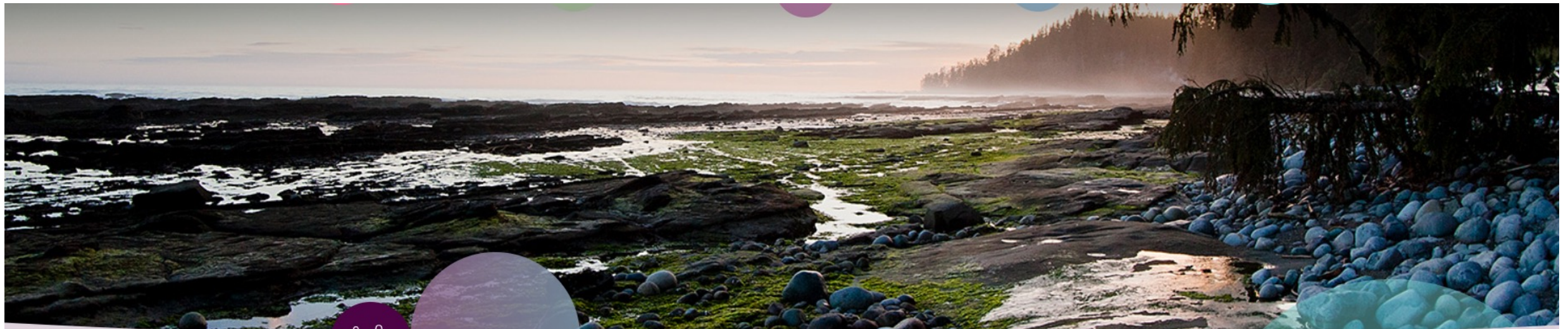


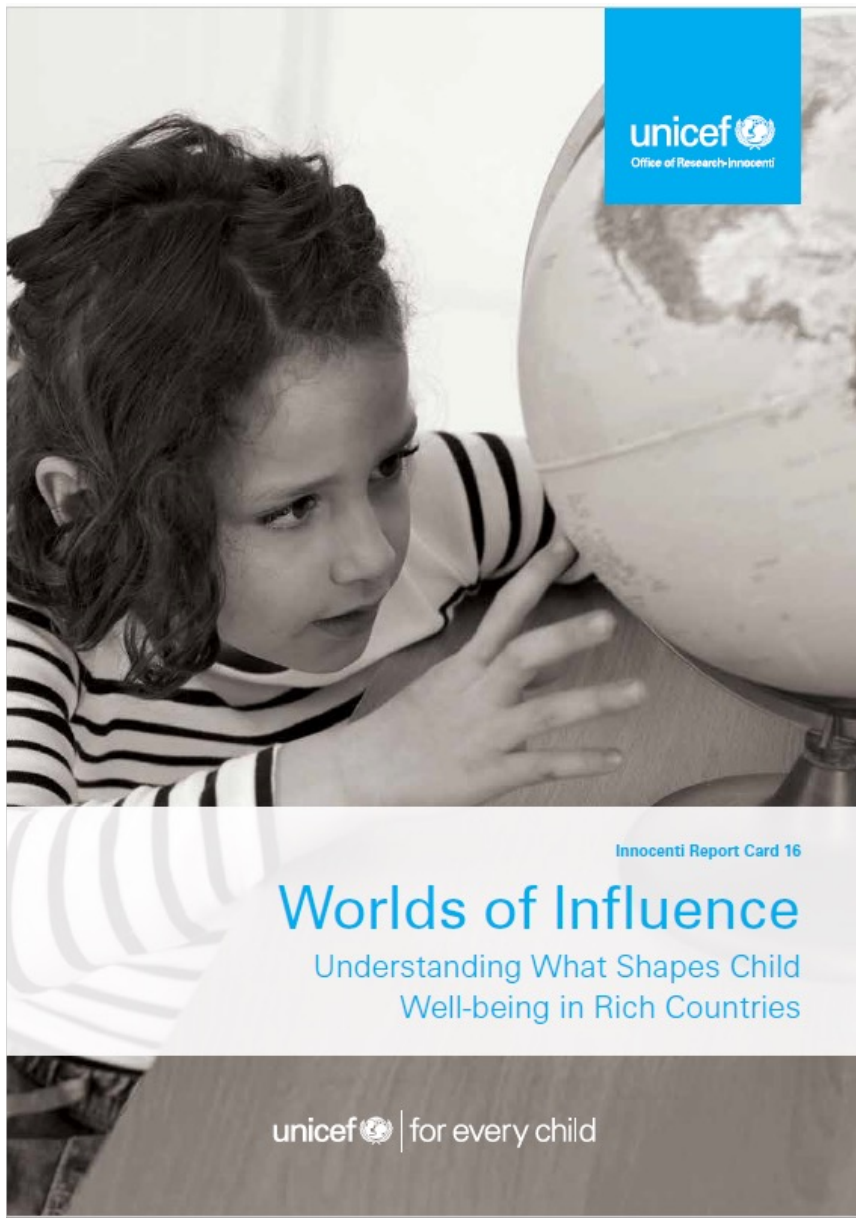


# SmartParent: Parenting Education by Text

*Patricia Janssen, PhD  
UBC School of Population  
and Public Health*

The District of Saanich is within Coast and Straits Salish territory, the traditional territories of the Ləkʷəŋən peoples known today as Songhees and Esquimalt Nations and the W̱SÁNEĆ peoples known today as W̱JOŁEŁP (Tsartlip), BOKÉĆEN (Pauquachin), S̱ÁUTW̱ (Tsawout), W̱SIḴEM (Tseycum) and MÁLEXEŁ (Malahat) Nations.





## UNICEF 2020

- Canada sits 21<sup>st</sup> among 38 high income countries in terms of the proportion of infants born underweight (<2,500g)
- 31<sup>st</sup> in infant mortality



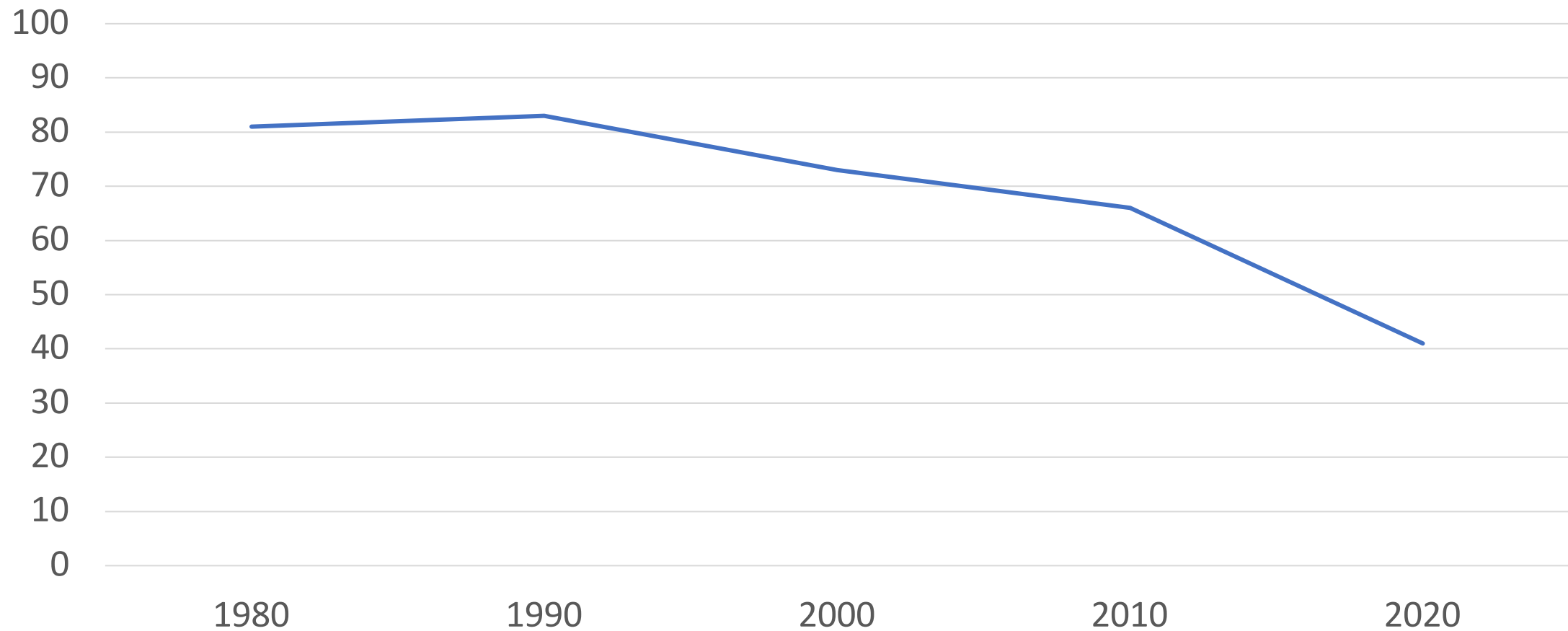
A photograph of a family (a pregnant woman, a man, and a small child) walking across a large, flat, muddy field. In the background, there is a line of trees and a cloudy sky. In the foreground on the right, there is a dense patch of tall, dry, yellowish-brown reeds or grasses.

Close to 700,000 British Columbians  
have difficulty finding a family  
physician

Family Doctors Care. The Role and Value of Family Physicians in British Columbia, BC College of Family Physicians Position Paper, 2020



## Number of General Practitioners in BC per 100,000 population



- In 2020, a survey of 10,790 parents of 0-5 yr olds in **Quebec** reported that 48% had questions or concerns about their child's development. 52% consulted health professionals.  
Pratt et al., Int J of Res Public Health, 2020
- In **Nova Scotia**, in a representative sample of parents of infants 0-6 months, the majority provided incorrect answers regarding recommended duration of breastfeeding, and how to start complementary feeding.  
Chan, Maternal Child Nut, 2019
- In 2013 the **Canadian** Childhood National Immunization Coverage Survey- 29% of children were unvaccinated before 13 months of age.  
Périnet, Hum Vaccine Immunother, 2018



- Parents using the internet were often unable to find the information they were seeking and could not discern high from low-quality information. They wanted health care providers to provide web-based resources.
- Although Canadian Indigenous mothers report widespread use of Google, Facebook, and health-related apps, mothers distrusted the information as it did not align with what they had received from health care providers. Wright AL, et al. JMIR Pediatr Parent 2021
- Among 2400 parents in Ontario and Quebec seeking emergency care for their child, only 11% required an intervention not available in an office. Farion KJ, et al. PLOS ONE 2015

# What is SmartParent?

SmartParent

SmartParent is Canada's first parenting education program via text messaging that sends parents text messages to:

- Provide information and links to evidence-based online resources
- Suggest topics of conversation with providers
- Direct parents to local resources and services

Remember: Back to sleep!  
Put your baby on their back  
to sleep. Learn about this  
and other sleeping safety tips  
@ [bit.ly/\\_\\_\\_\\_\\_](https://bit.ly/_____)



Up to 80% of women  
experience the baby blues  
after childbirth. Learn how  
to recognize and manage  
it here: [bit.ly/\\_\\_\\_\\_\\_](https://bit.ly/_____)



Has your baby tried tummy time?  
It is fun and good for your baby's  
development. Learn more here:  
[bit.ly/\\_\\_\\_\\_\\_](https://bit.ly/_____)

## Importance of Tummy Time for Babies' Development

Pregnancy & Parenting Categories

Tummy time - lying on their tummies or sides while they're awake - is important for babies' healthy development. You can put your baby on the floor, on a safe firm surface, on your lap or on your chest - whatever works best for you.



Your baby requires supervised tummy time several times a day to:

- prevent flat spots on the head called positional plagiocephaly
- make the neck, back and arm muscles stronger
- help your baby learn to roll and crawl
- support your baby's overall development

Some babies like being on their tummies but many dislike it at first. You may have to help your baby learn to enjoy tummy time.

Here are some tips:

- Start tummy time when your baby is a newborn.

Call 811  
for 24/7  
health advice



# What does SmartParent offer?

SmartParent

SmartParent is **free**.  
It costs nothing to sign up  
and messages are sent to clients  
free of charge.

SmartParent is **accessible and convenient**.  
Anyone with a text messaging-enabled  
mobile phone can receive the messages  
.

SmartParent is **interactive**. Parents can take  
quizzes, watch videos, and follow links to  
new sources of information.

SmartParent will be **customizable**. We are  
developing optional message streams and  
programs for specific population groups.



- Syilx First Nation Elder-led development of an offline app that supports parenting and healthy early childhood development.
- Strengthens parents' Two-Eyed Seeing for parenting by drawing from SmartParent texts that Indigenous Elders reviewed, curated, and tailored.
- Elders incorporated information that reflects Syilx values, histories, and traditions related to parenting and childcare, such as stories and lullabies.
- Includes *nsyilxcən* and English language.

1. Improve parenting knowledge, confidence and competence among parents of infants from birth to one year
1. Increase access to local resources and decrease use of emergency services
2. Improve infant health outcomes

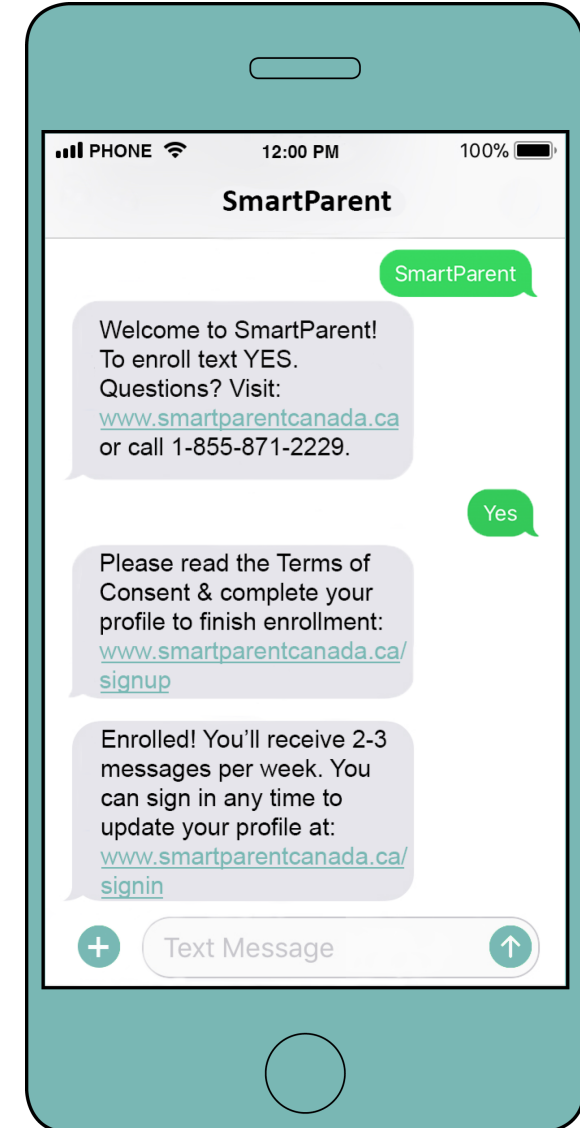




# Enroll by Phone

SmartParent

1. Text the keyword **SmartParent** to the phone number **12424**
2. Text the word **Yes** to confirm enrollment
3. Click the link in the confirmation text message to go to the SmartParent website to read and accept the *Terms of Consent*, complete a profile and finish enrollment



# Enroll on the Website

SmartParent

SmartParent



[Learn More](#) | [Care Providers](#) | [Enroll Now](#) | [Sign In](#)



1. Go to [www.smartparentcanada.ca](http://www.smartparentcanada.ca) and click on **Enroll Now**
2. Read and accept the *Terms of Consent*
3. Enter child's personal health number (optional)
4. Complete profile, customize the message schedule and then click **Finish Enrollment**
5. Reply **START** to the confirmation text message received

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All rights reserved. SmartParent™ is a registered trademark in Canada.

[FAQ](#) | [About Us](#) | [Contact Us](#) | [SmartMom](#)

# Social Media Recruitment

SmartParent



**SMARTPARENT**  
Parenting education via text messaging

*Sign up today!*  
[www.smartparentcanada.ca](http://www.smartparentcanada.ca)

Facebook	<a href="#"><u>@smartparentcanada</u></a>
Instagram	<a href="#"><u>@smartparentcanada</u></a>
Twitter	<a href="#"><u>@SmartParentCA</u></a>




Download our social media toolkit and help us spread the word about SmartParent!

[share.smartparent.ca](http://share.smartparent.ca)



## SmartParent



[Learn More](#) | [Care Providers](#) | [Enroll Now](#) | [Sign In](#)

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### What is SmartParent?

SmartParent is a Canadian parenting support program that sends up to 3 current, evidence-based educational text messages per week to help guide new parents through each week of their baby's first year of life. Messages are tailored to infant age and stage of development, have been developed by maternal and child health experts, and include links to trustworthy online resources. The messages also suggest topics for parents to discuss with healthcare providers and link them to resources and services available online and in their own community. Parents learn about SmartParent through routine well-child visits, their regional health authority, local family resource programs, posters in the community, and social media.

The overall goal of the SmartParent program is to support new parents in their transition to parenthood and improve parent and infant health. Messages are meant to complement information provided by healthcare providers, not to replace it.

The development of SmartParent is led by academic researchers from UBC in collaboration with [Optimal Birth BC](#), the BC Ministry of Health and BC Health Authorities, and in consultation with pregnant and new parents, practicing nurses, doctors, midwives and experts in maternal and child health. SmartParent was conceptualized as a follow-up to the [SmartMom](#) program, which provides prenatal education through text messaging.

### Messages

For a complete, current and downloadable list of the messages, please click here: [SmartParent Messages](#).

### Terms of Consent for Participants

To view the SmartParent Terms of Consent, please go to [Terms of Consent](#).

### Enrollment Guide

1. Encourage enrollment with one easy step. Clients can text the keyword **SmartParent** to the phone number **12424** to enroll.
2. Standard message and data rates may apply. Enrolling in SmartParent is free and SmartParent does not charge clients for the messages, but depending on a client's mobile phone plan, their mobile phone service provider (carrier - e.g. Bell, Rogers, Telus) may charge them to receive/send text messages or browse website links when not connected to WiFi.
3. If clients do not have a phone and/or cellular service but would like to see the messages online, they can enroll at [www.smartparentcanada.ca](http://www.smartparentcanada.ca) using an email address instead of a phone number. Note: clients can sign in to the SmartParent website to view the messages online. Messages will not be sent by email.

## SmartParent

### SmartParent Messages

Updated: December 7, 2021

#### List of Topics

Administrative	Fathers/Partners	Pelvic Floor Health
Baby Crying	Healthy Eating & Nutrition	Physical Activity
Baby Development	Indigenous Health & Resources	Postpartum Recovery
Baby Feeding & Nutrition	Maternal Health	Relationships
Baby Health	Medication & Substance Use	Resources & Services
Baby Sleep	Oral Health	Safety & Injury Prevention
Breastfeeding	Parent Mental Health & Self-Care	Sexual Health
Child Care	Parenting	Siblings
Environmental Health	Parent Sleep	Vaccination

			Message	Full Link	Bitly Link	Topic
0	1a	139	Home from the hospital? A public health nurse will call you in 24-48hrs or if you have a midwife, in 6-8wks: bit.ly/2SuluJe DataRatesApply	<a href="http://www.bcwomens.ca/our-services/labour-birth-post-birth-care/after-the-birth-of-your-baby">http://www.bcwomens.ca/our-services/labour-birth-post-birth-care/after-the-birth-of-your-baby</a>	<a href="https://bit.ly/2SuluJe">https://bit.ly/2SuluJe</a>	Resources & Services

Published in final edited form as:

*Epidemiol Rev.* 2010 April ; 32(1): 56–69. doi:10.1093/epirev/mxq004.

## Text Messaging as a Tool for Behavior Change in Disease Prevention and Management

Heather Cole-Lewis\* and Trace Kershaw

Division of Chronic Disease Epidemiology, School of Epidemiology and Public Health, Yale University, New Haven, Connecticut.

### Abstract

Mobile phone text messaging is a potentially powerful tool for behavior change because it is widely available, inexpensive, and instant. This systematic review provides an overview of behavior change interventions for disease management and prevention delivered through text messaging. Evidence on behavior change and clinical outcomes was compiled from randomized or quasi-experimental controlled trials of text message interventions published in peer-reviewed journals by June 2009. Only those interventions using text message as the primary mode of communication were included. Study quality was assessed by using a standardized measure. Seventeen articles representing 12 studies (5 disease prevention and 7 disease management) were included. Intervention length ranged from 3 months to 12 months, none had long-term follow-up, and message frequency varied. Of 9 sufficiently powered studies, 8 found evidence to support text messaging as a tool for behavior change. Effects exist across age, minority status, and nationality. Nine countries are represented in this review, but it is problematic that only one is a developing country, given potential benefits of such a widely accessible, relatively inexpensive tool for health behavior change. Methodological issues and gaps in the literature are highlighted, and recommendations for future studies are provided.



# Why Would Text Messages Change Behaviour?

SmartParent

## **Social Cognitive Theory**

- Modeling healthy behaviours through messages promotes self-efficacy

## **Health Belief Model**

- Text messages serve as a cue to action with salient information providing just-in-time tips

## **The Theory of Planned Behavior**

- Beliefs and attitudes change when messages are received at the point of decision-making



- Reduction in perinatal mortality - (OR: 0.50, 95% CI 0.27-0.93). Cluster randomized controlled trial, (n=2550), Zanzibar.

Lund S, al. *JMIR Mhealth*, 2014

- Decrease in stunting and anemia in 6 months old. Cohort study of infant feeding knowledge delivered by texting, (n=214), China.

Duan V et al, *Wei Sheng Yan Jiu*, 2016.

- Increase in adherence to recommended immunization schedules RCT, 42.2 vs 30.7,  $p < .001$  at 2 months, (n=720), Guatemala.

Gretchen, J, *Vaccine*, 2019

- Meta-analysis of 16 studies (n=5505) found that e-technologies compared to usual care significantly improved exclusive breastfeeding initiation and exclusive breastfeeding at 4 and 6 months.

Lau, Y, al. *Maternal and Child Nutrition*. 2016

SMS texting lessens a sense of isolation, promotes father-infant bonding, supports the farther-partner relationship.

- Structural
  - Synching information to needs
  - Normalization
  - Prompts to interact
  - Provision of a safety net
- Psychological
  - Increase in knowledge
  - Feelings of confidence
  - Ability to cope
  - Role orientation
  - Feeling connected

# SmartParent Enrollment

SmartParent

Mother Age	%
20-24	0.8
25-29	14.7
30-34	36.4
35-39	34.1
40+	14.0

Education	%
Less than Grade 12	0.8
Grade 12	3.8
Technical/trades	0.8
Some university	15.8
Bachelor's degree	44.3
Master's degree	34.4

330 participants have enrolled in SmartParent

51.6% have completed surveys

40.7% were previously on SmartMom

Mothers completing survey: 86.3%

Fathers completing survey: 11.8%



Ethnicity	%
European	59.4
Indigenous	1.5
East Asian	18.0
South Asian	6.8
Other	14.4

85% of participants speak English at home

93.2% are married

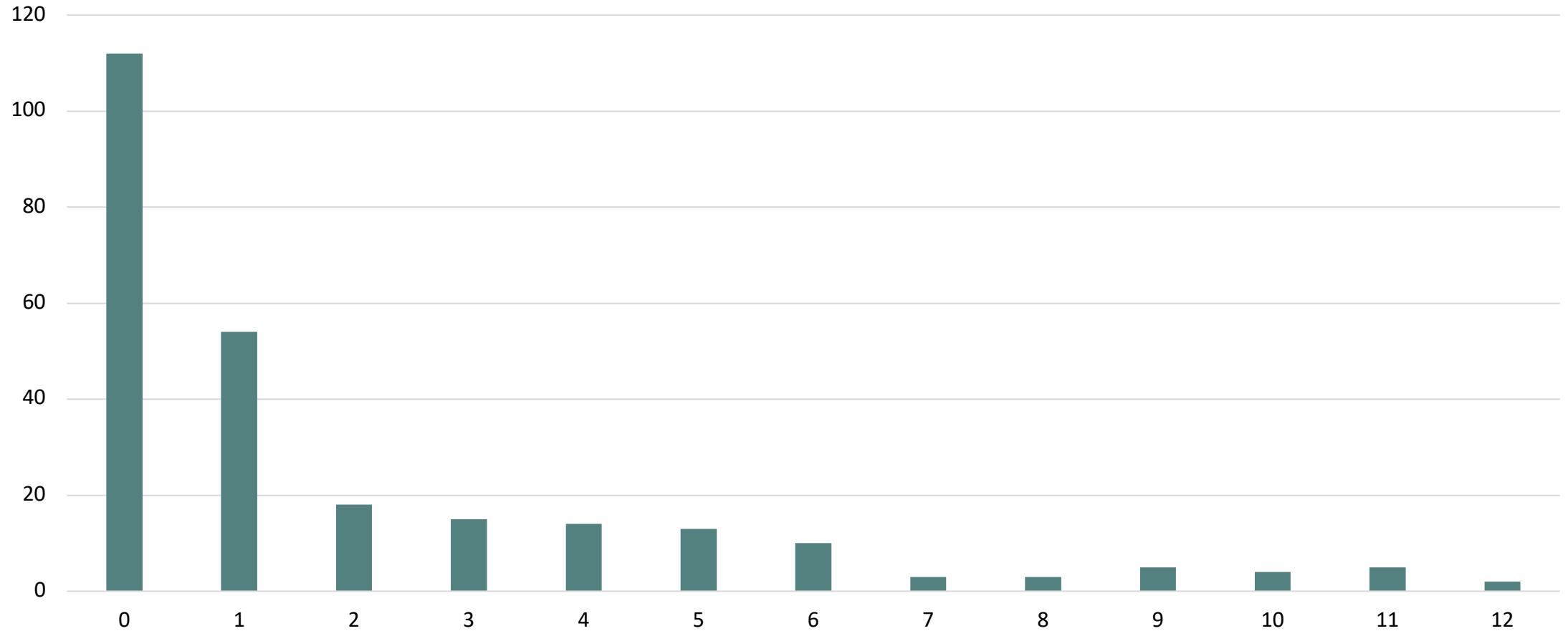
16.5% have other children

6.2% have to travel 30-60 minutes to see a doctor

97.7% live in a community with a hospital

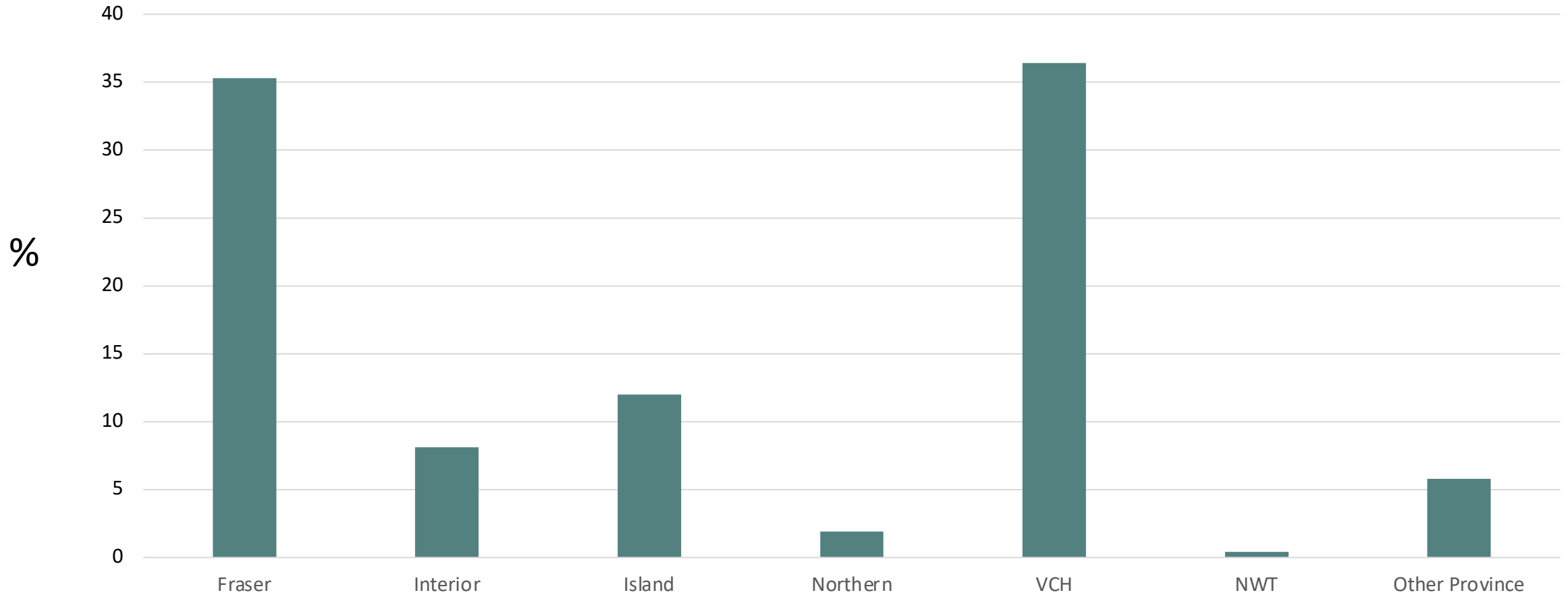
# Age of Infant in Months at Enrollment

SmartParent



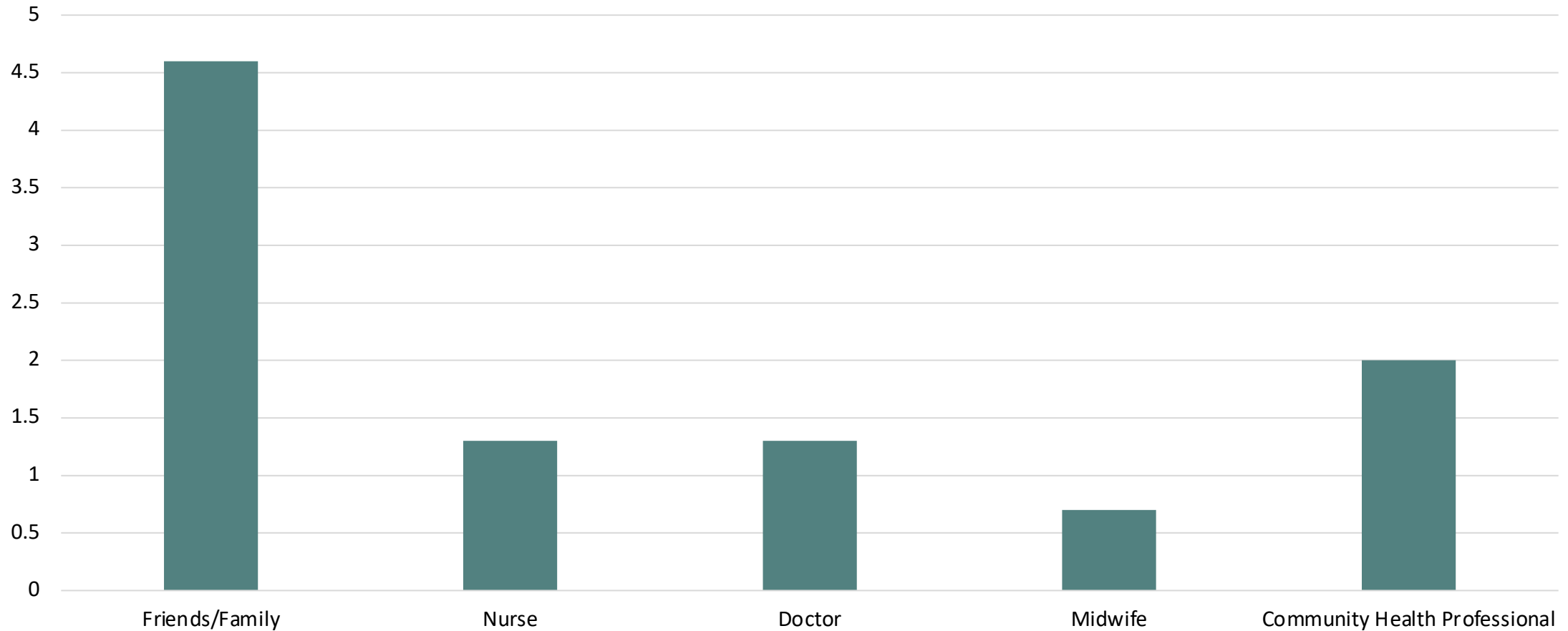
# Region of Enrollment

SmartParent



# Where do Parents hear about SmartParent?

SmartParent





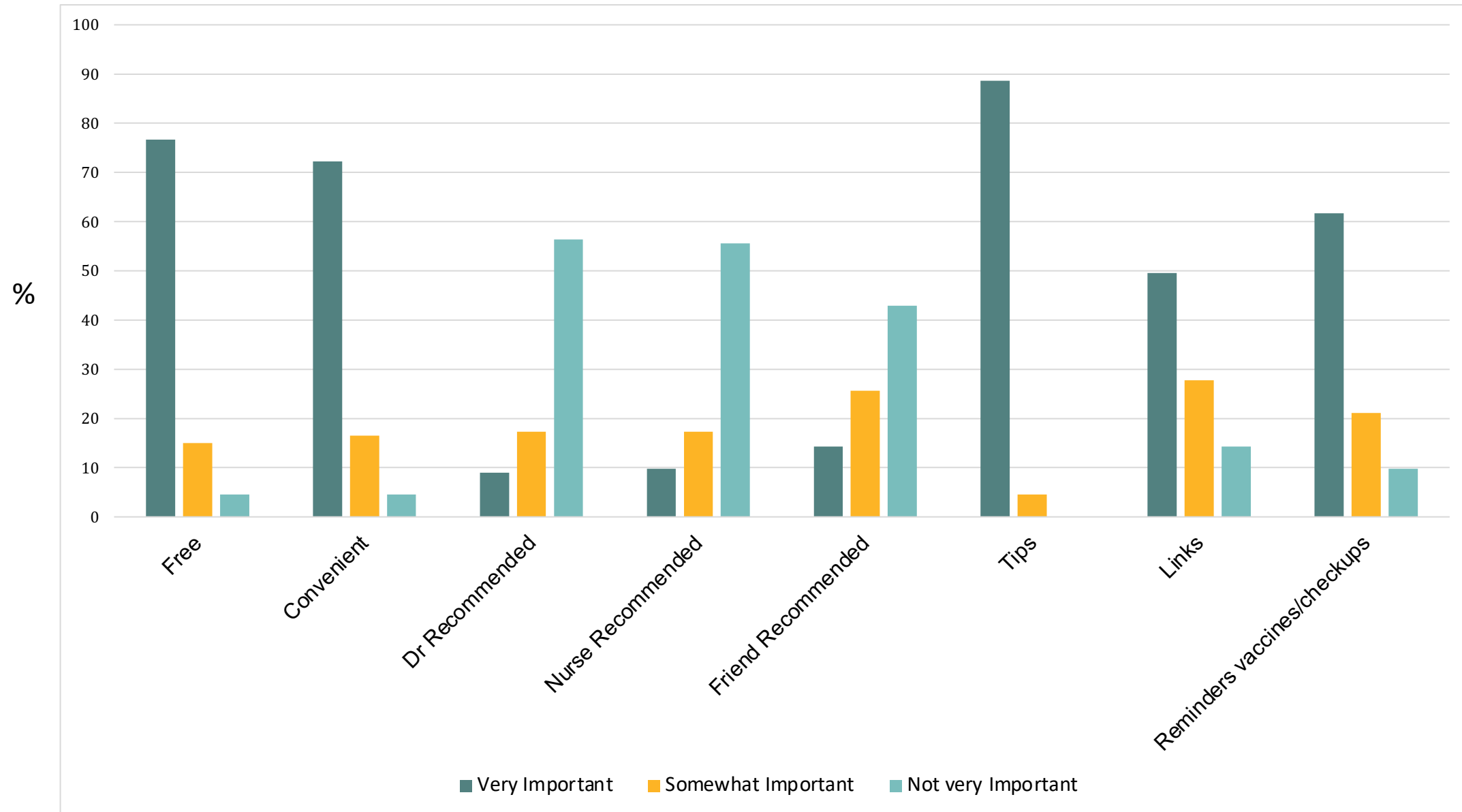
# Trusted Sources of Parenting Information

SmartParent

Source	%
Doctor	91.0
Nurse	77.4
Baby's Best Chance	60.2
Prenatal Class	60.9
Midwife	53.4
Friends	27.1
Apps	6.0

# Reasons for Enrolling in SmartParent

SmartParent



# Enrollment surveys

- Demographic information
- Knowledge test
- Parenting confidence
- Parenting competence

## SmartParent

- Babies should sleep on their backs.
  - True
  - False
- It is okay to jog with 3-month-old baby in a stroller.
  - True
  - False
- Parents should use a rear-facing car seat for babies under 12 months.
  - True
  - False
- Baby bath seats put babies at risk of drowning.
  - True
  - False
-

## Parenting Competence

- The problems of taking care of a baby are easy once you know how your actions affect your baby, an understanding I have acquired.

St Agree   Agree   Mod Agree   Mod Disagree   Disagree   St Disagree

- I do not know why it is, but sometimes when I am supposed to be in control, I feel more like the one being manipulated

St Agree   Agree   Mod Agree   Mod Disagree   Disagree   St Disagree



## Parenting Confidence

- I am confident about feeding my baby
- I can settle my baby
- I am confident about helping my baby to establish a good sleep routine

(1) No, hardly ever (2) No, not very often (3) Yes, some of the time (4) Yes, most of the time

Enrollment Survey Initial Findings	mean (sd)
Knowledge Test (10 items, range 0-10)	7.1 (1.4)
Parenting Confidence Scale (15 items, range 15-60)	35.4 (5.7)
Parenting Competence (17 items, score 17-85)	66.9 (10.6)

# The SmartParent Team

## Lead Partners



optimal**birth**bc



## Pediatric Health Experts



Patient advocate

## Technology partners



Swift Aggregation  
Services



Funded by:



Social Sciences and Humanities  
Research Council



- Regional Health Authorities in BC
- BC First Nations Health Authority
- BC Women's Hospital
- Child Health BC
- Perinatal Services BC
- CanFASD
- HealthLink BC
- BC Association of Pregnancy Outreach Programs (BCAPOPOP)



# Contact Information

SmartParent



'Contact Us' at ▪ [www.smartparentcanada.ca](http://www.smartparentcanada.ca)



Toll-free at **1 855 871 BABY (2229)**



[contact@smartparentcanada.ca](mailto:contact@smartparentcanada.ca)

SmartMom Lead, SmartParent Co-Lead: Patti Janssen ▪ [patti.janssen@ubc.ca](mailto:patti.janssen@ubc.ca)

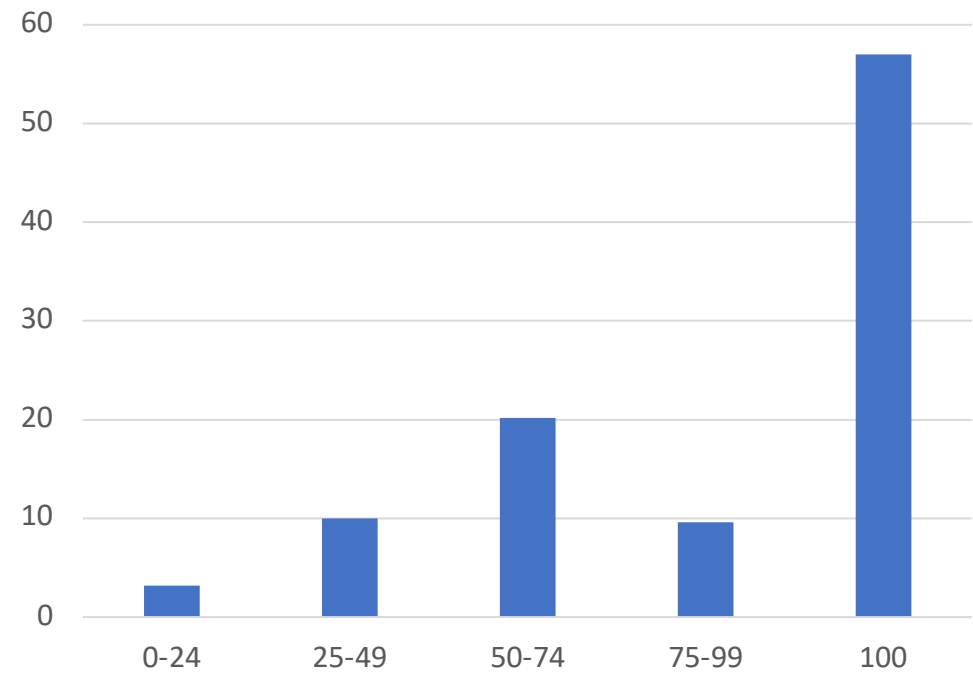
SmartParent Co-Lead: Wendy Hall ▪ [wendy.hall@ubc.ca](mailto:wendy.hall@ubc.ca)

Program Manager: Shaina Pennington ▪ [shaina.pennington@ubc.ca](mailto:shaina.pennington@ubc.ca)

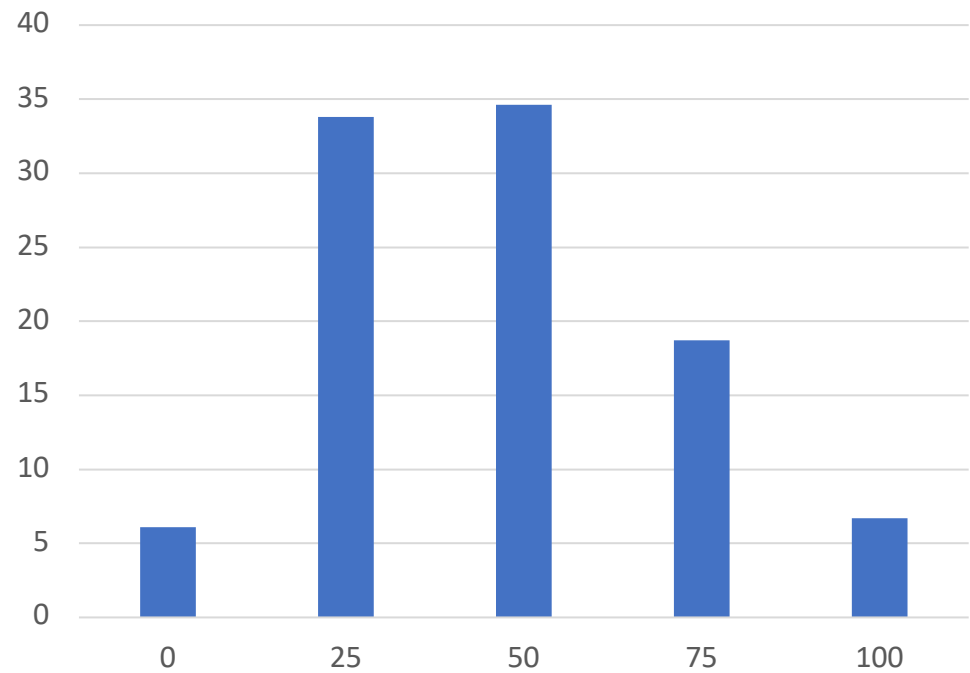
What an incredible program! I loved the short bite sized pieces of information throughout my 2nd pregnancy. It really helped put me at ease for the growth of my child before birth and the followup survey at the end was a clever way of helping assess how Moms were doing and to offer additional resources (mental health support, etc). it helped me be much more of a confident Pregnant Lady and now a Parent again..

# SmartMom Evaluation

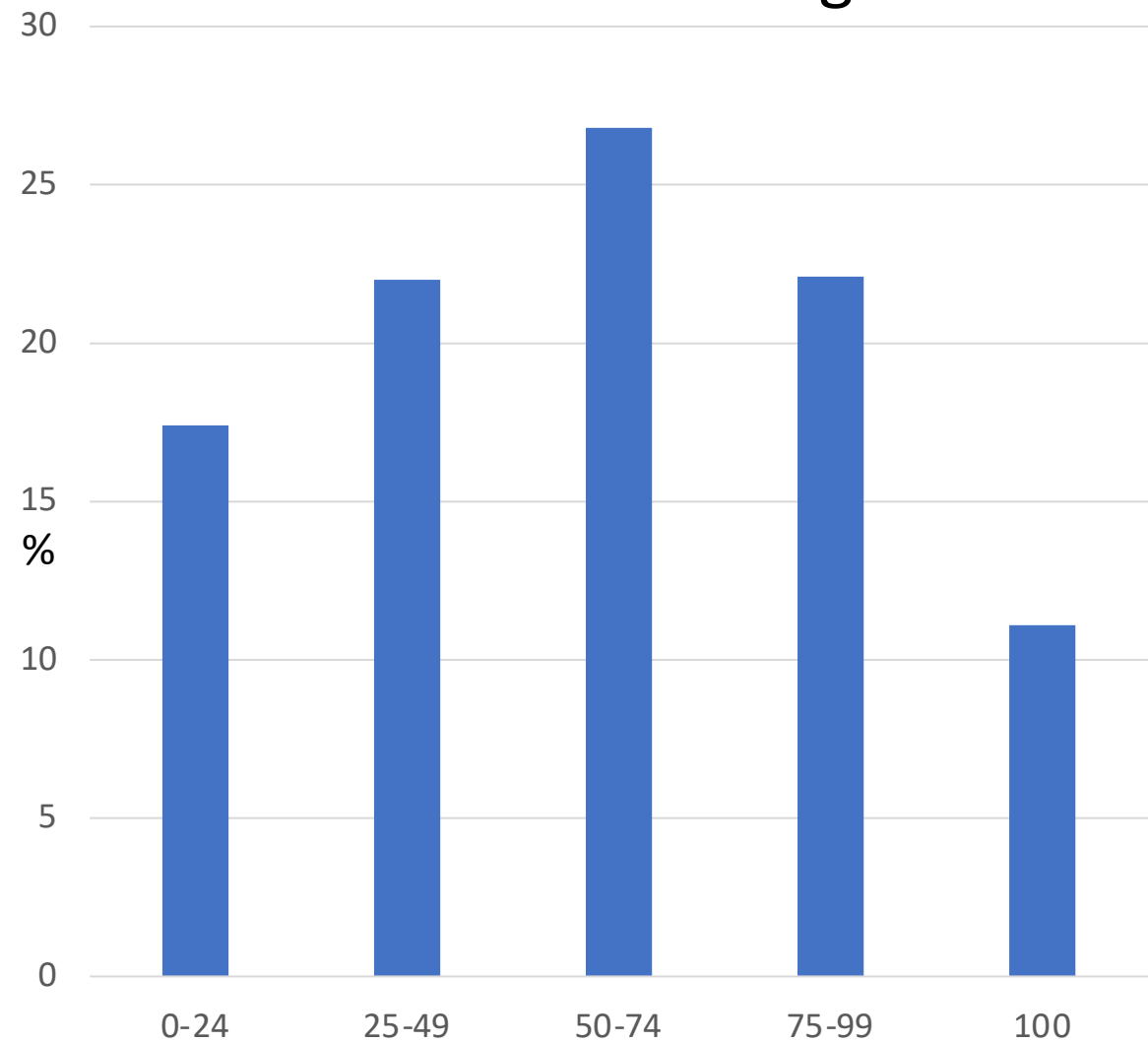
Messages Read (%)



% of Messages Containing New Information



% of Time Links in Messages were Followed





# SmartMom Evaluation

	Enrollment	Completion	P-value
	mean (sd)	mean (sd)	mean (sd)
Knowledge test (10 items)	7.6 (1.3)	8.4 (1.2)	<.001
Fear of Childbirth (12 items – score 0-60)	29.4 (7.4)	27.6 (7.7)	<.001
EPDS (depression) (10 items- score 0-30)	6.8 (4.5)	5.8 (4.5)	<.001

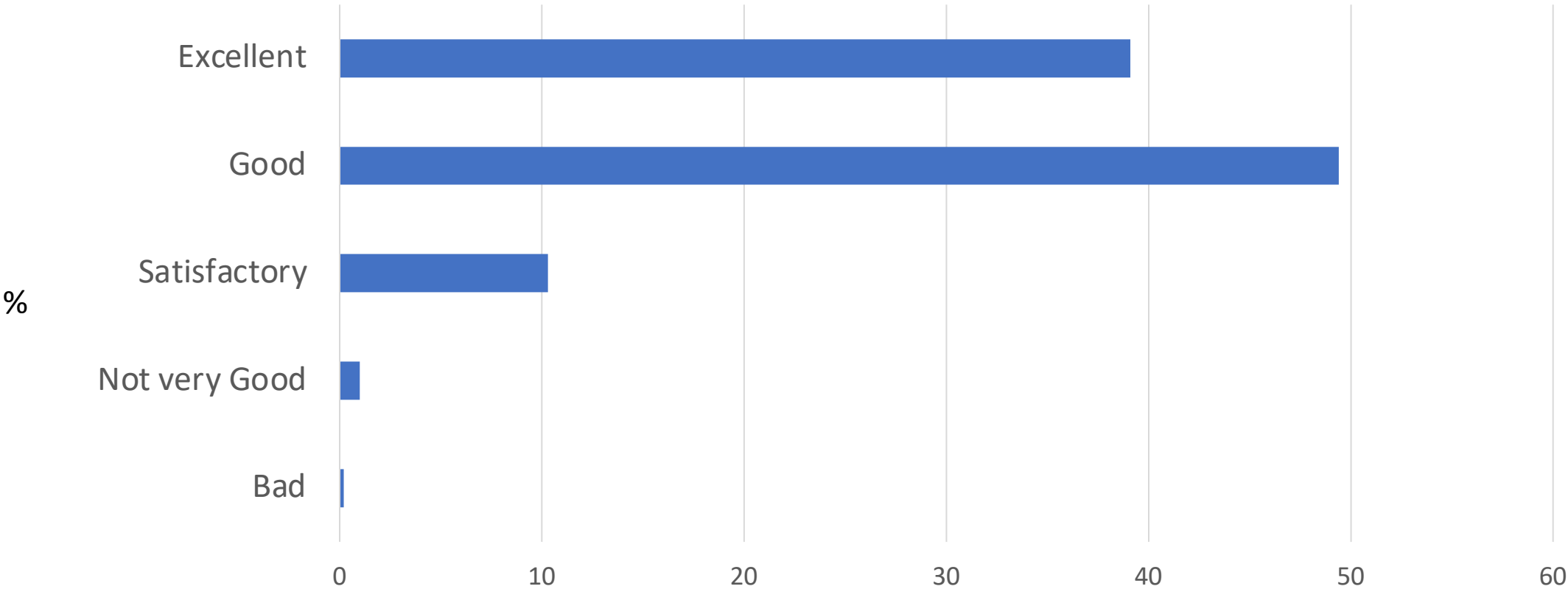
Paired t-tests, n= 700

# SmartMom Evaluation

	SmartMom Enrollees n= 137	Non-enrollees n= 200
Less than 6 prenatal visits	8.9%	13.8%
Wt gain > 16 kg	35.1%	57.2%
IUGR	2.9%	4.0%
Gestational Diabetes – non-insulin dependent	12.4%	18.0%
Gest Diabetes – Insulin dependent	8.0%	13.5%
Cigarette smoking	1.5%	2.5%
Apgar <7 @1 minute	9.8%	11.3%

- Among 104 users of Cannabis, 13, (12.5%) indicated that they modified their use because of SmartMom messages.
- Among 107 respondents, 43 (40.1%) indicated that they changed their exercise regime in response to SmartMom messages.

# How would you rate the quality of messages?



98.9% responded that messages were easy to read.

93.9% would recommend the program to a friend.