.

The findings will be useful to health promotion programmers and planners and to help guide program and policy development to continue promotion of breastfeeding.

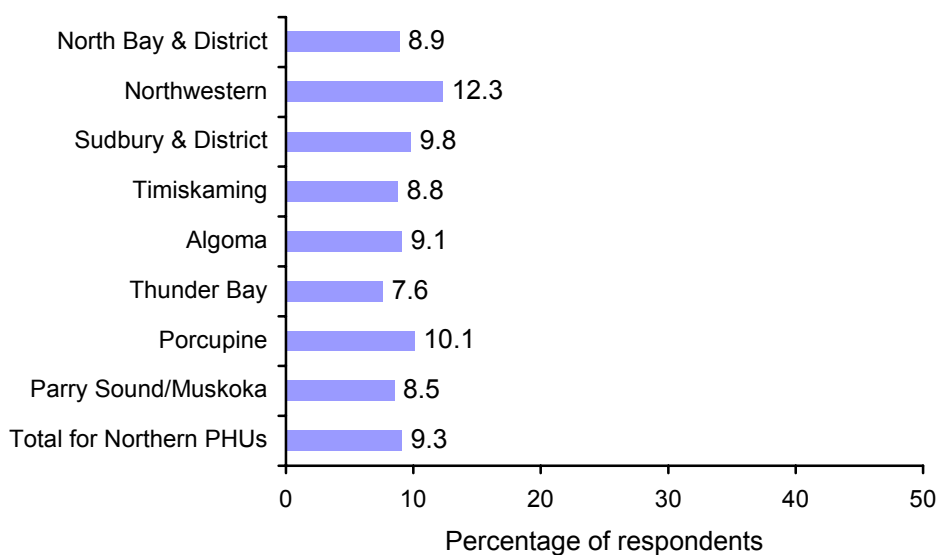
PART 4 – UNINTENTIONAL INJURIES AND SAFETY

The following section deals with issues related to unintentional injuries and treatment for injuries. According to Health Canada,⁹ injuries are the leading cause of death among children in Canada. Rates of injury are seen to be higher in northern regions, as indicated in the Northern Ontario Injuries & Poisoning Profile Report¹⁰. Furthermore, injury is a major cause of disability and death in Ontario, and particularly in northern Ontario.¹¹ To implement child health programs, including the New Injury Prevention Initiative for children 0-6 years, more in-depth data are required that address injury prevention and safety, including preventing injuries caused by motorized vehicles and bicycles. The data in this section identify rates of falls and poisoning, treatment for injuries, and reports of exposures to injurious situations. The key areas identified include types of injury, rates of selected types of injury, how and where injuries occur, whether treatment is required, use of protective devices (seat belts, car seats, helmets, etc.), and other preventive measures.

4.1 Falls

Figure 4.1 presents the percentage of respondents, by health unit, who indicated that the 'target child' had suffered a fall requiring medical attention in the past 12 months. Respondents in the Thunder Bay District area report the lowest proportion at 7.6%, while respondents in the Northwestern Health Unit area reported the highest proportion at 12.3%.

Figure 4.1 Percentage of respondents reporting that in the last 12 months, the 'target child' had a fall requiring medical attention, all northern health units



The types of fall-related injuries for which mothers sought medical attention for their children included cuts (41.6%), broken bones (20.2 %), bruises (17.2%), and other injuries (11.6%). The other injuries most frequently reported were primarily related to the face and head.

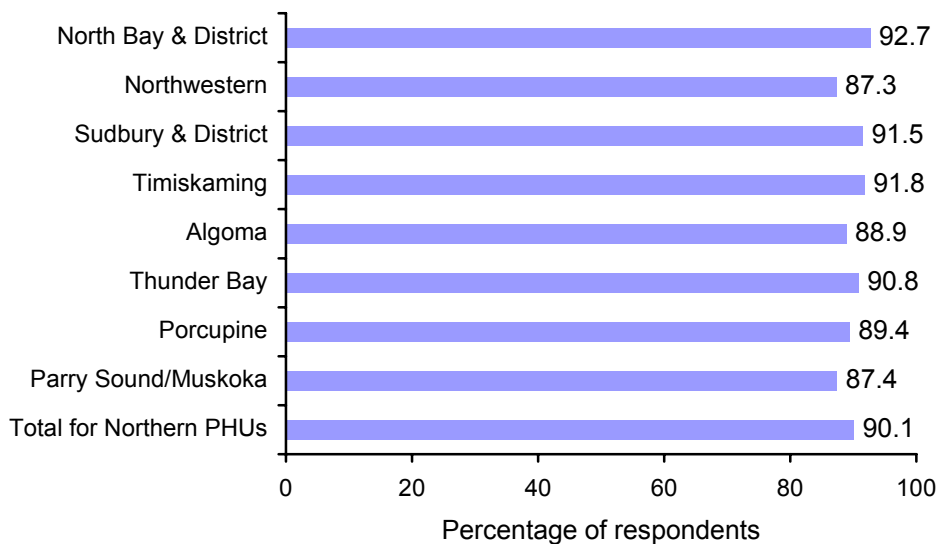
Consistent with other reports of injury epidemiology, respondents indicated that the home (70.7%) was the primary location of the fall that caused the reported injury; and that the most often reported mechanisms of fall-related injuries were falling from a piece of furniture (23.0%), and falling from stairs (10.1%).

4.2 Accidental Poisoning

Overall, fewer than 2% of respondents indicated that the 'target child' had ever been treated for an accidental poisoning. In those cases that had received treatment, more than 81% visited the emergency room of the hospital.

Most respondents stated that they stored medicines and cleaners "high, out of children's reach" (71.8%), or in a "locked cabinet" (18.3%). Figure 4.2 illustrates the percentage of households that indicated that their medicines, cleaners and such products were kept either high out of children's reach or in a locked cabinet.

Figure 4.2 Percentage of respondents indicating that medicines and cleaners were kept out of reach or in a locked cabinet, all northern health units

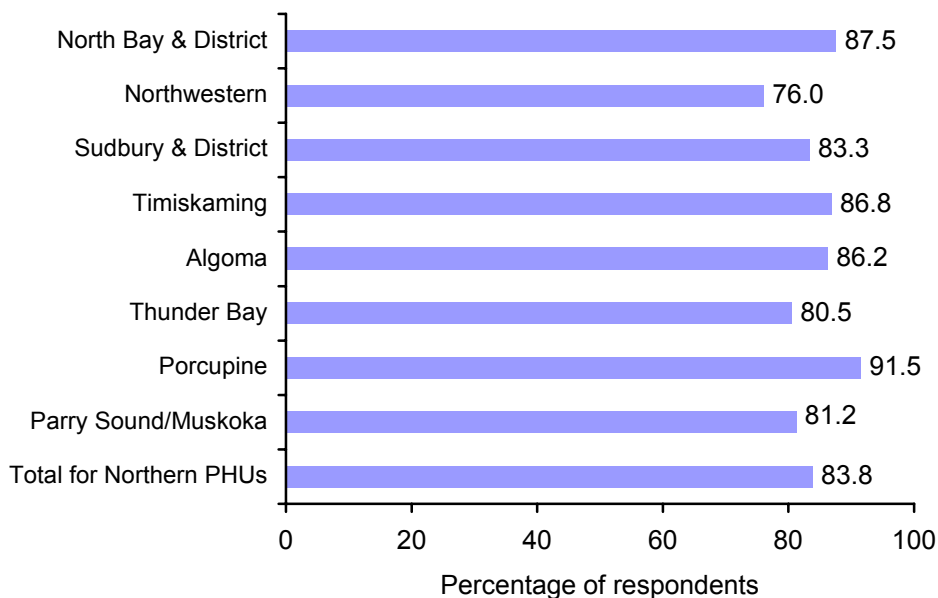


4.3 Bicycle Safety

According to Millar and Pless,¹² millions of Canadians ride bicycles each year for a variety of reasons. However, the risk of injury to these individuals may be greater than previously suspected. Data reported by the Canadian Hospital Injury Reporting and Prevention Program (CHIRPP) indicate that based on records for 15 hospitals between 1990 and 1993, more than 6,000 school-age children visited hospitals with a cycling-related injury.¹³ The CHIRPP report identified that the number one cause of serious head injuries in school-age children was from falling off their bicycles without wearing approved bike helmets. Of the reported injuries, “collision” was the mechanism implicated in more than 80% of the reports. The injuries were typically dental injuries, fractures, cuts and abrasions, and concussions and other head and neck injuries, which in total accounted for more than 44% of all injury reports. Ten percent of children who were injured indicated that they were wearing a helmet when injured.

The following figures illustrate the use of helmets by children in Northern Ontario under different circumstances. The question to which the parent/guardian responded was, “Does your child always wear a helmet in the following situations?” The data for the present study indicate that helmet use by children when riding their tricycles is high at 84%. The data concerning helmet use are based on children aged 2 to 6 years.

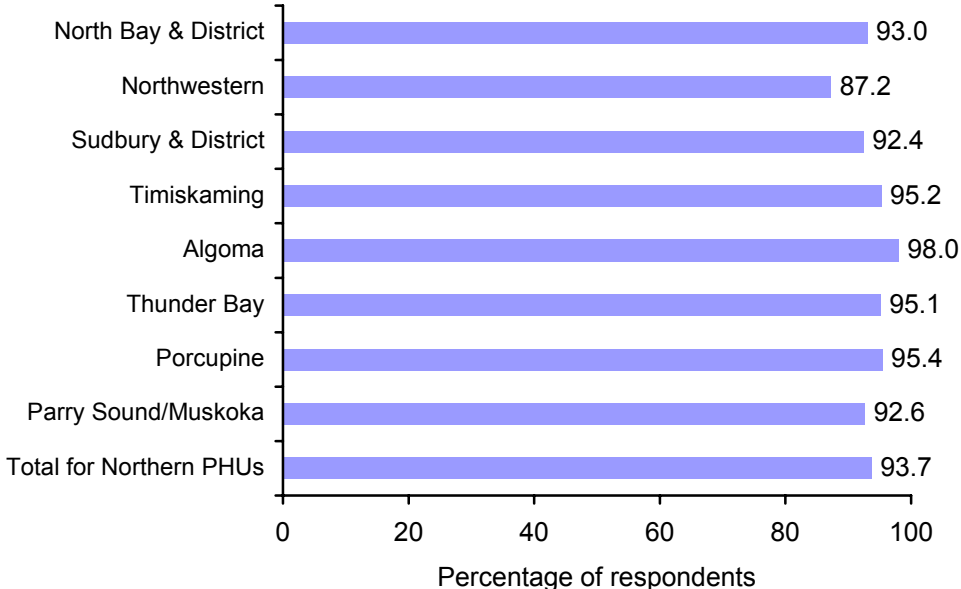
Figure 4.3 Percentage of respondents reporting that the ‘target child’ wears a helmet when riding a tricycle *, all northern health units



* 57.2% of total sample responded to this question

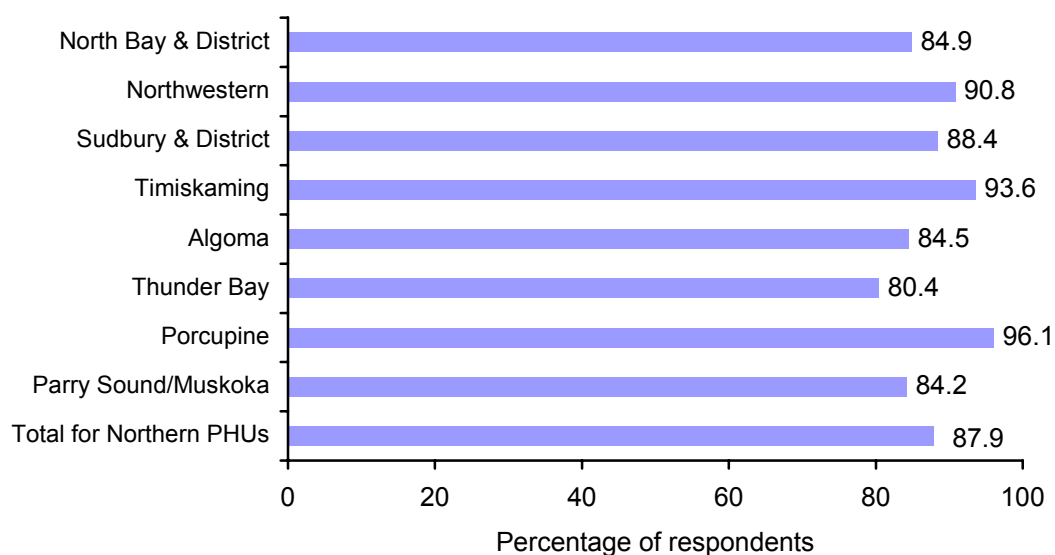
Approximately 94% of the respondents indicated that the 'target child' wore a helmet when cycling alone (Figure 4.4). However, a further breakdown of these data by health unit indicates that the range for helmet use extends from a low of 87% in the Northwestern Health Unit area to a high of 98% in the Algoma area. Figure 4.5 shows that a somewhat smaller proportion of children, 88%, wear a helmet when riding as a passenger on the back of a bicycle. Regional differences exist in these data also, with 80% of children in the Thunder Bay District Health Unit area and 96% of children in the Porcupine Health Unit area reportedly wearing helmets when riding as passengers.

Figure 4.4 Percentage of respondents indicating that the 'target child' wears a helmet when cycling alone*, all northern health units



* 65.6% of total sample responded to this question

Figure 4.5 Percentage of respondents indicating that the 'target child' wears a helmet when riding as a passenger on the back of a bicycle *, all northern health units



* 27.6% of total sample responded to this question

4.4 Car Safety

Ninety-eight percent of respondents indicated that their child always buckled up when traveling in the car. This proportion ranges from 95.9% of respondents within the catchment area of the Northwestern Health Unit to 99.9% of respondents in Sudbury.

Approximately 96% of respondents indicated that when the child is sitting in the car, he/she usually or always sits in the back seat. Approximately 1% reported that the child rarely sat in the back seat.

4.5 Sun Safety

According to Health Canada,¹⁴ children are more vulnerable to the sun because a child's skin is thinner, more sensitive and therefore less protected against the penetration of ultraviolet rays. Infants are particularly vulnerable. There is evidence that even a single sunburn in childhood may increase the risk of developing skin cancer later in life. Therefore, sun safety measures are important contributors to child health.

Mothers were asked how often the 'target child' wore a hat to protect against the sun when he/she went outside. Responses indicate that more than 90% usually or always wore a hat. Mothers were also asked how often the 'target child' wore sun block when he/she went outside; 77.5% usually or always did so. The results are presented in Figures 4.6 and 4.7.

Figure 4.6 Percentage of mothers reporting that the child “usually” or “always” wears a hat for protection from the sun, all northern health units

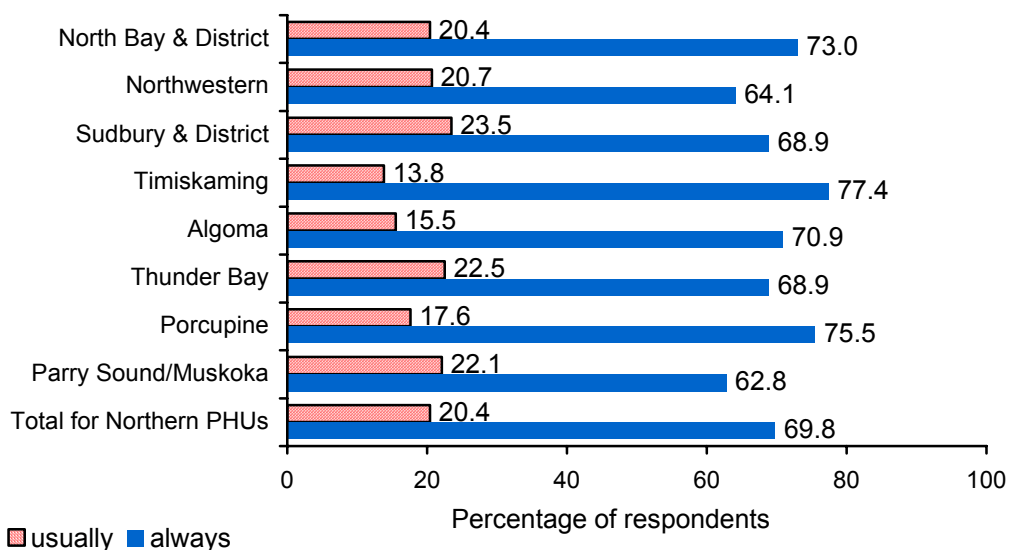
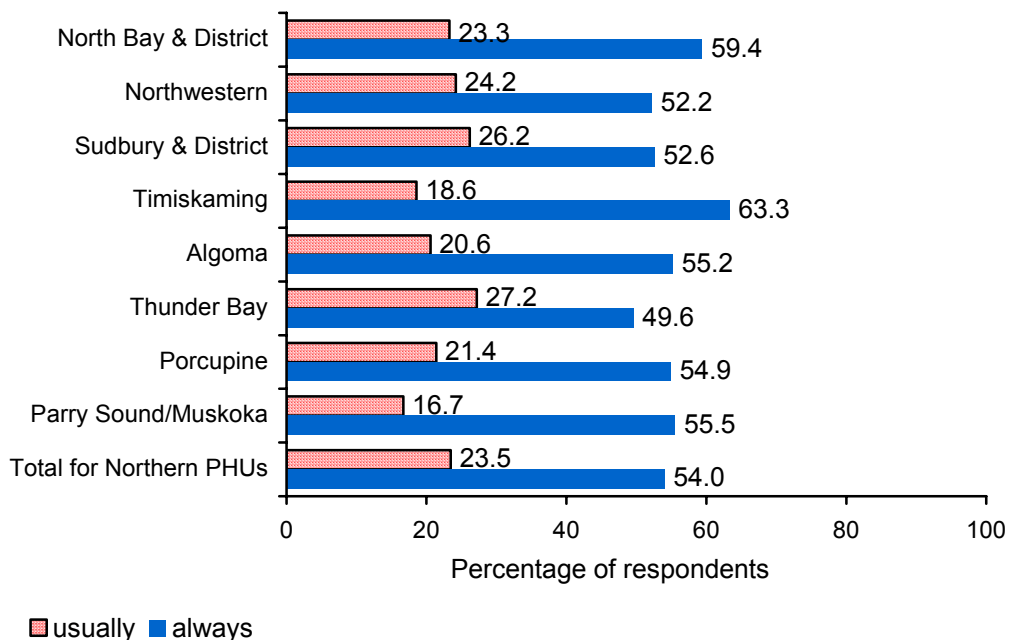


Figure 4.7 Percentage of mothers reporting that the child “usually” or “always” wears sun block for protection from the sun, all northern health units



Although rates of children wearing a hat and wearing sunblock are reported to be quite high across the eight northern health unit areas, the use of this protection does not appear to be consistent, given the relatively high proportion of “usually” responses. Based on these data, sun safety programming that places increased emphasis on consistent use of sun safety measures would be indicated.

Conclusion

This section presents data related to unintentional injuries and safety. The rate of falls requiring medical attention is a cause for concern, and it should be noted that the majority of these falls happened in the home. Increased knowledge about preventive measures may be an area of need for parents of young children. Other data show that safety precautions, such as keeping poisons out of reach, wearing helmets while cycling, and wearing sunblock are not being implemented universally and consistently. Seat belt use appears to be the exception, in that the majority of children reportedly wear seatbelts or use car seats. These results will be useful for planning parent education, information campaigns and other promotion strategies about child injury prevention and safety.

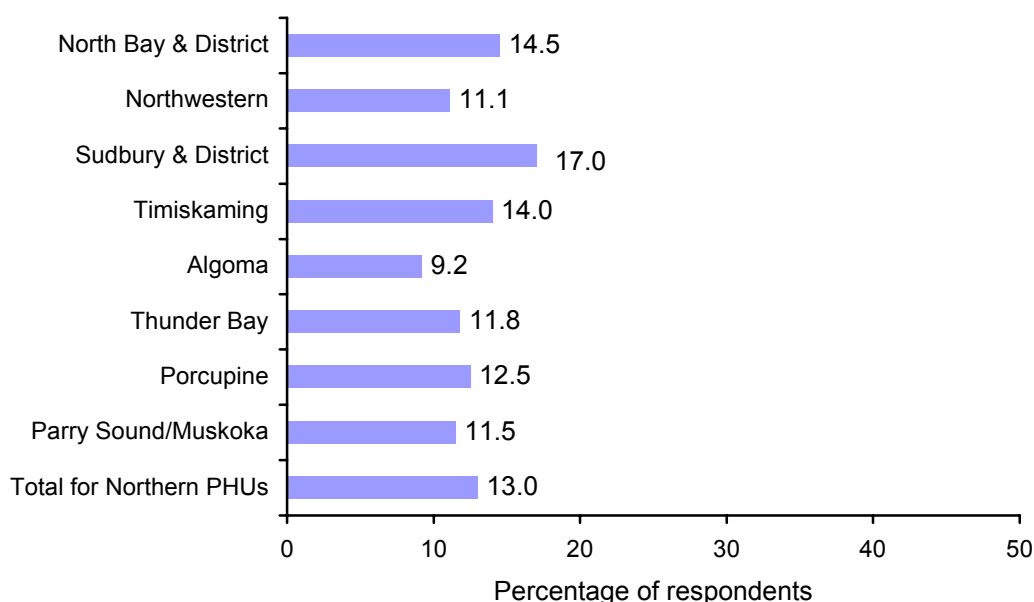
PART 5 – ASTHMA AND RESPIRATORY-RELATED DISORDERS

The decision to include questions about asthma and respiratory-related disorders was based on the rationale that northern areas are known to have higher rates of smoking, which may be linked to higher asthma rates in children.

In addition, The Ministry of Health and Long-Term Care (MOHLTC) is concerned with the growing incidence of asthma in Ontario, particularly as it affects children. The MOHLTC felt a coordinated plan was needed to improve the health and lifestyles of Ontarians who suffer from asthma and to address factors that can lead to asthma. A pilot project targeting asthma in children was launched in designated health units in 2002.

Figure 5.1 presents the mother's response to questions about asthma and respiratory-related issues for each of the eight northern health units. The findings demonstrate that the proportion of households reporting a positive diagnosis for asthma in the 'target child' is 13% across the eight northern health units, with Algoma reporting the lowest proportion at 9.2% and Sudbury and District reporting the highest proportion at 17%. The overall percentage is similar to the Ontario estimate that approximately 10% of children have asthma.¹⁵ The Baseline Report (Figure 51a) indicates that, from 1996 to 2000, in Northern Ontario, asthma accounted for 23% of respiratory morbidity in children 0–6 years.

Figure 5.1 Percentage of respondents indicating that the 'target child' was diagnosed as having asthma or a specific respiratory disorder, all northern health units



Conclusion

Local data on asthma rates and examination of the variables related to the observed regional variability will assist with locally tailored asthma program planning and effective interventions.

This is particularly relevant in light of the fact that the Ontario Budget committed money for the development of an Asthma Plan of Action, which includes projects in the area of "Health Promotion and Prevention", "Management" and "Research and Surveillance".

PART 6 – FOOD SECURITY

The concept of food security was described by Health Canada as “one of the essential prerequisites for health”.¹⁶ Defined at the International Conference on Nutrition, Plan of Action, in Rome, 1992,¹⁷ “food security”, or conversely “food insecurity”, is a staged continuum on which the stages refer to levels of *insufficiency of food*, and/or the *inability of the household to fully meet the basic needs of household members*.

The definition of food security continues to be refined to reflect the broad nature of this issue and its impact on family and child well-being. Canada’s Action Plan for Food Security,¹⁸ as a follow up to the 1996 World Food Summit, states that: *Food Security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.*”

This survey also used the Core Food Security Module (CFSM) to document the extent to which food insecurity exists within each health unit region. Initially, the instrument was published as an 18-item questionnaire; however, Nord, Jemison and Bickel¹⁹ subsequently produced a short form version of six items.

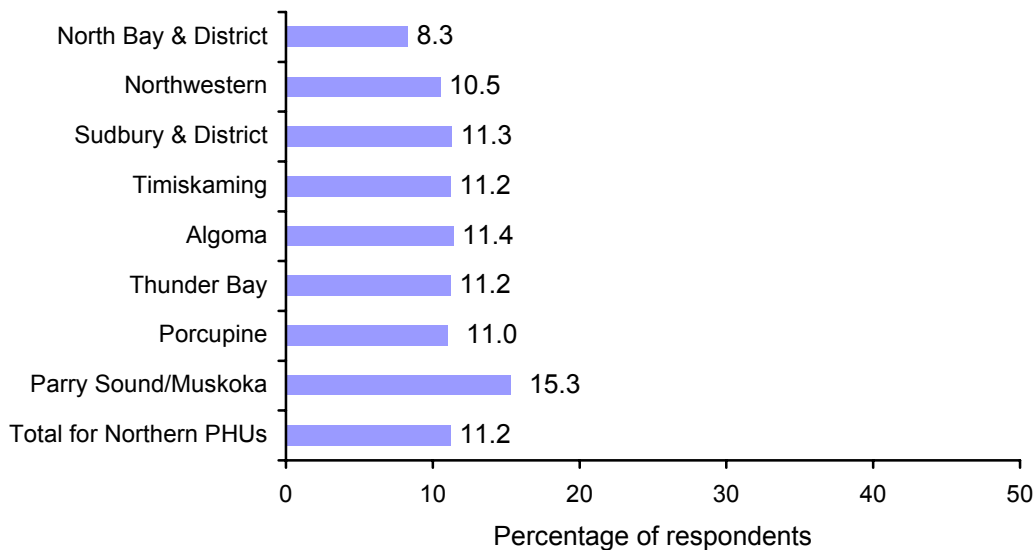
The six items that comprise the short form survey are listed below:

- The food that we bought just didn't last, and we didn't have money to get more.
- We couldn't afford to eat balanced meals in the last 12 months.
- In the last 12 months, did you or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?
- How often did this happen — almost every month, some months but not every month, or in only one or two months?
- In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?
- In the last 12 months, were you ever hungry but didn't eat because you couldn't afford enough food?

Responses to selected questions are presented below. Results of the CFSM Index will be presented in a subsequent report specifically on nutrition.

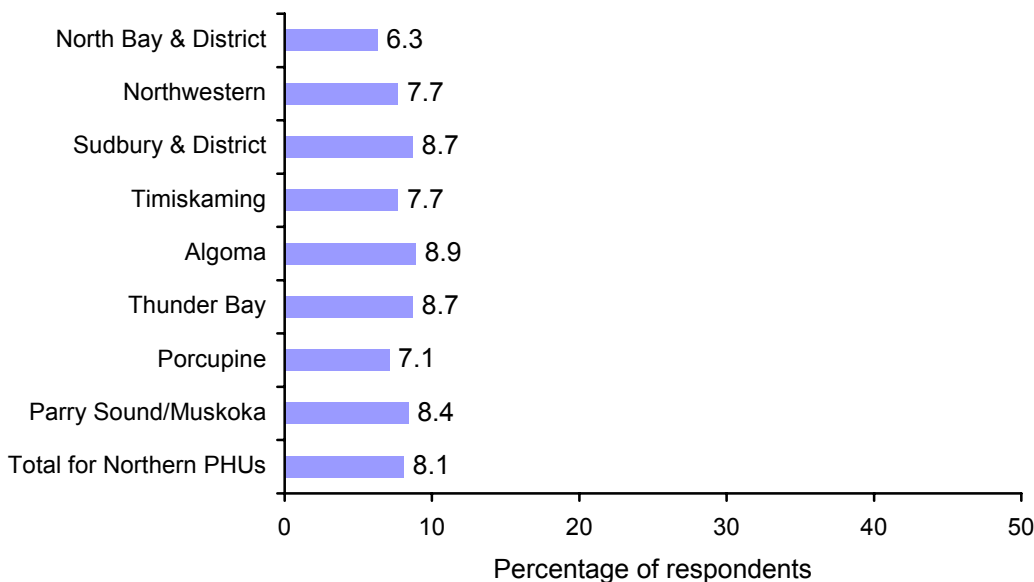
Responses to the statement “The food that we bought just didn't last, and we didn't have money to get more – in the last 12 months” are illustrated in Figure 6.1. The data for the total sample indicate that the event occurred in slightly more than 11% of the households in the weighted sample. The response to the statement “In the last 12 months, were you ever hungry but didn't eat because you couldn't afford enough food?” was negative in more than 96% of the households in the sample.

Figure 6.1 Percentage of respondents who stated that “the food we bought just didn’t last, and we didn’t have money to get more – in the last 12 months”, at least “sometimes”, all northern health units



As shown in Figure 6.2 below, a similar pattern of responses was found for households that stated that, “We couldn’t afford to eat balanced meals – in the last 12 months”.

Figure 6.2 Percentage of respondents reporting: “We couldn’t afford to eat balanced meals – in the last 12 months”, at least “sometimes”, all northern health units



On the issue of whether adults forfeited their own meals for their children, approximately 95% of households indicated that this had not occurred in the past 12 months. Similarly, in response to the statement "In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?", approximately 93% of households indicated that such circumstances did not occur.

Conclusion

Results confirm that there are families in Northern Ontario that are food insecure. Over 11% of northern households with children report not having "enough food to last", nor money to get more, and over 8% state they could not afford to eat balanced meals. The results suggest that two to three children in every classroom in Northern Ontario may not have enough food to eat at times.

As shown in the Baseline Report (Figure 31), data from 1996 Ontario Health Survey indicated that 12% of Northern Ontario households (with children ages 5 and younger) reported that they did run out of money for the purchase of food in the last year. The current findings confirm that there has been no improvement over the last six years. It should also be noted that telephone surveys exclude families with no phone or permanent address, and results can therefore be expected to be an underestimation. The recently released National Population Health Survey data²⁰ reported that 10% of Canadians were considered to be living in what is known as 'food insecure' households at some point in 1998-1999, and that 8% of Canadians had to compromise the quality or quantity of their diet at least once in 1998-1999 because of lack of money. Children (ages 0-17) were the age group most likely to live in a food insecure household (14%). One third (32%) of all single-mother households were food insecure to some extent and 28% reported that their diet had been compromised.

The findings of this current survey and previous research indicate a consistent and worrisome pattern concerning food insecurity as measured by self-reported surveys. Working within a population health model, these results present a challenge to service providers and all community partners concerned with child health in Northern Ontario.

PART 7 – PRENATAL AND CHILD NUTRITION

7.1 Folic Acid Intake

According to Health Canada,²¹ women who might become pregnant should consume the B vitamin folic acid daily as a means to reduce the risk of neural tube defects in the unborn child. To reduce the risk of neural tube defects, daily folic acid supplementation should begin two to three months before conception and continue throughout the first four to six weeks of pregnancy. However, the consumption of 400 micrograms of folic acid per day is suggested to be important to anyone wishing to maintain good health. Folate, which is the natural form of folic acid, can be consumed through a healthy diet that includes such foods as enriched grain products (including certain breakfast cereals), beans and other legumes, leafy green vegetables, and orange juice.

North American research shows that, on average, women consume about 0.2 mg (200 micrograms) of folate through their diet, and only about 30% take a folic acid supplement.²² Since approximately 50% of pregnancies in Canada are unplanned, all women of childbearing age, not just those planning a pregnancy, should follow these guidelines. It is recommended that women capable of becoming pregnant consume 400 micrograms of folate daily from supplements, fortified foods, or both in addition to consuming food folate from a varied diet.²³ At this time the evidence for a protective effect from folate supplements is much stronger than that for food folate.²⁴ Research²⁵ has shown that if all women were to consume 400 micrograms of synthetic folic acid every day before pregnancy, neural tube defects could be reduced by 50% to 70%.

The following graphs and tables outline the responses of the mothers to questions about their level of knowledge about folic acid, their consumption of folic acid through both direct and indirect means, as well as other folic acid related issues. As shown in Figure 7.1, 92.7% of the mothers interviewed for this survey had heard about folic acid.

The majority cited medical professionals as at least one of their sources of information about folic acid (Figure 7.2). However, as can be seen in Figure 7.3, only 75.9% of respondents felt that they had enough information about folic acid to know whether they should be taking it. This suggests that more education and promotion is required in order to assist women to make informed choices.

Figure 7.1 Percentage of mothers indicating that they had heard about folic acid, all northern health units

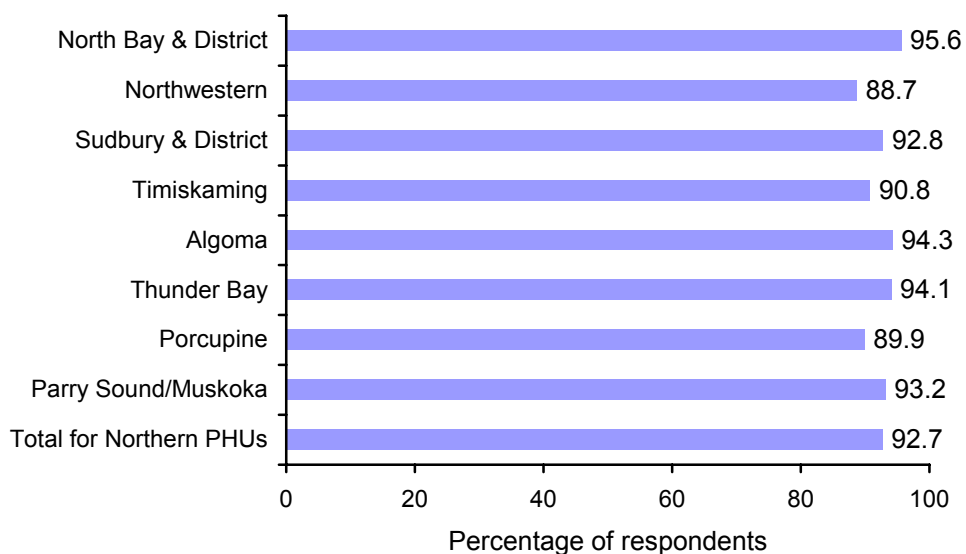


Figure 7.2 Reported sources of information about folic acid, all northern health units

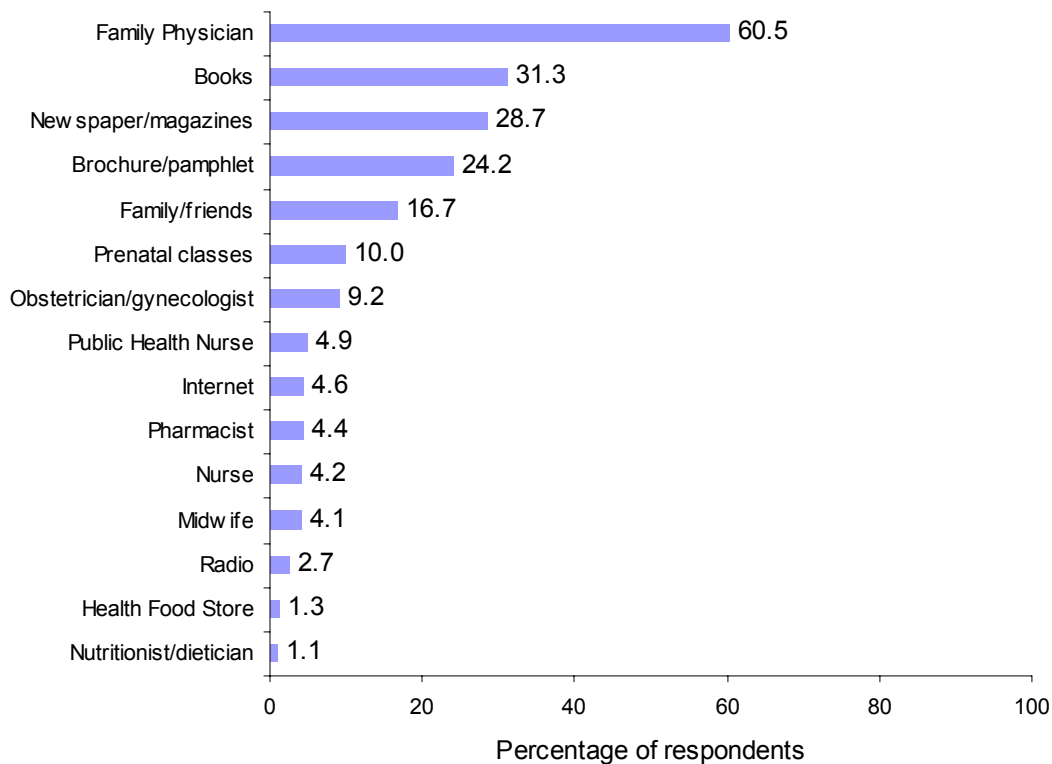
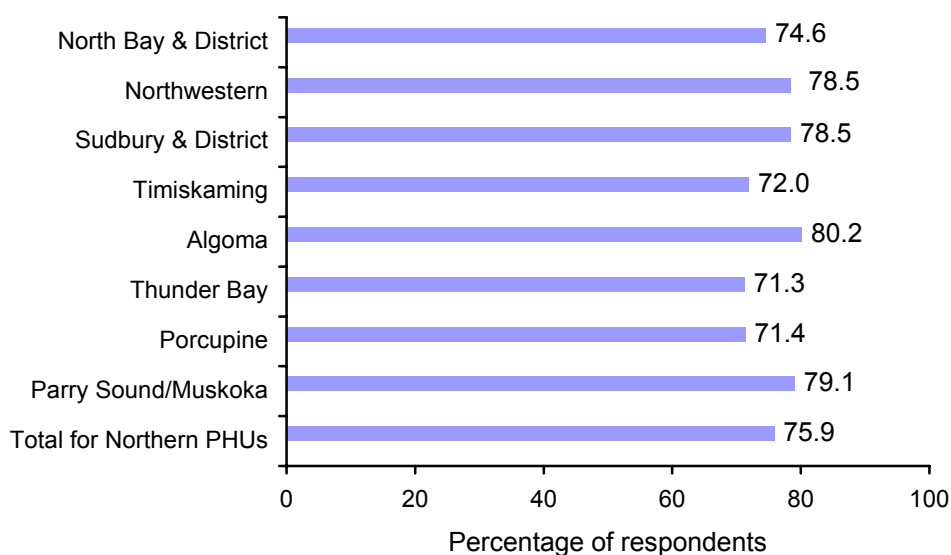


Figure 7.3 Percentage of mothers indicating that their knowledge about folic acid was sufficient to decide whether or not to take it, all northern health units



7.2 Child Nutrition

The food choices families make for their children play a direct role on the nutritional status, eating behaviours, health and school readiness of young children. Nutrition significantly influences a child's health status. Young children with nutritional problems have been shown to be at risk for growth, behavioural and developmental problems.²⁶ However, there is no national, population level information on dietary intakes and nutritional status of children or the extent and nature of potential nutrition problems among this age group.²⁷ This report provides an initial attempt to gather some of that information. As illustrated in Table 7.1, although 77% of respondents indicated that their child “always” or “almost always” enjoys a wide variety of foods, 23% stated that this was true only “sometimes” or less often. Because eating a wide variety of foods is a possible indicator of good nutrition, this finding suggests that children's nutritional intake and possibly status may be less than optimal for approximately one quarter of children across the north.

Table 7.1 Percentage of children* who enjoy a wide variety of foods, as reported by the mother, all northern health units

Public Health Units	Always (%)	Almost always (%)	Sometimes, Hardly ever, Never (%)
North Bay & District Health Unit	55.3	25.6	19.1
Northwestern Health Unit	58.6	19.6	21.8
Sudbury & District Health Unit	57.3	18.7	24.0
Timiskaming Health Unit	57.0	23.6	19.3
Algoma Health Unit	57.9	22.4	19.7
Thunder Bay Health Unit	51.4	23.0	25.7
Porcupine Health Unit	55.2	19.2	25.6
Muskoka-Parry Sound Health Unit	54.6	21.5	23.9
Total for all northern health units	55.7	21.3	23.0

* Excludes children under 1 year.

Slightly less than 92% of the total respondents indicated that their child usually has three main meals, breakfast, lunch, and supper, as well as two to three between-meal snacks, more than five days per week. This finding suggests that almost 10% of children may have insufficient intake of calories and nutrients to provide appropriate growth and development as well as meeting their needs for specific nutrients such as iron. There have been concerns raised about the iron status of Canadian children.²⁸ For example, preschool children in Guelph, Ontario were reported to have a prevalence of 3-29% iron depletion.²⁹ Even though the direct impact of inadequate iron intake is not entirely known, there is evidence that iron plays a role in cognitive development.³⁰ Fewer than half of the respondents across the eight northern health units said that their child consumed a daily multi-vitamin supplement.

Conclusion

Prenatal nutrition, specifically folic acid consumption, should be promoted extensively through health professionals, media, and other sources, so that all mothers-to-be will be informed about the importance of folate for fetal development. Although most respondents had heard of folic acid, additional support for making informed decisions about consumption is indicated by these results.

The nutritional problems and concerns of young children can persist into adulthood³¹. There is an opportunity to plan programs and services to increase the awareness of nutrition concerns such as malnutrition and nutrient deficiencies. The results of this survey will help to direct public health agencies and programs, to ensure that children have the opportunity and resources to reach their full potential.

SECTION IV: FUTURE DIRECTIONS

PART 1: DISSEMINATION

Highlights Report

Findings from the NOPCHS will be used in multiple ways by consortium partners and by community agencies that serve children and families in Northern Ontario. As a first step, the present NOPCHS Highlights Report will be made available to health unit program staff, and to community partners such as child and family service agencies, child care centres, school boards, children's health care providers, District Health Councils, and other interested parties. Key recipients of the Highlights Report will be Ontario Early Years Centres and other local Early Years initiatives. This will provide them with a current "first look" at northern data to help understand the health status of young children and families in our communities, and a foundation from which to identify and address areas of particular need. This report also serves as an introduction to subsequent in-depth reports planned for 2003. In order to promote the use of these data, especially in Northeastern Ontario, reports will also be translated into French.

To ensure maximum dissemination and use of these data, a dissemination working group has been established, coordinated by the PHRED site, with representation from all northern partners. A northern videoconference launch will be held and a dissemination plan will be developed. Discussions are already underway with respect to possible presentations and publications at the local and provincial levels.

Web-Based Interface

Although the NOPCHS Highlights Report begins the process of analyzing and disseminating the data, the NOPCHS has gathered a wealth of data that can be used by health units, and shared with community partners, over the coming months and years. As one mechanism for ensuring that the data set is used to its maximum potential, the consortium supported the building of a web interface to allow users to access the data via the Internet.

On behalf of the consortium, the Northern Health Information Partnership is developing a "clickable", secure, web-based program that will allow access to the NOPCHS data set for all consortium partners. The user will be presented with a comprehensive list of variables from which to select, with resulting cross-tabulations provided through the interface. Both weighted and unweighted frequencies, row and column percentages with confidence intervals will be represented. The confidence intervals will be derived using the bootstrap non-parametric method. Because of the confidential nature of these data, such a web interface will be confined to a secure environment, with access only by consortium partners.

PART 2: ONGOING ANALYSIS AND SUBSEQUENT REPORTS

Consortium members plan to build on the partnerships established and work together to analyze the wealth of data collected through the NOPCHS. A Data Sharing and Confidentiality Agreement has been developed by the PHRED Program to ensure proper use of the data by all members of the Consortium and to provide guidelines for future research. Working teams for selected topic areas will be established to continue the analysis, exploration, and use of the NOPCHS data for program planning. As with our current initiatives, both research and program staff will be involved in the identification of key questions, the interpretation of results and the determination of implications. Topic-focused reports based on the NOPCHS data will be released and shared with interested parties as they become available.

PART 3: ONGOING COLLECTION OF CHILD HEALTH DATA THROUGH THE RAPID RISK FACTOR SURVEILLANCE SYSTEM (RRFSS)

Through the development of RRFSS modules on breastfeeding policy and awareness, and childhood injury prevention, the RRFSS complementary project has built capacity for ongoing surveillance of two key indicators related to perinatal and child health. An overview of this related project provides useful information regarding potential ongoing surveillance.

Background

The goal of the RRFSS module component of the overall project is to build capacity for ongoing surveillance of key indicators related to perinatal and child health. Through consultation with Early Years and health unit program staff, breastfeeding policy and awareness, and childhood injury prevention were identified as two priority information areas.

Module 1: RRFSS Breastfeeding Policy and Awareness

Exclusive breastfeeding for the first six months of life and sustained breastfeeding for up to 2 years of age and beyond is a World Health Organization recommendation.³²

Breastfeeding policy initiatives that create conditions in which women are supported in their efforts to breastfeed are in various stages of development and implementation.³³ Indicators of community awareness of the benefits of breastfeeding and support for breastfeeding-friendly places will assist in the development and evaluation of programs and campaigns aimed at promoting, protecting and supporting breastfeeding. A key objective of breastfeeding policy initiatives is to facilitate a positive breastfeeding experience without societal hindrances.

Currently, in 2002, there are two existing RRFSS optional modules regarding breastfeeding. The first determines initiation and duration of breastfeeding and reasons for stopping breastfeeding. This module is exclusively for women respondents who have had a baby in the past five years. The second optional module determines general attitudes toward mothers' breastfeeding in a restaurant or in a shopping mall. This module provides baseline data for health promotion and public policy strategies, but the questions are limited in their scope.

The Northern Ontario Perinatal and Child Health Survey (NOPCHS) (2002) and the Ottawa Infant Care Survey (2000) provided a pool of relevant questions for the development of the RRFSS module. The NOPCHS asked breastfeeding mothers to indicate their level of comfort breastfeeding in a number of situations including malls, restaurants, and the workplace. It also asked them to indicate how important it is for mothers to have a special place to breastfeed or express milk in malls, in restaurants, or in the workplace. These general questions were identified for their relevance to program development and evaluation as well as their fit in the RRFSS format (ongoing population health survey) ensuring continuity of data from the NOPCHS. Ottawa's Infant Care Survey, 2000 provided questions about breastfeeding campaigns in the community and the benefits of breastfeeding. These questions were identified as useful for determining community awareness of existing promotional campaigns and general awareness of the benefits of exclusive breastfeeding of infants.

Following input from the RRFSS Working Group, the original Breastfeeding Policy and Awareness Module was revised and submitted to the Institute for Social Research (ISR) for feedback and pre-testing. It became evident that additional questions were needed to determine respondent work status and two questions were added. A second pre-test suggested further changes, including more information on typical workplace environments, support for breastfeeding the baby or expressing milk in the workplace, and revisions in the question regarding benefits of breastfeeding.

Work is continuing to finalise this module for availability as an optional selection for RRFSS users in 2003.

Module 2: Childhood Injury Prevention

Childhood injury prevention is a priority health issue, but relatively little is known about people's knowledge and attitudes about causes of unintentional injuries and prevention of these injuries in children.³⁴ This information would be helpful in the development of effective injury prevention programs, particularly public awareness campaigns.

There are two existing RRFSS optional modules relevant to childhood injury prevention: the Car Seat Safety Module and the Bike Helmet Module. It was felt that more specific information about public awareness of unintentional childhood injuries and perceptions about childhood injury prevention would be useful to health units.

The NOPCHS provides information about the occurrence of falls requiring medical attention and accidental poisoning, car seat safety, and the use of a bike helmet. These questions are specific to parents of young children and are therefore not feasible for RRFSS because it is designed as a general population level survey. The Childhood Injury Prevention Working Group identified the Parental Attitudes Toward Unintentional Childhood Injuries³⁵ as a source of questions that could be adapted for RRFSS and would inform injury prevention programming. These questions would establish a general understanding of community perception of child injury risk, beliefs about childhood injury prevention and need for specific injury prevention information.

Interest in the development of the Childhood Injury Prevention Module grew within the RRFSS partnership through the course of the year. The current draft of the Childhood Injury Prevention Module has been developed. Preliminary feedback regarding feasibility of pre-testing was provided by ISR and is under review by the Childhood Injury Prevention Working Group. A revised module will be submitted to ISR and the goal is to finalise this module for availability as an optional section for RRFSS users in 2003.

Conclusion

Because RRFSS is an ongoing project, inclusion of these two optional modules makes it possible to continue the collection of population-level data related to children's health.

Although the RRFSS modules can be used to collect data on an ongoing basis by health units that are RRFSS partners, the application of RRFSS to the study of child health is limited. Because RRFSS is a general population-level survey, it is not suitable for questions that apply only to a small segment of the population, such as children aged 0-6. Therefore, other survey approaches will be required to complement the RRFSS initiatives and ensure comprehensive, ongoing surveillance of child health issues.

The Northern Ontario Perinatal and Child Health Survey Initiative made possible the expansion of RRFSS child-related content. The final modules will be available for review and selection in 2003. This project has triggered increased provincial interest in the capabilities of RRFSS, and is an important step in supporting the future directions of the NOPCHS and child health surveillance in general.

PART 4: THE YEARS AHEAD

The NOPCHS provides a much-needed information base for perinatal and child-focused program and service planning throughout Northern Ontario. However, improvements in health status can only be determined by identifying changes over time. Ongoing health surveillance data are required to continue the monitoring of child health indicators and to allow evaluation and improved planning of perinatal and child health initiatives. These initiatives are a key step in improving the health of children 0-6 years in Northern Ontario. In order to build on these accomplishments, further perinatal and child health surveys should be conducted every two to three years, and funding must be pursued to support such projects.

From the outset, there were two main objectives to this initiative. First we sought to obtain high quality data to guide northern child health program and policy decisions, especially in the area of health promotion, and secondly to achieve a strong collaboration between northern health units, northern universities, NHIP and the PHRED Program. The consortium now looks ahead to building on its initial accomplishments to make best use of the available data and to further the collaborative working relationships that have been developed across the north.

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APPENDICES

APPENDIX A

Northern Ontario Perinatal and Child Health Survey Strategies Initiative 2002 Project Contacts: Northern Participating Health Units

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APPENDIX B

The following table lists the references/resources used to develop the questions in the Northern Ontario Perinatal and Child Health Survey.

Part 1. Profile of the Sample

Questions 1.1 to 1.8	Social Data Research Ltd. (2001). City of Ottawa Parenting Survey. Final Questionnaire.
Question 1.9	Social Data Research Ltd. (2001). City of Ottawa Parenting Survey. Final Questionnaire. Family Survey – Pilot, Canadian Facts, Toronto, Ontario (Study NG246) Healthy Babies Healthy Children.
Questions 7.1 to 7.4	Social Data Research Ltd. (2001) City of Ottawa Parenting Survey. Final Questionnaire.
Questions 7.5 to 7.16	Adapted from Family Survey – Pilot, Canadian Facts, Toronto Ontario (Study NG246). Healthy Babies Healthy Children.

Part 2. Parenting

Questions 6.1 to 6.2	National Population Health Survey, Alberta Child Health Supplement.
Questions 6.4; 6.6a to 6.6f; 6.13i to 6.13vii	National Longitudinal Survey of Children and Youth.
Questions 6.5b, 6.5d	Adapted from Family Survey – Pilot, Canadian Facts, Toronto, Ontario (Study NG246). Healthy Babies Healthy Children.
Questions P6C to P6F; 6.9; 6.14i to 6.15B	Social Data Research Ltd. (2001) City of Ottawa Parenting Survey. Final Questionnaire.
Questions P6G to P6K; P6N; 6.10 to 6.11iii; 6.16	Family Survey –Pilot, Canadian Facts, Toronto Ontario (Study NG246). Healthy Babies Healthy Children.
Question P6L	Food Insecurity Study in Scarborough—Scarborough Hunger Coalition.
Questions P6N-4; O_P6N-4	Developed for the Northern Ontario Perinatal and Child Health Survey.

Part 3. Breastfeeding

Questions 2a.1; 2a.4	Adapted from The Breastfeeding Support Benchmarking Pilot Project.
Question 2a.2	Family Survey – Pilot, Canadian Facts, Toronto, Ontario (Study NG246) Healthy Babies Healthy Children.
Questions 2a.3i to 2a.3x; 2a.5i to 2b.2.vi; 2b.10.i to 2b.11.iv	The Breastfeeding Support Benchmarking Pilot Project.
Questions 2b.3 to 2b.9	Adapted from The Breastfeeding Support Benchmarking Pilot Project and Canadian Community Health Survey
Questions 2b.12 to 2b.14	National Longitudinal Survey of Children and Youth, Cycle 3.
Question 2c.1	Adapted from the Canadian Community Health Survey.
Questions 2c.1i to 2c.8ix	National Longitudinal Survey of Children and Youth, National Population Health Survey.

Part 4. Unintentional Injuries and Safety

Questions 4.1 to 4.17.iii	National Population Health Survey, 1994/95 National Longitudinal Survey of Children and Youth, 1994/95 Unintentional Injuries in Childhood: Results from Canadian Health Surveys (Pless, B. & Millar, W. 2000, Health Canada)
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Part 5. Asthma and Respiratory-related Disorders

Questions 5.1 to 5.7	Asthma in Canada: A Landmark Survey— Glaxo Wellcome Inc. www.glaxowellcome.ca
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Part 6. Core Food Security

Questions CFSM 3 to CFSM 10	The Core Food Security Module Nord M, Jemison K, Bickel G. <i>Measuring Food Security in the United States: Prevalence of Food Insecurity and Hunger, by State, 1996-1998</i> . Food Assistance and Nutrition Research Report; No. 2. Washington, DC: US Department of Agriculture, 1999.
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Part 7. Prenatal and Child Nutrition

Questions 3b.1 to 3c.2	Georgia Women's Health Survey PH97.35W; Folic Acid Alliance Ontario – Omni Questionnaire NutriSTEP Questionnaire, Sudbury & District Health Unit, 2002.
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