Implementation & Delivery

of Nurse-Family Partnership® in Four Ontario Public Health Units

2019

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Table of Contents

Executive Summary 4

Background 6

Implementation 10

Evaluation of Program Implementation by Core Model Element 11

Conclusion 23

References 24

Executive Summary

Nurse-Family Partnership® (NFP) is a home-visiting program for young pregnant women and first-time mothers experiencing social and economic disadvantage. Home visits start early in pregnancy (before 28 weeks gestation) and continue until the child is two years of age.[1] Goals of the program are to improve: pregnancy outcomes, child health and development, and families' economic self-sufficiency.[2]

Findings from three randomized controlled trials (RCTs) in the United States (US) have demonstrated the effectiveness of the program at achieving these goals.[3-4]

Adapting NFP for the Canadian context

The consistent and enduring effects of the NFP program demonstrated in the US make it an attractive population health intervention for implementation in other countries, including Canada. However, differing contextual factors between the US and Canada including policy, geography, socioeconomics and demographics requires adaptation and evaluation of the NFP program within the Canadian context.[2]

Efforts to bring NFP to Canada began over a decade ago, closely adhering to the protocol for international replication and evaluation of NFP.

The Canadian Nurse-Family Partnership Education (CaNE) project

As part of the ongoing process to adapt existing NFP materials, as well as to develop new resources for use in Canada, there was an identified need for a program of NFP education specific to the Canadian context. This revised curriculum would reflect what is most needed and relevant for public health nursing practice in Canada; be practical and sustainable for individual provinces to access and implement; introduce and integrate new NFP innovations seamlessly into one curriculum; and introduce a nursing theory to underpin the NFP intervention.

The overall objectives of the CaNE pilot project were to develop, deliver and evaluate a model of Nurse-Family Partnership education to be used by public health nurses (PHNs) and supervisors in Canada.

The purpose of this document is to present findings from the evaluation regarding how the NFP program was implemented and delivered in four Ontario public health units and if fidelity to the program's core model elements was achieved. Additional documents outlining other findings from this project will also be available.

Key Findings

Following completion of the CaNE curriculum, PHNs and supervisors from four Ontario public health units demonstrated the ability and capacity to enroll eligible pregnant women in the program and then deliver NFP with a high degree of fidelity to the program's 14 core model elements.

Purpose

The overall goals of the Canadian Nurse-Family Partnership Education (CaNE) pilot project conducted in four Ontario public health units were to: 1) **develop** a model of Nurse-Family Partnership (NFP) education to be used by public health nurses (PHNs) and supervisors in Canada; 2) **deliver** this novel model of education to two cohorts of PHNs and supervisors hired to implement NFP; and 3) **evaluate** the acceptability of this model of education and to explore how this training prepared NFP teams to implement this public health program of nurse home visitation, targeted to young, first-time mothers experiencing social and economic disadvantage, with fidelity to the program's core model elements.

In this document, evaluation findings on the implementation and delivery of NFP (Goal 3) within Middlesex-London Health Unit, Niagara Region Public Health, Toronto Public Health, and York Region Public Health are summarized. Additional reports addressing CaNE pilot project goals 1 and 2 are also available.

Background

Nurse-Family Partnership® (NFP)

NFP is a home-visiting program for young pregnant women and girls and first-time mothers experiencing social and economic disadvantage. Home visits start early in pregnancy (before 28 weeks gestation) and continue until the child is two years of age.[1]

Through the establishment of a therapeutic relationship, nurses:

- provide support and life coaching
- review preventive health and prenatal practices
- guide clients with system navigation
- engage in health education and skill building
- discuss child development and parenting[2]

Goals of the program include:

- improving pregnancy outcomes
- improving child health and development
- improving families' economic self-sufficiency[2]

Box 1: Protocol for international research and implementation of Nurse-Family Partnership[2]

Phase 1: Adaptation and Preparation

Phase 2: Feasibility and Acceptability

Phase 3: Randomized Controlled Trial

Phase 4: Continued Refinement and Expansion

Findings from three randomized controlled trials (RCTs) in the United States (US) have demonstrated the effectiveness of the program at achieving these goals.[3-4]

Adapting NFP for the Canadian context

The consistent and enduring effects of the NFP program demonstrated in the US make it an attractive population health intervention for implementation in other countries, including Canada. However, differing contextual factors between the US and Canada including policy, geography, socioeconomics and demographics requires adaptation and evaluation of the NFP program within the Canadian context.[2]

Efforts to bring NFP to Canada began over a decade ago (see Table 1) – closely adhering to the protocol for international replication and evaluation of NFP (see Box 1).

Table 1: Timeline for adapting, piloting and evaluating NFP in Canada[2]

YEARS	EVALUATION COMPONENT	ACTIVITIES
2008-11	Phase 1: Adaptation	Adapt NFP guidelines to include Canadian standards of evidence and update content
2008-12	Phase 2a: Feasibility study	Pilot study testing procedures for recruitment and retention and instruments for collecting clinical and interview data from participants
2008-12	Phase 2b: Acceptability study	A qualitative case study[2] exploring the acceptability of NFP to clients, their families, PHNs, supervisors and community stakeholders
2011-ongoing	Phase 3a: Ongoing adaptation to program materials	Update and revise the NFP Canadian guidelines
2011-14	Phase 3b: Preparation for RCT - PHN/Supervisor education in British Columbia (BC)	Hiring of PHNs and supervisors; complete nurse education
2013-ongoing	Phase 3c: Large scale RCT in British Columbia (BC Healthy Connections Project)[5]	Eligible pregnant girls and women enrolled in RCT comparing NFP to existing services
2013-18	Phase 3d: Process evaluation[6]	Document the process for implementing and delivering NFP in five BC Health Authorities
2014-18	Phase 3e: Healthy Foundations Study[7]	Measure and determine effect of NFP on biological mechanisms linking intervention and behavioural outcomes in children

Development of new Canadian content or adaptations to NFP materials from other countries have included:

- integration of Canadian standards of practice and best practice guidelines on topics such as immunization schedules, food and nutritional intake recommendations, and injury prevention guidelines;[1]
- augmentation of materials to meet identified local needs or priority issues, including meeting recommendations from the Baby-Friendly Initiative to promote breastfeeding;[8]
- integration of new NFP innovations, including an intervention to identify and respond to intimate partner violence;[9] and
- development of an updated NFP program model visual diagram included in the piloted education model in Ontario.

The Canadian Nurse-Family Partnership Education (CaNE) project

Box 2: Public Health Units involved in the CaNE pilot project

- Middlesex-London Health Unit
- City of Toronto (Public Health Division)
- Regional Municipality of York, Public Health Branch
- Niagara Region Public Health

As part of the ongoing process to adapt existing NFP materials, as well as to develop new Canadian resources, there was an identified need for a program of NFP education specific to the Canadian context. The overall objectives of the CaNE pilot project were to **develop**, **deliver** and **evaluate** a Canadian model of NFP education for PHNs and supervisors (see Table 2 for CaNE detailed objectives and timeline, and Box 2 for public health units involved).

Table 2: CaNE Objectives & Timeline

OBJECTIVE	TIMELINE
Develop - a model of NFP education to be used by PHNs and supervisors in Canada	September - December 2016
Deliver – this novel model of education to two cohorts of nurses and supervisors hired to implement NFP	January 2017 - December 2018
Evaluate – the acceptability of this model of education and to explore how this training prepared PHNs and supervisors to implement NFP with fidelity to the program's core model elements	September 2017 - December 2018

The CaNE project methods

Box 3: Project data

Multiple data types were collected:

- interviews with PHNs and supervisors
- program documents
- program implementation data

The program data reflects implementation and delivery activities from Jan. 4, 2017 to Sept. 30, 2018.

In order to reproduce the program model that has been rigorously tested, the key features of the program (both the clinical model and the organizational supporting arrangements) have been identified as Core Model Elements (CMEs); with each country or organization implementing NFP agreeing to adhere to these as they deliver the program within their own context.

Maintaining and assessing program fidelity is critical for both achieving effective outcomes and for monitoring variation in program implementation across sites. This is especially important when launching the NFP in new settings and across multiple service sites.

Adherence to NFP program fidelity was evaluated following the delivery of the CaNE model to PHNs and nurse supervisors. Details regarding project data are presented in Box 3. A mixed methods case study was conducted to determine if Ontario PHNs and supervisors were able to implement and deliver the NFP program with fidelity to the program's core model elements, with a specific focus on the following fidelity indicators:

1. PHN and supervisor caseloads;
2. duration of the program;
3. service dosage to the program;
4. content of home visits; and
5. client eligibility.

WHAT IS FIDELITY & WHY IS IT IMPORTANT?[4]

It is the extent to which there is adherence to the CMEs alongside application of new research findings, and carefully developed innovations.

Fidelity protects the integrity, quality and effectiveness of the NFP program while remaining sensitive to the local context and to the individual needs of families.

It is the responsibility of NFP-implementing agencies, NFP nurses and nurse supervisors.

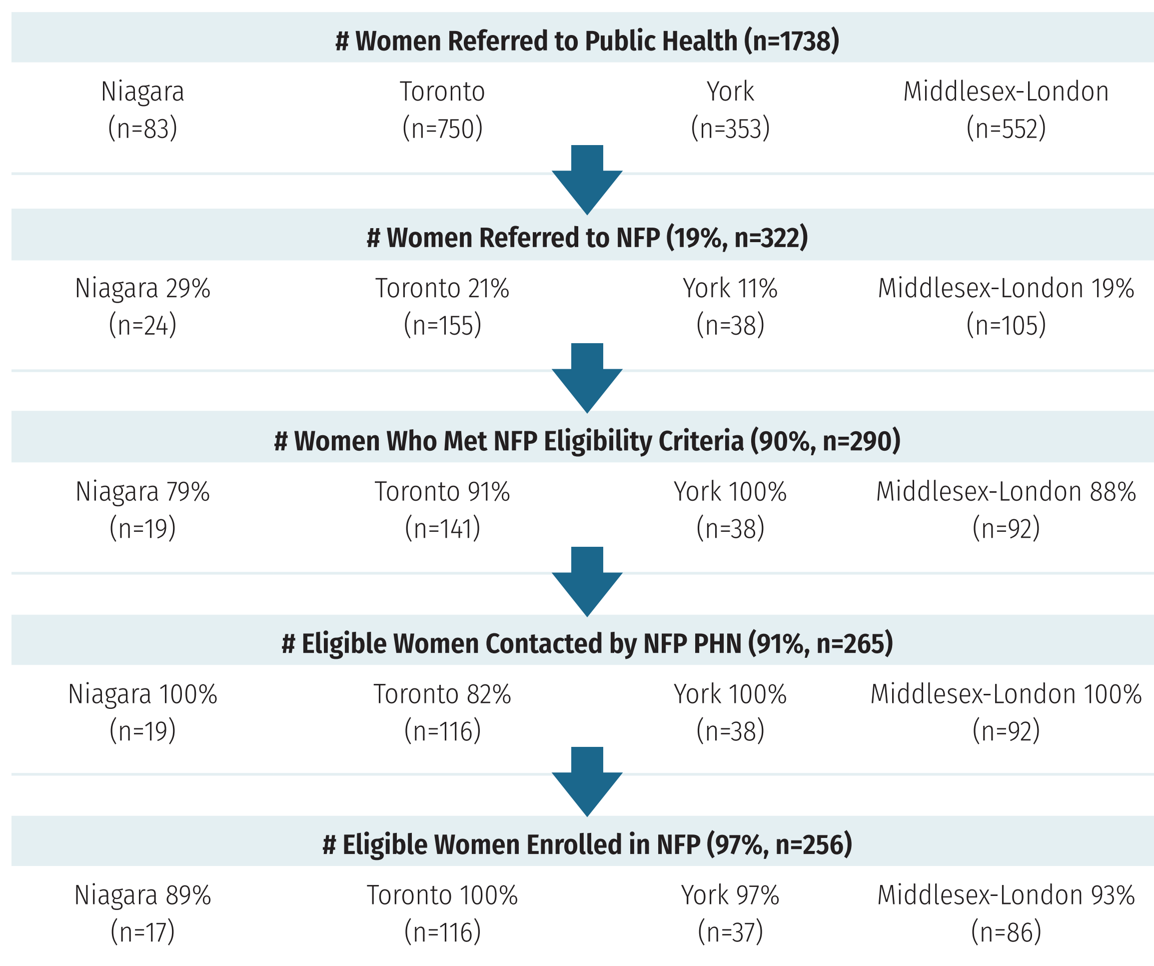
Implementation and Delivery of the NFP Program in Four Ontario Public Health Units

Nearly 1 in 5 (17%) pregnant women referred to CaNE pilot public health units were experiencing significant social and economic disadvantage and were assessed as eligible for NFP.

NFP referral and enrollment across four sites

Overall, across all pregnant women referred to the four public health units (n=1738), 19% (range 11-29%) were internally referred to the NFP program. The NFP program assessed that 90% (79-100%) of those referred met program eligibility criteria (or 17% of all pregnant women referred to public health). Of those who met the eligibility criteria, 91% (range 82-100%) were contacted by an NFP PHN and nurses were successful in enrolling 97% of those women (range 89-100%). From the women enrolled, 96% (245/256) received at least one home visit. (see Figure 1 for referral and enrollment flowchart).

Figure 1: CaNE Client Referral and Enrollment Flowchart



Evaluation of Program Implementation by Core Model Element

1

Client participates voluntarily in the NFP program.

"Voluntary participation is a key component of the development of a trusting relationship between a NFP nurse and client that is supportive, empowering and long lasting."[4 (p. 9)]

During the first home visit encounter, all NFP PHNs are required to discuss the voluntary nature of the program and seek the woman's permission to enroll her in the program. The majority of women (97%) contacted by an NFP PHN agreed to be enrolled in the program.

2

Client is a first-time mother.

"A woman with no prior parenting experience is more open to advice and guidance and may be more receptive to intervention and change. The skills and sense of her identity as a mother should carry over to subsequent pregnancies and births."[4 (p. 13)]

Overall, 99.67% (305/306 records) of pregnant women enrolled were identified as first-time mothers (first live birth). Only one participant was listed as not a first-time time mother; data were missing on five participants.

3

Client meets socioeconomic disadvantage criteria at intake.

Extensive evaluation of NFP has identified that the most pronounced program benefits are among clients meeting socioeconomic disadvantage criteria at intake.[4]

Socioeconomic disadvantage was determined by meeting local criterion for low-income and by age (< 21 yrs or < 24 yrs depending on demographics of health unit catchment area). Across the four public heath units, the mean age at baseline of the pregnant women enrolled in NFP was 18 years (range 14-26).*

*Note: *Quantitative data on participant income levels were not transferred as per the data sharing agreements.*

NFP teams working in areas characterized by high numbers of families living in poverty, experienced few to no difficulties in enrolling pregnant women that met socioeconomic eligibility criteria.

Client is enrolled in the program early in her pregnancy and receives her first home visit no later than the 28th week of pregnancy.

"Early enrolment allows time both for the client and NFP nurse to establish a relationship before the birth of the child and to address important prenatal health behaviours that affect the child's neurodevelopment and birth outcomes."[4 (p. 19)]

91.8% of eligible women were enrolled no later than the 28th week of pregnancy (See Table 3). The mean gestation at time of enrollment was 19.79 weeks (range 4-36 weeks). The International NFP benchmark is that 60% of pregnant women are enrolled by 16 weeks gestation.[4]

Table 3: Client Enrollment by Gestation

ENROLLMENT PERIOD	% WOMEN ENROLLED (n)
Enrolled < 16 weeks gestation	35.1% (n=94)
Enrolled between 17-25 weeks	36.2% (n=97)
Enrolled between 26-28 weeks	20.5% (n=55)
Enrolled > 28 weeks	8.2% (n=22)

In the qualitative interviews, nurses reflected that a key barrier to early enrollment might be that young women may delay seeking prenatal care, limiting physicians' and midwives' capacity to refer around 16 weeks gestation.

An identified practice challenge included frequent requests to public health from referral sources to allow a pregnant woman, not meeting all of the NFP eligibility criteria, to enroll in the program. Despite this, nurses demonstrated that they understood the importance of enrolling only eligible clients and could theoretically explain and provide rationale for why these specific client eligibility criteria have been pre-determined.

5 Each client is assigned an identified NFP nurse who establishes a therapeutic relationship through individual NFP home visits.

The success of the NFP has been attributed to the nurses' development of therapeutic relationships with their clients.[10] "An identified NFP nurse allows for a relationship to be established that can become a model for attachment. This is a foundation for developing capacity for healthy attachment between the client and her baby."[4 (p. 23)]

Each eligible pregnant woman that enrolled in the NFP program was assigned a PHN who had completed the NFP education.

For many clients with histories of trauma, building trust with a service provider can take time - time which is afforded to NFP PHNs working with this population.

Client is visited face-to-face in the home, or occasionally in another setting (mutually determined by the NFP nurse and client), when this is not possible.

"Seeing a client in her home environment is an essential part of the NFP program. When a client is visited in her home, the NFP nurse or supervisor will have a better opportunity to observe, assess, understand, and monitor the client's context and challenges."[4 (p. 27)]

A total of 3,338 visits were recorded. Of these, 84.5% (n=2,820) were recorded as "home" visits however, only 70.8% (n=1,996) actually took place in the client's home. Table 4 summarizes the number of completed home visits and alternate visits, as well as attempted and cancelled visits.

Table 4: Completed and Cancelled Home Visits

ENCOUNTER TYPE	% VISITS (n)
Completed home visits	84.5% (n=2,280)
Completed alternate visits*	8.9% (n=297)
Attempted home visits	1.9% (n=65)
Scheduled home visit, cancelled by client	4.1% (n=138)
Scheduled home visit, cancelled by PHN	0.5% (n=18)

*Note: *Of the 297 alternate visits completed, most were telephone visits with the client 48.5% (n=144), followed by texting with the client 19.7% (n=29).*

The locations of completed home visits are summarized in Table 5.

Table 5: Location of Completed Home Visits

LOCATION OF HOME VISIT	% VISITS (n)
Client's home	70.8% (n=1,996)
Family/friend's home	4.9 % (n=137)
Public health unit	3.4% (n=95)
Doctor's office/clinic	1.7% (n=49)
School	0.7% (n=20)
Other (e.g., Early ON centre)	18.5% (n=523)

Client is visited throughout her pregnancy and the first two years of her child's life in accordance with the current standard NFP visit schedule or an alternative visit schedule agreed upon between the client and nurse.

While there is flexibility within the program to alter the visit schedule to meet client needs, the standard schedule of visits that is recommended is as follows:

- Four weekly visits upon initial enrollment prenatally, then every other week until delivery.
- Six weekly visits after infant birth, followed by visits every other week until the baby is 21 months of age.
- Monthly visits from 21-24 months of age.

This schedule has been developed for the program to: match the expected stage of program delivery and public health issues; schedule assessments for maternal, or child health and development; build the therapeutic relationship; and support achievement of program goals.[4 (p. 31)]

At the time of analysis of program delivery data from the CaNE pilot project:

- 311 clients were referred and given a client ID number
  - 58.8% (n=181) were listed as active in the program,
  - 40% were discharged (n=125) (see Table 6 for discharge reason),
  - 2.25% (n=7) were listed as active, but had no home visit encounter recorded,
  - less than 1% (n=2) were reactivated, and there were no data available for 3 clients.
- A total of 245 clients had Home Visit Encounter (HVE) data collected at least once during pregnancy, infancy or toddlerhood.
  - Pregnancy Phase - 228 clients had one or more HVE
  - Infancy Phase – 141 clients had one or more HVE*
- During pregnancy (n=228), the mean number of home visits was 7.40 (SD=5.25; range: 1-35)
- During infancy (n=141), the mean number of visits was 11.6 (SD=8.78; range: 1-41).

Table 6: Reasons for Client Discharge

REASONS FOR DISCHARGE	% CLIENTS (n)
Client-initiated discharge	37.7% (n=26)
Lost to follow-up	17.4% (n=12)
Client moved	29.0% (n=20)
Pregnancy loss/infant death	5.8% (n=4)
PHN unable to provide NFP	1.4% (n=1)
Client lost custody of the child	2.9% (n=2)
No reason provided or data missing	5.8% (n=4)

The long-term retention of young mothers in NFP is an important program priority. In the CaNE education PHNs learned to offer a flexible schedule of home visiting by tailoring the frequency, duration and content of visits to meet their clients' specific needs.

*Note: *During toddlerhood, only 6 clients had HVE data. Lower HVE numbers in both the infancy and toddler phases are likely due to the CaNE pilot data collection time period – with data for analyses collected prior to many of the clients reaching later phases of the NFP program.*

NFP nurses and supervisors are registered nurses or registered nurse-midwives with a minimum of a baccalaureate/bachelor's degree.

A fundamental tenet of NFP is that it is a nurse-led program and nurses provide direct clinical care to women and children as part of their NFP nurse role. At a minimum, a baccalaureate or bachelor's degree is required because of the complexity of the role, the level of critical thinking required, and the expected level of autonomy in practice and decision-making in ambiguous situations.[4]

All NFP PHNs and supervisors in the CaNE pilot study held, as a minimum degree, a bachelor's degree in nursing.

NFP nurses and supervisors develop the core NFP competencies by completing the required NFP educational curricula and participating in on-going learning activities.

"International NFP nurse core competencies have been developed and each country's NFP educational curricula should reflect these. The NFP curricula should include content designed to prepare nurses and supervisors for their roles, as well as activities developed to sustain and maintain competence over the longer term."[4 (p. 41)]

The CaNE curriculum was piloted with two cohorts of learners. Cohort 1 started in January 2017 (n=3 supervisors; n=12 PHNs) and Cohort 2 started in March 2018 (n=1 supervisor; n=5 PHNs).

Three NFP supervisors completed NFP Fundamentals: Supervisor Education in March 2017. A new supervisor was hired in 2018 and she completed the Supervisor Education in December 2018.

NFP nurses, using professional knowledge, judgment and skill, utilize the visit-to-visit guidelines; individualizing them to the strengths & risks of each family, and apportioning time appropriately across the six program domains.

PHNs use the NFP Visit-to-Visit guidelines to plan and implement their home visits, individualizing their approach to meet the individual needs of each client and family. During their visits, the PHNs apportion time across the six program domains.[4]

The domains are listed below with examples to demonstrate the scope of content covered within each domain:

1. **Personal Health** (health maintenance practices; nutrition and exercise; substance use; mental health)
2. **Environmental Health** (home; work; school and neighbourhood)
3. **Life Course** (family planning; education and livelihood)
4. **Maternal Role** (mothering role; physical care; behavioural and emotional care of child)
5. **Family and Friends** (personal network relationships; assistance with childcare)
6. **Health and Human Services** (linking families with needed referrals and services)

Goals for the amount of time spent in each area are based on the content covered in the three US clinical trials and address the varying needs of clients and families in different stages of pregnancy and child development.

Table 7 displays aggregated data across each of the four participating public health units by each domain across all three program phases – pregnancy, infancy and toddlerhood. These data are summarized and compared to the NFP designated benchmarks for program domain content coverage at each stage.

Overall, PHNs generally met the designated benchmarks for program domain content covered at each stage. **More time than recommended was consistently spent addressing: 1) personal health across the three program phases and 2) environmental health during pregnancy and toddlerhood. PHNs spent less than the recommended time addressing maternal role across the three program phases.**

Table 7: NFP Content Domain Data by Program Phase: Pregnancy, Infancy and Toddlerhood

	DISTINCT VISITS (n)	PERSONAL HEALTH (%)	ENVIRONMENTAL HEALTH (%)	LIFE COURSE DEVELOPMENT (%)	MATERNAL ROLE (%)	FAMILY & FRIENDS (%)
PREGNANCY						
Benchmark		35-40%	5-7%	10-15%	23-25%	10-15%
Total/Mean	1,433	41%	13%	12%	21%	13%
INFANCY						
Benchmark		14-20%	7-10%	10-15%	45-50%	10-15%
Total/Mean	1,375	23%	9%	13%	43%	12%
TODDLERHOOD						
Benchmark		10-15%	7-10%	18-20%	45-50%	10-15%
Total/Mean	10	16%	12%	19%	42%	11%

NFP nurses and supervisors apply the theoretical framework that underpins the program (self-efficacy, human ecology, and attachment theories) to guide their clinical work and achievement of the three NFP goals.

The underlying theories are the basis for the NFP Program. There are three theories that provide a framework for practice in the NFP:

1. Human Ecology[11]
2. Attachment[12-13]
3. Self-Efficacy[14-15]

The three theories that serve as the foundation for NFP, complement one another and have been a part of the model since the original trials.[4]

For NFP PHNs theory can be a helpful way to "remind the client of why this is going to make a difference" – for example explaining the importance of attachment.

The majority of NFP PHNs participating in the CaNE pilot had experience home visiting pregnant and parenting women. As such they had a broad foundation of knowledge about public health nursing practice and competencies, and were familiar with concepts such as attachment, self-efficacy, reflection and therapeutic relationships. However, what was unique for many was that **following immersion in the NFP education, both nurses and supervisors expressed a much deeper understanding of the theories underpinning their practice.**

Most notable in the data was the transformative impact that learning about self-efficacy theory had on how the nurses approached, supported and worked with the women on their caseloads. One nurse shared:

"The other theory, I think is so critical is the self-efficacy. Oh my goodness. Believing in them. They actually have someone that believes in them – telling them, 'yes, you can do this.' Like right from the beginning it's always about their strengths. We always are pumping their tires, building their ... And then the fact that you always try to wrap the visit up with a positive affirmation."

The CaNE curriculum added Critical Caring Theory[16] to the original three theories underpinning the program. NFP PHNs participating in the pilot project acknowledged that the addition of Critical Caring Theory provided concepts to support the nature of the caring and social justice work they engage in as PHNs, as well as that the theory was complementary to the increased focus on social determinants of health occurring within various health units.

Each NFP team has an assigned NFP supervisor who leads and manages the team and provides nurses with regular reflective supervision.

NFP clinical work is emotionally demanding, carries many clinical challenges, and is carried out by individual nurses who are largely unobserved within home visits. NFP nurses need to practice with high levels of autonomous decision-making, often in situations of risk and uncertainty. For all these reasons, having a supportive, encouraging space to critically reflect on their practice is a core element of the NFP implementation model. It enables nurses to maintain emotional resilience, make robust decisions and develop their understanding and skillfulness.[4 (p. 59)]

For the CaNE pilot an NFP supervisor was trained and assigned to each NFP team within each of the four public health units. The Core Model Elements advise that a single supervisor provide support to a team of no more than 8 or no fewer than 4 full-time NFP nurses. With smaller teams, the amount of supervisor time dedicated to NFP can be proportionally reduced.

For this pilot project, all NFP supervisors had public health programming responsibilities in addition to their NFP work and all supervised teams of less than 8 nurses. During the pilot there were 2 teams that (at times) unexpectedly fell to a team size of 3 NFP PHNs. As such, a variance to the Core Model Element was successfully obtained for those team sizes to be smaller during the pilot project. The mean monthly supervisor caseload of PHNs supported is reported in Table 8.

Table 8: Mean Monthly* Supervisor Caseload of PHNs

Public Health Unit	PHNs (M)
Middlesex-London	4.3
Niagara Region	3.0
York Region	3.2
Toronto	3.9

**Calculated for a period of 21 months, January 2017-September 2018, with the exception of Niagara Region who implemented the program April-September 2018.*

Reflective supervision is distinct from other types of supervision as it utilizes a reflective cycle to explore the NFP nurse's experiences, allowing her to discover solutions, concepts and perceptions on her own without direction from the supervisor.

13

NFP teams, implementing agencies, and national units collect/and utilize data to: guide program implementation, inform continuous quality improvement, demonstrate program fidelity, assess indicative client outcomes, and guide clinical practice/reflective supervision.

For the purpose of the CaNE pilot project, tables to record information about referral and enrollment patterns, client demographics, home visit patterns, referrals and client outcomes were developed. Additionally, for every home visit or encounter, nurses were required to record information about the interaction, including data such as visit location, type of visit, and time spent per domain.

Throughout the CaNE evaluation, the need for an NFP specific database, integrated into existing local and provincial data collection systems, was identified as a priority. In the analysis of the data for this project, challenges were also noted – specific to the amount of missing data, the lack of consistent interpretations of codes, and minor errors in data entry. Specific recommendations for improvements will be outlined in a subsequent report.

14

High quality NFP implementation is developed and sustained through national and local organized support.

In Ontario, as part of the CaNE initiative, an NFP Nursing Practice Lead position was established to ensure that implementation and delivery of NFP across public health units was a coordinated effort. The NFP Nursing Practice Lead continues to serve as the lead educator and to provide extensive support and consultation to all five Ontario health units delivering NFP (including the City of Hamilton, Public Health Services).

An Ontario NFP Community of Practice was formed through CaNE, which continues to exist beyond the CaNE initiative. Members of this group include all NFP supervisors working in Ontario, the Ontario NFP Nursing Practice Lead, and research representatives. The objectives of the group are described in Box 4.

Box 4: Ontario NFP Community of Practice Objectives

- ensure fidelity to the NFP program, excellence in nursing practice, and consistency in program implementation across the province
- create a safe environment for exploring, sharing, learning, and engaging in reflective practice and professional growth
- keep informed of and provide perspective on NFP initiatives
- build and maintain positive relationships between and to provide mutual support for all health units implementing NFP
- contribute meaningfully to the development of tools and resources to strengthen the program in Ontario for clients and PHNs
- clarify and enhance how NFP aligns, complements, and integrates with the Healthy Babies Healthy Children program
- ensure connectivity between NFP research and practice

As part of the CaNE project, an Ontario NFP Steering Committee was formed. The Steering Committee includes the license-holder for NFP in Ontario, the Ontario NFP Nursing Practice Lead, Directors (or alternates) from all implementing health units, and a research consultant from McMaster University. This committee is continuing its work beyond the CaNE project. The objectives of the committee are described in Box 5.

Box 5: Ontario NFP Steering Committee Objectives

- provide strategic oversight for NFP in Ontario
- ensure fidelity to the NFP program and licensing requirements
- provide consultative support for province-wide challenges or issues (and local challenges, as needed)
- act as decision-making body for NFP in Ontario
- promote excellence in nursing practice

Additionally, the CaNE project resulted in the development of an NFP Provincial Advisory Committee. This group's objectives are to advise the Ontario NFP Steering Committee regarding strategic, policy and province-wide issues, to support cohesiveness and promote effective provincial collaboration and communication, to inform long-term visioning for NFP in Ontario (pending results of the RCT in BC), and to enhance alignment of NFP with existing services and systems. This committee is continuing its work beyond the CaNE initiative; its membership is described in Box 6. Provincial level representation from the poverty reduction sector, as well as the primary care/midwifery sector is still pending.

Box 6: Membership of the NFP Provincial Advisory Committee

Invited members include:

- all members of the Ontario NFP Steering Committee
- managers/supervisors and Medical Officers of Health from all implementing health units
- representation from Ontario's Ministry of Children, Community and Social Services
- representation from the Ministry of Health in British Columbia;
- researchers
- representation from Public Health Ontario
- provincial and local representation from child protection services
- representation from an Indigenous-led provincial-level organization

And finally, at a national level, a Nurse-Family Partnership Collaborative in Canada has been established. Its vision is "a cohesive approach to achieve a future where maternal, child, and family health and well-being are supported by evidenced-informed policies and programs." The group's mission is to share and collaborate on NFP between Ontario and British Columbia, with the objective to provide strategic leadership and build capacity to achieve the shared responsibilities associated with required core functions. Membership of this group includes the following roles and areas: NFP International, research, license holders, BC provincial government, provincial NFP clinical/nursing practice leads, and implementation sites.

Multiple groups have been formed at the provincial and national levels to support high quality NFP implementation. These groups and supports continue to exist beyond the CaNE initiative.

Conclusion

Following completion of the piloted Canadian Nurse-Family Partnership Education model, PHNs and supervisors demonstrated the capacity to implement the program with an exceptionally high degree of fidelity to the program's core model elements, particularly with respect to enrolling women that meet program eligibility criteria, client retention, and application of content distributed across all program domains.

References

1. Jack SM, Catherine N, Gonzalez A, et al. Adapting, piloting and evaluating complex public health interventions: lessons learned from the Nurse-Family Partnership in Canadian public health settings. Health Prom Chronic Dis Prev Canada. 2015;35(8/9):151-159.
2. Jack SM, Busser D, Sheehan D, Gonzalez A, Zwygers EJ, MacMillan HL. Adaptation and implementation of the Nurse-Family Partnership in Canada. Can J Public Health. 2012;103:S42-S48.
3. Olds DL. The Nurse-Family Partnership: An evidence-based preventive intervention. Infant Ment Health J. Jan 2006;27(1):5-25.
4. Nurse-Family Partnership International. International NFP core model elements. 2019. Prevention Research Center for Family and Child Health, Denver, CO.
5. Catherine NL, Gonzalez A, Boyle M, et al. Improving children's health and development in British Columbia through nurse home visiting: a randomized controlled trial protocol. BMC Health Serv Res. 2016;16(a):349.
6. Jack SM, Sheehan D, Gonzalez A, et al. British Columbia Healthy Connections Project process evaluation: a mixed methods protocol to describe the implementation and delivery of the Nurse-Family Partnership in Canada. BMC Nurs. 2015;14:47.
7. Gonzalez A, Catherine N, Boyle M, et al. Healthy Foundations Study: a randomised controlled trial to evaluate biological embedding of early-life experiences. BMJ Open. 2018;8(1):e018915.
8. Pound CM, Unger SL, Society CP, Nutrition Gastroenterology Committee Hospital Paediatrics Section. The baby-friendly initiative: Protecting, promoting and supporting breastfeeding. Paediatr Child Health. 2012;17(6):317-321.
9. Jack SM, Ford-Gilboe M, Wathen CN, et al. Development of a nurse home visitation intervention for intimate partner violence. BMC Health Serv Res. 2012;12:50.
10. Kitzman H, Olds DL, Henderson CR, et al. Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing. A randomized controlled trial. JAMA. 1997;278(8):644-652.
11. Bronfenbrenner U. (1994). Ecological models of human development. In International Encyclopaedia of Education, Vol. 3, 2nd ed. Oxford: Elsevier. Reprinted in: Gauvain M, Cole M (Eds), Readings on the development of children, 2nd Ed. (1993, pp37-43). New York: Freeman. http://www.columbia.edu/
12. Bowlby J, Ainsworth M. The origins of attachment theory. Devel Psychol. 1992;28:759-775.
13. Bretherton I. The origins of attachment theory: John Bowlby and Mary Ainsworth. Devel Psychol. 1992;28(5):759-775.
14. Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. Psychol Rev. 1977 Mar;84(2):191-215. https://www.uky.edu/~eushe2/Bandura/Bandura1977PR.pdf
15. Bandura A. (1994). Self-efficacy. In VS Ramachaudran (Ed.), Encyclopedia of human behavior (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], Encyclopedia of mental health. San Diego: Academic Press, 1998). https://www.uky.edu/~eushe2/Bandura/BanEncy.html
16. Falk-Rafael A. Advancing nursing theory through theory-guided practice: the emergence of a critical caring perspective. Adv Nurs Sci. 2005;28(1):38-49.