

# Infant Feeding in Halton



## Initiation, Duration and Exclusivity of Breastfeeding



March 2010

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# 1.0 Executive Summary

## Background

The promotion and support of breastfeeding has been a strategic objective of the Halton Region Health Department since 1992. In 2000/2001, the first Infant Feeding Study was conducted. Since that time the Health Department has been implementing the recommendations from the study, and in 2007/2008 the second Infant Feeding Study was completed: the findings of which are discussed in this report.

The findings and recommendations from this most recent study will be used to provide direction for community collaboration, advocacy work and health promotion programming to further promote the initiation, duration and exclusivity of breastfeeding in Halton. The results have already been used as part of the process of achieving the Health Departments Baby Friendly Initiative (BFI) accreditation.

## Purpose

The primary purpose of the 2007/2008 Infant Feeding Study was to describe breastfeeding initiation, duration and exclusivity rates in Halton Region. The specific objectives of the Infant Feeding Study were to:

- Determine current breastfeeding initiation, duration and exclusivity rates to age twelve months
- Compare current (2007/2008) breastfeeding initiation, duration and exclusivity rates to those described in the 2000/2001 Infant Feeding Study
- Determine how breastfeeding initiation, duration and exclusivity are affected by demographic characteristics such as maternal age, education and income
- Determine when other infant feeding practices such as breast milk substitutes and solids are introduced to baby
- Determine current awareness and use of breastfeeding support services
- Determine the impact of mothers' return to work on breastfeeding duration and exclusivity
- Determine why women continue to breastfeed to age six months and age twelve months
- Determine dental care practices for babies at twelve months of age

## Methods

Data for the Halton Region Health Department's 2007/2008 Infant Feeding Study was collected using surveys administered when babies were age six months and twelve months. The survey was either conducted by telephone or electronically according to the mothers' preference.

Mothers that gave birth from May 1 to July 31, 2007 were eligible to participate in the 2007/2008 Infant Feeding Study (n=1537). Due to a variety of reasons (e.g., mothers were not

asked to participate or mothers refused to participate), the final sample for the Six-Month Telephone Survey was 621. From these 621 mothers, a total of 483 mothers completed the Six-Month Survey, resulting in a response rate of 78% (483/621). Response rates were identical for the telephone and electronic surveys. Of the 483 mothers who participated in the Six-Month Survey, 287 were eligible to participate in the Twelve-Month Survey. A total of 248 mothers completed this survey, and the response rate was 86% (248/287). The response rate for the Twelve-Month Telephone Survey was 85% while the response rate for the Twelve-Month Electronic Survey was 87%.

Data analysis for the 2007/2008 survey was primarily descriptive (frequency tables and cross-tabulations). Pearson chi-square analysis was used to test for statistical significance, except for duration and exclusivity where Cox regression was used. Statistical significance was assumed when  $p < 0.05$ .

## **Key Findings and Recommendations**

The following is a summary of the key findings from the 2007/2008 Infant Feeding Study, as well as the recommendations that come from these key findings. Recommendations will be used by the Halton Region Health Department and Halton Baby Friendly Initiative (BFI) partners.

### **Initiation, Duration and Exclusivity**

The 2007/2008 Infant Feeding Study provided the Halton Region Health Department with more current information regarding breastfeeding initiation, duration and exclusivity. Breastfeeding initiation rates for 2007/2008 remained essentially unchanged from 2000/2001, with 93% of mothers initiating breastfeeding. Breastfeeding duration improved in 2007/2008 (significantly for age three months to age six months). However, more work needs to be done to improve duration, since by age six months only 64% of mothers were breastfeeding and by twelve-months only 29% of mothers were breastfeeding. Exclusivity rates for 2007/2008 were significantly higher for all time periods when compared to the 2000/2001 study. However, supplementation in hospital continues to have a negative impact on exclusive breastfeeding rates in Halton.

**Positive Influencing Factors:** Being a first-time mother, and having breastfed other children both had a positive effect on breastfeeding initiation, while having a university education and having breastfed other children improved breastfeeding duration. Mothers who gave birth vaginally were more likely to exclusively breastfeed longer, as were mothers over the age of 25, and mothers who had breastfed their other children. The most common reason mothers gave for continuing to breastfeed at both age six months and age twelve months was that breastfeeding was the best thing to do for their babies' health.

**Negative Influencing Factors:** The main reason mothers gave for not initiating breastfeeding were having problems breastfeeding in the past or not enjoying breastfeeding. The main reason mothers gave for not breastfeeding to age six months were that they did not feel they had enough

breast milk. At age twelve months mothers indicated that they stopped breastfeeding because the baby weaned itself or they had planned to stop.

**Other Infant Feeding Practices:** Sixty percent of breastfeeding mothers gave their babies breast milk substitutes (formula) while they were breastfeeding at home during the first six months, and the majority introduced breast milk substitutes (formula) at less than one week. Seventeen percent of mothers gave milk or other liquids to their babies while breastfeeding at home during the first six months, with the majority introducing these liquids at age five-months or older. Sixty-one percent of breastfeeding mothers gave their babies solids while they were breastfeeding during the first six months, with the majority introducing solids at age five months or older. Finally, thirty-nine percent of mothers introduced cow milk to their babies before age twelve months, which is the time recommended by the Breastfeeding Committee of Canada and the Canadian Paediatric Society.

**Recommendations:**

1. Continue to provide breastfeeding support to all mothers and increase support for first-time mothers, mothers who had previous breastfeeding difficulties, younger mothers, mothers who had a caesarean section and mothers who have lower levels of education.
2. Encourage exclusive breastfeeding for the first six months and breastfeeding duration to two years and beyond as per the WHO recommendation.
3. Continue the education of health care providers who care for pregnant and postpartum mothers and parents regarding the medical indications for supplementation, especially when in hospital or just following birth.
4. Expand messaging beyond the benefits of breastfeeding to include strategies that address the barriers to breastfeeding identified through the 2007/2008 study. For example, address perceived lack of breast milk supply with strategies to overcome problems associated with milk supply.
5. Encourage the introduction of solids and liquids after six months of age and when baby is physiologically ready for solids.
6. Use the principles of BFI as the standard to guide practices and messages related to infant feeding in Halton.

**Support for Breastfeeding**

Ninety-nine percent of mothers indicated that they received breastfeeding support from at least one source, and that this support was very helpful or somewhat helpful. The most common sources of breastfeeding support for mothers were: the nurses at the hospital, friends and family members, breastfeeding clinics and the Health Department's *Breastfeeding Your Baby* booklet. Health Department programs used by mothers were rated as somewhat helpful or very helpful by the majority of mothers.

**Recommendations:**

1. Ensure that all healthcare providers who care for pregnant and postpartum mothers within the Halton community are using common messages related to breastfeeding support. Ongoing education of all healthcare providers should be done in accordance with requirements for BFI accreditation.

2. Continue to look at strategies to market Health Department programs as community breastfeeding supports.
3. Conduct further research on breastfeeding support. Key questions to be answered include:
  - What kind of breastfeeding support are parents specifically receiving (e.g., one-to-one assistance, information, encouragement etc.) and how much do each of these types of support contribute to breastfeeding success?
  - What are the main reasons mothers attend breastfeeding clinics and are breastfeeding clinics serving their intended populations (i.e., mothers/babies who have medical issues or significant challenges with breastfeeding)?

### **Impact of Return to Work**

Changes to the Employment Standards Act that defines pregnancy and parental leave provisions were made on December 31, 2000. These changes aligned the Employment Standards Act with the Employment Insurance Act, which allowed for 52 weeks for pregnancy and parental leave. Prior to these changes, only 35 weeks were provided for pregnancy and parental leave.

Comparisons between the 2000/2001 study and the 2007/2008 study reflected these changes in legislation. Survey results showed that 90% of mothers were not working when their babies were six months old in 2007/2008 compared to 64% in 2000/2001. Comparisons were then made to determine if returning to work had an effect on breastfeeding duration, and it was determined that there was no effect at age six months but there was a significant effect at age twelve months. When asked about workplace policies regarding breastfeeding or pumping at work, 42% of mothers indicated that their employers had policies to allow women to breastfeed at work, while 51% did not know if policies existed.

### **Recommendations:**

1. Educate women about their right to breastfeed when they return to work as well as how to continue breastfeeding when they return to work (e.g., pumping breast milk).
2. Educate and provide resources to employers about ways to provide baby friendly workplaces.

### **Dental Health**

2007/2008 was the first year that information was collected about dental health practices. Results showed that:

- 86% of mothers do not put their 12-month old babies to bed with a bottle or sippy cup containing anything except water
- 55% of mothers check their 12-month old babies' teeth for tooth decay once a month
- 54% of mothers brush their 12-month old babies' teeth at least once per day

While breast milk on its own does not lead to tooth decay, breast milk combined with the introduction of liquids or solids containing sugar into the babies diet can lead to tooth decay. Almost all mothers identified sweetened drinks, soothers dipped in honey and fruit juice as potential causes of tooth decay. However, fewer (63%) mothers identified breast milk as a potential cause of tooth decay.

**Recommendations:**

1. Parents should be educated about the key steps to maintaining oral health for their baby. The following key messages should be promoted:
  - Parents should not put their baby to bed with a bottle or sippy cup.
  - Parents should check their baby's mouth for tooth decay at least once a month.
  - Parents should brush their baby's teeth at least once a day, ideally twice a day.
  - Parents should not allow any liquids other than water to pool in the baby's mouth, since pooling of any other liquid can cause tooth decay

**Telephone Versus an Electronic Survey**

The 2007/2008 Infant Feeding Study provided a unique opportunity to examine a new method of data collection for mothers of infants: the electronic survey. The response rates were similar for both the Six-Month and Twelve-Month Surveys, which was encouraging. However, when comparisons were made between the two survey methods for mothers who completed the Six-Month Survey, it was learned that mothers who completed the electronic survey were more likely than mothers who completed the telephone survey to have higher incomes, higher levels of education, and be born in Canada. This indicates that some caution should be taken in choosing to conduct surveys entirely through electronic methods. It was reassuring, however, that 59% of mothers who completed the Twelve-Month Telephone Survey indicated that they would have still completed the survey if it had only been offered electronically.

**Recommendations:**

1. Consider conducting future surveys using an electronic survey, but offer a phone survey to those who do not wish to use the electronic survey.

**Future Infant Feeding Studies**

In addition to specific study findings, considerations for future studies were also brought to light. The following are recommendations for future Infant Feeding Studies:

1. Determine a mechanism for ongoing collection of data on breastfeeding initiation, duration and exclusivity in order to fulfill requirements for BFI accreditation.
2. Determine if there is additional information beyond initiation, duration and exclusivity (e.g., breastfeeding support) that should be collected, and if so, the frequency required for this data collection.
3. Future studies about breastfeeding should separate questions about milk from questions about other liquids when asking about other feeding practices.
4. More of an effort should be made to include mothers who do not speak English in future studies. Interpreters could be used to conduct interviews with these mothers.
5. The recruitment process must be improved for future studies, so that almost all eligible mothers are asked to participate. Consider recruiting mothers for future studies from the hospital, through the hospital liaison program or directly through entry onto the Parkyn\* .

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\* The Parkyn Postpartum Screen is generally applied in hospital by maternity nurses, and consists of a series of questions designed to identify factors associated with risk of parenting problems. Scores of 9 or greater are considered "at risk"

## 2.0 Background

### 2.1 Evidence to Support Breastfeeding

There is ample evidence-based research to show that breastfeeding has a range of beneficial effects on the health of the breastfed baby and mother.

In 2004, Health Canada made the following recommendation:

**Exclusive breastfeeding\* is recommended for the first six months of life for healthy term infants, as breast milk is the best food for optimal growth. Infants should be introduced to nutrient-rich, solid foods with particular attention to iron at six months with continued breastfeeding for up to two years and beyond.**<sup>1</sup>

In 2005 the Canadian Paediatric Society (CPS) issued their position statement:

**The Canadian Paediatric Society recommends exclusive breastfeeding for the first six months of life for healthy, term infants. Breast milk is the optimal food for infants, and breastfeeding may continue for up to two years and beyond.**<sup>2</sup>

This recommendation, proposed by the CPS Nutrition Committee and adopted by the Board of Directors of the CPS in March 2005, extended the duration of exclusive breastfeeding to six months from the former range of four to six months. The recommendation is consistent with recommendations from Health Canada and the American Academy of Paediatrics and follows the World Health Organization's (WHO) 2001 recommendation that exclusive breastfeeding continue for six months. Rationale for the new recommendation includes strong protective effects for the infant from gastrointestinal infection; and prolonged lactational amenorrhea; and increased postpartum weight loss in mothers. The WHO also recommends that researchers "identify the biological and social constraints to exclusive breastfeeding to six months" and "develop appropriate and effective interventions to deal with these barriers and their consequences."<sup>3</sup>

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\* *Exclusive breastfeeding, based on the WHO definition, refers to the practice of feeding only breast milk (including expressed breast milk) and allows the baby to receive vitamins, minerals or medicine. Water, breast milk substitutes, other liquids, and solid foods are excluded*

<sup>1</sup> Health Canada (2004). Exclusive Breastfeeding Duration: 2004 Health Canada Recommendations. Retrieved from [http://www.hc-sc.gc.ca/fn-an/nutrition/child-enfant/infant-nourisson/excl\\_bf\\_dur-dur\\_am\\_excl-eng.php#ref5](http://www.hc-sc.gc.ca/fn-an/nutrition/child-enfant/infant-nourisson/excl_bf_dur-dur_am_excl-eng.php#ref5) . on October 20, 2009

<sup>2</sup> Canadian Pediatric Society (2005). Exclusive Breastfeeding Should Continue to six months. *Pediatrics & Child Health* 2005; 10(3):148. Retrieved from <http://www.cps.cahttp://www.cps.ca/english/statements/N/BreastfeedingMar05.htm> on October 20, 2009

<sup>3</sup> The World Health Organization (2001) The Optimal Duration of Exclusive Breastfeeding. Retrieved from <http://www.who.int/inf-pr-2001/en/note2001-07.html> on October 20, 2009

## 2.2 Health Department Programs to Support Breastfeeding

The promotion and support of breastfeeding has been a strategic objective of the Halton Region Health Department since 1992. In 2000/2001, the first Infant Feeding Study was completed. Since that time the Health Department has been implementing the recommendations from the study. In 2007/2008 the second Infant Feeding Study was conducted. The results of the 2008 study are being used to direct program planning in the area of breastfeeding support. They have also already been significant in helping to achieve Baby Friendly Initiative (BFI) accreditation.

The Halton Region Health Department currently provides a range of services that support breastfeeding initiation, duration and exclusivity. Programming incorporates education, advocacy and support. Programs and services currently being offered include:

- Healthiest Babies Possible prenatal program
- Distribution of breastfeeding educational resources
- Community-based education
- Baby and Parent Information Line: professional telephone assessment and counselling to breastfeeding mothers
- Halton Baby Friendly Initiative Coalition: promotion of breastfeeding as the norm
- Healthy Babies Healthy Children Program: In-home assessments and breastfeeding support interventions conducted by Public Health Nurses with enhanced skills in breastfeeding support (minimum of the 18-hour WHO course or equivalent)
- Halton Breastfeeding Connection: a volunteer mother-to-mother telephone peer support program for breastfeeding mothers

## 2.3 Follow up from the 2000/2001 Study

Study findings and recommendations from the 2000/2001 Infant Feeding Study<sup>4</sup> have provided direction for community collaboration and health promotion programming to further promote initiation, duration, and exclusivity of breastfeeding in Halton.

The following recommendations from the 2002 study have been addressed:

- 1. Health care providers, breastfeeding groups and the local community collaboratively promote the Baby Friendly Hospital Initiative (BFHI) and the Baby Friendly Initiative (BFI) to increase the initiation, duration, and exclusivity of breastfeeding in Halton.**

The results of the 2000/2001 Infant Feeding Study contributed to the mandate for community agencies to support breastfeeding. The Halton Baby Friendly Initiative (Halton BFI) has grown and evolved into the mechanism to promote the provision of seamless perinatal care to Halton residents.

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<sup>4</sup> Halton Region Health Department. (2002) Infant Feeding in Halton- Initiation, Duration and Exclusivity of Breastfeeding

Specific actions taken by the Halton BFI include:

- Dissemination of the 2000/2001 Infant Feeding Study amongst community partners
- Coordination and support of the Halton BFI Coalition, thus supporting local hospitals' attainment of the Baby Friendly designation
- Promotion of the importance of breastfeeding through the provision and dissemination of materials including the *Breastfeeding Your Baby* booklet, which is given to all new mothers in Halton; development of the coalition website; development of Halton BFI displays for use at community events; and attendance at community events
- Advocacy for breastfeeding rights in the workplace through development of a workplace toolkit and a recognition program for businesses; a dedicated section for businesses on the Halton BFI website; a liaison with the Health Department Workplace Wellness Coordinator; and attendance at workplace events
- The Health Department has also developed its own breastfeeding and baby-friendly policies
- Hosting yearly events to celebrate World Breastfeeding Week

**2. Provide professional education and support to preconceptional, expectant and breastfeeding mothers and their families.**

- The Health Department has provided training to all staff according to the Breastfeeding Committee for Canada (BCC) Outcome Indicators for BFI Accreditation. All nurses providing direct care to preconception, prenatal and breastfeeding families have a minimum of the 18-hour WHO course or equivalent.
- The Health Department, through participation in the OPHA Breastfeeding Promotion Working Group, has promoted the need for undergraduate and continuing education courses to include current breastfeeding information.
- The Halton BFI has a community and lay policy that can be adopted for use in hospitals and community health care settings.
- Public access to trained professional staff is continually reviewed. The Health Department has been responsive to community needs and has contributed to community initiatives such as breastfeeding support drop-ins.

**3. Promote access to peer breastfeeding support services.**

The Health Department provides coordination, training and administration for the Halton Breastfeeding Connection. The Health Department is responding to the increasing diversity of Halton's population by providing volunteers who speak other languages. Volunteer training has also been enhanced in accordance with BFI requirements. Volunteers are recruited through Calling New Parents and websites such as [babyfriendlyhalton.ca](http://babyfriendlyhalton.ca) (Halton Baby Friendly Initiative). Marketing of the program has been done through prenatal assessment by community partners, prenatal classes and Public Health Nurses.

**4. Support mothers to establish and maintain exclusive breastfeeding to six months, and encourage sustained breastfeeding beyond six months with appropriate introduction of complementary foods.**

The Ontario Breastfeeding Committee (OBC) along with Halton BFI hosted a BFI Expo with attendees from Ontario and eastern Canada. The Health Department developed Baby Friendly Key Common Messages to guide education and practice of health professionals. This document also included directions for safe use of breast milk substitutes. This resource is used widely throughout the community and will be adopted by OPHA as a provincial working document.

**5. Increase adherence to the World Health Organization International Code of Marketing of Breast-milk Substitutes<sup>5</sup> and thereby reduce the distribution of breast milk substitutes to mothers in Halton.**

All Health Department staff members have been educated regarding the WHO Code and the Health Department has recently received Baby Friendly designation. The Health Department has reviewed policies and continues to be code compliant.

**6. The Halton Region Health Department in collaboration with community partners will repeat the breastfeeding survey in five years.**

Data has been collected through the 2007/2008 study. For BFI accreditation, the Health Department continue to collect data regarding breastfeeding rates in the community.

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<sup>5</sup> The World Health Organization (2001) International Code of Marketing of Breast-milk Substitutes.  
Retrieved from: [http://www.who.int/nutrition/publications/code\\_english.pdf](http://www.who.int/nutrition/publications/code_english.pdf)

### **3.0 Purpose of the Infant Feeding Study**

The primary purpose of the 2007/2008 Infant Feeding Study was to describe breastfeeding initiation, duration and exclusivity rates in Halton Region. The specific objectives of the study were to:

- Determine current breastfeeding initiation, duration, and exclusivity rates to age twelve months
- Compare current (2007/2008) breastfeeding initiation, duration, and exclusivity rates to those described in the 2000/2001 Infant Feeding Study
- Determine how breastfeeding initiation, duration, and exclusivity are affected by demographic characteristics such as maternal age, education and income
- Determine when other infant feeding practices such as breast milk substitutes and solids are introduced to baby
- Determine current awareness and use of breastfeeding support services
- Determine the impact of mothers return to work on breastfeeding duration and exclusivity
- Determine why women continue to breastfeed to age six months and age twelve months
- Determine dental care practices for babies at twelve months of age

Since data was collected using two different survey methodologies (telephone and electronic), this study also allowed for the opportunity to determine the effectiveness of collecting data from mothers of infants using electronic surveys.

Study findings and recommendations will be used to provide direction for community collaboration and health promotion programming to further promote initiation, duration, and exclusivity of breastfeeding in Halton.

## 4.0 Methods

### 4.1 Data Collection

Data for the Halton Region Health Department's 2007/2008 Infant Feeding Study was collected using surveys administered when babies were age six months and twelve months. The survey was either conducted by telephone or electronically according to the mothers' preference.

Halton mothers were asked to participate in the Six-Month Infant Feeding Survey from May 1 to July 31, 2007. Consent was gathered during the 48-hour postpartum telephone assessment interview, a standard screening interview conducted by nurses from the Health Department's Healthy Babies Healthy Children program. Mothers who were still breastfeeding at six months were asked to participate in the Twelve-Month Infant Feeding Survey.

#### Telephone Survey

##### *Six-Month Survey*

Eight public health nurses conducted the interviews for the Six-Month Telephone Survey. One interviewer was assigned to the nine mothers who had given birth to twins. To account for differences that may have existed between twin babies, this interviewer asked half of the mothers to respond to questions about infant feeding practices for the baby born first and the remaining mothers to respond to questions for the baby born last.

In order to ensure consistency in how the surveys were implemented, all interviewers participated in a three-hour training session and completed test surveys prior to initiating the Six-Month Surveys. All interviewers were also provided with a protocol sheet that provided information about how to collect data as well as ways to manage unexpected outcomes, such as a respondent who had difficulty speaking English or identification of a high-risk family who might benefit from the Healthy Babies Healthy Children Program (HBHC) (See Appendix A).

A protocol was used for reaching mothers for the Infant Feeding Study. Interviewers were required to make four weekday calls (with at least one call in the morning, afternoon, and evening, and no more than two calls on one day), and four weekend calls (with at least one call in the morning, afternoon, and evening, and no more than two calls on one day) during the first week of call attempts. If the respondent could not be reached after these eight attempts, the interviewer was required to make two additional calls during the second week and two more calls during the third week (with no more than one call per day). Calls during the second and third week were made from the Health Department, while calls during the first week could be made from the Health Department or the interviewers' homes. If a respondent could not be reached after 12 call attempts, they were coded as unable to reach (See Appendix B). Mothers who had provided cell phone numbers as their contact numbers were included in the Six-Month Phone Survey sample. Interviewers used a standardized protocol for these interviews to ensure that calls were made while the mother was at home and not in another location or in transit (see Appendix C).

Mothers who agreed to an electronic survey, but whose email addresses were determined to be incorrect during the prenotification, were asked if they would consent to completing the Infant Feeding Survey by phone. As with cell phone interviews, a standardized protocol was used to obtain consent for these surveys (see Appendix D). Phone numbers for these calls were obtained through the Integrated Services for Children Information System (ISCIS) database, which is a data system used for collecting information for the HBHC program.<sup>1</sup>

Mothers who consented to the Six-Month Telephone Survey were called between November 12, 2007 and February 24, 2008. Call attempts for all mothers began one to seven days after their babies turned six months old, except for mothers whose babies were born between December 17 and December 31, who were called up to three weeks after their babies were six months old. This was done to accommodate anticipated difficulties in completing surveys for mothers contacted during the Christmas holidays.

Interviews took an average of 12 minutes to complete with the length varying from four to twenty-two minutes. Thirty percent of calls were completed at the time of initial contact, and it took an average of three calls to reach survey respondents. Ninety percent of calls were completed during weekdays, and 10 percent were completed on the weekend. Respondents were most likely to be reached in the afternoon (46%), followed by the morning (31%) and the evening (23%).

#### Twelve-Month Survey

Five public health nurses conducted the Twelve-Month Infant Feeding Survey interviews. All interviewers had participated in the Six-Month Survey so only a brief training session to review the survey tool and complete test surveys was required. Interviewers used the same protocols for collecting data, making phone calls, contacting mothers on cell phones, and calling mothers who had initially agreed to the electronic survey as described for the Six-Month Survey (Appendix A to Appendix D). The same interviewer was assigned to complete surveys for the mothers who had given birth to twins.

Mothers who were still breastfeeding their babies as assessed through the Six-Month Survey were asked if they would be willing to participate in a Twelve-Month Survey. These mothers were then contacted between May 12, 2008 and August 24, 2008. Call attempts for all mothers began one to seven days after their babies turned 12 months old.

Interviews took an average of nine minutes to complete with the length varying from five to eighteen minutes. Thirty-one percent of calls were completed at the time of initial contact, and it took an average of three calls to reach respondents. Eighty-six percent of calls were completed on weekdays, and 14 percent were completed on the weekend. Respondents were most likely to be reached in the evening (42%), followed by the afternoon (32%) and the morning (26%).

## **Electronic Survey**

Six-Month Surveys were completed between November 12, 2007 and March 2, 2008, while Twelve-Month Surveys were completed between May 12, 2008 and August 31, 2008.

Both the Six-Month and Twelve-Month Infant Feeding Surveys used the same protocols for reaching respondents. A pre-notification email was sent out four days prior to the survey to remind respondents about the survey and encourage them to complete it. A link to the survey was then sent out with a notification email which informed respondents of the purpose of the survey and directions for completing the survey. Nine days after the survey was sent to respondents, a reminder email that included another link to the survey was sent. A second reminder email followed seven days later. The pre-notification and reminder emails were used to improve response rates and can be found along with a copy of the notification email in Appendix E.

On average, it took eight minutes and forty-seven seconds for mothers to complete the Six-Month Survey, while it took five minutes and forty seconds to complete the Twelve-Month Survey.

## **4.2 Survey Instruments**

Staff from the Halton Region Health Department developed both the Six-Month and the Twelve-Month Survey instruments.

### **Six-Month Survey**

The Six-Month Survey tool was based on the tool used to complete the 2000/2001 Halton Infant Feeding Survey. Questions from the 2000/2001 survey were modified slightly based on information gathered through a debriefing session and analysis of the 2000/2001 survey. Questions on the impact of return to work, and reasons women breastfeed to six months were added to the 2007/2008 Six-Month Survey in order to meet the 2007/2008 study objectives.

The Six-Month Survey was pilot tested in both telephone and electronic formats. The telephone survey was pilot tested by two public health nurses from the infant feeding study team. Nine mothers were selected for the pilot and six surveys were completed, while the remaining three were coded as failure to reach. The content of the questions remained unchanged following the pilot test. However, modifications were made to improve the flow of the survey. Modifications to improve the flow of the survey were also made following the practice interviews which took place during the training session. At a debriefing session held one week after survey implementation it was determined that no further changes were required. During the data analysis an editing mistake in the electronic version of survey question 23d was discovered. The question read "Would you say the breastfeeding support you received from the Calling New Parents program was very helpful, somewhat helpful, not very helpful or not at all helpful?" even though "not at all helpful" was not available as a response option.

The content of the electronic survey was the same as the telephone survey. However introductions to certain questions, some response options, and the structure of one question (other sources of breastfeeding support) were modified slightly to allow for the different format. Sixteen mothers were selected for the pilot test. During the pilot, eleven surveys were completed, one email was undeliverable, and the remaining four mothers did not respond. Feedback on the survey was requested from nine of the mothers selected for the pilot test (see Appendix F). However, only one response was received. Therefore, changes made to the electronic survey were based primarily on feedback from the telephone survey pilot test.

The final Six-Month Survey consisted of 47 questions and included information on the following topics: initiation, duration, exclusivity, other feeding practices, sources of breastfeeding support, work practices, and demographics. A copy of the Six-Month Phone Survey can be found in Appendix G, and a copy of the Six-Month Electronic Survey can be found in Appendix H.

### **Twelve-Month Survey**

The Twelve-Month Survey tool consisted of 29 questions and replicated many questions from the Six-Month Survey on breastfeeding including duration, exclusivity, other feeding practices, support, work practices and demographics. Questions about dental care practices were added to the Twelve-Month Survey. These questions were based on questions from the Rapid Risk Factor Surveillance System (RRFSS) and the Canadian Community Health Survey (CCHS). Based on feedback from the nurses who conducted the Six-Month Survey, the questions about breastfeeding support provided by the Health Department's Baby and Parent Information Line (q10a, q10b, q10c, q10d) were reworded to add clarity to the questions.

The Twelve-Month Phone Survey was pilot tested with four mothers, who all completed the survey. The Electronic Survey was pilot tested with six mothers, and five completed the survey, while one refused. No changes were made to the survey following the pilot tests nor were any changes made following the training session for interviewers.

Nurses conducting the telephone survey were consulted one week after survey implementation. This resulted in some changes being made to the telephone survey, particularly to response options, and a few minor differences between the telephone and electronic survey. Additional response options were added to question 2 (2h - baby did not want to stop breastfeeding /wean themselves), question 12 (never put baby to bed with a bottle or sippy cup), question 18 (both at home and outside of home), and question 22 (both at home and outside of home). In addition, question 23 was reworded from "Will your employer allow you to breastfeed or pump and store breast milk at work?" to "Does your employer allow women to breastfeed or pump and store breast milk at work?" These changes could not be made to the electronic survey. One further difference existed between the electronic and telephone surveys: question 10d in the telephone survey was worded as "Would you say the breastfeeding support you received from the Baby and Parent Telephone Line was.", while the electronic survey read "How helpful was the telephone line?". Finally, and similar to the Six-Month Survey, the structure of the question about other sources of breastfeeding support was different for the telephone and electronic surveys.

A copy of the Twelve-Month Phone Survey can be found in Appendix I, and a copy of the Twelve-Month Electronic Survey can be found in Appendix J.

### 4.3 Sample and Response Rate

All mothers that gave birth from May 1 to July 31, 2007 were eligible to participate in the 2007/2008 Infant Feeding Study (n= 1537). Of the 1537 eligible mothers, 709 were not asked to participate in the study either because the nurse did not request their participation during the 48-hour postpartum telephone assessment interview or the nurse could not reach the mother for her 48-hour post partum assessment. The 828 remaining mothers were asked to participate and 682 consented to be contacted while 146 refused. Of the 682 mothers who consented, 32 mothers were excluded due to identified language barriers or incomplete information, leaving 650 mothers in the study. Twenty-five of these mothers were used for the pilot test (nine phone surveys, sixteen electronic surveys), resulting in final sample size of 625 for the Six-Month Survey.

Table 1: Completion Information for Six-Month Survey

	Telephone Survey	Electronic Survey	Telephone and Electronic Survey
<b>Completions</b>	<b>268</b>	<b>215</b>	<b>483</b>
<b>Refusals (No response to electronic survey)</b>	<b>26</b>	<b>61</b>	<b>87</b>
<b>Missing surveys</b>	<b>2</b>	<b>-</b>	<b>2</b>
<b>Did not reside in Halton</b>	<b>2</b>	<b>2</b>	<b>4</b>
<b>Failure to reach</b>	<b>49</b>	<b>-</b>	<b>49</b>
Wrong number/number disconnected	17	-	
Max # contacts made	27	-	
Mother moved	1	-	
Call not accepted	2	-	
Mother away on vacation	2	-	
<b>Total number of surveys</b>	<b>347</b>	<b>278</b>	<b>625</b>
<b>Total number of surveys excluding respondents who did not reside in Halton</b>	<b>345</b>	<b>276</b>	<b>621</b>
<b>Response Rate (Completions/Total number of surveys excluding respondents who do not live in Halton)</b>	<b>78%</b>	<b>78%</b>	<b>78%</b>
<b>Refusal Rate (Refusals/ Total number of surveys excluding respondents who do not live in Halton)</b>	<b>8%</b>	<b>22%</b>	<b>14%</b>

Of these 625 mothers, 326 agreed to complete the survey by phone, while 299 agreed to complete the survey electronically. Because of incorrect email addresses, 21 of the mothers who agreed to an electronic survey were shifted to the telephone survey. The result was a final sample size of 347 for the telephone survey and 278 for the electronic survey.

Table 1 outlines the completion information and response rates for the Six-Month Infant Feeding Survey (four mothers who did not reside in Halton were excluded from the study and response rate calculation). Of the initially eligible 1537 mothers, the final responding participants for the Six-Month Survey represented 31% of the mothers who gave birth in Halton from May 1 to July 31, 2007 (483/1537). The response rate for the Six-Month Survey was 78% (483/621). Response rates were identical for the telephone and electronic surveys.

Of the 483 mothers who participated in the Six-Month Infant Feeding Survey, 308 were still breastfeeding at six months. Of these mothers 294 were asked if they would be willing to participate in a Twelve-Month Infant Feeding Survey, and 287 agreed. Fourteen mothers were not asked to participate due to a skip pattern error in the Six-Month Survey. Of the 287 mothers who agreed to participate in the Twelve-Month Survey, 111 preferred to be contacted by phone while 176 preferred the electronic survey.

Table 2 outlines the completion information and response rates for the Twelve-Month Survey (mothers not residing in Halton were excluded). The response rate for the survey was 86% (248/287). The response rate for the telephone survey was 85% while the response rate for the electronic survey was 87%.

Table 2: Completion Information for Twelve-Month Survey

	<b>Telephone Survey</b>	<b>Electronic Survey</b>	<b>Telephone and Electronic Survey</b>
<b>Completions</b>	<b>94</b>	<b>154</b>	<b>248</b>
<b>Refusals (No response to electronic survey)</b>	<b>3</b>	<b>22</b>	<b>25</b>
<b>Failure to reach</b>	<b>14</b>	<b>-</b>	<b>14</b>
Wrong number/number disconnected	6	-	
Max # contacts made	8	-	
Mother moved		-	
Call not accepted		-	
Mother away on vacation		-	
<b>Total number of surveys</b>	<b>111</b>	<b>176</b>	<b>287</b>
<b>Response Rate (Completions/Total number of surveys)</b>	<b>85%</b>	<b>87%</b>	<b>86%</b>
<b>Refusal Rate (Refusals/Total number of surveys)</b>	<b>3%</b>	<b>13%</b>	<b>9%</b>

## 4.4 Analysis

Information on mother's age and Parkyn\* score, which was collected through the 48-hour telephone assessment<sup>+</sup>, was merged with data collected through the Six-Month and Twelve-Month Surveys. Breastfeeding exclusivity was calculated according to the 2006 Breastfeeding Committee for Canada definition, which is based on the 2003 World Health Organization Definitions for Breastfeeding Categories.

Data from the telephone survey was entered using EpiData version 3.1. Electronic Survey data was collected using the Region of Halton Web Survey Software which uses SelectSurvey. Data from both surveys was exported into SPSS version 15.0 to be analyzed. Data analysis for the 2007/2008 survey was primarily descriptive (frequency tables and cross-tabulations). Pearson chi-square analysis was used to test for statistical significance, except for duration and exclusivity where Cox regression was used. Statistical significance was assumed when  $p < 0.05$ , that is, when there was 95% certainty that the differences did not occur by chance.

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\* The Parkyn Postpartum Screen is generally applied in hospital by maternity nurses, and consists of a series of questions designed to identify factors associated with risk of parenting problems. Scores of 9 or greater are considered "at risk"

+ Note: Clients provide verbal consent to the Release of assessment information to Public Health at the time of the Parkyn assessment

## 5.0 Results

### 5.1 Demographic Comparisons

In order to determine if differences existed between mothers who were eligible to participate in the Six-Month Survey Infant Feeding Study and those who actually participated, demographic comparisons were made between the 2007/2008 Six-Month Survey and live birth data collected in 2007 through Niday\* (see Table 3). The results showed that significant differences existed for maternal age ( $p < .05$ ) but not municipality, delivery type or having other children. Niday data was not available for education, income, risk (Parkyn score), or breastfeeding other children.

Table 3: Infant Feeding Study Demographic Comparisons

Demographic Variable		2007/2008 Study (Percent)	2007 Data for Halton (Percent)
<b>Maternal Age</b>	18-24	4	7
	25-29	19	22
	30-34	48	44
	35+	29	27
<b>Education</b>	Completed high school or less	8	-
	Some/completed community/technical college	30	-
	Some/completed university	62	-
<b>Income</b>	Less than \$50,000	10	-
	\$50,000 - \$69,999	11	-
	\$70,000 - \$89,999	24	-
	\$90,000 or more	55	-
<b>Municipality</b>	Oakville	33	34
	Burlington	37	33
	Halton Hills	9	11
	Milton	21	22
<b>Delivery Type</b>	Vaginal	70	71
	Caesarean	30	29
<b>Risk (Parkyn Score)</b>	High Risk (Parkyn $\geq 9$ )	13	-
	Low Risk (Parkyn $\leq 8$ )	87	-
<b>Do you have other children?</b>	Have other children	49	48
	Do not have other children	51	52
<b>Did you breastfeed your other children?</b>	Breastfed other children	91	-
	Did not breastfeed other children	9	-
<b>Place of birth</b>	Canada	78	-
	Outside Canada	22	-

\* Niday is database that provides information on maternal, newborn and perinatal care characteristics for each baby born in Ontario including information on details of births and obstetrical interventions.

Comparisons were also made to determine if there were demographic differences between mothers who participated in the Twelve-Month Survey and those who were eligible but did not participate (either because they were not asked to participate, refused to participate or did not respond to the Twelve-Month Survey). Results (see Table 4) showed significant differences for maternal age, education, income and whether or not the mother was born in Canada. Fewer mothers aged 18 to 24 participated in the Twelve-Month Survey and mothers who participated were more educated and had higher incomes. Mothers who were born in Canada were also more likely to participate in the Twelve-Month Survey.

Table 4: 2007/2008 Demographic Comparisons, Participated in the Twelve-Month Survey Compared to Did Not Participate in the Twelve-Month Survey

Demographic Variable		Participated in 12 Month Survey (Percent)	Did Not Participate in 12 Month Survey (Percent)
<b>Maternal Age*</b>	18-24	1	8
	25-29	19	12
	30-34	50	55
	35+	30	25
<b>Education *</b>	Completed high school or less	3	12
	Some/completed community/technical college	22	36
	Some/completed university	75	52
<b>Income*</b>	Less than \$50,000	6	19
	\$50,000 - \$69,999	10	9
	\$70,000 - \$89,999	24	23
	\$90,000 or more	60	49
<b>Municipality</b>	Oakville	35	32
	Burlington	35	40
	Halton Hills	8	5
	Milton	22	23
<b>Delivery Type</b>	Vaginal	72	72
	Caesarean	28	28
<b>Risk (Parkyn Score)</b>	High Risk (Parkyn $\geq$ 9)	10	17
	Low Risk (Parkyn $\leq$ 8)	90	83
<b>Do you have other children?</b>	Have other children	50	50
	Do not have other children	50	50
<b>Did you breastfeed your other children</b>	Breastfed other children	98	100
	Did not breastfeed other children	2	0
<b>Place of birth *</b>	Canada	79	67
	Outside Canada	21	33

\* Statistically Significant (p < 0.05)

## 5.2 Initiation

Results from 2007/2008 Six-Month Infant Feeding Survey showed that 93% (n=448) of mothers initiated breastfeeding. Results from the 2007/2008 survey were slightly higher than the 2000/2001 survey, where 90% of mothers initiated breastfeeding. However, these differences were not statistically significant.

The 7% of mothers (n=35) who did not initiate breastfeeding were asked, through a series of close-ended questions, to identify their reasons for not initiating breastfeeding. The following reasons (whether actual or perceived) were provided:

- the mother had problems breastfeeding in the past (n=13)
- the mother did not enjoy breastfeeding (n=13)
- the mother did not breastfeed her first child (n=9)
- the mother did not have enough breast milk (n=7)
- family members were not able to feed the baby (n=9)
- the mother was ill or on medication (n=6)
- the mother returned to work or school (n=5)
- the mother did not have enough time or energy to breastfeed (n=4)
- the baby was ill (n=3)
- the baby had difficulty latching (n=3)
- a doctor or another health professional advised the mother to stop breastfeeding (n=1)

### Demographic Comparisons

The only demographic factors that significantly effected initiation were having other children and breastfeeding other children. As shown in Figure 1, first-time mothers were more likely than mothers who had other children to initiate breastfeeding ( $p < 0.05$ ). Figure 2 illustrates that mothers who had other children and had breastfed them were more likely to initiate breastfeeding than mothers who had other children but had not breastfed them ( $p < 0.05$ ).

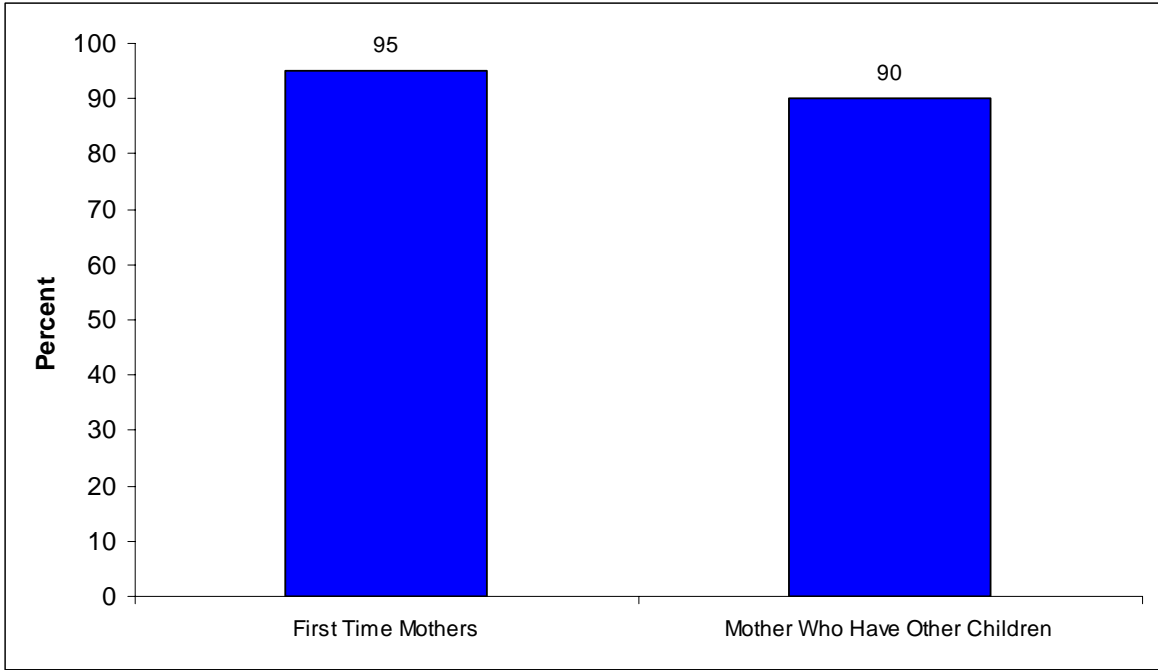


Figure 1: Percentage of Halton mothers initiating breastfeeding, 2007/2008, by first time mothers compared to mothers with other children

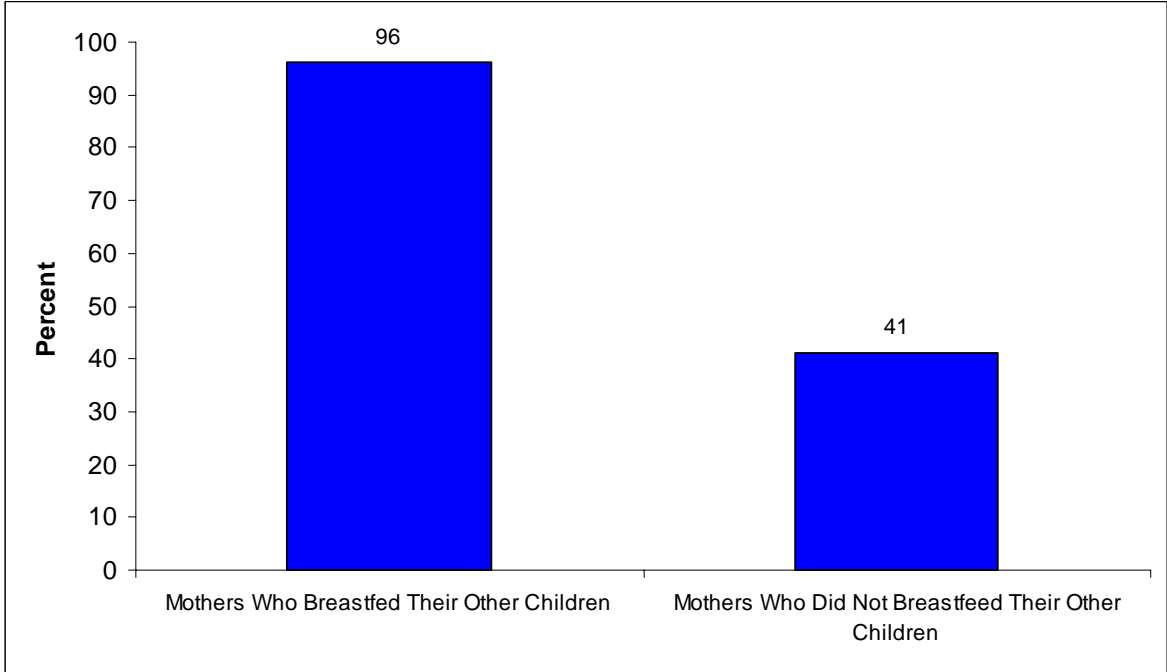


Figure 2: Percentage of Halton mothers initiating breastfeeding, 2007/2008, by whether or not mothers had breastfed their other children (first time mothers excluded)

## 5.3 Duration

### Duration To Age Six Months

The method used to calculate duration for the 2007/2008 Six-Month Survey was different than the method used for the 2000/2001 survey. For the 2007/2008 survey all mothers who participated in the survey were included in the denominator, and not just mothers who initiated breastfeeding. The 2007/2008 survey also calculated duration based on babies who were breastfeeding at the start of each time period (e.g., breastfeeding when baby turns one month old), as opposed to at the end of each time period (e.g., breastfeeding baby for all of the first month). Data from the 2000/2001 survey was recalculated using 2007/2008 methods so comparisons could be made with the 2007/2008 data. As a result, 2000/2001 findings presented in this report are different from those presented in the 2002 Infant Feeding in Halton Report.<sup>6</sup>

Figure 3 shows breastfeeding duration to age six months for 2007/2008, and compares the results with the 2000/2001 survey. Breastfeeding for all time periods was higher in 2007/2008 than it was in 2000/2001. Significant differences ( $p < 0.05$ ) were found for duration from age three months through to age six months.

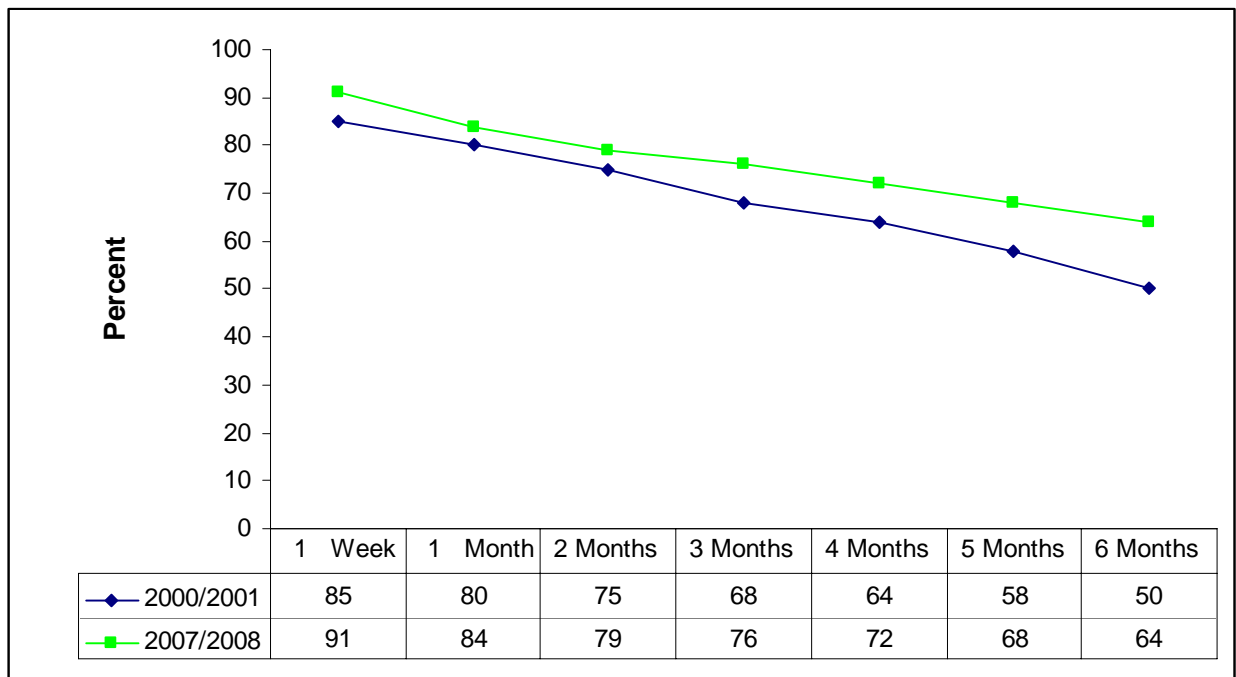


Figure 3: Percentage of Halton mothers breastfeeding to age six months, 2000/2001 and 2007/2008

<sup>6</sup> Halton Region Health Department (2002). Infant Feeding in Halton- Initiation, Duration and Exclusivity of Breastfeeding

A total of 308 mothers were still breastfeeding when their babies turned six months old. These mothers were asked through a series of close-ended questions to identify the reasons for continuing to breastfeed for six months. The following were the reasons mothers provided for continuing to breastfeed for six months:

- 98% thought it was the best thing to do for their baby's health
- 79% reported that it gave them a chance to bond with their babies
- 51% thought it was the best thing for their own health
- 49% were encouraged by a doctor or another health care professional to keep breastfeeding
- 41% received encouragement to keep breastfeeding from family and friends

Mothers were then asked if there were any other reasons why they continued to breastfeed, and 20% of mothers identified that they continued breastfeeding because it was convenient while 11% indicated that it was cost effective. Mothers also listed reasons such as: their babies refused the bottle or breast milk substitutes (formula) (n=11); it was good for their babies' immune system (n=7); their babies liked breastfeeding (n=4); the mother enjoyed breastfeeding (n=4), and the mother breastfed her first child (n=4).

Mothers who did not breastfeed their babies for six months (n=138) were asked through a series of close-ended questions to identify why they stopped breastfeeding. The following were the reasons (whether actual or perceived) provided by mothers:

- 56% felt they did not have enough breast milk
- 29% experienced discomfort while breastfeeding
- 20% did not have enough time or energy to breastfeed
- 19% reported that the baby did not want to breastfeed or weaned themselves
- 18% did not enjoy breastfeeding
- 15% were ill or on medication
- 13% had planned to stop or felt like they had been breastfeeding long enough
- 10% were advised by a doctor or another professional to stop
- 7% stopped because the baby was teething or biting
- 6% stopped because they returned to work or school

When asked to provide other reasons for stopping breastfeeding, mothers indicated that the baby did not latch (3%) or the baby was not satisfied (3%).

### **Duration to Age Twelve Months**

So that data from the Six-Month and Twelve-Month Surveys could be analyzed together, duration calculations for months seven to twelve were weighted to account for mothers who were known to be breastfeeding at age six months but could not be reached for the twelve-month followup survey.

Figure 4 shows breastfeeding duration for 2007/2008 to age 12 months. Breastfeeding rates decline gradually throughout the 12 months, from 91% at one week, to 72% at four months, 64% at six months and 29% at age 12 months.

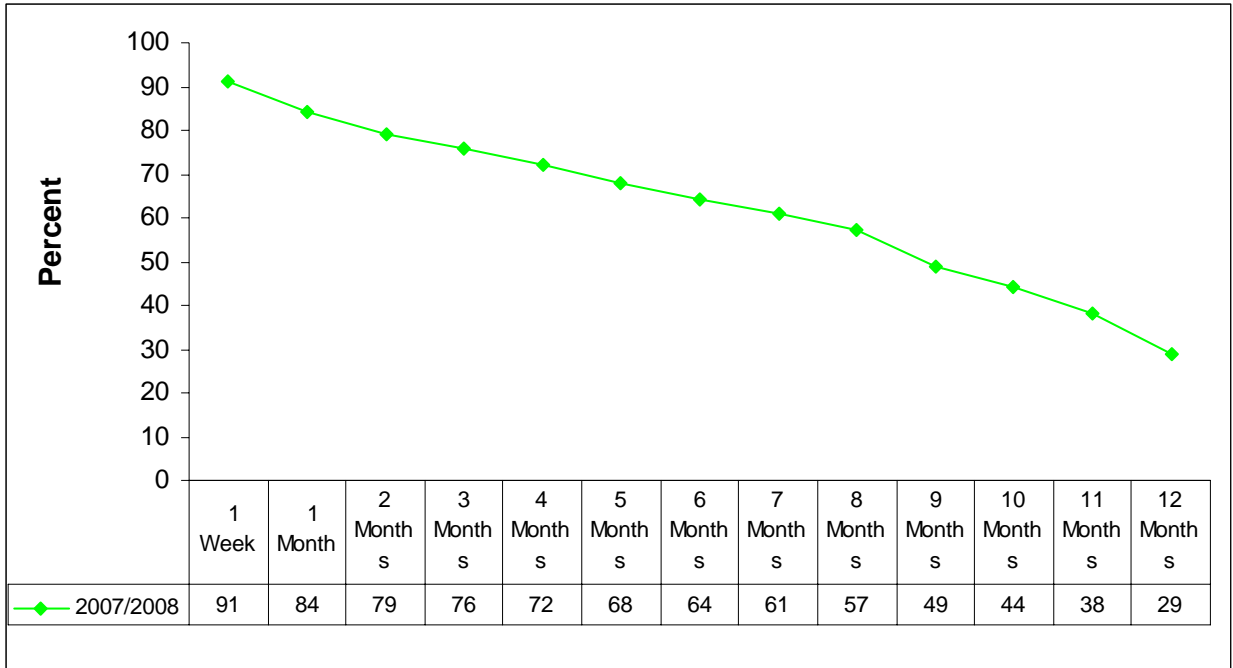


Figure 4: Percentage of Halton mothers breastfeeding to age twelve months, 2007/2008

Reasons for Continuing to Breastfeed

Of the 113 mothers who were still breastfeeding when their babies turned 12-months old, 107 were asked to identify reasons for continuing to breastfeed to age 12 months. This was done through a series of close-ended questions. The following were the reasons mothers gave for continuing to breastfeed for 12 months:

- 91% of mothers thought it was the best thing to do for their babies’ health
- 85% of mothers continued because it was convenient or easy for them to do
- 78% of mothers continued because it gave them a chance to bond with their babies
- 38% of mothers continued because they did not have to return to work
- 36% of mothers continued because they thought it was the best thing for their own health
- 25% of mothers continued because a doctor or another health care professional encouraged them to keep breastfeeding
- 22% of mothers continued because they received encouragement from family and friends
- 22% of mothers continued because their baby did not want to stop breastfeeding or wean themselves

When asked to provide other reasons for continuing to breastfeed for 12 months, mothers listed reasons such as: their babies liked breastfeeding (n=4); their babies had allergies to milk (n=4); breastfeeding was cost-effective (n=4); their babies wouldn't take a bottle, breast milk substitutes (formula), or solids (n=4); and breastfeeding soothed or settled their babies (n=3).

### Reasons for Stopping Breastfeeding

Mothers who participated in the Twelve-Month Survey but did not breastfeed their babies for 12 months (n=134) were asked to identify the reasons for stopping breastfeeding through a series of close-ended questions. The following were the reasons mothers gave for stopping breastfeeding (whether actual or perceived):

- 40% of mothers stopped because the baby did not want to breastfeed or weaned themselves
- 37% of mothers stopped because they had planned to stop or felt like they had been breastfeeding long enough
- 25% of mothers stopped because they felt that they did not have enough breast milk
- 23% of mothers stopped because the baby was teething or biting
- 19% of mothers stopped because they were planning to return to work or school
- 13% of mothers stopped because they had returned to work or school

Other reasons that were given for stopping breastfeeding were: the mother did not have enough time or energy (n=7); the mother was ill or on medication for illness (n=3); the baby was ill (n=3); and the mother did not enjoy breastfeeding (n=2).

### Demographic Comparisons

Demographic comparisons for duration were made using the following variables: delivery type, Parkyn score, maternal age, education, income, municipality, place of birth, having other children, and breastfeeding other children.

Univariate analysis using a Cox regression was completed as a first step towards determining the impact of demographic variables on breastfeeding duration. Analysis for each individual variable can be found in Table 5 and showed that maternal age, education, municipality, and breastfeeding other children had a significant effect on duration ( $p < .05$ ).

Multivariate analysis using a Cox backward stepwise regression was then completed to determine which demographic variables had the greatest effect on breastfeeding duration. Results of the analysis showed that education and breastfeeding other children accounted for the greatest differences observed in breastfeeding duration (Table 6). Mothers with a high school education were 1.9 times more likely, and mothers with a college/technical education were 1.3 times more likely to breastfeed for a shorter duration compared to mothers with a university education. Figure 5 shows that the greatest drop in breastfeeding for mothers with high school education or less occurs at ages six and seven months. It is worth noting that the sample size for mothers with a high school education was small and this may have influenced results.

Results from the regression also showed that mothers who had not breastfed their other children were five times more likely to stop breastfeeding early when compared to mothers who had breastfed their other children. Figure 6 shows that the greatest drop in breastfeeding for mothers who had not breastfed their other children occurs at age two months. The sample size for mothers who had not breastfed their other children was also small. First-time mothers did not differ significantly from mothers who had breastfed their other children.

Table 5: Univariate Regression - Demographic Comparisons for Breastfeeding Duration

Variable Name	Response Options	Relative Risk	Significance (p value)
Delivery Type	Vaginal Birth vs. Caesarean Birth	1.09	0.47
Parkyn Score	High Risk (Parkyn $\geq 9$ ) vs. Low Risk (Parkyn $\leq 8$ )	1.17	0.38
Maternal Age*	18-24	1.76	0.05
	25-29	1.05	0.79
	30-34	0.90	0.43
	35+	1	-
Education*	Completed high school or less	1.94	0.00
	Some/completed community/ technical college	1.45	0.00
	Some/completed university	1	-
Income	Less than \$50,000	1.38	0.10
	\$50,000 - \$69,999	0.97	0.88
	\$70,000 - \$89,999	0.89	0.43
	\$90,000 or more	1	-
Municipality *	Oakville	1	-
	Burlington	1.05	0.73
	Halton Hills	1.48	0.04
	Milton	0.95	0.76
Place of birth	Born Outside Canada vs. Born in Canada	0.81	0.14
Do you have other children?	Have other children/ Do not have other children	1.05	0.63
Did you breastfeed your other children?*	Did not breastfeed other children vs. Breastfed other children (for mothers with other children)	5.03	0.00

\* Statistically Significant (p<.05)

Table 6: Multivariate Regression - Demographic Comparisons for Breastfeeding Duration

Variable Name	Response Options	Relative Risk	Significance
Education*	Completed high school or less	1.93	0.00
	Some/completed community/ technical college	1.34	0.03
	Some/completed university	1	-
Did you breastfeed your other children?*	Did not breastfeed other children	5.14	0.00
	Breastfed other children	1	-
	First time mothers	1	-

\* Statistically Significant (p<.05)

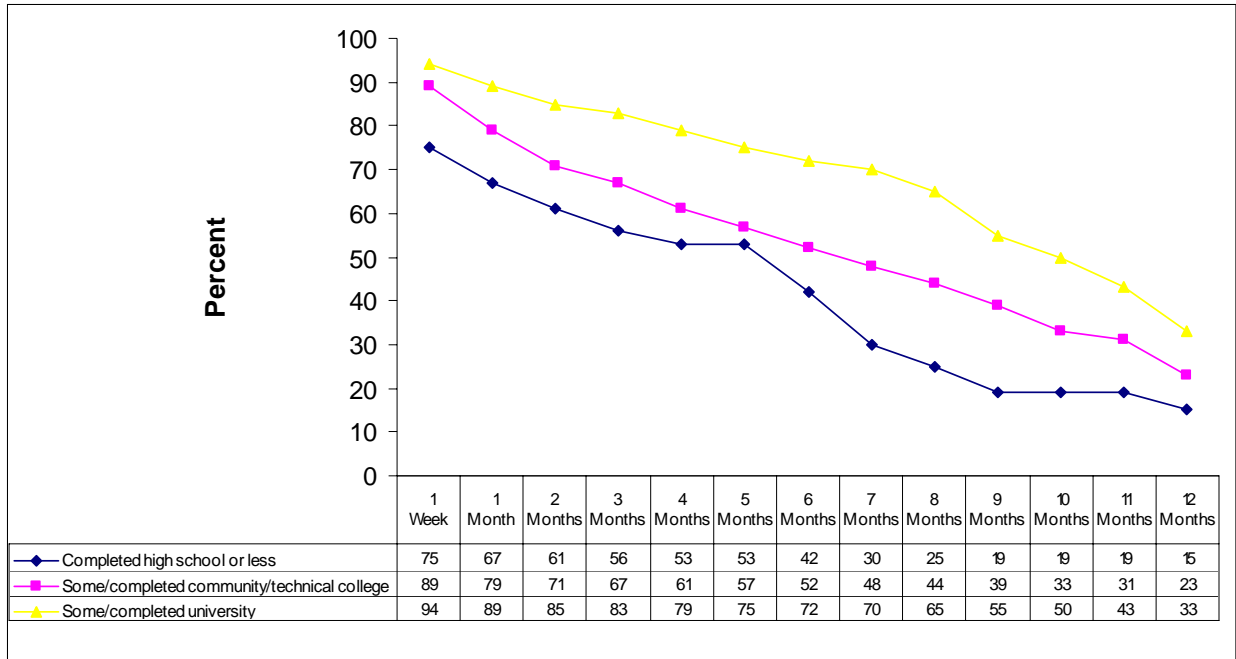


Figure 5: Percentage of Halton mothers breastfeeding to age twelve months, 2007/2008, by education

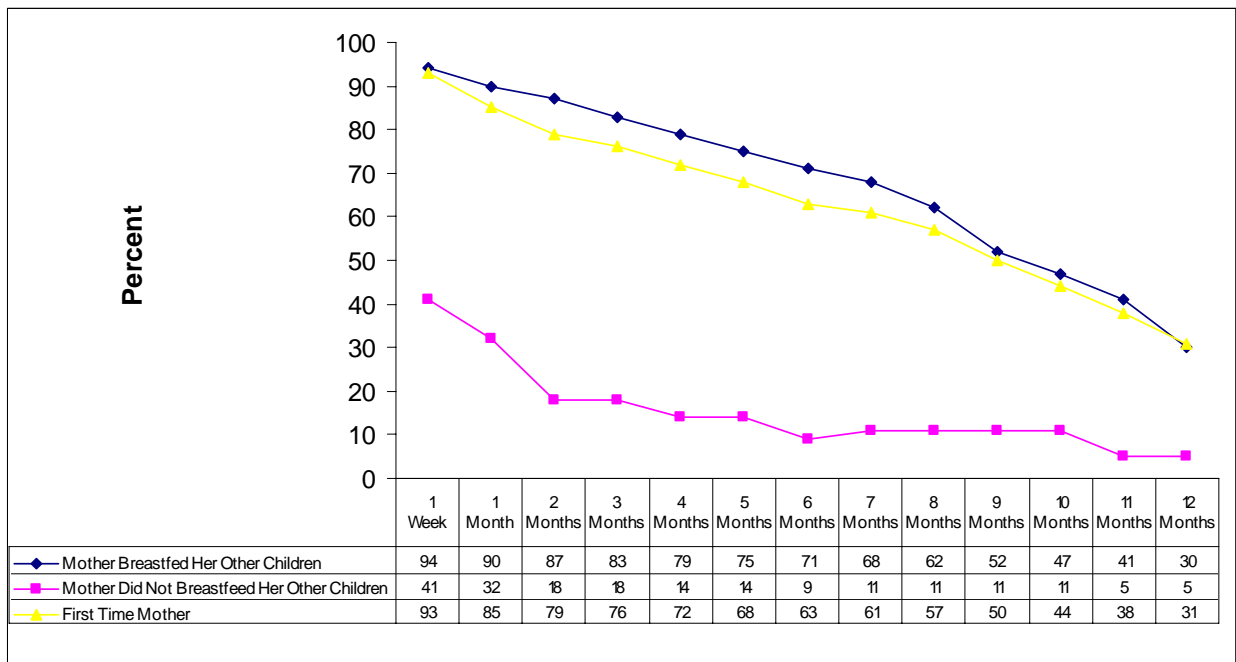


Figure 6: Percentage of Halton mothers breastfeeding to age twelve months, 2007/2008, for mothers who breastfed other children, mothers who did not breastfeed other children, and first-time mothers

## 5.4 Exclusivity

The Breastfeeding Committee for Canada definition for exclusivity was used for the Halton Infant Feeding Study. This definition states that no food or other liquid other than breast milk not even water is given to the infant from birth by the mother, health care provider, or family member/supporter. Figure 7 highlights exclusive breastfeeding to age six months and shows that for all time periods exclusivity was significantly higher ( $p < 0.05$ ) for the 2007/2008 survey compared to the 2000/2001 survey.

Supplementation in hospital has a notable effect on breastfeeding exclusivity. In fact, if exclusive breastfeeding were calculated to include only experiences at home, the rates would be higher for all time periods for both 2000/2001 and 2007/2008. For example at age one week 68% of mothers would be breastfeeding exclusively compared to the current rate of 50%. This is illustrated in Figure 7, and shows that breastfeeding experiences at home (hospital experiences excluded) were significantly higher in 2007/2008 ( $p < 0.05$ ) than 2000/2001 for age four months through age six months. Of the breastfeeding mothers' whose babies were given liquids in hospital, 96% were given formula, six percent were given sugar water, two percent were given water, and two percent were given other liquids.

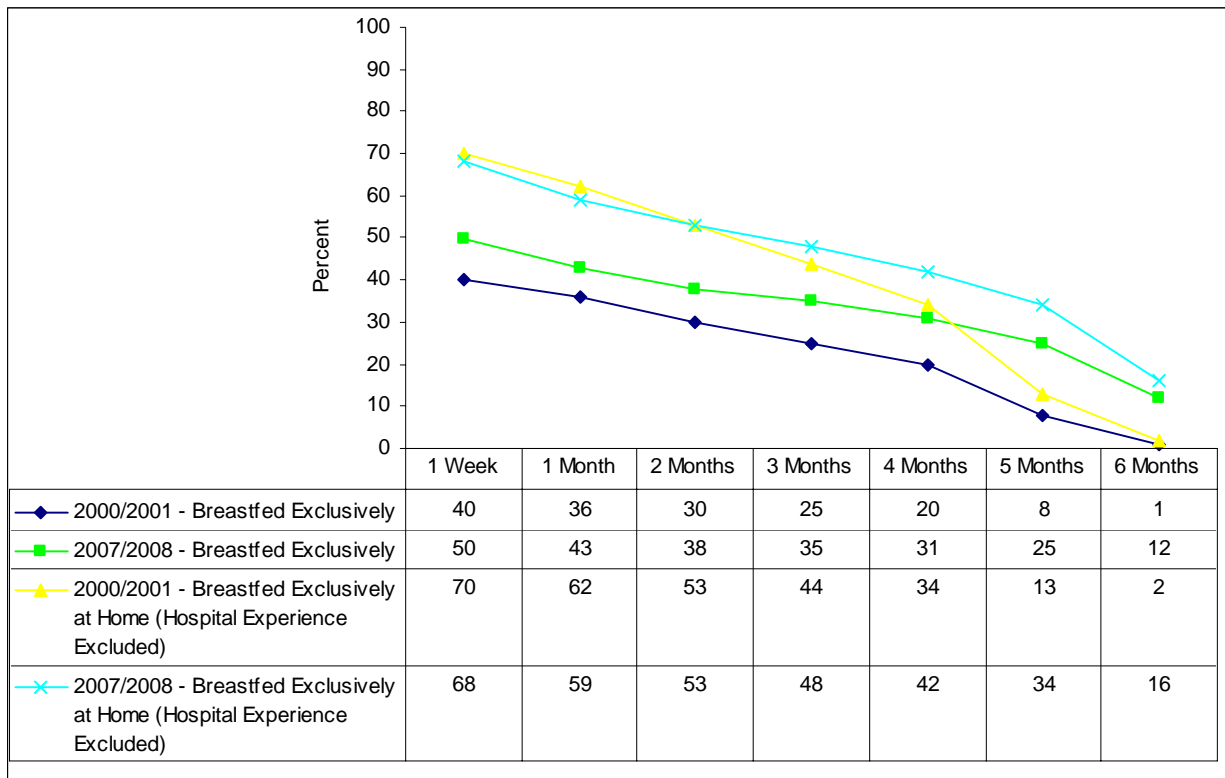


Figure 7: Percentage of Halton mothers breastfeeding exclusivity to age six months, 2000/2001 and 2007/2008

### Demographic Comparisons

Demographic comparisons for exclusivity were made using the following variables: delivery type, Parkyn score, maternal age, education, income, municipality, place of birth, having other children, and breastfeeding other children. Univariate analysis using Cox regression was completed as a first step towards determining the impact of demographic variables on exclusive breastfeeding. Analysis for each individual variable can be found in Table 7 and showed that delivery type, Parkyn score, maternal age, income and breastfeeding other children had a significant effect on exclusivity ( $p < .05$ ).

Multivariate analysis using a Cox backward stepwise regression was then completed to determine which demographic variables had the greatest effect on exclusivity. Results of this analysis showed that delivery type, maternal age and breastfeeding other children had a significant effect on exclusivity. Mothers who had a caesarean section were 1.3 times more likely to breastfeed exclusively for a shorter duration than mothers who gave birth vaginally. Figure 8 shows that differences between these groups were greatest soon after birth.

Mothers aged 18 to 24 were 1.9 times more likely than older mothers to breastfeed exclusively for a shorter duration. Figure 9 shows that the differences between these groups were apparent during all time periods and by age four months no mothers aged 18 to 24 were breastfeeding exclusively. It is worth noting that the sample size for mothers aged 18 to 24 is small and this may have influenced results.

Finally, mothers who did not breastfeed their other children were 2.3 times more likely to breastfeed exclusively for a shorter duration when compared to mothers who breastfed their other children. First-time mothers were 1.2 times more likely to breastfeed exclusively for a shorter duration when compared to mothers who breastfed their other children. Figure 10 shows that mothers who had not breastfed their other children were not breastfeeding exclusively beyond age two months. The sample size for mothers who did not breastfeed their other children was also small.

Table 7: Univariate Regression - Demographic Comparisons for Breastfeeding Duration

Variable Name	Response Options	Relative Risk	Significance (p value)
Delivery Type *	Vaginal Birth vs. Caesarean Birth	1.25	0.03
Parkyn Score*	High Risk (Parkyn $\geq 9$ ) vs. Low Risk (Parkyn $\leq 8$ )	1.35	0.04
Maternal Age*	18-24	1.72	0.02
	25-29	1.01	0.94
	30-34	0.89	0.37
	35+	1	-
Education	Completed high school or less	1.28	0.18
	Some/completed community/technical college	1.12	0.31
	Some/completed university	1	-
Income*	Less than \$50,000	1.38	0.05
	\$50,000 - \$69,999	1.08	0.66
	\$70,000 - \$89,999	1.07	0.57
	\$90,000 or more	1	-
Municipality	Oakville	1	0.74
	Burlington	0.96	0.75
	Halton Hills	1.15	0.42
	Milton	0.95	0.71
Place of birth	Born Outside Canada vs. Born in Canada	1.13	0.29
Do you have other children?	Have other children/ Do not have other children	0.87	0.15
Did you breastfeed your other children?*	Did not breastfeed other children vs. Breastfed other children	2.5	0.00

\* Statistically Significant ( $p < .05$ )

Table 8: Multivariate Regression - Demographic Comparisons for Breastfeeding Exclusivity

Variable Name	Response Options	Relative Risk	Significance
Delivery Type*	Vaginal Birth vs. Caesarean Birth	1.28	0.03
Maternal Age*	Age 18-24 vs. Age 25+	1.89	0.01
Did you breastfeed your other children?*	Breastfed other children	1	-
	Did not breastfeed other children	2.48	0.00
	First time mothers	1.25	0.04

\* Statistically Significant ( $p < .05$ )

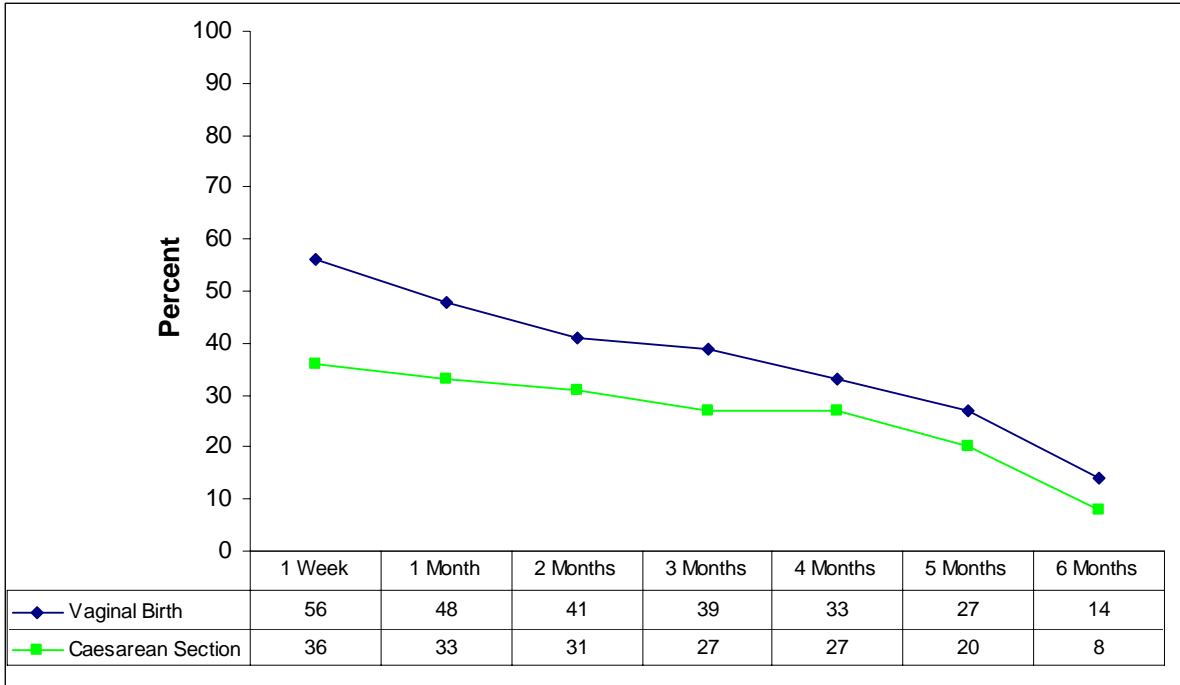


Figure 8: Percentage of Halton mothers breastfeeding exclusively to age six months, 2007/2008 by delivery type

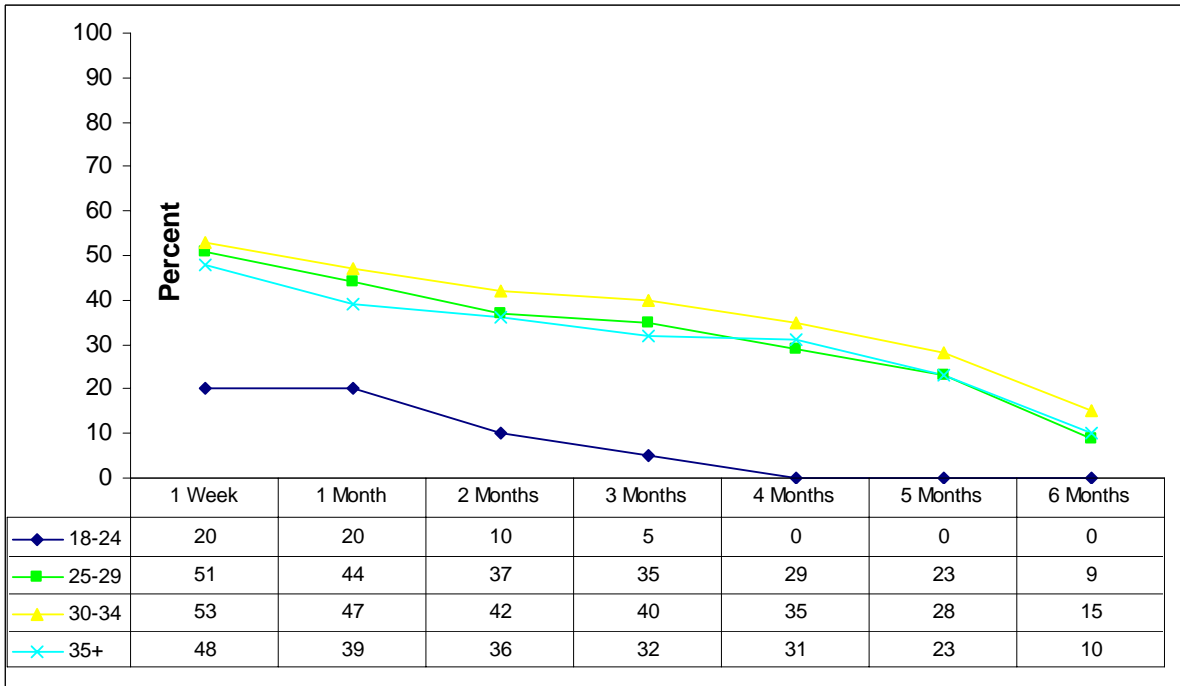


Figure 9: Percentage of Halton mothers breastfeeding exclusively to age six months, 2007/2008 by maternal age

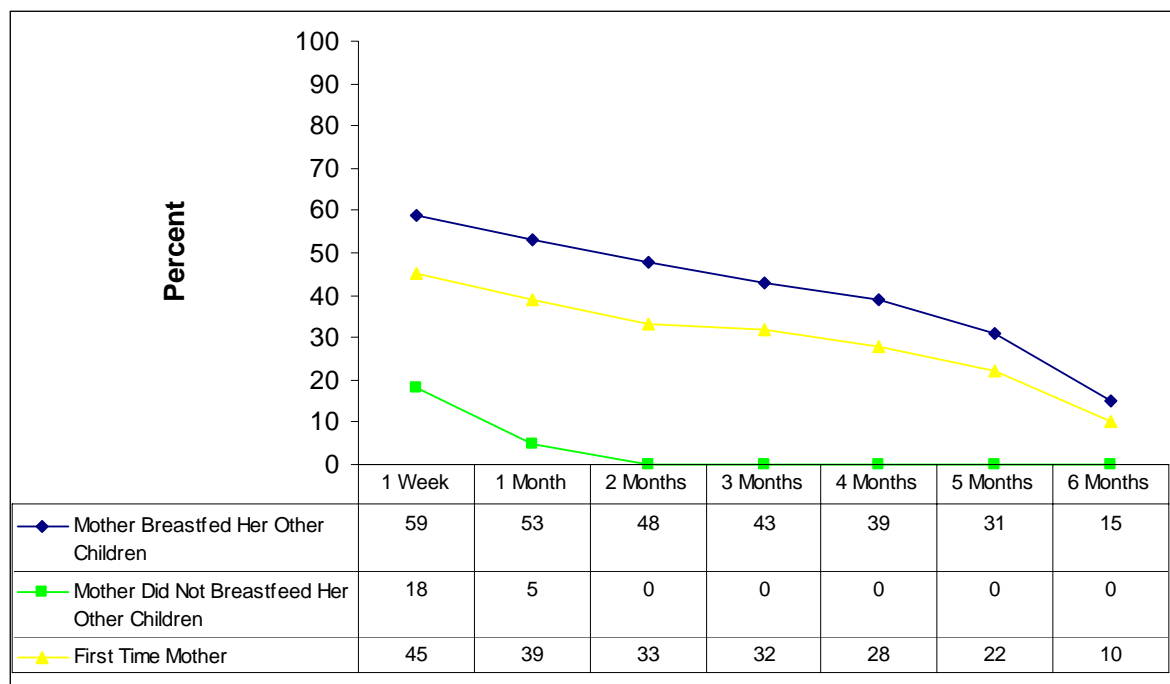


Figure 10: Percentage of Halton mothers breastfeeding exclusively to age six months, 2007/2008, for mothers who breastfed other children, mothers who did not breastfeed other children, and first-time mothers

## 5.5 Other Infant Feeding Practices

All mothers who initiated breastfeeding were asked questions about the introduction of other feeding practices after they returned home from the hospital. This data was collected to calculate exclusivity, but also provides important information about when other feeding practices were being introduced to baby.

Sixty percent (n=269) of breastfeeding mothers gave their babies breast milk substitutes (formula) while they were breastfeeding at home during the first six months. Figure 11 shows the age at which these mothers introduced breast milk substitutes to their babies, with the majority of mothers introducing breast milk substitutes at less than one week.

Seventeen percent (n=77) of breastfeeding mothers gave their babies milk or other liquids such as water, sugar water or herbal tea while they were breastfeeding at home during the first six months. Figure 12 shows the age that these mothers introduced liquids to their babies, with the majority introducing them at age five months or older. The Breastfeeding Committee of Canada and the Canadian Paediatric Society recommend that cow milk not be introduced until age 12 months. Results from the Twelve-Month Survey showed that 39% of mothers' introduced cow milk to their babies before their babies were twelve months old.

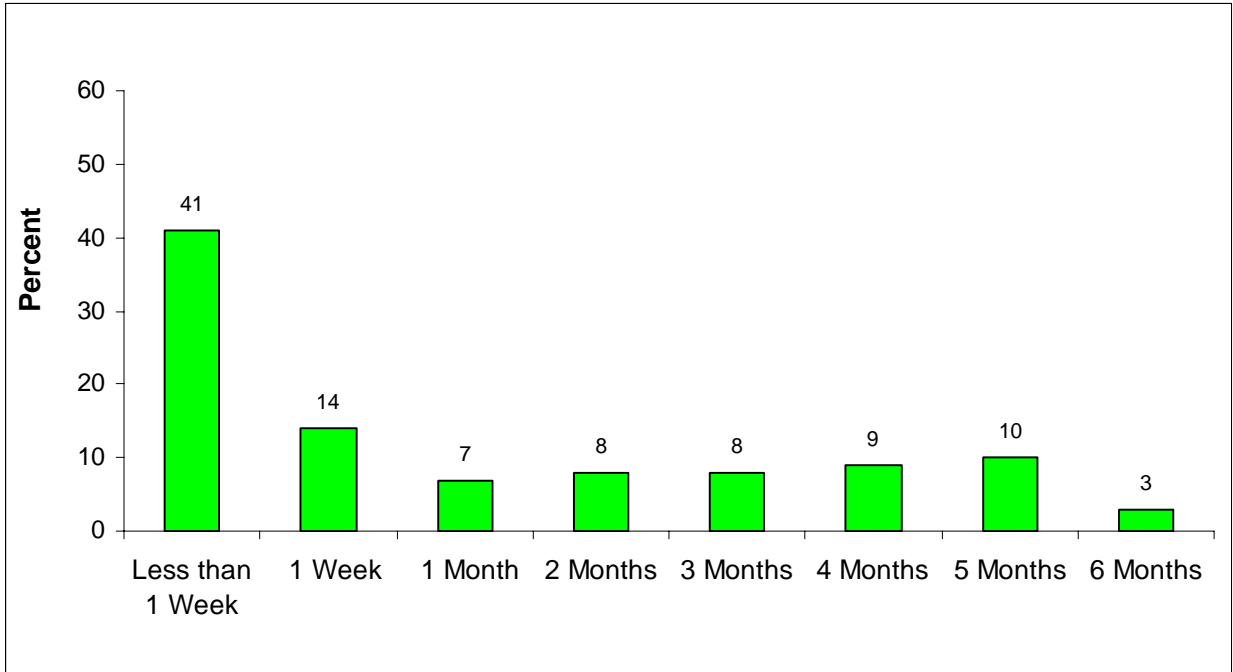


Figure 11: Age baby was introduced to breast milk substitutes (formula) by breastfeeding mothers who gave their baby breast milk substitutes within the first six months, 2007/2008

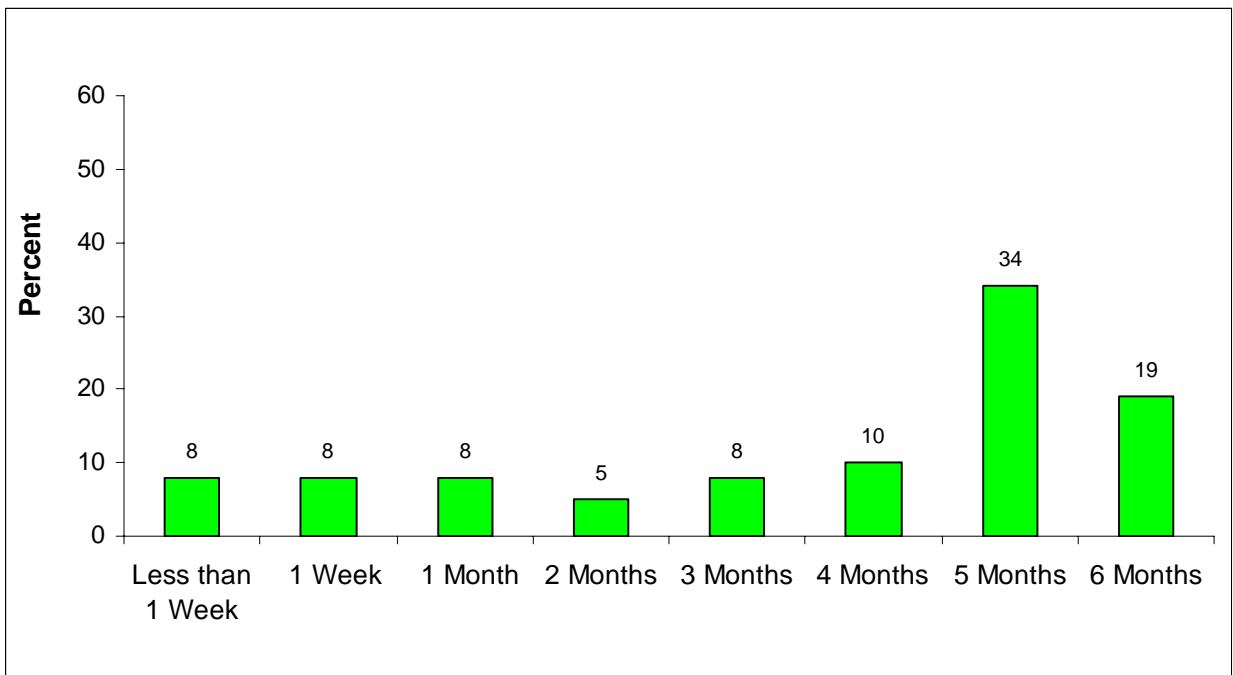


Figure 12: Age baby was introduced to cow milk or other liquids by breastfeeding mothers who gave their baby cow milk or other liquids within the first six months, 2007/2008

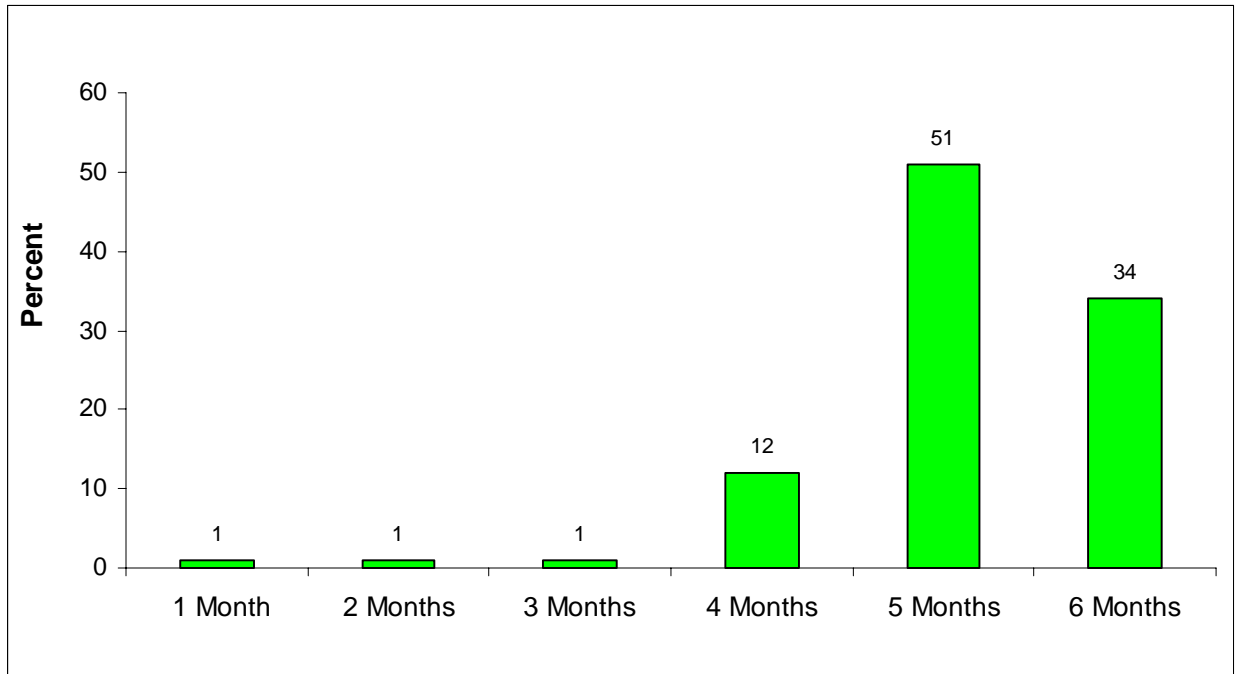


Figure 13: Age baby was introduced to solids by breastfeeding mothers who gave their baby solids within the first six months, 2007/2008

Sixty-one percent (n=272) of breastfeeding mothers gave their babies solids while they were breastfeeding during the first six months. Figure 13 shows the age at which these mothers introduced solids to their babies, with the majority of mothers introducing solids at age five months and older. Mothers who did not initiate breastfeeding (n=35) were also asked at what ages they first gave their babies solids. Eight mothers (23%) introduced solids at age three months or earlier, eight (23%) introduced solids at age four months, thirteen (37%) at age five months, and the remaining six (17%) at age six months.

## 5.6 Support for Breastfeeding

### Six-Month Survey

#### General Sources of Breastfeeding Support

Mothers who initiated breastfeeding were asked, through a series of close-ended questions, to identify sources of breastfeeding support and then indicate how helpful each source was at providing them with support. Results showed that 99% of mothers had received breastfeeding support from one of the eight sources outlined in Table 9. Ninety-nine percent of mothers also indicated that at least one of their sources of support was very or somewhat helpful, with mothers rating an average of four sources of breastfeeding support as very or somewhat helpful.

As outlined in Table 9, the top four sources of breastfeeding support for mothers were: the nurses at the hospital, friends and family members, Halton's *Breastfeeding Your Baby* booklet, and breastfeeding clinics. About half of all mothers received breastfeeding support from their healthcare providers and from prenatal classes, and about 10% received support from the La Leche League or a private lactation consultant.

Table 9 also shows how mothers rated each source of breastfeeding support. Breastfeeding Clinics were rated as the most helpful, followed by private lactation consultants and friends and family members. The least helpful sources of support were healthcare providers and prenatal classes. When mothers were asked to identify additional sources of breastfeeding support, books (n=20) and the Internet (n=12) were the most common responses provided.

Table 9: Sources of Breastfeeding Support

Source of Breastfeeding Support	Percentage of Mothers who Received Support	Percentage of Mothers Receiving Breastfeeding Support who Rated Breastfeeding Support as...		
		Very Helpful (Percent)	Somewhat Helpful (Percent)	Not Very Helpful (Percent)
Nurses at the Hospital	96%	59%	32%	9%
Friends and Family Members including Spouse or Partner	87%	68%	29%	3%
Halton's <i>Breastfeeding Your Baby</i> Booklet	76%	46%	46%	8%
Breastfeeding Clinic or Lactation Consultant from Breastfeeding Clinic	71%	77%	18%	5%
Healthcare Provider (family doctor, obstetrician, midwife)	50%	40%	40%	20%
Prenatal Classes	49%	28%	48%	24%
La Leche League	11%	47%	47%	6%
Private Lactation Consultant	9%	69%	26%	5%

Sources of Breastfeeding Support Provided by the Halton Region Health Department

Mothers who initiated breastfeeding were also asked a series of questions about sources of breastfeeding support provided by the Halton Region Health Department. Sixty-three percent of mothers received breastfeeding support from at least one Health Department program or service, and 62% of mothers indicated that the breastfeeding support they received was very or somewhat helpful.

Figure 14 shows the percentage of mothers who had read or heard about each of the public health programs/services, as well as the percentage who had used the program/service, and the percentage who received breastfeeding support from the program/service.

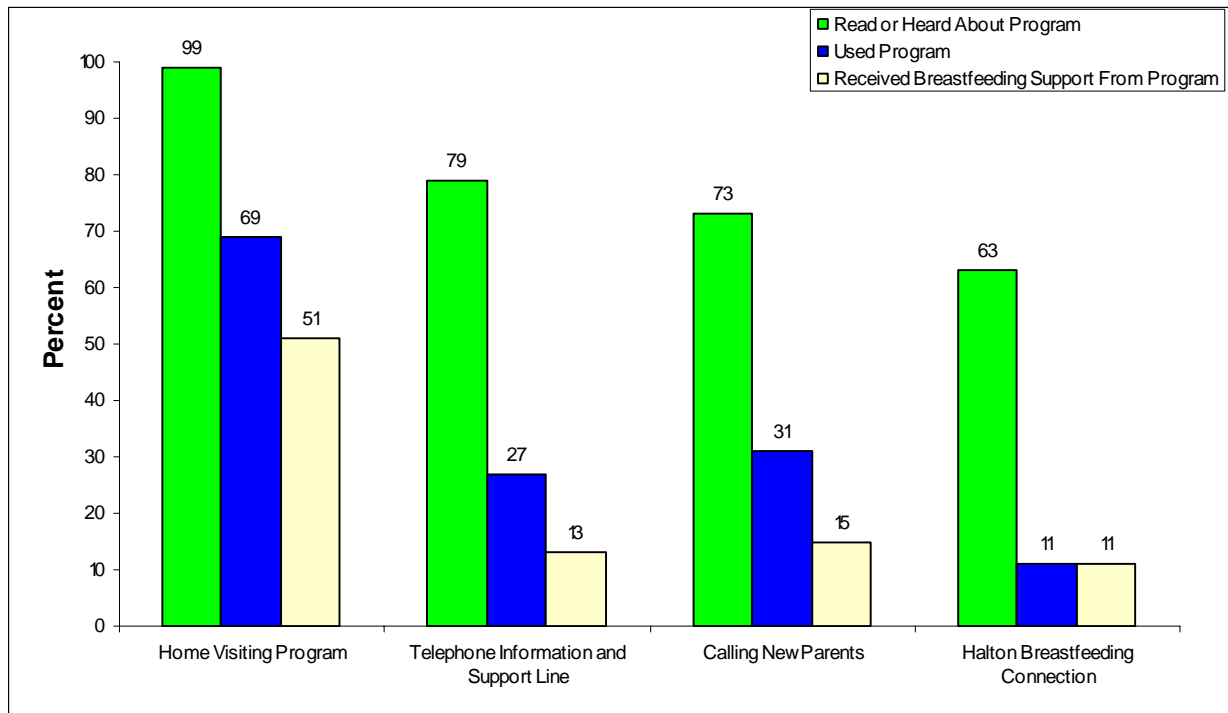


Figure 14: Percentage of mothers who have read or heard about, used, and received breastfeeding support from Health Department programs or services, 2007/2008

Almost all mothers (99%) had heard about the Health Department's Home Visiting Program. Knowledge of the three other public health programs was also high, with 79% aware of the Telephone Information and Support Line, 73% aware of Calling New Parents and 63% aware of the Halton Breastfeeding Connection.

When asked if they had used the programs/services, 69% indicated that they had a home visit, 27% had used the Telephone Information and Support Line, 31% had used Calling New Parents and 11% had used the Halton Breastfeeding Connection.

Finally, mothers were asked if they had received breastfeeding support from each program/service; 51% had received breastfeeding support from the home visiting program, 13% from the

Telephone Information and Support Line, 15% from Calling New Parents, and 11% from the Halton Breastfeeding Connection.

Mothers who received breastfeeding support were then asked to comment on the quality of support they received. Mothers indicated that all programs were helpful at providing breastfeeding support, with the home visiting program, Calling New Parents, and Telephone Information and Support Line being rated as very helpful by more mothers than the Halton Breastfeeding Connection (Figure 15).

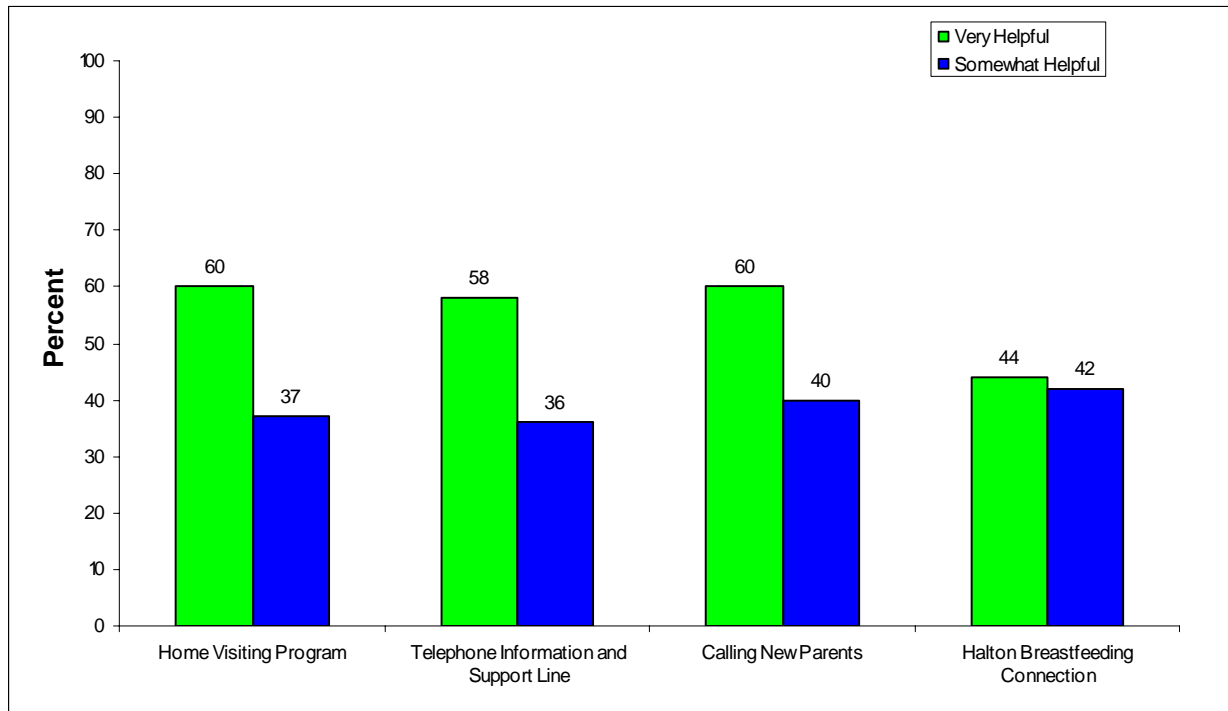


Figure 15: Percentage of mothers who rated breastfeeding support from Health Department programs or services as very or somewhat helpful, 2007/2008

### **Twelve-Month Survey**

Mothers who participated in the Twelve-Month Survey were also asked about breastfeeding support. At 12 months, 88% of mothers had read or heard about the Telephone Information and Support Line, but only six percent (n=14) had used the line while their babies were between six months and 12 months of age. Of the 14 mothers who had used the Information and Support Line, nine indicated that they had received breastfeeding support, and all found this support helpful (six very helpful, three somewhat helpful).

When asked if they had received breastfeeding support from any other resources within the last six months, 15% of mothers (n=38) indicated that they had. Sources of support listed by these

mothers included breastfeeding clinics (n=8), family and friends (n=7), lactation consultants (n=6), books (n=5) and doctors (n=4).

### 5.7 Impact of Return to Work

Changes to the Employment Standards Act, that defines pregnancy and parental leave provisions, were made on December 31, 2000. These changes aligned the Employment Standards Act with the Employment Insurance Act which allowed for 52 weeks for pregnancy and parental leave. Prior to these changes, only 35 weeks were provided for pregnancy and parental leave.

Mothers were asked questions about the age of baby when they returned to work. In 2000/2001 64 % of mothers were not working when their babies were six months old, while in 2007/2008 90% of mothers were not working when their babies were six months old (see Figure 16).

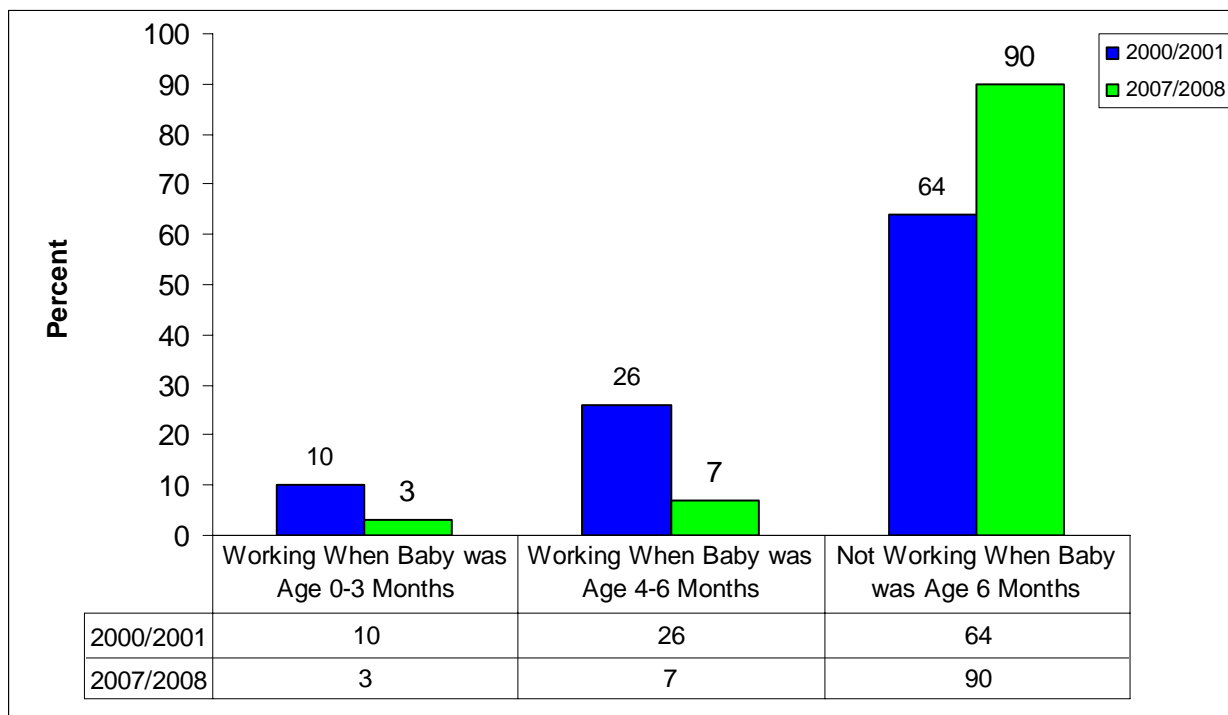


Figure 16: Percentage of mothers who had returned to work by age of baby, 2000/2001 and 2007/2008

Comparisons were then made to determine if mothers return to work effected breastfeeding duration and exclusivity in 2007/2008. Return to work significantly effected duration at age 12 months ( $p < 0.05$ ), but not age six months (see Figure 17). It is worth noting again that 38% of mothers indicated that they continued to breastfeed for 12 months because they did not have to return to work. When looking at exclusivity, results showed that return to work had no significant effect, with 10% of working mother's breastfeeding exclusively at age six months, and 12% of non-working mothers breastfeeding exclusively at age six months.

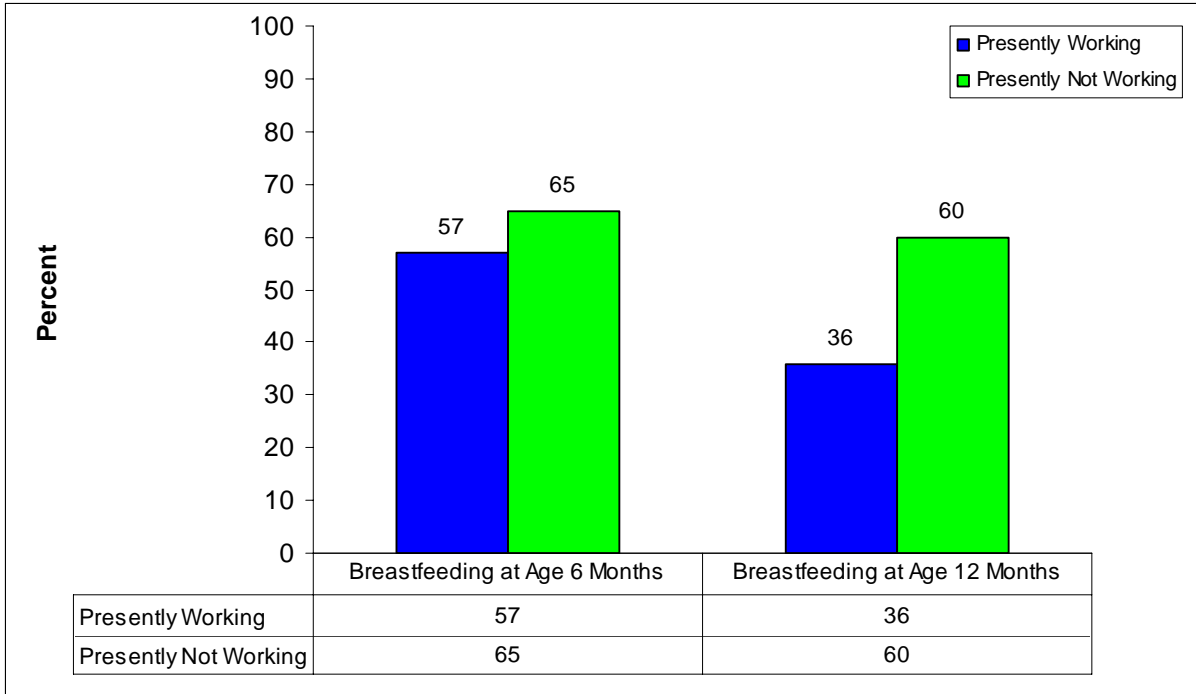


Figure 17: Percentage of mothers breastfeeding at age six months and age twelve months by work status, 2007/2008

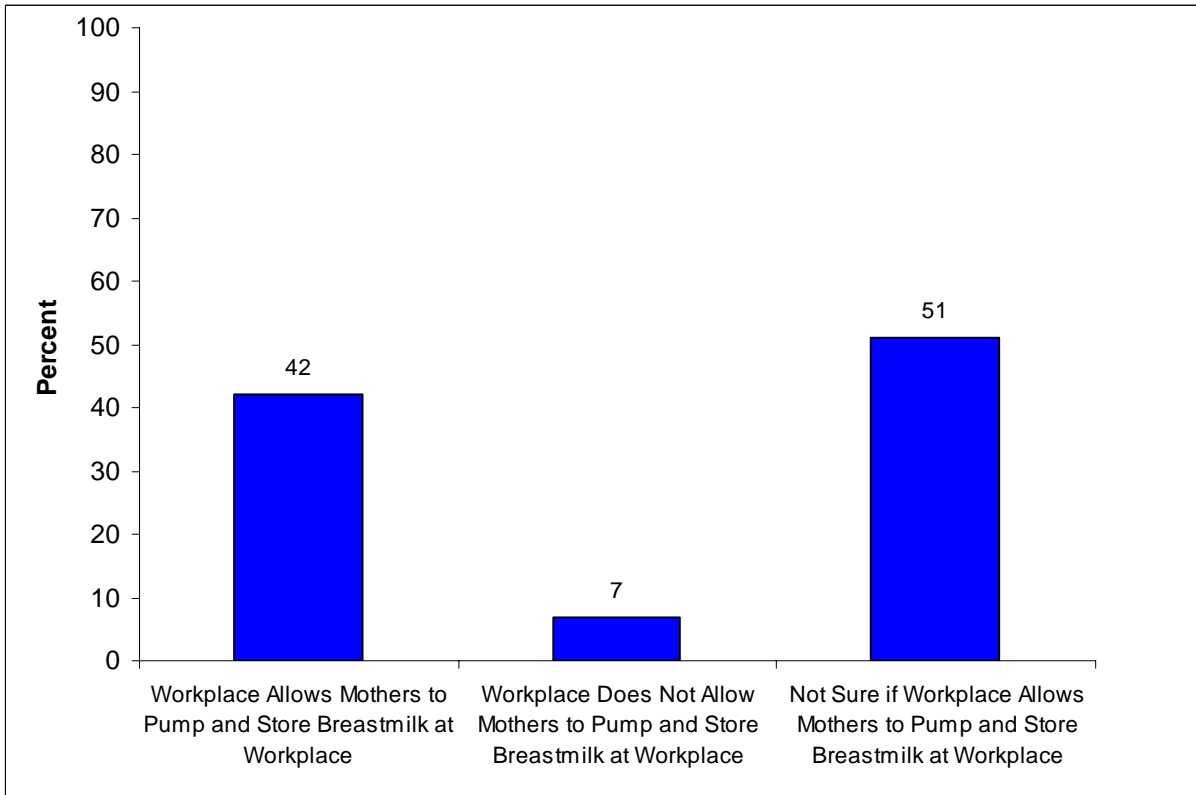


Figure 18: Workplace policies about pumping and storing breast milk at work, 2007/2008

Mothers who participated in the Twelve-Month Survey and worked outside of the home were asked about policies regarding pumping and storing breast milk at work. These questions were asked of mothers who had already returned to work and those planning to return to work within the next month. Results showed that 42% of mothers could breastfeed or pump and store at work, 7% could not, and 51% were not sure (Figure 18). Of the mothers who could pump or store breast milk at work, 59% indicated that they had breastfed or pumped milk or planned to do so when they returned to work, (19% had already breastfed or pumped breast milk, and 40% planned to do so when they returned to work).

## 5.8 Dental Health

The Twelve-Month Infant Feeding Survey included four questions about baby's dental health. The first question asked how often mothers had put their babies to bed with a bottle or sippy cup with anything except water within the past week. Figure 19 shows that 86% of mothers had not put their baby to bed with a bottle or sippy cup within the past week.

The second question asked about frequency of checking baby's teeth for tooth decay, which should be done once a month<sup>7</sup>. Results from the survey showed that 55% of mothers had checked their baby's teeth for tooth decay within the past month.

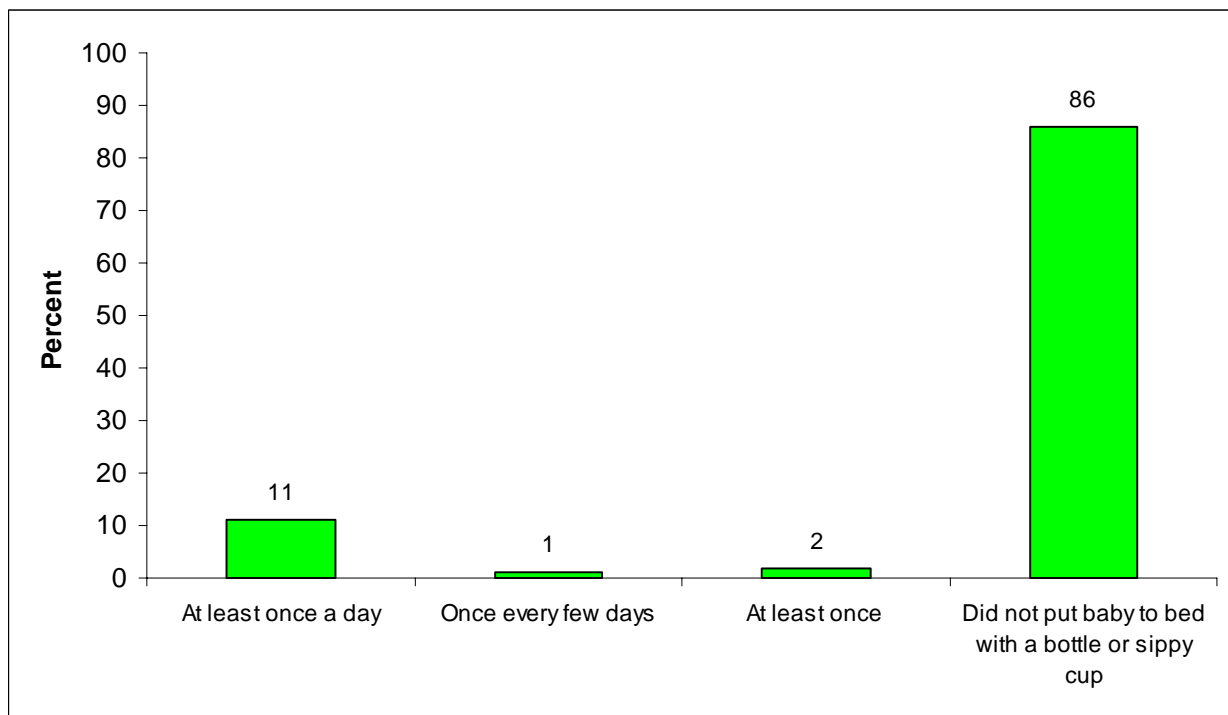


Figure 19: Percentage of mothers putting baby to bed with a bottle or sippy cup with anything except plain water within the past week, 2007/2008

<sup>7</sup> Ontario Ministry of Health Promotion, viewed 14 September, 2009  
[http://www.mhp.gov.on.ca/english/health\\_promotion/public\\_health\\_programs/baby\\_teeth.asp](http://www.mhp.gov.on.ca/english/health_promotion/public_health_programs/baby_teeth.asp)

The next question asked about frequency of brushing baby's teeth, which should be done at least twice a day<sup>7</sup> for babies who are 12-months old. Results are shown in Figure 20. Just over half of mothers brush baby's teeth at least once a day.

The final question asked about potential causes of tooth decay in baby's teeth. While breast milk on its own does not lead to tooth decay, breast milk combined with the introduction of liquids or solids containing sugar into the babies diet can lead to tooth decay. Figure 21 shows that virtually all mothers identified sweetened drinks, a soother dipped in something sweet and fruit juices as causes of tooth decay. Just over 80% of mothers identified breast milk substitutes (formula) and cow's milk as causes of tooth decay. Finally, 63% of mothers recognized that breast milk can cause tooth decay in baby's teeth.

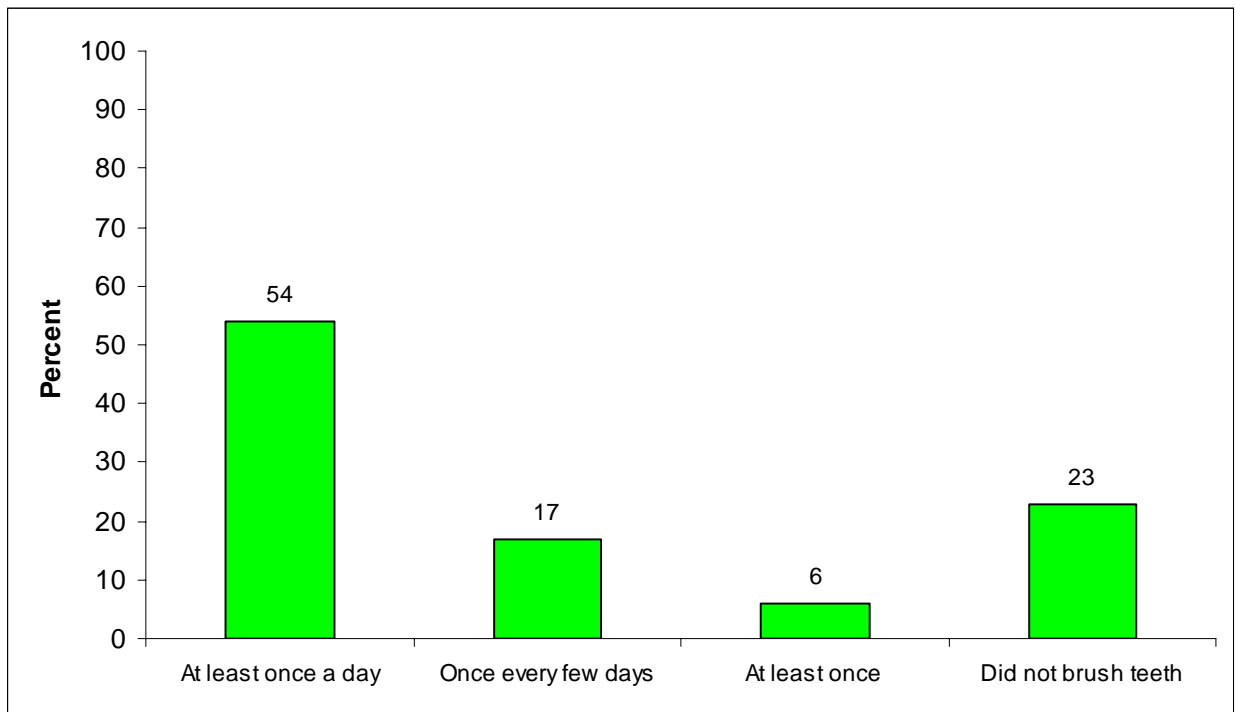


Figure 20: Percentage of mothers brushing baby's teeth within the past week, 2007/2008

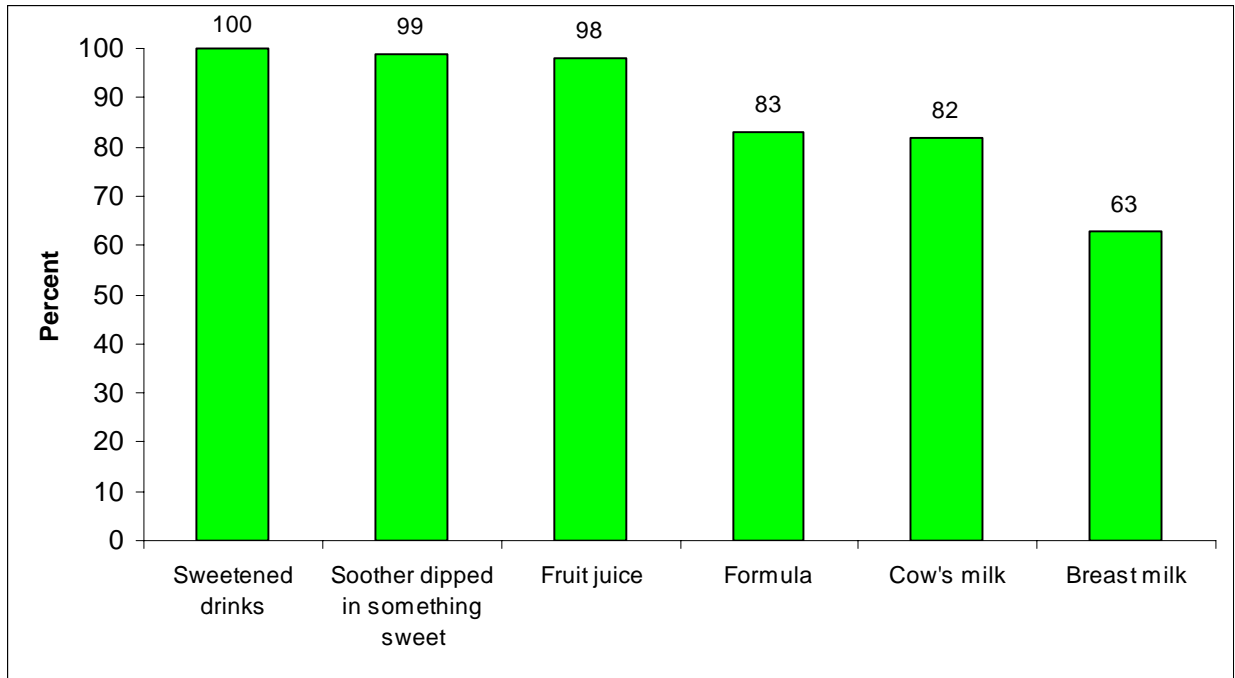


Figure 21: Knowledge of causes of tooth decay in baby's teeth as reported by mothers, 2007/2008

### 5.9 Telephone Versus an Electronic Survey

Demographic comparisons based on survey method (telephone or electronic) were made for the Six-Month Survey to determine whether or not the samples for each survey type differed. Significant differences were found for education, income, and place of birth ( $p < .05$ ). As seen in Table 10, mothers who completed the electronic survey were more likely to have higher incomes, higher levels of education, and be born in Canada.

Response rates for the electronic and phone surveys were identical (78%) for the Six-Month Survey and very similar for the Twelve-Month Survey (85% for phone survey, 87% for web survey) indicating that both methods are effective for reaching mothers with infants aged six and twelve months (see Table 1 and Table 2 in section 4.3). At the conclusion of the Twelve-Month Survey, the 94 respondents who completed the survey by telephone were asked how likely they would have been to complete the survey if it had only been conducted electronically, and 59% said they would have completed the survey electronically (33% very likely, 26% somewhat likely). The mothers who indicated they would not have completed the survey ( $n=39$ ) electronically were asked whether or not they had access to the internet at home, and 90% indicated that they did.

Table 10: 2007/2008 Demographic Comparisons for Six-Month Survey by Survey Method

<b>Demographic Variable</b>		<b>Phone Survey (Percent)</b>	<b>Electronic Survey (Percent)</b>
<b>Maternal Age</b>	18-24	4	4
	25-29	20	18
	30-34	44	52
	35+	32	26
<b>Education *</b>	Completed high school or less	11	4
	Some/completed community/technical college	32	27
	Some/completed university	57	69
<b>Income *</b>	Less than \$50,000	13	6
	\$50,000 - \$69,999	14	6
	\$70,000 - \$89,999	25	24
	\$90,000 or more	48	64
<b>Municipality</b>	Oakville	29	36
	Burlington	36	37
	Halton Hills	10	10
	Milton	25	17
<b>Risk (Parkyn Score)</b>	High Risk (Parkyn $\geq 9$ )	15	10
	Low Risk (Parkyn $\leq 8$ )	85	90
<b>Do you have other children?</b>	Have other children	52	45
	Do not have other children	48	55
<b>Did you breastfeed your other children</b>	Breastfed other children	92	89
	Did not breastfeed other children	8	11
<b>Place of birth *</b>	Canada	74	82
	Outside Canada	26	18

\* Statistically Significant ( $p < 0.05$ )

## 6.0 Limitations

There are two key limitations that should be considered when interpreting the results presented in this report: eligibility versus participation, and the role of the Health Department in the differences observed between the 2000/2001 and 2007/2008 studies.

First, although the response rate for the survey was high, two thirds of eligible mothers were not included in this study. The majority of these mothers (n=709) were excluded because they were not asked to participate in the survey or could not be reached for the 48-hour postpartum telephone assessment. However, mothers were also excluded because they refused to participate (n=146), had missing information or language barriers (n=32), participated in the pilot test (n=25), or did not reside in Halton and were not eligible (n=4).

Although demographic comparisons were made between the Six-Month Infant Feeding Survey and 2007 Halton Niday data to determine if the sample for the Six-Month Survey was comparable to the Halton population, the only information available to be analyzed was on maternal age, municipality, delivery type, and previous births. Results showed that significant differences existed for maternal age and pointed to a possible sampling bias for the Six-Month Survey. Although differences did not exist for municipality, delivery type, or previous births, there is no way of knowing if differences existed for other demographic variables that could not be studied. Demographic comparisons were also made between mothers who completed the Twelve-Month Survey and mothers from the Six-Month Survey who were eligible but did not complete the Twelve-Month Survey. Results showed significant differences for maternal age, education, income and place of birth, indicating a sampling bias for the Twelve-Month Survey as well.

Second, it is difficult to determine the exact role the Halton Region Health Department played in differences observed between the 2000/2001 and 2007/2008 studies, since other organizations in Halton have been working to improve breastfeeding practices in Halton. In addition, changes in attitudes and/or behaviours may have occurred on a more global level, and may not be the result of Halton programming to improve breastfeeding practices.

## 7.0 Key Findings and Recommendations

The following is a summary of the key findings from the 2007/2008 Infant Feeding Study, as well as the recommendations that come from these key findings. Recommendations will be used by the Halton Region Health Department and Halton Baby Friendly Initiative (BFI) partners.

### **Initiation, Duration and Exclusivity**

The 2007/2008 Infant Feeding Study provided the Halton Region Health Department with more current information regarding breastfeeding initiation, duration and exclusivity. Breastfeeding initiation rates for 2007/2008 remained essentially unchanged from 2000/2001, with 93% of mothers initiating breastfeeding. Breastfeeding duration improved in 2007/2008 (significantly for age three months to age six months). However, more work needs to be done to improve duration, since by age six months only 64% of mothers were breastfeeding and by twelve-months only 29% of mothers were breastfeeding. Exclusivity rates for 2007/2008 were significantly higher for all time periods when compared to the 2000/2001 study. However, supplementation in hospital continues to have a negative impact on exclusive breastfeeding rates in Halton.

**Positive Influencing Factors:** Being a first-time mother, and having breastfed other children both had a positive effect on breastfeeding initiation, while having a university education and having breastfed other children improved breastfeeding duration. Mothers who gave birth vaginally were more likely to exclusively breastfeed longer, as were mothers over the age of 25, and mothers who had breastfed their other children. The most common reason mothers gave for continuing to breastfeed at both age six months and age twelve months was that breastfeeding was the best thing to do for their babies' health.

**Negative Influencing Factors:** The main reason mothers gave for not initiating breastfeeding were having problems breastfeeding in the past or not enjoying breastfeeding. The main reason mothers gave for not breastfeeding to age six months were that they did not feel they had enough breast milk. At age twelve months mothers indicated that they stopped breastfeeding because the baby weaned itself or they had planned to stop.

**Other Infant Feeding Practices:** Sixty percent of breastfeeding mothers gave their babies breast milk substitutes (formula) while they were breastfeeding at home during the first six months, and the majority introduced breast milk substitutes (formula) at less than one week. Seventeen percent of mothers gave milk or other liquids to their babies while breastfeeding at home during the first six months, with the majority introducing these liquids at age five-months or older. Sixty-one percent of breastfeeding mothers gave their babies solids while they were breastfeeding during the first six months, with the majority introducing solids at age five months or older. Finally, thirty-nine percent of mothers introduced cow milk to their babies before age twelve months, which is the time recommended by the Breastfeeding Committee of Canada and the Canadian Paediatric Society.

**Recommendations:**

1. Continue to provide breastfeeding support to all mothers and increase support for first-time mothers, mothers who had previous breastfeeding difficulties, younger mothers, mothers who had a caesarean section and mothers who have lower levels of education.
2. Encourage exclusive breastfeeding for the first six months and breastfeeding duration to two years and beyond as per the WHO recommendation.
3. Continue the education of health care providers who care for pregnant and postpartum mothers and parents regarding the medical indications for supplementation, especially when in hospital or just following birth.
4. Expand messaging beyond the benefits of breastfeeding to include strategies which address the barriers to breastfeeding identified through the 2007/2008 study. For example, address perceived lack of breast milk supply with strategies to overcome problems associated with milk supply.
5. Encourage the introduction of solids and liquids after six months of age and when baby is physiologically ready for solids.
6. Use the principles of BFI as the standard to guide practices and messages related to infant feeding in Halton.

**Support for Breastfeeding**

Ninety-nine percent of mothers indicated that they received breastfeeding support from at least one source, and that this support was very helpful or somewhat helpful. The most common sources of breastfeeding support for mothers were: the nurses at the hospital, friends and family members, breastfeeding clinics and the Health Department's *Breastfeeding Your Baby* booklet. Health Department programs used by mothers were rated as somewhat helpful or very helpful by the majority of mothers.

**Recommendations:**

1. Ensure that all healthcare providers who care for pregnant and postpartum mothers within the Halton community are using common messages related to breastfeeding support. Ongoing education of all healthcare providers should be done in accordance with requirements for BFI accreditation.
2. Continue to look at strategies to market Health Department programs as community breastfeeding supports.
3. Conduct further research on breastfeeding support. Key questions to be answered include:
  - What kind of breastfeeding support are parents specifically receiving (e.g., one-to-one assistance, information, encouragement) and how much do each of these types of support contribute to breastfeeding success?
  - What are the main reasons mothers attend breastfeeding clinics and are breastfeeding clinics serving their intended populations (i.e., mothers/babies who have medical issues or significant challenges with breastfeeding)?

### **Impact of Return to Work**

Changes to the Employment Standards Act, that defines pregnancy and parental leave provisions, were made on December 31, 2000. These changes aligned the Employment Standards Act with the Employment Insurance Act which allowed for 52 weeks for pregnancy and parental leave. Prior to these changes, only 35 weeks were provided for pregnancy and parental leave.

Comparisons between the 2000/2001 study and the 2007/2008 study reflected these changes in legislation. Survey results showed that 90% of mothers were not working when their babies were six months old in 2007/2008 compared to 64% in 2000/2001. Comparisons were then made to determine if returning to work had an effect on breastfeeding duration, and it was determined that there was no effect at age six months but there was a significant effect at age twelve months. When asked about workplace policies regarding breastfeeding or pumping at work, 42% of mothers indicated that their employers had policies to allow women to breastfeed at work, while 51% did not know if policies existed.

### **Recommendations:**

1. Educate women about their right to breastfeed when they return to work as well as how to continue breastfeeding when they return to work (e.g., pumping breast milk).
2. Educate and provide resources to employers about ways to provide baby friendly workplaces.

### **Dental Health**

2007/2008 was the first year that information was collected about dental health practices.

Results showed that:

- 86% of mothers do not put their 12 month old babies to bed with a bottle or sippy cup containing anything except water
- 55% of mothers check their 12 month old babies' teeth for tooth decay once a month
- 54% of mothers brush their 12 month old babies' teeth at least once per day

While breast milk on its own does not lead to tooth decay, breast milk combined with the introduction of liquids or solids containing sugar into the babies diet can lead to tooth decay. Almost all mothers identified sweetened drinks, soothers dipped in honey and fruit juice as potential causes of tooth decay. However, fewer (63%) mothers identified breast milk as a potential cause of tooth decay.

### **Recommendations:**

1. Parents should be educated about the key steps to maintaining oral health for their baby. The following key messages should be promoted:
  - Parents should not put their baby to bed with a bottle or sippy cup.
  - Parents should check their baby's mouth for tooth decay at least once a month.
  - Parents should brush their baby's teeth at least once a day, ideally twice a day.
  - Parents should not allow any liquids other than water to pool in the baby's mouth, since pooling of any other liquid can cause tooth decay

### **Telephone Versus an Electronic Survey**

The 2007/2008 Infant Feeding Study provided a unique opportunity to examine a new method of data collection for mothers of infants: the electronic survey. The response rates were similar for both the Six-Month and Twelve-Month Surveys, which was encouraging. However, when comparisons were made between the two survey methods for mothers who completed the Six-Month Survey, it was learned that mothers who completed the electronic survey were more likely than mothers who completed the telephone survey to have higher incomes, higher levels of education, and be born in Canada. This indicates that some caution should be taken in choosing to conduct surveys entirely through electronic methods. It was reassuring, however, that 59% of mothers who completed the Twelve-Month Telephone Survey indicated that they would have still completed the survey if it had only been offered electronically.

### **Recommendations:**

1. Consider conducting future surveys using an electronic survey, but offer a phone survey to those who do not wish to use the electronic survey.

### **Future Infant Feeding Studies**

In addition to specific study findings, considerations for future studies were also brought to light. The following are recommendations for future Infant Feeding Studies:

1. Determine a mechanism for ongoing collection of data on breastfeeding initiation, duration and exclusivity in order to fulfill requirements for BFI accreditation.
2. Determine if there is additional information beyond initiation, duration and exclusivity (e.g., breastfeeding support) that should be collected, and if so the frequency required for this data collection.
3. Future studies about breastfeeding should separate questions about milk from questions about other liquids when asking about other feeding practices.
4. More of an effort should be made to include mothers who do not speak English in future studies. Interpreters could be used to conduct interviews with these mothers.
5. The recruitment process must be improved for future studies, so that almost all eligible mothers are asked to participate. Consider recruiting mothers for future studies from the hospital, through the hospital liaison program or directly through entry onto the Parkyn\*.

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\* The Parkyn Postpartum Screen is generally applied in hospital by maternity nurses, and consists of a series of questions designed to identify factors associated with risk of parenting problems. Scores of 9 or greater are considered "at risk"

## **8.0 Appendices**

Appendix A: Interviewer Protocol Sheet

Appendix B: Contact Information Sheet

Appendix C: Protocol for Cell Phones

Appendix D: Protocol for Electronic Surveys Converted to Phone Surveys

Appendix E: Prenotification, Notification and Followup Emails for Electronic Survey

Appendix F: Pilot Test Letter for Electronic Survey

Appendix G: Six-Month Telephone Survey

Appendix H: Six-Month Electronic Survey

Appendix I: Twelve-Month Telephone Survey

Appendix J: Twelve-Month Electronic Survey

## Appendix A: Interviewer Protocol Sheet

### INFANT FEEDING PHONE SURVEY- PROTOCOL SHEET

#### Using the Survey Tool (including contact sheet and information sheet)

- Be sure to record the ID number on the contact sheet and the survey (Id numbers can be found on the Information sheet)
- Please complete all shaded boxes in the contact sheet (interviewer initials, date contact initiated, date and time of call, date interview completed, length of interview)
- Follow the protocol outlined on the contact sheet for making phone calls and track using the date and time section
- Use the mother's name when initiating contact (found on the information sheet)
- Use the information sheet to track times to reach the mother after contact has been initiated. If a mother asks you to call back on more than 6 occasions, file as "unable to reach"
- Be sure to include the date and time the call was completed as outlined on the Contact Information Form
- Do not read "Go To" directions on the survey out loud – these are intended to guide you through the survey
- Questions on the survey which require response options to be read are prefaced by an *Interviewer* Prompt. For all other questions do not read response options.
- *Interviewer* prompts are also used to help you elicit a response from the mother by clarifying the survey questions or the response options.
- Mothers who are breastfeeding at six months (Q7=1) should be asked the final question about participation in a Twelve-Month follow-up survey

#### Making Phone Calls

- Do not give out your home phone number
- Do not leave messages
- Use call block (\*67) when calling from home. These calls will show up as unidentified caller. When this happens you may be asked to identify yourself. If this is the case, identify yourself as a "public health nurse from Halton"
- If you reach someone other than the mother & the mother is not home, indicate that you will call back. If the person insists on knowing who is calling tell them you are calling about a survey that "*mom's name*" agreed to participate in and ask for a good time to call back
- If you cannot reach someone due to an incorrect phone number call Karen Moynagh at ext. 7518.
- Avoid making phone calls when you are tired – it is easy to make mistakes
- Remember to plan your "call back" attempts at a time that is convenient for you and the respondent. If for some reason you are unable to call them at the designated time, apologize for the inconvenience and continue with the survey.
- Please take off your "public health hat" before commencing interviews. Given your vast knowledge and beliefs regarding infant feeding, it could be very easy to bias the sample. Showing surprise or excitement at any of the questions may lead the respondent to respond to future questions to please you instead of answering them honestly. There may be special circumstances that require you to put the "public health hat" back on (see "What to do if section").
- Any expenses incurred through long distance calls can be submitted through the Regional Expense Claim Forms

## What To Do IF

Issue	What to do
You identify a high risk family who may benefit from HBHC	After completing the survey, provide the phone # for HBHC to the respondent
Respondent is very upset during the survey	Identify that this is not a good time for the call and offer to call back at a later time. Provide nursing support only if necessary.
Baby has died	Acknowledge the loss. Provide information on community supports if needed. Thank them for their time & end call. File as “unexpected outcome”
CAS Issue	Let the respondent know based on the information provided that you are professionally obligated to consult with CAS. Inform Carol DiBon. Complete interview only if appropriate.
Someone has difficulty speaking English	Do your best to guide them through the survey. You may need to clarify questions, but be sure you don’t change the meaning. Note on the Information Sheet that language was a barrier.
Someone has moved outside Halton Region	Complete the survey and ask them how old the baby was when they moved. Record this on the Information sheet. If the respondent has moved somewhere that seems unreasonable to call (ex: another country), record on the information sheet and file as “unable to reach”
Need for Nursing support	If it is clear that a respondent needs nursing support or if they continue to ask you for support while completing the survey tell them you will first complete the interview & then discuss other questions/ problems they have. Do not include this “counselling” time under the interview length on the Contact Sheet.
You call a mom you have met during a home visit	Do not point out that you know her. However, if she recognizes you, make it clear that you are looking for honest answers and continue with survey.
You talk to a mom who is feeling guilty about stopping breastfeeding	Reassure her that this is ok, and that many women stop for a variety of reasons. Continue with the survey. If she is really upset you can refer her to the Baby and Parent Information line or provide her with nursing support at the end of the survey.
A mom asks you to call back during a different calling period.	Proceed with arrangements for the call. Once we have established contact we should follow through with the survey.
A mother asks for a copy of the results	Tell her that results will be available in late 2008 on the Health Department website ( <a href="http://www.halton.ca">www.halton.ca</a> ). Offer to send her a copy of the results. If she is interested record the information on the “Survey Results Request Sheet”.
You have established contact with a mom (or other member of the household) but have not been able to complete the interview during the designated calling period.	Continue to make calls for 1 more week. If you are unable to establish contact after this additional week , contact Karen.

## Appendix B: Contact Information Sheet

<b>Mothers Name:</b>
<b>ID #:</b>
<b>Phone #:</b>
<b>Calling Period:</b>
<b>Interviewer Initials:</b>

Hello, my name is \_\_\_\_\_, from the Halton Region Health Department. I am calling about the infant feeding survey you agreed to participate in when a Public Health Nurse called you about 6 months ago. This survey will take about 10 - 15 minutes to complete and the information will be kept confidential.

Are you still willing to participate in the survey?

- (1)  Yes → **Go to QA below**
- (2)  No → **Thank you for your time**
- (3)  Unexpected Outcome → **Thank you for your time**  
*(baby died, baby became ill, accident, CAS Apprehension etc..)*

### QA

Do you have time to complete the survey now?

- (1)  Yes → **Go to survey**
- (2)  No → **Go to call-back section below**

## CALL-BACKS

When would be a good time to call back? (Fill out table below)

	Dates To Call Back:	Time	Comment
1.			
2.			
3.			
4.			
5.			



## Appendix C: Protocol for Cell Phones

Hello, my name is \_\_\_\_\_, from the Halton Region Health Department. I am calling about the infant feeding survey you agreed to participate in when a Public Health Nurse called you about 6 months ago. This survey will take about 10-15 minutes to complete and the information will be kept confidential.

Are you still willing to participate in the survey?

- (1) \_\_\_ Yes      \_\_\_\_\_ → **Go to QA below**
- (2) \_\_\_ No      \_\_\_\_\_ → **Thank you for your time**
- (3) \_\_\_ Unexpected Outcome → **Thank you for your time.**  
*(baby died, baby became ill, accident, CAS apprehension etc.)*

### QA

Since I'm calling you on your cell phone, can you please tell me if you are at home right now, or should I call you back at home later?

- (1) \_\_\_ At home      \_\_\_\_\_ → **Go to Survey**
- (2) \_\_\_ Not at home \_\_\_\_\_ → **Go to call-back section on Contact Information Sheet**

## Appendix D: Protocol for Electronic Surveys Converted to Phone Surveys

Please use the following introduction in place of the current introduction found on the *Infant Feeding Survey Information Sheet*.

“Hello, my name is \_\_\_\_\_, from the Halton Region Health Department. I am calling about the infant feeding survey you agreed to participate in when a Public Health Nurse called you about 6 months ago”. Although you agreed to complete the survey electronically, we were not able to contact you using the email provided to us. I’m calling to see if you would be willing to complete the survey over the phone. The survey will take about 10-15 minutes to complete and the information will be kept confidential.”

Are you willing to participate in this survey by phone?

- (1)\_\_\_ Yes —————→ **Go to QA**
- (2)\_\_\_ No —————→ **Thank you for your time**
- (3)\_\_\_ Unexpected Outcome —→ **Thank you for your time**  
(*baby died, baby became ill, accident, CAS Apprehension etc..*)

### QA

Do you have time to complete the survey now?

- (1)\_\_\_ Yes —→ **Go to survey**
- (2)\_\_\_ No —→ **Go to call-back section on Contact Information Sheet**

## **Appendix E: Prenotification, Notification and Follow-up Emails for Electronic Survey**

### **Prenotification email**

About 6 months ago you agreed to participate in an infant feeding survey conducted by the Halton Region Health Department. The purpose of this survey is to find out how Halton mothers are feeding their babies and to use this information to better meet the needs of mothers and babies in our community.

Within the next few days the infant feeding survey will be sent to you. We would appreciate you taking a few minutes to complete this confidential survey. By doing so you will help ensure that we have the best information possible. Please note that participation in the survey is voluntary.

If you have any questions, please contact Eileen Chuey by phone at 905-825-6000 or 1-866-442-5866 ext. 2912, or by email at Eileen.Chuey@halton.ca.

Thank you in advance for your assistance.

Sincerely,

Jason Letchford  
Research Assistant  
Halton Region Health Department

### **Notification email**

Here is the brief survey about infant feeding that I notified you about via email a few days ago. The information you provide will help the Halton Region Health Department better meet the needs of mothers and babies in our community. The survey will take 5-10 minutes to complete. Any information you provide will be kept confidential.

To begin the survey, please click on the link below. Please complete the whole survey during one time period. If you need to stop at any point, please leave the survey open on your computer. If you exit from the survey you will need to start again at the first question the next time you click on the link.

If you have problems connecting to the survey or have any other questions, please feel free to call me at 905-825-6000 or 1-866-442-5866 ext. 2912 or email me at Eileen.Chuey@halton.ca.

Thank you for taking the time to complete the infant feeding survey.

Sincerely,

Eileen Chuey  
Public Health Nurse  
Halton Region Health Department

**Follow-Up email**

About a week ago we sent you a survey about infant feeding practices. As of today, we have not received a completed survey from you. I realize that this is a very busy time for you as a mother of a young baby. We would like to provide the best services possible to mothers like you and this survey will help us. Your responses will be kept confidential and the survey will take about 5-10 minutes to complete.

To complete the survey, please click on the link below. Please complete the whole survey during one time period. If you need to stop at any point, please leave the survey open on your computer. If you exit from the survey you will need to start again at the first question the next time you click on the link.

Thank you for taking the time to complete the infant feeding survey. If you have problems connecting to the survey or have any other questions, please feel free to call me at 905-825-6000 or 1-866-442-5866 ext. 2912 or email me at Eileen.Chuey@halton.ca.

Sincerely,

Eileen Chuey  
Public Health Nurse  
Halton Region Health Department

**Second Follow-Up email**

As of today, we have not received a completed infant feeding survey from you. We'd appreciate if you would take a few minutes to complete the survey. Your responses will be kept confidential and the survey will take about 5-10 minutes to complete.

To complete the survey, please click on the link below. Please complete the whole survey during one time period. If you need to stop at any point, please leave the survey open on your computer. If you exit from the survey you will need to start again at the first question the next time you click on the link.

Thank you for taking the time to complete the infant feeding survey. If you have problems connecting to the survey or have any other questions, please feel free to call me at 905-825-6000 or 1-866-442-5866 ext. 2912 or email me at Eileen.Chuey@halton.ca.

Sincerely,

Eileen Chuey  
Public Health Nurse  
Halton Region Health Department

## Appendix F: Pilot Test Letter for Electronic Survey

Dear (*First name – use mail merge*)

Thank you so much for agreeing to provide feedback on the Halton Region Health Departments Infant Feeding Survey. The information you provide will help us to improve the survey and make it easier for mothers like yourself to complete. To thank you for taking the time to complete the feedback form, I have enclosed a bib donated by the Halton Baby Friendly™ Initiative (HBFI).

The Infant Feeding Survey will be sent to you by email on Tuesday October 9. Please take a few minutes to review the feedback form before you complete the survey. We look forward to receiving your completed feedback form in the enclosed self-addressed stamped envelope.

If you have any questions, please feel free to contact me by phone at 1-888-442-5866 at ext. 2912 or by email at [Eileen.chuey@halton.ca](mailto:Eileen.chuey@halton.ca).

Sincerely

Eileen Chuey  
Public Health Nurse  
Halton Region Health Department.

**Appendix G: Six-Month Telephone Survey**

**ID NUMBER:**

**2007/2008 HALTON REGION HEALTH DEPARTMENT  
INFANT FEEDING SURVEY**

**6 MONTH FOLLOW-UP PHONE SURVEY**

**VERSION 2 - NOVEMBER 19, 2007**



Thank you for agreeing to participate in the infant feeding survey. The purpose of the survey is to find out information about how Halton residents are feeding their babies. The results of the survey will be used by Health Department staff to plan programs and to develop services related to infant feeding practices. Any information you provide will be kept confidential unless there is a safety issue for you or your child.

## **Breastfeeding After Birth**

### **Q1**

The first few questions will be about breastfeeding...

Breastfeeding includes baby being fed at the breast, or feeding breast milk by cup, tube, or bottle. Did you breastfeed your baby while you were in the hospital?

- (1)  yes **Go to Q2**
- (2)  no **Go to Q11**
- (3)  did not give birth at hospital **Go to Q4**
- (98)  don't know **Go to Q7**

### **Q2**

Sometimes babies are given liquids like water, sugar water or formula while they are in the hospital. Was your baby given any liquids other than breast milk while you were in the hospital?

- (1)  yes **Go to Q3**
- (2)  no **Go to Q7**
- (98)  don't know **Go to Q7**

### **Q3**

Which of the following liquids were given to your baby?

*Interviewer: Read response options. Prompt with "would you say yes or no" if needed*

	<b>Was your baby given...</b>	<b>Yes</b>	<b>No</b>
(1)	water	<input type="checkbox"/>	<input type="checkbox"/>
(2)	sugar water	<input type="checkbox"/>	<input type="checkbox"/>
(3)	formula	<input type="checkbox"/>	<input type="checkbox"/>
(98)	don't know ( <i>do not read</i> )	<input type="checkbox"/>	<input type="checkbox"/>
(90)	Were any other liquids given to your baby?	<input type="checkbox"/>	<input type="checkbox"/>
	<i>(If yes)</i> What other liquids were given to your baby? _____ _____		

**GO TO QUESTION 7 AT THE BOTTOM OF PAGE 2**

**Q4**

Did you breastfeed your baby during the first week after birth?

- (1)  yes **Go to Q5**  
 (2)  no **Go to Q11**  
 (98)  don't know **Go to Q7**

**Q5**

Sometimes babies are given liquids like water, sugar water or formula during the first week after birth. Was your baby given any liquids other than breast milk during his/her first week after birth?

- (1)  yes **Go to Q6**  
 (2)  no **Go to Q7**  
 (98)  don't know **Go to Q7**

**Q6**

Which of the following liquids were given to your baby?

*Interviewer: Read response option. Prompt with "would you say yes or no" if needed*

	<b>Was your baby given...</b>	<b>Yes</b>	<b>No</b>
(1)	water	<input type="checkbox"/>	<input type="checkbox"/>
(2)	sugar water	<input type="checkbox"/>	<input type="checkbox"/>
(3)	formula	<input type="checkbox"/>	<input type="checkbox"/>
(98)	don't know ( <i>do not read</i> )	<input type="checkbox"/>	<input type="checkbox"/>
(90)	Were any other liquids given to your baby?	<input type="checkbox"/>	<input type="checkbox"/>
	<i>(If yes)</i> What other liquids were given to your baby? <hr/> <hr/>		

**Q7**

Are you currently breastfeeding your baby?

- (1)  yes **Go to Q8**  
 (2)  no **Go To Q9**

**Q8**

Many mothers breastfeed their babies for 6 months or longer. I'm going to read you a list of reasons mothers give for breastfeeding for this length of time. Please tell me if you continued breastfeeding for any of these reasons by saying yes or no.

*Interviewer: Read response options. Prompt with "would you say yes or no" if needed*

	<b>Did you continue breastfeeding because...</b>	<b>Yes</b>	<b>No</b>
(1)	your family and friends encouraged you to keep breastfeeding <i>(Interviewer: spouse or partner is included as family)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(2)	You thought it was the best thing for your baby's health	<input type="checkbox"/>	<input type="checkbox"/>
(3)	You thought it was the best thing for your own health	<input type="checkbox"/>	<input type="checkbox"/>
(4)	Your doctor or another health care professional encouraged you to keep breastfeeding	<input type="checkbox"/>	<input type="checkbox"/>
(5)	It gave you a chance to bond with your baby	<input type="checkbox"/>	<input type="checkbox"/>
(99)	don't know <i>(do not read)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(6)	Did you continue breastfeeding for any other reasons?	<input type="checkbox"/>	<input type="checkbox"/>
	<i>(If yes) Can you please tell me the reasons:</i> _____ _____ _____		

**GO TO QUESTION 13 ON PAGE 6**

**Q9**

How old was your baby when you stopped feeding breast milk? Were they...

*Interviewer: Read response options if needed*

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know *(do not read)*

**Q10**

Mothers stop breastfeeding for a number of different reasons. Please tell me if you stopped breastfeeding for any of these reasons by saying yes or no.

*Interviewer: Prompt with “would you say yes or no” if needed*

	<b>Did you stop breastfeeding because...</b>	<b>Yes</b>	<b>No</b>
(1)	You did not have enough breast milk <i>(Interviewer: this includes dried up/stopped producing milk)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(2)	You did not have enough time or energy to breastfeed	<input type="checkbox"/>	<input type="checkbox"/>
(3)	You experienced discomfort while breastfeeding such as sore or cracked nipples, flat or inverted nipples or engorged breasts	<input type="checkbox"/>	<input type="checkbox"/>
(4)	You were ill or on medication for illness <i>(Interviewer: this includes mastitis)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(5)	Your baby was ill	<input type="checkbox"/>	<input type="checkbox"/>
(6)	You did not enjoy breastfeeding	<input type="checkbox"/>	<input type="checkbox"/>
(7)	Your baby did not want to breastfeed anymore or weaned themselves	<input type="checkbox"/>	<input type="checkbox"/>
(8)	You planned to stop breastfeeding at this time or felt like you had breastfed long enough	<input type="checkbox"/>	<input type="checkbox"/>
(9)	You returned to work or school	<input type="checkbox"/>	<input type="checkbox"/>
(10)	Your baby was teething or biting you	<input type="checkbox"/>	<input type="checkbox"/>
(11)	Your doctor or another health professional advised you to stop breastfeeding	<input type="checkbox"/>	<input type="checkbox"/>
(99)	don't know <i>(do not read)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(12)	Were there any other reasons you stopped breastfeeding	<input type="checkbox"/>	<input type="checkbox"/>
	<i>(If yes) Can you please tell me the reasons:</i>		
	_____		
	_____		
	_____		

**GO TO QUESTION 13 ON PAGE 6**

**Q11**

Mothers choose not to breastfeed for a number of different reasons. I'm going to read you a list of reasons mothers give for deciding not to breastfeed. Please tell me if you chose not to breastfeed for any of these reasons by saying yes or no.

*Interviewer: Prompt with "would you say yes or no" if needed*

	<b>Did you choose not to breastfeed because...</b>	<b>Yes</b>	<b>No</b>
(1)	You had problems breastfeeding in the past	<input type="checkbox"/>	<input type="checkbox"/>
(2)	You did not breastfeed your first child	<input type="checkbox"/>	<input type="checkbox"/>
(3)	You did not have enough time or energy to breastfeed	<input type="checkbox"/>	<input type="checkbox"/>
(4)	You did not enjoy breastfeeding	<input type="checkbox"/>	<input type="checkbox"/>
(5)	Family members were not able to feed the baby	<input type="checkbox"/>	<input type="checkbox"/>
(6)	You were ill or on medication for illness ( <i>Interviewer: includes mastitis</i> )	<input type="checkbox"/>	<input type="checkbox"/>
(7)	Your baby was ill	<input type="checkbox"/>	<input type="checkbox"/>
(8)	You did not have enough breast milk ( <i>Interviewer: this includes dried up/stopped producing milk</i> )	<input type="checkbox"/>	<input type="checkbox"/>
(9)	You returned to work or school	<input type="checkbox"/>	<input type="checkbox"/>
(10)	Your doctor or another health professional advised you not to breastfeed	<input type="checkbox"/>	<input type="checkbox"/>
(99)	don't know ( <i>do not read</i> )	<input type="checkbox"/>	<input type="checkbox"/>
(11)	Were there any other reasons you chose not to breastfeed? <i>(If yes) Can you please tell me the reasons:</i> _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>

**Q12**

At what age was your baby first given solids such as pablum, cereal, fruits, vegetables or meat products? Were they...

*Interviewer: Read response options if needed*

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know (*do not read*)

**GO TO QUESTION 24 ON PAGE 12**

## Other Feeding

### Q13

The next few questions are about other infant feeding practices including: formula, other liquids and solids. These questions are about feeding practices **since you have come home from the hospital (or since the first week of birth if you did not give birth in a hospital).**

While breastfeeding, was your baby given any infant formula?

- (1)  yes **Go to Q14**
- (2)  no **Go to Q15**
- (98)  don't know **Go to Q15**

### Q14

At what age was your baby first given infant formula? Were they...

*Interviewer: Read response options if needed*

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know

### Q15

While breastfeeding, was your baby given milk or any other liquids such as water, sugar water, juice or herbal tea?

- (1)  yes **Go to Q16**
- (2)  no **Go to Q17**
- (98)  don't Know **Go to Q17**

**Q16**

At what age was your baby first given milk or other liquids? Were they...

*Interviewer: Read response options if needed*

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know

**Q17**

While breastfeeding, was your baby given any solids such as pablum/cereal, fruits/vegetables or meat products?

- (1)  yes **Go to Q18**
- (2)  no **Go to support section**
- (98)  don't know **Go to support section**

**Q18**

At what age was your baby first given solids? Were they...

*Interviewer: Read response options if needed*

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know

## Support

### Q19

The next few questions are about people or other resources that may have provided you with breastfeeding support. Support refers to everything from information and encouragement to hands-on assistance like helping the baby to latch on.

Please tell me how helpful each of the following resources was at providing you with breastfeeding support. If breastfeeding support was not provided to you by any resource, tell me that support was not provided.

*Interviewer: Read response options more than once if needed. These questions apply to the baby who is currently 6 months old and not other children. If respondent indicates that they did not go somewhere for support, code as "support not provided".*

	very helpful	somewhat helpful	not very helpful	support not provided
a) First, were the nurses at the hospital very helpful, somewhat helpful, or not very helpful at providing you with breastfeeding support, OR did the nurses at the hospital not provide you with any breastfeeding support?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) And the breastfeeding clinic or a lactation consultant from the breastfeeding clinic? Were they very helpful, somewhat helpful, not very helpful OR did they not provide you with any breastfeeding support?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) What about the La Leche League?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) And a Private Lactation Consultant?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) How about your healthcare provider, that is your family doctor, obstetrician, or midwife?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) And your prenatal classes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) What about your friends and family members, including your spouse or partner?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) And the Breastfeeding Your Baby Booklet, which is a calendar like booklet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

i) Did you receive breastfeeding support from any other resources? (1) <input type="checkbox"/> yes <b>Go to Q19j</b> (2) <input type="checkbox"/> no <b>Go to Q20a</b>				
j) From what resources did you receive support?	<b>very helpful</b>	<b>somewhat helpful</b>	<b>not very helpful</b>	<b>did not receive support</b>
Other (specify) _____ And was this resource very helpful, somewhat helpful, or not very helpful?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____ And was this resource very helpful, somewhat helpful, or not very helpful?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____ And was this resource very helpful, somewhat helpful, or not very helpful?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## **HEALTH DEPARTMENT SUPPORTS**

### **Q20a**

The Halton Region Health Department offers support to breastfeeding mothers in a number of different ways. The next few questions are about some of the programs and services offered by the health department.

The Halton Breastfeeding Connection is a program that provides mother-to-mother telephone support for expectant and breastfeeding mothers. Have you read or heard anything about the Halton Breastfeeding Connection program?

*Interviewer: These questions apply to the baby who is currently 6 months old and not other children.*

- (1)  yes **Go to Q20b**  
 (2)  no **Go to Q21a**  
 (98)  don't know **Go to Q21a**

### **Q20b**

Did you receive any breastfeeding support from the Halton Breastfeeding Connection?

- (1)  yes **Go to Q20c**  
 (2)  no **Go to Q21a**  
 (98)  don't know **Go to Q21a**

**Q20c**

Would you say the breastfeeding support you received from the Halton Breastfeeding Connection was:

*Interviewer: read response options*

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful
- (98)  don't know (*do not read*)

**Q21a**

The health department offers a home-visiting program, where a public health nurse visits you and your baby at home. Have you read or heard anything about the home visiting program?

- (1)  yes **Go to Q21b**
- (2)  no **Go to Q22a**
- (98)  don't know **Go to Q22a**

**Q21b**

Did a public health nurse visit you and your baby at home?

- (1)  yes **Go to Q21c**
- (2)  no **Go to Q22a**
- (98)  don't Know **Go to Q22a**

**Q21c**

Did they provide you with any breastfeeding support during the home visit?

- (1)  yes **Go to Q21d**
- (2)  no **Go to Q22a**
- (98)  don't know **Go to Q22a**

**Q21d**

Would you say the breastfeeding support you received from the public health nurse was:

*Interviewer: read response options*

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful
- (98)  don't know (*do not read*)

**Q22a**

The Health Department also runs a telephone information and support line. Have you read or heard anything about the telephone information and support line?

- (1)  yes **Go to Q22b**
- (2)  no **Go to Q23a**
- (98)  don't know **Go to Q23a**

**Q22b**

Have you ever used the telephone information and support line?

- (1)  yes **Go to Q22c**
- (2)  no **Go to Q23a**
- (98)  don't know **Go to Q23a**

**Q22c**

Did you receive any breastfeeding support through this telephone line?

- (1) \_\_\_ yes **Go to Q22d**
- (2) \_\_\_ no **Go to Q23a**
- (98) \_\_\_ don't know **Go to Q23a**

**Q22d**

Would you say the breastfeeding support you received from the telephone line was:

*Interviewer: read response options*

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful
- (98)  don't know (*do not read*)

**Q23a**

Calling New Parents is a weekly drop-in support group for parents with infants under six months of age. Have you read or heard anything about the Halton Region Health Department's Calling New Parents Program?

- (1)  yes **Go to Q23b**
- (2)  no **Go to Q24**
- (98)  don't know **Go to Q24**

**Q23b**

Have you ever attended the Calling New Parents Program?

- (1)  yes **Go to Q23c**
- (2)  no **Go to Q24**
- (98)  don't know **Go to Q24**

**Q23c**

Did you receive any breastfeeding support from the Calling New Parents Program?

- (1)  yes **Go to Q23d**
- (2)  no **Go to Q24**
- (98)  don't know **Go to Q24**

**Q23d**

Would you say the breastfeeding support you received from the Calling New Parents program was:

*Interviewer: read response options*

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful
- (98)  don't know (*do not read*)

**Work Section****Q24**

Now I'm going to ask you about your place of work.

Are you presently working for pay, including full time or part time work?

- (1)  yes **Go to Q25**
- (2)  no **Go to Q29**
- (98)  don't know **Go to Q29**

**Q25**

How old was your baby when you returned to work?

*Interviewer: Read response options if needed*

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know (do not read)

**Q26**

Are you working from home or outside of your home?

- (1)  at home **Go to Q29**
- (2)  outside home **Go to Q27**

**Q27a**

Does your employer allow you to breastfeed or pump and store breast milk at work?

- (1)  yes **Go to Q28**
- (2)  no **Go to Q29**
- (98)  don't know **Go to Q29**

**Q28**

Have you breastfed or pumped breast milk at work?

- (1)  yes
- (2)  no
- (98)  don't know

**Demographics****Q29**

The final questions are for classification purposes only.

Was your baby born vaginally or by caesarean section?

- (1)  Vaginal
- (2)  Caesarean section

**Q30**

Do you have any other children?

- (1)  Yes **Go to Q31**
- (2)  No **Go to Q32**

**Q31**

Did you breastfeed your other children?

- (1)  Yes
- (2)  No

**Q32**

Were you born in Canada?

- (1)  Yes **Go to Q34**
- (2)  No **Go to Q33**

**Q33**

How long have you been living in Canada?

- (1)  less than 2 years
- (2)  3-5 years
- (3)  6-9 years
- (4)  10 years or more

**Q34**

In which of the following Halton municipalities do you live?

- (1)  Oakville
- (2)  Burlington
- (3)  Halton Hills
- (4)  Milton
- (5)  do not live in Halton (*do not read*)

**Q35**

What is the highest grade or level of education you have obtained?

- (1)  No schooling
- (2)  Some elementary
- (3)  Completed elementary
- (4)  Some high school
- (5)  Completed high school
- (6)  Some community/technical college
- (7)  Completed community/technical college
- (8)  Some university courses
- (9)  Completed university
- (10)  Other (specify) \_\_\_\_\_
- (98)  Not Sure/Don't Know
- (99)  Refused (*Interviewer: Do not read*)

**Q36**

We don't need the exact amount, but could you tell me which of the following broad categories describes your 2006 family income from all sources before taxes, ...

Interviewer: read response options

- (1)  less than \$30,000 (\$29,999)
- (2)  \$30,000 – \$50,000 (\$49,999)
- (3)  \$50,000 - \$70,000 (\$69,999)
- (4)  \$70,000 – 90,000 (\$89,999)
- (5)  more than \$90,000
- (98)  Don't Know
- (99)  Refused (*Interviewer: Do not read*)

**If mother is still breastfeeding (Q7=1) ask the following ...**

We would like to contact you again when your baby is 12 months old to participate in another survey about infant feeding. This survey will only take 5 minutes to complete. Participation in the survey is voluntary.

Are you willing to be contacted again in six months to participate?

(1)  yes

(2)  no

**If yes, Would you prefer to be contacted by:**

(1)  email (*record email address*) \_\_\_\_\_

(2)  telephone

**Thank you for taking the time to participate in the infant feeding survey.**

## Appendix H: Six-Month Electronic Survey

### Instructions:

- \* Please read each question carefully and enter your response.
- \* After you have entered your response, click on the Next button to go the next question.
- \* If you need to change your answer, click on the Back button to return to the previous question.
- \* Questions marked with an \* require a response in order to continue with the survey.
- \* If you are unable to answer a question select don't know
- \* Your responses will be kept confidential.

If you have any questions about this survey, please contact Eileen Chuey at 905-825-6000 ext. 2912.

The survey should take about 15 minutes, and should be completed in one session. Do not close the survey before it has been completed. Please start the survey by clicking on the next button.

### **Breastfeeding After Birth**

The first few questions are about breastfeeding...

**Q1** Breastfeeding includes baby being fed at the breast, or feeding breast milk by cup, tube, or bottle. Did you breastfeed your baby while you were in the hospital?

- (1)  yes GO TO Q2
- (2)  no GO TO Q11
- (3)  did not give birth at hospital GO TO Q4
- (98)  don't know GO TO Q7

**Q2** Sometimes babies are given liquids like water, sugar water or formula while they are in the hospital. Was your baby given any liquids other than breast milk while you were in the hospital?

- (1)  yes GO TO Q3
- (2)  no GO TO Q7
- (98)  don't know GO TO Q7

**Q3** Can you please tell me what liquids were given to your baby?

- (1)  water
- (2)  sugar water
- (3)  formula
- (90)  other (specify) \_\_\_\_\_
- (98)  don't know

**Go to Question 7**

**Q4** Did you breastfeed your baby during the first week after birth?

- (1)  yes GO TO Q5
- (2)  no GO TO Q11
- (98)  don't know GO TO Q7

**Q5** Sometimes babies are given liquids like water, sugar water or formula during the first week after birth. Was your baby given any liquids other than breast milk during his/her first week after birth?

- (1)  yes GO TO Q6
- (2)  no GO TO Q7
- (98)  don't know GO TO Q7

**Q6** Can you please tell me what liquids were given to your baby?

- (1)  water
- (2)  sugar water
- (3)  formula
- (90)  other (specify) \_\_\_\_\_
- (98)  don't know

**Q7** Are you currently breastfeeding your baby?

- (1)  yes GO TO Q8
- (2)  no GO TO Q9

**Q8** Many mothers breastfeed their babies for 6 months or longer. Why have you breastfed your baby for this length of time? **Please check all that apply.**

- (1)  my family and friends (including spouse) encouraged me to keep breastfeeding
- (2)  I thought it was the best thing for my baby's health
- (3)  I thought it was the best thing for my own health
- (4)  my doctor or another health care professional encouraged me to keep breastfeeding
- (5)  it gave me a chance to bond with my baby
- (6)  other (specify) \_\_\_\_\_
- (99)  don't know

**Go to Other Feeding**

**Q9** How old was your baby when you stopped feeding breast milk?

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know

**Q10** Mothers stop breastfeeding for a number of different reasons. Why did you decide to stop breastfeeding? **Please check all that apply.**

- (1)  I did not have enough breast milk (including dried up/stopped producing milk)
- (2)  I did not have enough time or energy to breastfeed
- (3)  I experienced discomfort while breastfeeding (including sore or cracked nipples, flat/inverted nipples and engorged breasts)
- (4)  I was ill or on medication for illness (e.g., mastitis)
- (5)  my baby was ill
- (6)  I did not enjoy breastfeeding
- (7)  my baby did not want to breastfeed anymore (child weaned him/herself)
- (8)  I planned to stop at this time/done it long enough
- (9)  I returned to work or school
- (10)  my baby was teething or biting me
- (11)  my doctor or another health professional advised me to stop breastfeeding
- (12)  other (specify) \_\_\_\_\_
- (99)  don't know

**Go to Other Feeding**

**Q11** Mothers choose not to breastfeed for a number of different reasons. Why did you decide not to breastfeed?

- (1)  I had problems breastfeeding in the past
- (2)  I did not breastfeed my first child
- (3)  I did not have enough time or energy to breastfeed
- (4)  I did not enjoy breastfeeding
- (5)  family members were not able to feed the baby
- (6)  I was ill or on medication for illness
- (7)  my baby was ill
- (8)  I did not have enough breast milk (including dried up/stopped producing milk)
- (9)  I returned to work or school
- (10)  my doctor or another health professional advised me not to breastfeed
- (11)  other (specify) \_\_\_\_\_
- (99)  don't know

**Q12**

At what age was your baby first given solids such as pablum/cereal, fruits/vegetables or meat products?

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know

**Go to Work Section**

## Other Feeding

The next few questions are about other infant feeding practices including: formula, other liquids and solids. These questions are about feeding practices **since you have come home from the hospital, or since the first week of birth if you did not give birth in a hospital.**

### Q13

While you were breastfeeding, was your baby given any infant formula?

- (1)  yes GO TO Q14
- (2)  no GO TO Q15
- (98)  don't know GO TO Q15

### Q14

At what age was your baby first given infant formula?

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know

### Q15

While you were breastfeeding, was your baby given milk or any other liquids such as water, sugar water, juice or herbal tea?

- (1)  yes GO TO Q16
- (2)  no GO TO Q17
- (98)  don't know GO TO Q17

### Q16

At what age was your baby first given milk or other liquids?

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know

**Q17**

While you were breastfeeding, was your baby given any solids such as pablum/cereal, fruits/vegetables or meat products?

- (1)  yes **GO TO Q18**  
 (2)  no **GO TO SUPPORT SECTION**  
 (98)  don't know **GO TO SUPPORT SECTION**

**Q18**

At what age was your baby first given solids?

- (1)  less than 1 week  
 (2)  1 week to less than 4 weeks  
 (3)  1 month to less than 2 months  
 (4)  2 months to less than 3 months  
 (5)  3 months to less than 4 months  
 (6)  4 months to less than 5 months  
 (7)  5 months to less than 6 months  
 (8)  6 months or older  
 (99)  don't know

**Support****Q19**

The next few questions are about people or other resources that may have provided you with breastfeeding support. Support refers to everything from information and encouragement to hands-on assistance like helping the baby to latch on.

Please indicate how helpful each of the following was at providing you with **breastfeeding support** by checking the appropriate response. If breastfeeding support was not provided, please select "did not provide support".

How helpful was...	very helpful	somewhat helpful	not very helpful	did not provide support
a) your prenatal classes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) the nurses at the hospital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) the breastfeeding clinic or a lactation consultant from the breastfeeding clinic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) the La Leche League	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) your Private Lactation Consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) your healthcare provider (including: family doctor, obstetrician, or midwife)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) your friends and family members (including your spouse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) the <i>Breastfeeding Your Baby</i> Booklet (a green and white calendar like booklet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Q19 i)** Did you receive breastfeeding support from any other resources?

- (1)  yes
- (2)  no

**If yes,** Who provided you with support? \_\_\_\_\_

**If yes,** How helpful were they?

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful

**Q19 j)** Did you receive breastfeeding support from any other resources (in addition to your previous answer)?

- (1)  yes
- (2)  no

**If yes,** Who provided you with support? \_\_\_\_\_

**If yes,** How helpful were they?

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful

The Halton Region Health Department offers support to breastfeeding mothers in a number of different ways. The next few questions are about some of the programs and services offered by the health department.

### **Q20A**

The Halton Breastfeeding Connection is a program that provides mother-to-mother telephone support for expectant and breastfeeding mothers. Have you read or heard anything about the Halton Breastfeeding Connection program?

- (1)  yes **GO TO Q20B**
- (2)  no **GO TO Q21A**
- (98)  don't know **GO TO Q21A**

### **Q20B**

Did you receive any breastfeeding support from the Halton Breastfeeding Connection?

- (1)  yes **GO TO Q20C**
- (2)  no **GO TO Q21A**
- (98)  don't know **GO TO Q21A**

**Q20C**

Would you say the breastfeeding support you received from the Halton Breastfeeding Connection was:

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful
- (98)  don't know

**Q21A**

The health department offers a home-visiting program, where a public health nurse visits you and your baby at home. Have you read or heard anything about the home visiting program?

- (1)  yes GO TO Q21B
- (2)  no GO TO Q22A
- (98)  don't know GO TO Q22A

**Q21B**

Did a public health nurse visit you and your baby at home?

- (1)  yes GO TO Q21C
- (2)  no GO TO Q22A
- (98)  don't know GO TO Q22A

**Q21C**

Did they provide you with any breastfeeding support during the home visit?

- (1)  yes GO TO Q21D
- (2)  no GO TO Q22A
- (98)  don't know GO TO Q22A

**Q21D**

Would you say the breastfeeding support you received from the public health nurse was:

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful
- (98)  don't know

**Q22A**

The Health Department also runs a telephone information and support line. Have you read or heard anything about the telephone information and support line?

- (1)  yes GO TO Q22B
- (2)  no GO TO Q23A
- (98)  don't know GO TO Q23A

**Q22B**

Have you ever used the telephone information and support line?

- (1)  yes GO TO Q22C
- (2)  no GO TO Q23A
- (98)  don't know GO TO Q23A

**Q22C**

Did you receive any breastfeeding support through this telephone line?

- (1)  yes GO TO Q22D
- (2)  no GO TO Q23A
- (98)  don't know GO TO Q23A

**Q22D**

Would you say the breastfeeding support you received from the telephone line was:

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful
- (98)  don't know

**Q23A**

Calling New Parents is a weekly drop-in support group for parents with infants under six months of age. Have you read or heard anything about the Halton Region Health Department's Calling New Parents Program?

- (1)  yes GO TO Q23B
- (2)  no GO TO Q24
- (98)  don't know GO TO Q24

**Q23B**

Have you ever attended the Calling New Parents Program?

- (1)  yes GO TO Q23C
- (2)  no GO TO Q24
- (98)  don't know GO TO Q24

**Q23C**

Did you receive any breastfeeding support from the Calling New Parents Program?

- (1)  yes GO TO Q23D
- (2)  no GO TO Q24
- (98)  don't know GO TO Q24

**Q23D**

Would you say the breastfeeding support you received from the Calling New Parents program was very helpful, somewhat helpful, not very helpful or not at all helpful?

- (1)  very helpful
- (2)  somewhat helpful
- (3)  not very helpful
- (98)  don't know

**Work Section****Q24**

Are you presently working for pay (including full time or part time work)

- (1)  yes **GO TO Q25**
- (2)  no **GO TO Q29**
- (98)  don't know **GO TO Q29**

**Q25**

How old was your baby when you returned to work?

- (1)  less than 1 week
- (2)  1 week to less than 4 weeks
- (3)  1 month to less than 2 months
- (4)  2 months to less than 3 months
- (5)  3 months to less than 4 months
- (6)  4 months to less than 5 months
- (7)  5 months to less than 6 months
- (8)  6 months or older
- (99)  don't know

**Q26**

Are you working from home or outside of your home?

- (1)  at home **Go to Q29**
- (2)  outside home **Go to Q27**
- (98)  don't know

**Q27a**

Does your employer allow you to breastfeed or pump and store breast milk at work?

- (1)  yes **GO TO Q28**
- (2)  no **GO TO Q29**
- (98)  don't know **GO TO Q29**

**Q28**

Have you breastfed or pumped breast milk at work?

- (1)  yes
- (2)  no
- (98)  don't know

**Demographics****Q29**

Was your baby born vaginally or by caesarean section?

- (1)  vaginal
- (2)  caesarean section
- (98)  don't know

**Q30**

Do you have any other children?

- (1)  yes **GO TO Q31**
- (2)  no **GO TO Q32**
- (98)  don't know

**Q31**

Did you breastfeed your other children?

- (1)  yes
- (2)  no
- (98)  don't know

**Q32**

Were you born in Canada?

- (1)  yes **GO TO Q34**
- (2)  no **GO TO Q33**
- (98)  don't know

**Q33**

How long have you been living in Canada?

- (1)  less than 2 years
- (2)  3-5 years
- (3)  6-9 years
- (4)  10 years or more
- (98)  don't know

**Q34**

In which of the following Halton municipalities do you live?

- (1)  Oakville
- (2)  Burlington
- (3)  Halton Hills
- (4)  Milton
- (5)  do not live in Halton
- (98)  don't know

**Q35**

What is the highest grade or level of education you have obtained?

- (1)  no schooling
- (2)  some elementary
- (3)  completed elementary
- (4)  some high school
- (5)  completed high school
- (6)  some community/technical college
- (7)  completed community/technical college
- (8)  some university courses
- (9)  completed university
- (10)  other (specify) \_\_\_\_\_
- (98)  not sure/don't know
- (99)  refused

**Q36**

Which of the following broad categories describes your 2006 family income from all sources before taxes, ...

- (1)  less than \$30,000 (\$29,999)
- (2)  \$30,000 – \$50,000 (\$49,999)
- (3)  \$50,000 - \$70,000 (\$69,999)
- (4)  \$70,000 – 90,000 (\$89,999)
- (5)  more than \$90,000
- (98)  don't know

**Thank you for participating in this survey**

**If mother is still breastfeeding (Q7=1) ask the following ...**

We would like to contact you again when your baby is 12 months old to participate in another survey about infant feeding. This survey will only take 5 minutes to complete. Participation in the survey is voluntary and will not affect the services you receive from the Health Department.

Are you willing to be contacted again in six months to participate?

- (1)  yes
- (2)  no
- (98)  don't know

**If yes,** Would you prefer to be contacted by:

- (1)  email
- (2)  telephone
- (98)  don't know

**If Phone,** Please enter your phone number: \_\_\_\_\_

**Appendix I: Twelve-Month Telephone Survey**

**ID NUMBER:**

**2007/2008 HALTON REGION HEALTH DEPARTMENT  
INFANT FEEDING SURVEY**

**12 MONTH FOLLOW-UP PHONE SURVEY**



Thank you for agreeing to participate in the 12 month infant feeding survey. The purpose of the survey is to find out information about how Halton residents are feeding their babies. The results of the survey will be used by Health Department staff to plan programs and to develop services related to infant feeding practices. Any information you provide will be kept confidential unless there is a safety issue for you or your child.

## **Breastfeeding After 6 months**

### **Q1**

The first few questions will be about breastfeeding. Breastfeeding includes baby being fed at the breast, or feeding breast milk by cup, tube, or bottle. Are you currently breastfeeding your baby?

yes **Go to Q2**

no **Go to Q4 on Page 2**

### **Q2**

Some mothers breastfeed their babies for 12 months or longer. I'm going to read you a list of reasons mothers give for breastfeeding for this length of time. Please tell me if you continued breastfeeding for any of these reasons by saying yes or no.

*Interviewer: Read response options. Prompt with "would you say yes or no" if needed*

	<b>Did you continue breastfeeding because...</b>	<b>Yes</b>	<b>No</b>
(a)	Your family and friends encouraged you to keep breastfeeding <i>(Interviewer: spouse or partner is included as family)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	You thought it was the best thing for your baby's health	<input type="checkbox"/>	<input type="checkbox"/>
(c)	You thought it was the best thing for your own health	<input type="checkbox"/>	<input type="checkbox"/>
(d)	Your doctor or another health care professional encouraged you to keep breastfeeding	<input type="checkbox"/>	<input type="checkbox"/>
(e)	It gave you a chance to bond with your baby	<input type="checkbox"/>	<input type="checkbox"/>
(f)	It was convenient or easy for you to do	<input type="checkbox"/>	<input type="checkbox"/>
(g)	You did not have to return to work	<input type="checkbox"/>	<input type="checkbox"/>
(h)	Your baby did not want to stop breastfeeding (wean themselves)	<input type="checkbox"/>	<input type="checkbox"/>
(i)	Don't know <i>(do not read)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(j)	Did you continue breastfeeding for any other reasons?	<input type="checkbox"/>	<input type="checkbox"/>

	<p><i>(If yes)</i> Can you please tell me the reasons:</p> <hr/> <hr/> <hr/>
--	--

### Q3

How long do you think you will continue breastfeeding?

*Interviewer: Read response options if needed*

- less than one month
- 1 month to less than 2 months
- 2 months to less than 3 months
- 3 months to less than 4 months
- 4 months to less than 5 months
- 5 months to less than 6 months
- 6 months or more
- until baby weans themselves
- don't know /not sure

**GO TO QUESTION 6 ON PAGE 3**

### Q4

How old was your baby when you stopped feeding breast milk? *Were they...*

*Interviewer: Read response options if needed*

- less than 6 months
- 6 months to less than 7 months
- 7 months to less than 8 months
- 8 months to less than 9 months
- 9 months to less than 10 months
- 10 months to less than 11 months
- 11 months to less than 12 months
- 12 months or more
- don't know (*do not read*)

**Q5**

Mothers stop breastfeeding for a number of different reasons. Please tell me if you stopped breastfeeding for any of these reasons by saying yes or no.

*Interviewer: Prompt with “would you say yes or no” if needed*

	<b>Did you stop breastfeeding because...</b>	<b>Yes</b>	<b>No</b>
(a)	You did not have enough breast milk <i>(Interviewer: this includes dried up/stopped producing milk)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	You did not have enough time or energy to breastfeed	<input type="checkbox"/>	<input type="checkbox"/>
(c)	You were ill or on medication for illness <i>(Interviewer: this includes mastitis)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	Your baby was ill	<input type="checkbox"/>	<input type="checkbox"/>
(e)	You did not enjoy breastfeeding	<input type="checkbox"/>	<input type="checkbox"/>
(f)	Your baby did not want to breastfeed anymore or weaned themselves	<input type="checkbox"/>	<input type="checkbox"/>
(g)	You planned to stop breastfeeding at this time or felt like you had breastfed long enough	<input type="checkbox"/>	<input type="checkbox"/>
(h)	You had already returned to work or school	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Did you stop breastfeeding because...</b>	<b>Yes</b>	<b>No</b>
(i)	You were planning to return to work or school	<input type="checkbox"/>	<input type="checkbox"/>
(j)	Your baby was teething or biting you	<input type="checkbox"/>	<input type="checkbox"/>
(k)	Your doctor or another health professional advised you to stop breastfeeding	<input type="checkbox"/>	<input type="checkbox"/>
(l)	Don't know <i>(do not read)</i>	<input type="checkbox"/>	<input type="checkbox"/>
(m)	Were there any other reasons you stopped breastfeeding?	<input type="checkbox"/>	<input type="checkbox"/>
	<i>(If yes)</i> Can you please tell me the reasons: _____ _____		

**Other Feeding****Q6**

The next few questions are about other infant feeding practices. Are you currently feeding your baby any infant formula?

- yes **Go to Q7**  
 no **Go to Q8**  
 don't know **Go to Q8**

**Q7**

At what age was your baby first given infant formula?

*Interviewer: Read response options if needed*

- less than 6 months
- 6 months to less than 7 months
- 7 months to less than 8 months
- 8 months to less than 9 months
- 9 months to less than 10 months
- 10 months to less than 11 months
- 11 months to less than 12 months
- 12 months or more
- don't know (*do not read*)

**Q8**

Are you currently feeding your baby cow's milk?

- yes **Go to Q9**
- no **Go to Q10a**
- don't know **Go to Q10a**

**Q9**

At what age was your baby first given cow's milk?

*Interviewer: Read response options if needed*

- less than 6 months
- 6 months to less than 7 months
- 7 months to less than 8 months
- 8 months to less than 9 months
- 9 months to less than 10 months
- 10 months to less than 11 months
- 11 months to less than 12 months
- 12 months or more
- don't know (*do not read*)

## **Support**

### **Q10a**

The next few questions are about breastfeeding support. Support refers to everything from information and encouragement to hands-on assistance. Halton's Public Health Department offers support to breastfeeding mothers through our baby and parent information and support line. Have you heard or read anything about our information and support line?

- yes **Go to Q10b**
- no **Go to Q11**
- don't know **Go to Q11**

### **Q10b**

In the last 6 months, have you used the baby and parent telephone information and support line?

- yes **Go to Q10c**
- no **Go to Q11**
- don't know **Go to Q11**

### **Q10c**

Did you receive any breastfeeding support through this telephone line?

- yes **Go to Q10d**
- no **Go to Q11**
- don't know **Go to Q11**

### **Q10d**

Would you say the breastfeeding support you received from the baby and parent telephone line was:

- very helpful
- somewhat helpful
- not very helpful
- don't know

<b>Q11</b> In the last 6 months, have you received breastfeeding support from any other resources?				
<input type="checkbox"/> yes <b>Go to Q11(a) below</b> <input type="checkbox"/> no <b>Go to Q12</b>				
From what resources did you receive support?	<b>very helpful</b>	<b>somewhat helpful</b>	<b>not very helpful</b>	<b>did not receive support</b>
(a) Other (specify) _____ And was this resource very helpful, somewhat helpful, or not very helpful?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Other (specify) _____ And was this resource very helpful, somewhat helpful, or not very helpful?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Other (specify) _____ And was this resource very helpful, somewhat helpful, or not very helpful?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## **DENTAL Questions**

### **Q12**

Now I'm going to ask you some questions about your baby's dental health. In the past week, how often did you put your baby to bed with a bottle or sippy cup with anything except plain water? Would you say that you did this ...

*Interviewer: Read response options. Includes both naptime and bedtime*

- at least once a day
- once every few days
- at least once
- or ...did you not put your baby to bed with a bottle or sippy cup in the past week
- never** put baby to bed with a bottle or sippy cup (*do not read*)
- don't know (*do not read*)

### **Q13**

Have you checked your baby's teeth for tooth decay within the past month?

- yes
- no
- baby does not have teeth/just got teeth **Go to Q15**
- don't know

**Q14**

In the past week, did you brush your baby's teeth...

*Interviewer: Read response options*

- at least once a day
- once every few days
- at least once
- or ...did you not brush your baby's teeth
- don't know (*do not read*)

**Q15**

Finally, please tell me whether or not you think each of the following can cause tooth decay in your baby's teeth. Do you think that \_\_\_\_\_ can cause tooth decay in your baby's teeth: please answer yes, no, or not sure?

*Interviewer: Repeat "Do you think that \_\_\_\_\_ can cause tooth decay in your baby's teeth: yes, no or are you not sure?" as often as needed.*

		<b>Yes</b>	<b>No</b>	<b>Not Sure</b>
(a)	fruit juice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	breast milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	cows milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	formula	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e)	sweetened drinks such as soft drinks, fruit drinks or ice tea.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f)	A soother dipped in something sweet such as sugar or honey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Work Section****Q16**

Now I'm going to ask you about your place of work. Are you presently working for pay, including full time or part time work?

- yes **Go to Q17**
- no **Go to Q21 on page 7**
- don't know **Go to Q25a on page 8**

**Q17**

How many months old was your baby when you returned to work?

*Interviewer: Read response options if needed*

- less than 6 months
- 6 months to less than 7 months
- 7 months to less than 8 months
- 8 months to less than 9 months
- 9 months to less than 10 months
- 10 months to less than 11 months
- 11 months to less than 12 months
- 12 months or more
- don't know

**Q18**

Are you working from home or outside of your home?

- at home **Go to Q25a on page 8**
- outside of home **Go to Q19**
- both at home and outside of home (*do not read*) **Go to Q19**

**Q19**

Does your employer allow you to breastfeed or pump and store breast milk at work?

- yes **Go to Q20**
- no **Go to Q25a**
- don't know **Go to Q25a**

**Q20**

Have you ever breastfed or pumped breast milk at work?

- yes
- no
- don't know

**GO TO Q25A ON PAGE 8**

**Q21**

Are you planning to work within the next month or so?

- yes **Go to Q22**
- no **Go to Q25a**
- don't know **Go to Q25a**
- did not work for pay prior to having baby/stay at home mom **Go to Q25a**

**Q22**

Will you be working from home or outside of your home?

- at home **Go to Q25a**
- outside of home **Go to Q23**
- both at home and outside of home (*do not read*) **Go to Q23**

**Q23**

Does your employer allow women to breastfeed or pump and store breast milk at work?

- yes **Go to Q24**
- no **Go to Q25a**
- don't know **Go to Q25a**

**Q24**

*Interviewer: Ask this question only if mother is still breastfeeding (Q1=1)*

Do you plan to breastfeed or pump breast milk when you return to work?

- yes
- no

**Q25a**

I have one final question. If this survey had been conducted only by email, how likely would you have been to complete it?

*Interviewer: Read response options*

- very likely
- somewhat likely
- not very likely
- not at all likely

**Q25b**

*(If not very or not at all likely)* Do you currently have access to email at home?

- yes
- no

**Thank you for participating in the infant feeding survey.**

## Appendix J: Twelve-Month Electronic Survey

### Instructions:

- Please read each question carefully and enter your response.
- After you have entered your response, click on the Next button to go the next question.
- If you need to change your answer, click on the Back button to return to the previous question.
- Questions marked with an \* require a response in order to continue with the survey.
- Your responses will be kept confidential.

If you have any questions about this survey, please contact Eileen Chuey at 905-825-6000.

The survey should take about 5-10 minutes, and should be completed in one session. Do not close the survey before it has been completed. Please start the survey by clicking on the next button.

### **Breastfeeding After 6 months**

#### **Q1**

The first few questions will be about breastfeeding. Breastfeeding includes baby being fed at the breast, or feeding breast milk by cup, tube, or bottle. Are you currently breastfeeding your baby?

- yes **Go to Q2**
- no **Go to Q4**

#### **Q2**

Some mothers breastfeed their babies for 12 months or longer. Why have you continued breastfeeding your baby for this length of time. Please check all that apply.

- My family and friends (including spouse) encouraged me to keep breastfeeding
- I thought it was the best thing for my baby's health
- I thought it was the best thing for my health
- My doctor or another health care professional encouraged me to keep breastfeeding
- It gave me a chance to bond with my baby
- It was convenient or easy for me to do
- I did not have to return to work
- Don't know
- Other specify \_\_\_\_\_

#### **Q3**

How long do you think you will continue breastfeeding?

- less than one month
- 1 month to less than 2 months
- 2 months to less than 3 months
- 3 months to less than 4 months
- 4 months to less than 5 months
- 5 months to less than 6 months
- 6 months or more
- until baby weans themselves
- don't know /not sure

## **GO TO QUESTION 6**

### **Q4**

How old was your baby when you stopped feeding breast milk?

- less than 6 months
- 6 months to less than 7 months
- 7 months to less than 8 months
- 8 months to less than 9 months
- 9 months to less than 10 months
- 10 months to less than 11 months
- 11 months to less than 12 months
- 12 months or more
- don't know

### **Q5**

Mothers stop breastfeeding for a number of different reasons. Why did you decide to stop breastfeeding? Please check all that apply.

- I did not have enough breast milk (including dried up/stopped producing milk)
- I did not have enough time or energy to breastfeed
- I was ill or on medication for illness (e.g. mastitis)
- My baby was ill
- I did not enjoy breastfeeding
- My baby did not want to breastfeed anymore (child weaned him/herself)
- I planned to stop at this time/done it long enough
- I had already returned to work or school
- I was planning to return to work or school
- My baby was teething or biting you
- My doctor or another health professional advised me to stop breastfeeding
- don't know
- other specify \_\_\_\_\_

## **Other Feeding**

### **Q6**

The next few questions are about other infant feeding practices. Are you currently feeding your baby any infant formula?

- yes **Go to Q7**
- no **Go to Q8**
- don't know **Go to Q8**

**Q7**

At what age was your baby first given infant formula?

- less than 6 months
- 6 months to less than 7 months
- 7 months to less than 8 months
- 8 months to less than 9 months
- 9 months to less than 10 months
- 10 months to less than 11 months
- 11 months to less than 12 months
- 12 months or more
- don't know

**Q8**

Are you currently feeding your baby cow's milk?

- yes **Go to Q9**
- no **Go to Q10a**
- don't Know **Go to Q10a**

**Q9**

At what age was your baby first given cow's milk?

- less than 6 months
- 6 months to less than 7 months
- 7 months to less than 8 months
- 8 months to less than 9 months
- 9 months to less than 10 months
- 10 months to less than 11 months
- 11 months to less than 12 months
- 12 months or more
- don't know

**Support****Q10a**

The next few questions are about breastfeeding support. Support refers to everything from information and encouragement to hands-on assistance. Halton's Public Health Department offers support to breastfeeding mothers through our baby and parent information and support line. Have you heard or read anything about our information and support line?

- yes **Go to Q10b**
- no **Go to Q11a**
- don't know **Go to Q11a**

**Q10b**

In the last 6 months, have you used the baby and parent telephone information and support line?

- yes **Go to Q10c**
- no **Go to Q11a**
- don't know **Go to Q11a**

**Q10c**

Did you receive any breastfeeding support through this telephone line?

- yes **Go to Q10d**
- no **Go to Q11a**
- don't know **Go to 11a**

**Q10d**

How helpful was the telephone line?

- very helpful
- somewhat helpful
- not very helpful
- don't know

**Q11a**

In the last 6 months, have you received breastfeeding support from any other resources?

- yes **Go to Q11b**
- no **Go to Q12**

**Q11b**

From what resources did you receive support? \_\_\_\_\_

**Q11c**

How helpful were they?

- very helpful
- somewhat helpful
- not very helpful
- don't know

**Q11d**

Did you receive breastfeeding support from any other resources (in addition to your previous answer)?

- yes **Go to Q11e**
- no **Go to Q12**

**Q11e**

From what resources did you receive support? \_\_\_\_\_

**Q11f**

How helpful were they?

- very helpful
- somewhat helpful
- not very helpful
- don't know

**DENTAL Questions**

**Q12**

The next few questions are about your baby's dental health. In the past week, how often did you put your baby to bed with a bottle or sippy cup with anything except plain water?

- at least once a day
- once every few days
- at least once
- did not put my baby to bed with a bottle or sippy cup in the past week
- don't know

**Q13**

Have you checked your baby's teeth for tooth decay within the past month?

- yes
- no
- baby does not have teeth/just got teeth **Go to Q15**
- don't know

**Q14**

In the past week, did you brush your baby's teeth....

- at least once a day
- once every few days
- at least once
- did not brush my baby's teeth
- don't know

**Q15**

Do you think that any of the following can cause tooth decay in your baby's teeth?

		Yes	No	Not Sure
(a)	fruit juice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	breast milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	cows milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	formula	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e)	sweetened drinks such as soft drinks, fruit drinks or ice tea.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f)	A soother dipped in something sweet such as sugar or honey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Work Section****Q16**

The last few questions are about your place of work. Are you presently working for pay, including full time or part time work?

- yes **Go to Q17**
- no **Go to Q21**
- don't know **Go to End of Survey Prompt (Thank you for participating...)**

**Q17**

How many months old was your baby when you returned to work?

- less than 6 months
- 6 months to less than 7 months
- 7 months to less than 8 months
- 8 months to less than 9 months
- 9 months to less than 10 months
- 10 months to less than 11 months
- 11 months to less than 12 months
- 12 months or more
- Don't Know

**Q18**

Are you working from home or outside of your home?

- at home **Go to End of Survey Prompt (Thank you for participating...)**
- outside of home **Go to Q19**

**Q19**

Does your employer allow you to breastfeed or pump and store breast milk at work?

- yes **Go to Q20**
- no **Go to End of Survey Prompt (Thank you for participating...)**
- don't know **Go to End of Survey Prompt (Thank you for participating...)**

**Q20**

Have you ever breastfed or pumped breast milk at work?

- yes
- no
- don't know

**GO TO END OF SURVEY PROMPT (THANK YOU FOR PARTICIPATING...)**

**Q21**

Are you planning to work within the next month or so?

- yes **Go to Q22**
- no **Go to End of Survey Prompt (Thank you for participating...)**
- don't know **Go to End of Survey Prompt (Thank you for participating...)**
- did not work for pay prior to having baby/stay at home mom **Go to End of Survey Prompt**

**Q22**

Will you be working from home or outside of your home?

- at home **Go to End of Survey Prompt (Thank you for participating...)**
- outside of home **Go to Q23**

**Q23**

Will your employer allow you to breastfeed or pump and store breast milk at work?

- yes **Go to Q24**
- no **Go to End of Survey Prompt (Thank you for participating...)**
- don't know **Go to End of Survey Prompt (Thank you for participating...)**

**Q24**

*Ask this question only if mother is still breastfeeding (Q1=1)*

Do you plan to breastfeed or pump breast milk when you return to work?

- yes
- no

**Thank you for participating in the 12 month infant feeding survey.**



**Halton Region**

Dial 311 or 905-825-6000

Toll free 1-866-4HALTON (1-866-442-5833)

TTY 905-827-9833

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