The Effectiveness of Home Visitation Interventions similar to *KidsFirst*, Saskatchewan: *A Focused Literature Review*

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by

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In collaboration with

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For more information on this review or the evaluation, please visit www.spheru.ca, www.kidskan.ca, or contact Nazeem Muhajarine (nazeem.muhajarine@usask.ca) or Fleur Macqueen Smith (fleur.macqueensmith@usask.ca)
# Table of Contents

Executive Summary ................................................................................................ iv

1. Introduction .......................................................................................................... 1

2. Home Visiting Intervention as an Early Childhood Intervention Strategy......... 2

3. *KidsFirst* Saskatchewan ....................................................................................... 4

4. Methodology: How was the literature review done? ........................................... 5
   Table 1. Criteria for selection ............................................................................. 7

5. Results: What did we find? ................................................................................ 10
   Table 2. Summary of Findings on Home Visiting Effectiveness ..................... 12
   Results Summary .............................................................................................. 19

6. What Do We Make of the Findings as they Pertain to the *KidsFirst* Program? 19
   Table 3. Evidence-based Promising Directions for Home Visiting Programs. 20
   Summary Notes on the Relevance of Findings for *KidsFirst* ........................... 35

7. Limitations of the Literature and Future Directions .......................................... 35
   7.a The Limits of Home Visiting Programs ..................................................... 37
   7.b Limitations of the Current Review ............................................................. 38

8. Concluding Remarks .......................................................................................... 39

Appendix A: Inclusion Criteria Form .................................................................... 41

Appendix B: Lists of Reviews Included and Excluded ......................................... 43

Appendix C: Home Visiting Programs Considered “Similar” and “Dissimilar” to *
*KidsFirst* Based on Inclusion Criteria................................................................. 45

Reference List ........................................................................................................ 50

**Note:** Due to length, Appendix D: Summary of Selected Home Visitation Literature Reviews: United States (1990 – 2007) and Appendix E: Summary of Selected Primary Literature on Home Visitation Programs: United States and Canada (2005 – Most Recent) are included in a separate Supplement to this literature review.
Executive Summary

This focused literature review was conducted by the Early Childhood Development Unit of the Ministry of Education, Province of Saskatchewan in collaboration with the Saskatchewan Population Health Evaluation Research Unit of the Universities of Saskatoon and Regina. It constitutes part of a multi-year evaluation of the KidsFirst Program supported by a research grant from the Canadian Population Health Initiative. KidsFirst is a paraprofessional home visiting program where home visitors receive support from professionals (dyad model), and has been in operation in nine communities in Saskatchewan since 2002.

This review provides relevant information on the following topics:

1. Key findings on paraprofessional and professional home visiting programs in the United States and Canada since 1990 in outcome areas including: 1) prenatal; 2) child abuse and neglect; 3) child health and safety; 4) child development; 5) parenting; 6) maternal self-sufficiency; and 7) family functioning;
2. Best practices and promising directions in the home visiting field;
3. An overview of the KidsFirst Program in Saskatchewan, with discussion of the relevance of findings for the program.

We searched published literature, including scientific literature, government reports, and other reports available online, to locate high quality, large reviews and meta-analyses reporting on the effectiveness of home visiting programs similar to KidsFirst in terms of delivery and intended benefits for at-risk families and children. This review was “focused” by use of an inclusion criteria methodology developed to identify reviews of high relevance to the KidsFirst program. The total number of studies covered in the current review is approximately 685. Additional research was consulted to assist in the identification of “promising directions” in home visiting practice.

Findings on Outcomes and Effectiveness

The results of studies on home visiting effectiveness vary widely, often with inconsistent, diverse and mixed findings, and benefits to children and parents are usually of very modest magnitude (0.1 – 0.2 of a standard deviation in effect size). This review found that the improvement of prenatal outcomes by home visiting programs similar to KidsFirst is rare. Parenting outcomes are most consistently found (e.g. changes in self-reported behaviours or attitudes), but changes in parent behaviours are less common, as is the prevention of child abuse and neglect. There is little consistency in child development outcomes, and effect sizes, when found, are usually extremely small. There is very little support for the achievement of family self-sufficiency benefits or enhanced family functioning.

The weight of evidence from the literature appears to support achievement of positive outcomes by paraprofessional/dyad home visiting programs (albeit with small effect sizes) in the following areas:

- Breastfeeding;
Parent self-reports of abuse and related behaviours such as harsh discipline and scolding;
Parent knowledge and attitudes about child abuse and neglect, as well as child development and school readiness;
Parent self-efficacy;
Use of centre-based parenting services;
Prevention of abuse and neglect under certain circumstances and with a specific target population;¹
Fixes to home safety hazards that are easy and inexpensive; and
Reporting of child abuse (children reported at earlier ages).

The following set of outcomes were found to have “mixed” support, which means they were achieved occasionally or sometimes by home visiting programs similar to KidsFirst, but not in a consistent or reliable fashion:
- Rates of child abuse and neglect;
- Positive parenting practices and parent-child interactions;
- Child development benefits;
- Unintentional injuries;
- Home environments for learning;
- Parenting stress;
- Length of relationships with partners; and
- Postnatal or maternal depression.

The weight of evidence does not appear to support the achievement of benefits for KidsFirst children and families in the following areas:
- Preterm births or low birth weight;
- Health of subsequent pregnancies;
- “Actual” child abuse and neglect (measured by reductions in actual cases as opposed to proxy measures);
- Discontinuation of child abuse once it has begun;
- Children’s health status, diet, height or weight;
- Use of community resources, including preventative health services;
- Child immunization rates;
- Family economic self-sufficiency (such as increased graduation or employment, or decreased use of social assistance);
- Family size or deferral of subsequent pregnancies;
- Violence by parents;
- Substance abuse; and
- Mother’s arrests or incarcerations.

¹ The prevention of child abuse and neglect appears to be supported if: 1) services are targeted to young, single, first-time mothers who are psychologically vulnerable; 2) the parents clearly perceive a need for the services; 3) home visiting is initiated early in the pregnancy; and 4) home visits occur at least once per week for a minimum of two years.
Promising Directions
Home visiting is a highly scrutinized human service strategy and the literature linking home visiting practices to parent and child outcomes has expanded over the past 15 years. As a result, the evidence-base for improving implementation and delivery of home visiting programs is also growing. The following promising directions were identified for paraprofessional/dyad programs:

- **Family/program match** – Families with high/complex needs appear to gain the most from more intensive services delivered by highly trained professionals. Program goals should be matched with level of family need.

- **Home visitor qualification** – Paraprofessionals appear to produce benefits of smaller magnitude than nurses, though estimates vary about the size of the difference across outcomes. The need for professional partnerships in paraprofessional programs is strongly emphasized in the literature, as is the importance of close supervision. Paraprofessional programs perform best when they maintain fidelity to an evidence-based model, focus on limited goals, and have a prescriptive curriculum.

- **Family recruitment** – Invitation refusal and dropout rates for home visiting programs tend to be high (approximately 40% and 50% respectively). Families that identify a need for services, or where parents see that their children need services (e.g. low birth weight or special needs) appear to benefit most. Young, first-time, single mothers seem to benefit most from home visiting programs, perhaps because they are most open and eager for information and assistance. At the same time, the highest risk families (e.g. substance abuse or child abuse and neglect) drop out at rates greater than 50%.

- **Program intensity and duration** – Necessary intensity and duration requirements are largely unknown, but generally families that receive more intervention receive greater benefit. As an estimate, it appears that visits that occur weekly or every other week for six months to one year (estimates vary), or at least 12-15 home visits, can lead to changes in parenting and parent-child interactions, while the prevention of child abuse and neglect require visits at least once per week for at least two years. Families in home visiting programs often do not receive the number of scheduled visits required to achieve intended benefits. Home visiting programs should try to deliver the service dosage indicated by the program model, while at the same time exercising flexibility and relying on the guidance of families in designing programs and setting frequency and duration of visits.

- **Family retention** – Families have a greater likelihood of enrolling for services if they identify a need for services, but tend to stay if they also believe they will benefit from those services. Retention is increased by focusing on needs identified by the parent, joint planning of activities, and scheduling visits at the family’s convenience.
• **Family engagement** – Socio-economic and demographic characteristics such as ethnicity have not been associated with increased or decreased participation in home visiting programs. Initiating services prenatally or at birth reaches parents when they are most open and eager for information and assistance. Early outreach efforts to engage families that do not clearly reject services can be effective in re-engaging them.

• **Parenting/child focus** – Activities that focus on the child are more effective at changing child outcomes. Programs that offer home visiting services in conjunction with centre-based early childhood education produce greater and more enduring results than programs that offer home visiting services alone. More at-risk mothers often receive fewer visits and have visits less focused on the child. It may be useful for home visitors to increase their focus on the child unless mental health or other concerns necessitate more parent focus. Supplementing home visiting with parent support activities or classes has been associated with greater benefits for parents.

• **Comprehensive programming** – Home visiting is a relatively fragile intervention, usually delivering 20-40 hours of service over a few years. This is little time to address the complex issues facing many families. It is increasingly understood that home visiting is nevertheless an important component of a system of early intervention services.

• **Cultural consonance** – Activities that are inconsistent with the cultural beliefs and values of the family, including the extended family, are less likely to be implemented and increase the likelihood of dropouts. Ongoing dialogue, flexibility and openness to altering the home visiting format are recommended.

• **Supervision** – Ongoing review of home visits by supervisors is necessary to assess staff skills and service quality, and to maintain program fidelity. Supportive supervision helps home visitors deal with emotional stress, maintain objectivity and provide opportunities for professional growth.

• **Training** – Home visiting programs require well-trained, dedicated staff. Comprehensive pre- and in-service training that occurs over time, and includes on-site assessment of learning, has been associated with greater benefits for families.

• **Home visitor retention** - Well-prepared home visitors that are sufficiently compensated and supported by their supervisors and other professionals will have a better chance of avoiding job burn-out and achieving successful and rewarding relationships with their families.

• **Program quality** - Effective programs focus on the goals they wish to accomplish, set performance standards, and monitor the progress toward achieving those goals, making sure the curricula match those goals and that families receive
information and assistance related to those goals. Families should be consulted to ensure the program is offering the assistance they want and need.

**Notes on the KidsFirst Program**

*KidsFirst* program components associated with positive outcomes for vulnerable children and families include: 1) voluntary participation; 2), strength-based approach; 3) community integration and collaboration; 4) structured curriculum; and 5) comprehensive training. *KidsFirst* may admit and retain a proportion of families that are higher risk than the model is designed to accommodate, but the program does a reasonable job of delivering program intensity and duration requirements with lower-than-average dropout rates. Many intended benefits of the program could be realizable for a significant proportion of *KidsFirst* parents and children, although research suggests any changes will be modest in magnitude. Program effectiveness could be improved if prenatal recruitment were increased, especially for single, young first-time mothers, as these families appear to benefit most from home visiting programs. A challenge for home visiting programs is to link program content and service delivery methods to specific outcomes within a well-articulated theory of change, thus building on the evidence-base on home visiting effectiveness and paving the way for future improvement.
The Effectiveness of Home Visitation Interventions Similar to *KidsFirst*, Saskatchewan: A Focused Literature Review

1. Introduction

The present literature review explores the extent to which current research indicates that home visiting programs similar to *KidsFirst* produce benefits for parents and children. More specifically, this review seeks to determine if home visitation by paraprofessionals initiated during pregnancy or within one month of birth, and continued for at least a year and up to age five,\(^2\) is an effective strategy for: reducing negative health and developmental outcomes in children; and increasing positive outcomes for children and families who are moderately to highly vulnerable due to their social and economic circumstances.

Secondary objectives of this review are to: 1) examine proposed pathways that may link home visiting to parent/child outcomes; 2) inform continuous program improvement and development; and 3) supplement and provide context for the current evaluation of the *KidsFirst* program.

The Saskatchewan Population Health and Evaluation Research Unit (SPHERU) of the Universities of Saskatchewan and Regina, in collaboration with the government of Saskatchewan are conducting a multi-year evaluation of the *KidsFirst* Program supported by a research grant from the Canadian Population Health Initiative of the Canadian Institute for Health Information (CPHI-CIHI). As proposed in the *KidsFirst Program Evaluation – Phase 1: Evaluation Framework*,\(^3\) a literature review on the effectiveness of home visiting was to constitute one data source for the *KidsFirst* program evaluation. The Early Childhood Development Unit (ECDU) of the Ministry of Education participates with SPHERU and a representative from the Ministry of Social Services on the Core Research Team.\(^4\) The ECDU contributes resources to the project, which includes undertaking lead authorship of this focused literature review.

This review briefly: 1) describes home visiting as an early childhood intervention in Canada and the United States; 2) provides an overview of the *KidsFirst* program in Saskatchewan with focus on the home visiting component of the program; 3) outlines the methodology of this review (how it was conducted); 4) reports key findings regarding outcomes for families and children; and 5) concludes with a discussion of “best practices” in the field and findings most relevant to the *KidsFirst* program, with suggestions for future research. This report is intended for home visiting practitioners, program administrators, policy makers and researchers interested in the effectiveness of home visiting programs, especially paraprofessional programs aimed at

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\(^2\) In accordance with the *KidsFirst* approach, home visits should occur at least once per month and not more than four times per month.

\(^3\) Submitted to the Saskatchewan Ministry of Education by the *KidsFirst* Evaluation Team of SPHERU (Muhajarine, Glacken, Cammer & Green, July 31, 2007: p. 17)

\(^4\) Core Research Team members include Nazeem Muhajarine, Darren Nickel, Fleur Macqueen Smith and Nazmi Sari (SPHERU, University of Saskatchewan, U of S), Gail Russell (ECDU, Ministry of Education), Bonnie Jeffery and Tom McIntosh (SPHERU, University of Regina), David Rosenbluth (Research and Evaluation, Ministry of Social Services), Angela Bowen (U of S), Kathryn Green (U of S) and Jody Glacken.
achieving multiple child, parent and community development outcomes.

2. Home Visiting Intervention as an Early Childhood Intervention Strategy

Home visiting is a strategy for delivering supportive health and/or social services directly to clients by visiting them in their homes. Early childhood home visiting programs aim to enhance the health and development of young children by providing home-based service to new or expectant parents. The early years of childhood can be a challenge for many parents, especially those with low income, minimal support, high stress levels, and personal challenges such as mental health or addictions problems. Child development experts agree that children from poor families are at greater risk for developmental problems. Early intervention to adequately meet children’s developmental needs continues to be regarded as an effective means of bringing about long term, positive health and social outcomes for vulnerable children.

Home visiting can reach out to families who might otherwise not seek supportive services, and can bring services to geographically or socially isolated families. Meeting with families in their home can create a sense of comfort that enables families to open up about their needs. Also, it allows home visitors to directly observe both family interactions and the home environment, so they are able to better tailor their support and guidance to meet the needs of individual families. It may also be attractive to families who want to keep their children at home, rather than place them in centre-based early education programs, especially when they are very young (Knoke, 2009; Braun, 2008; Gomby, 2005).

Home visiting for new parents is a publicly funded, universal (non-targeted) early intervention strategy in most industrialized nations other than the U.S. and Canada. In most countries, home visiting is free, voluntary, not income-tested and embedded in comprehensive maternal and child health systems (American Academy of Pediatrics, 1998). Countries with extensive home visiting programs have lower infant mortality rates than does the U.S., though a causal link has not been demonstrated (Ibid). Universal home visiting to new parents was a staple of community health nursing practice in the U.S. and Canada after the late 19th century, but health care funding cuts since that time have limited this practice (Kearney, York, & Deatrick, 2000).

However, the need for home visiting services has not declined. Since the mid-1980s, demographic and social shifts, including increases in single parenting, women's entry into the workforce in large numbers and expanding roles and child care burdens, and loss of safety nets such as governmental support, have all contributed to the growing need for home visiting services. In many cases, these factors have resulted in families facing increased stress and anxiety, which can have a negative impact on children's development.

Home visiting services can help to address these challenges by providing a range of support and resources to families, including

5 Available research demonstrates a link between brain development and early environmental influence. See From Neurons to Neighborhoods by Shonkoff and Phillips (eds.) (2000), or Reversing the Real Brain Drain: Early Years Study by McCain & Mustard (1999) at: http://www.founders.net/ey/home.nsf/a811f0e8a8a2a798525678603a3dd9/1e4ad2677be034685256a4700737a3b/$FILE/early_years_study.pdf

6 In the UK for example, Health Visitors visit all women at least six times after birth as part of a routine child health surveillance check, and midwives visit all women prenatally and up to 28 days after birth (Bull, McCormick, Swann & Mulvihill, 2004). Australia and New Zealand have similar universal home visiting services, which are common throughout Europe as well (Bilukha, Hahn, Crosby, Fulllove, Liberman, Moscicki, Snyder, Tuma, Corso, Schofield & Briss, 2005). Denmark established home visiting as law in 1937 as a means to lower infant mortality, and France provides free prenatal care and home visits by midwives or nurses about health-related issues (American Academy of Pediatrics, 1998).
welfare funding have increased threats to family health and wellbeing (St. Pierre & Layzer, 1999). As welfare states became less generous over the 1990s, poor families were increasingly expected to seek employment and/or upgrade their educational qualifications. While it is well understood that lower income is associated with decreased physical, social, emotional, cognitive and behavioural wellbeing among children (Statistics Canada, 2006), with the additional juggling of work and domestic responsibilities, lower income is also linked to less effective parenting and negative child outcomes such as poor emotional adjustment and lack of readiness for school (Jones et al., 2002).

Since the cutbacks of the 1980s and 1990s, home visiting has become a frequently used approach in supporting families with young children in the U.S., reaching something approaching half a million families at a cost of up to $1 billion (Gomby, 2005). This development is likely based on the broad body of research that emphasizes the importance of intervening during the first three years of life in order to influence a child’s development trajectory and the nature of the parent child relationship (Daro, 2006). It also may be attributed to the positive findings from the Nurse Family Partnership (NFP) program. The Nurse Family Partnership is an intensive, nurse home visiting program for first-time mothers developed and first implemented by David Olds and his colleagues in a high-risk area in Albany, New York in 1977.7

In 1991, when the U.S. Advisory Board on Child Abuse and Neglect recommended that home visiting programs be made universally available throughout the U.S., it promoted a paraprofessional home visiting program for vulnerable families known as Hawaii Healthy Start. This program was developed state-wide in Hawaii, following positive results from a quasi-experimental study. The National Committee to Prevent Child Abuse (now Prevent Child Abuse America) then developed a national initiative to prevent child maltreatment based on the Hawaii Healthy Start model called Healthy Families America (HFA) (Olds, Sadler and Kitzman, 2007). By 2002 there were 450 HFA sites in 39 states serving 66,000 families. Currently HFA exists in over 440 communities in the U.S. and Canada.8

Beginning in 1992, the HFA model was implemented in five sites across Canada: three in Edmonton, the Kwanlin Dun First Nation in the Yukon and Charlottetown P.E.I. (Makhoul, 2001). Manitoba’s BabyFirst program was established in 1998, and went province-wide in 1999. Now known as Families First, it was modeled after Hawaii Healthy Start (Brownell et al., 2007). The KidsFirst program of Saskatchewan, implemented in 2002, was also modeled after Hawaii Healthy Start.9 Currently home visiting programs for at-risk mothers have been developed and implemented in all 10 provinces in Canada, as well as the Yukon and Northwest Territories. A pilot study has been initiated at McMaster University to examine the feasibility of conducting a randomized controlled trial of the Nurse Family Partnership in Canada (Peters, 2008).

7 The results of three separate randomized controlled trials of the NFP program conducted in 1978, 1990 and 1994 suggest that the program improves some pregnancy outcomes, improves the health and development of young children, and helps parents become more self-sufficient (Olds, Sadler & Kitzman, 2007).

8 From the HFA website: http://www.healthyfamiliesamerica.org/about_us/index.shtml.

9 KidsFirst was developed with reference to the Healthy Start Manual (1994) from the Hawaii Department of Health, Maternal and Child Health Branch by the Hawaii Family Stress Centre.
3. KidsFirst Saskatchewan

The present literature review has sought to identify and cover research that is most relevant to the KidsFirst program, in accordance with select search criteria to be outlined in the following Methodology section. It is pertinent therefore to provide a description of the KidsFirst program as it is relevant to that search strategy.

Saskatchewan’s KidsFirst program is an interministerial initiative designed to support vulnerable families in developing the capacity to better nurture their children. It seeks to reach identified vulnerable women as early in pregnancy as possible, and work with them until their child reaches the age of five. After the birth of a child in Saskatchewan, the majority of parents are administered an In-Hospital Birth Questionnaire derived from the Parkyn tool, which includes a series of questions about their health, family and socio-economic situation as a first step toward admission to the KidsFirst program.

Home visiting is the cornerstone of the KidsFirst program. Since 2002, the program has provided intensive home visiting supports to families in nine communities across the province where it was determined that the greatest concentrations of vulnerable families existed at the time the program was being developed. The nine targeted communities that receive KidsFirst funding are: Meadow Lake, Moose Jaw, Nipawin, North Battleford, Yorkton, Northern Saskatchewan and selected neighbourhoods in Prince Albert, Regina and Saskatoon. 12

For a complete list of the program goals and objectives, see the KidsFirst Strategy for 2007-08 at: http://www.finance.gov.sk.ca/performance-planning/2007-08/KidsFirstStrategyPerformancePlan0708

KidsFirst uses what has variously been referred to as a lay, peer, mentor or paraprofessional model of home visiting with professional or semi-professional supervision. This service delivery approach is considered a dyad model of home visitation, where a paraprofessional home visitor and a public health nurse or other professional collaborate to meet the needs of families (Reiter, 2005). KidsFirst families are supported by home visiting supervisors and mental health and addictions teams. 14 KidsFirst home visitors work with families to promote child development and parent child interactions, and also to facilitate family-identified goals, such as going back to school or finding a job.

KidsFirst delivers the Growing Great Kids (GGK) early childhood development curriculum, which is based on the Healthy

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10 The Early Childhood Development Executive Management Committee is comprised of Assistant Deputy Ministers from Education, Health, Social Services, First Nations and Métis Relations, and the Executive Director of the Human Services Integration Forum. This committee provides strategic direction to the ECD Unit.

11 The Parkyn Tool is the most common screening tool utilized across Canada although different provinces have made modifications to the tool. This tool was initially developed in the Interior Health Authority of British Columbia by Helen Parkyn.

12 These sites were chosen using several criteria, including levels of poverty (social assistance rates), incidence of high and low birth weights, hospitalizations of infants, as well as the proportions of single and teen parents.

13 The terms “lay home visitor,” “peer” and “paraprofessional” are not defined consistently in the literature, are often used interchangeably, and there is little agreement on the educational preparation or training required for home visitors (Wade et al., 1999).

14 As indicated in the KidsFirst Program Manual (February 2002), program managers and home visiting supervisors are to possess an educational degree in a human services discipline. Educational qualifications are not designated for home visitors, in preference for knowledge, skills and abilities and a “preference for applicants who have a shared history with the target population (cultural and/or geographic).” In practice however, home visitors are usually required to possess a high school diploma. Mental Health and Addictions staff are usually employees of the health region and are required to have at least a Social Work degree or equivalent.
Growing Great Kids provides individualized learning opportunities for parents. It is intended that these experiences will lead to behavioural changes in parents, which will enhance the social, emotional, physical, and cognitive development of their children. Support is tailored on a case-by-case basis to provide the assistance that addresses each family’s needs and builds upon each family’s strengths. Home visitors also provide practical advice and support to help families arrange for transportation, child care, housing, medical attention and/or job readiness training.

KidsFirst incorporates a model of change adapted from the Family Institute of Hawaii Family Support Centre:

When parents’ capacities are supported, they are more likely to act on their strengths. A belief in an individual’s inherent capacity for growth and wellbeing requires increased attention to that person’s resources which includes their talents, experiences and aspirations. Through this active attention, the probability of positive growth is significantly enhanced. (KidsFirst Program Manual, February 2002)

While focusing on parents, the KidsFirst program seeks to promote change at three distinct but interconnected levels – child, family and community relationships. For a thorough discussion of theories relevant to KidsFirst, see Getting Inside the Black Box: Using Theory to Inform the Evaluation of KidsFirst in Saskatchewan, Canada. This paper identifies three theories corresponding to the individual, family and community improvements the KidsFirst program is intended to effect.

KidsFirst can be referred to as a “two generational” program (serving the needs of both children and parents), but it also operates at a community level, seeking to close the gaps in the service system that exist for vulnerable families living in targeted communities. KidsFirst resources are intended to build upon existing resources available in the community, and the collaborative planning efforts of local KidsFirst staff, Management Committees and community representatives shape decisions on whether to realign or enhance existing services, or where necessary to develop new services.

4. Methodology: How was the literature review done?

High quality literature reviews and meta-analyses written since 1990 were searched via published literature databases such as, but not limited to: Cochrane and Campbell databases of systematic reviews, Database of Abstracts of Reviews of Effects (DARE), Medline, CINAHL Plus, Embase, PSYCINFO, Psychological Abstracts, ERIC, HealthSTAR, AMED, Social Work, Social Services and Sociological Abstracts, Social Science Citation Index - Web of Science, Family and Society Studies Worldwide, Family Studies Abstracts, Academic Search, Psychology and Behavioural Sciences Collection, Health Canada, other health agencies, and Google, including Google.
Scholar. Article title/content search terms included: “home visit*,” “home based,” “intensive visit*,” “child,” “early childhood intervention,” “infant/child health,” “non-professional intervention,” “high risk mothers,” “prevention,” “early child health,” and “health visit*” used in combination with “systematic review,” “meta-analysis,” and “literature review.”

In addition, reference lists of published studies and other relevant resources were hand searched. As most peer reviewed literature reviews included searches of the unpublished literature, an extensive search of the grey literature was not conducted. Where it was found that multiple reviews and reports existed for single project, the results in the original review were updated with the most recent. The search also included relevant, primary studies which were: 1) published too recently to be included in a large review and, 2) provided updated information on home visiting programs that were covered in earlier, large reviews. Evaluations of Canadian programs modeled after home visiting programs of interest were also sought.

An Inclusion Criteria form was developed to document and systematize the review process. A copy is attached (Appendix A) and these criteria are summarized in Table 1. Literature reviews contain multiple studies, and given that the current review seeks to match programs similar to KidsFirst on multiple criteria, the challenge became one of determining both how many studies in a given review were required to be like KidsFirst, and on how many criteria, in order to be included. The process of selection described below came about after multiple discussions amongst the authors, and was approved by the Research Team. There were three levels to the inclusion assessment process:

1) Five “basic criteria” were developed to assess the individual studies, and all five criteria had to be met in order for a study to be considered for this review. These included: 1) date/language (English language and published since 1990); 2) location of studies (Canada and U.S.); 3) study type (literature reviews or meta-analyses); 4) home visiting presented as the core or central component of the intervention; and 5) appropriate outcomes (see Appendix A for full list of infant/child and parent outcomes, or a summary in Table 1, under Outcome Measures). All had to “pass” based on a 75% relevancy ratio. For example, no more than 25% of the studies included in the review could be from countries other than Canada or the U.S.

2) Six criteria were used to assess “similarity to KidsFirst” on the program level:
   1) voluntary participation; 2) two-generational and multi-component program; 3) targeted to socio-economically vulnerable; 4) onset beginning prenatally or within one month of birth; 5) duration expected to be one year minimum; and 6) frequency of visitation between one to four times per month. Studies were rated as having sufficient similarity to KidsFirst based on a 65% similarity ratio, and four out of six criteria needed to meet this level in order to be considered for inclusion in the present review.

3) Next was an assessment of study quality or “execution.” Here, “high quality” reviews were defined as those which: 1) considered primarily data from randomized controlled trials (RCTs) or quasi-controlled trials (75%), or showed findings from controlled studies
separately; 2) had comprehensive search and retrieval strategies; 3) performed adequate, critical appraisal of primary studies; and 4) appropriately integrated and explained results (derived from Hayward, Ciliska & Dobbins, 1995). The reviews were assessed for appropriateness and methodological quality without consideration of results contained in the reviews.

Table 1. Criteria for selection

<table>
<thead>
<tr>
<th>Targeted Population: Participants included mainly socio-economically vulnerable or disadvantaged parents recruited prenatally or with children up to age five. This included high-risk single and teen parents, visible minorities, families exposed to family violence and/or faced with mental health and addictions issues, parents with low income, low education, lack of social supports, inadequate housing and/or food insecurity. Home visiting programs designed specifically for families with children who are chronically ill or have physical or developmental delays or disabilities were excluded.</th>
</tr>
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<tr>
<td>Home Visiting Interventions: Reviews of studies involving voluntary visitation to the home of a pregnant woman or new parent/s by an individual not related to the parent/s for the express purpose of achieving better outcomes for the child and/or parent/s were included (see list below). The home visiting program needed to be comprehensive, strengths-based and two-generational. Home visiting programs intended solely to produce one or a few outcomes, such as increased immunization or breastfeeding, were excluded. Studies concerning ongoing home visiting by child protection services to determine if a child should be removed from the home, or for purposes of family preservation, were excluded. Health nurse visitation programs (for primarily health-related reasons) were excluded. When home visiting programs were combined with other programs, such as centre-based early education for children or parent training programs in group settings, they were included if it could be determined that home visiting was the central or core component of the program.18 Where home visiting was combined with other, attendant types of family or child support, it was noted. Comparisons between home visiting and other types of care (e.g., centre-based) or parent support (e.g., parent training or groups) were included. Reviews of studies which compared the impacts of home visits to no home visits, or to a different type of intervention, were included.</td>
</tr>
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<td>Duration and Intensity: Included programs were to have an expected duration of at least one year,19 and home visiting was to have commenced during pregnancy or shortly after birth of a child (no later than 12 months), and was to be followed up with one to four home visits per month (KidsFirst averages approximately two home visits/month).</td>
</tr>
</tbody>
</table>

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18 The drawback to including combination programs is it becomes difficult or impossible to attribute outcomes to the home visiting program.
19 Necessary intensity and duration requirements for various outcomes are largely unknown, but Prilleltensky, Nelson and Pierson (2001) suggest effective home visiting programs provide home visitation services for at least a year, while MacLeod and Nelson (2000) found greater effectiveness when the duration was longer than six months, provided the number of visits was greater than 12.
Deliverers: Home visitors were professionals (RN, MSW or BSW), paraprofessional/trained laypersons, or professionally supported and trained laypersons. Comparisons between professional versus paraprofessional home visiting programs were included.

Outcome Measures

Infant/Child Outcomes
- child development (physical, cognitive, psychosocial, socio-emotional, communicative, and school readiness)
- child health care (including health risk behaviours of mothers with respect to the child pre- and postnatally, such as nutrition, prenatal nutritional supplements, participation in prenatal classes, breastfeeding duration, and immunization)
- child injury/maltreatment, safe home environment
- pregnancy and birth outcomes (e.g. birth weights, pregnancy or delivery complications)

Parent Outcomes
- quality of parenting
- parent knowledge and confidence (e.g., realistic expectations of the child, home environment, and safety)
- family functioning (e.g., trusting and nurturing relationships and problem-solving)
- family self-sufficiency (e.g., literacy, school enrolment, employment)
- social support for parents (e.g., connection with community resources, supports and services)
- family health care (e.g. access to physicians/nurses, continuity of care, or a “medical home”)
- mental health (e.g., access to mental health services and incidence of maternal depression and anxiety)
- addictions (e.g., access to addictions services, treatment, and changes in substance abuse)

Countries/location of study: Canada and United States. Language: English language only. Date of Publication: Studies published since 1990.

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20 Countries were selected for comparability to Saskatchewan, Canada in terms of: 1) established market economy; 2) welfare state/CBO sector mix; 3) heterogeneous populations, and 4) cultural similarity. The UK, Australia and New Zealand were excluded as they have universal home visiting services, which are common throughout Europe as well (Bilukha et al., 2005), thus reducing the comparability of home visiting programs for at-risk populations. In the U.S. and Canada, home visiting may have become a stigmatizing marker of poverty or parental inadequacy, a possible impediment to positive outcomes for children and families which would be absent or negligible in countries where home visiting is a commonly received service (Gomby, Culross, & Behrman, 1999).
Assessment was first completed by an ECDU Consultant (Gates) and then vetted by a SPHERU researcher (Nickel). Assessment for inclusion was independent and unblinded. In cases of disagreement, the principal evaluator (Muhajarine) made the final determination. During June to July 2008, a total of 57 potentially relevant reviews were located. Applying the selection process described above, it was found that Deanna Gomby’s review, *Home Visitation in 2005: Outcomes for Children and Parents* effectively covered 25 meta-analyses and literature reviews prior its publication on July 18, 2005. Since Gomby’s (2005) objectives were very similar to those of the present literature review, the quality of her work was high, and her review already summarized 18 large reviews collected as part of our original literature search, it was decided her review could be treated as a sufficient summary of the state of knowledge about home visiting programs similar to *KidsFirst* up to July 2005, with some qualifications.

21 A literature search was conducted between November 2007 and May 2008 using a search strategy with a broader set of inclusion criteria compared to that currently employed. This resulted in locating of approximately 50 primary studies, 80 qualitative or secondary reports and 40 large reviews completed since 1990. It was then decided to redefine the search parameters because of the sheer volume of studies. Similar literature reviews have reported retrieving up to 5,000 abstracts and 400 potentially relevant articles (see Wade et al., 1999). At the end, it was decided to consider only large literature reviews and meta-analyses.

22 Gomby describes the purpose and focus of her review: “This paper explores the extent to which research indicates that home visitation produces benefits for parents and children. Although there are many different types of home visiting programs, this paper focuses on a subset – those primary prevention programs that send individuals into the homes of families with pregnant women, newborns, or young children under age five on an ongoing basis, and seek to improve the lives of the children by encouraging change in the attitudes, knowledge, and/or behaviors of the parents” (2005, p.1).

The subset of programs Gomby covered in her review includes six of the major home visiting programs in the U.S. These include: 1) Early Head Start (EHS); 2) Healthy Families America (HFA); 3) Home Instruction for Parents of Preschool Children (HIPPY); 4) Nurse-Family Partnership (NFP); 5) Parents as Teachers (PAT); and 6) the Parent-Child Home Program (PCHP). Three of the six programs have characteristics that are dissimilar to *KidsFirst* in key ways. HIPPY and PCHP are targeted to children ages three to five years and two to three years respectively, and PAT is usually delivered as a universal program (untargeted). A list of home visiting programs that are similar and dissimilar to *KidsFirst* is found in Appendix C.

Some studies included in Gomby (2005) are less relevant for other reasons related to the search criterion. *Appendix B, section 1* provides a list of studies covered by Gomby, with those of lesser relevance marked with an asterisk (*) and the main reasons noted. Gomby’s findings have been analyzed with consideration to the inclusion of these less relevant studies/programs where possible (e.g., when they are specifically cited). In addition, accepting Gomby’s work as representing the “state of knowledge” at the time of publication involved disregarding 17 large reviews identified in the original search since 1990, but not included in her review, evidently because they were of more limited relevance or quality. They are listed in *Appendix B, section 2*. Lists of home visiting programs that are similar to and dissimilar from *KidsFirst* are found in Appendix C.
Capturing relevant research after the publication of Gomby (2005) involved searching relevant large reviews and meta-analyses between April 1, 2005 and July 31, 2008. Six literature reviews and four systematic reviews were found for this time period, but only two “passed” the selection criteria. These include one systematic review by Bilukha et al (2005) and a literature review by Harding and colleagues (2007). Post-Gomby reviews are listed in Appendix B, section 3. Those which were excluded from the present review are marked with an asterisk and the primary reason is noted. The search for relevant, primary studies uncovered 11 that met the search criteria (see Table 1: Criteria for Selection above) and were of sufficient quality to be included in this review. They are listed in Appendix B, section 4 with the home visiting programs they cover.

Gomby (2005) summarized the conclusions reached in 14 recent meta-analyses concerning home visiting, 11 comprehensive literature reviews, and other primary or individual studies published too recently to have been included in these larger reviews.23 In total, her review covered approximately 620 studies that are relevant to the present study.24 The Bilukha et al. (2005) and Harding et al. (2007), post-Gomby reviews covered an additional 54 relevant studies. With the 11 primary, post-Gomby studies, the total number of studies assessing the effectiveness of home visiting for programs similar to KidsFirst covered in the current review is approximately 685. The findings of Gomby’s review are summarized in Appendix D (included in the Supplement), as are the two large post-Gomby reviews (the Bilukha and Harding reviews). The 11 primary studies are summarized in Appendix E (included in the Supplement), including four Canadian studies.

5. Results: What did we find?

Findings for studies included in this review are summarized in Table 2. Where the achievement of outcomes is clearly linked to program processes or practices, it is noted. Best practices related to successful programs are covered in more detail in the next section and summarized in Table 3. In Table 2, general outcome headings include: a) prenatal; b) child abuse and neglect; c) child health and safety; d) child development; e) parenting; and f) self-sufficiency and family functioning.

Evidence from the literature is assessed to determine if it: 1) “supports” the potential achievement of the outcomes by home visiting programs similar to KidsFirst; 2) is mixed rendering “inconclusive” the achievement of the outcome, or; 3) the evidence “does not support” the achievement of the outcome.25 Effect sizes (ES)26 are

23 As Gomby notes (p. 71), new studies continue to be produced each year, so her review of recent literature reviews and meta-analyses is supplemented with “some very recent studies that have not been included in these thorough reviews.”
24 This number is adjusted for duplication across reviews, and approximately 410 studies are not included in the count (330 from Layzer et al., 2001) because the studies did not cover home visiting programs, the programs were too dissimilar, or the studies originated outside the geographical area.

25 There is obviously a degree of judgment involved in determining where the “weight of evidence” lies. Due to the centrality of Gomby’s review, her assessments were given extra “weight,” though generally this
included if known and if it appears they can be reasonably generalized to outcomes in question. A brief discussion of each outcome set follows Table 2.

judgment was based on what the majority of studies found.

26 Cohen (1988) provided guidelines for interpreting standardized effect sizes in a practical way. A small effect size is represented by a coefficient of .20 or lower, a medium effect size is about .50, and a large effect size is .80 or higher. Effect size was a factor in determining the strength of supporting evidence, but even small effect sizes were regarded as positive if they seemed to be found in the majority of studies, unless there were specific program delivery conditions that were not necessarily typical of the KidsFirst program.
### Table 2. Summary of Findings on Home Visiting Effectiveness

<table>
<thead>
<tr>
<th>Weight of Evidence Supports Achievement of Outcomes</th>
<th>Mixed or Equivocal Findings</th>
<th>Weight of Evidence Does Not Support Achievement of Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Prenatal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase breastfeeding (Gomby, 2005; Harding et al., 2007; Olds et al., 1999)</td>
<td>Mixed or Equivocal Findings</td>
<td>Reduce preterm births and low birth weight. Only NFP at one site out of four (Gomby, 2005).</td>
</tr>
<tr>
<td>b) Child Maltreatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevention of child abuse and neglect by young, first-time “psychologically vulnerable” mothers if home visiting occurs early in the pregnancy (Gomby, 2005 re NFP; DuMont et al., 2008 re HFA).</td>
<td>Decrease rates of child abuse and neglect, usually measured by proxies. Most of the more rigorous studies do not show decreases. (Gomby 2005; Harding et al., 2007; Green et al., 2008)</td>
<td>Reduce actual abuse and neglect rates (other than NFP - Gomby, 2005; Harding et al., 2007; Gessner, 2008).</td>
</tr>
<tr>
<td>Reduce parent self-reports of abuse or related behaviour such as harsh discipline, scolding etc. Also, children from home visited families tend to be reported for child abuse at a younger age than non-visited families (Gomby, 2005; Harding et al., 2007; DuMont et al., 2008; Daro, Howard, Tobin &amp; Harden, 2005)</td>
<td>Use more positive parenting practices (Gomby, 2005; Geeraert et al., 2004; Sweet &amp; Appelbaum, 2004), spank less (Love et al., 2005)</td>
<td>Discontinuation of child abuse once it has begun. (Gomby, 2005; Geerart et al., 2004; Olds, Sadler &amp; Kitzman, 2007)</td>
</tr>
<tr>
<td>Alter attitudes associated with child abuse and neglect, and increase knowledge of child development - small effect size ($\leq .20$; Gomby, 2005). Those with limited initial knowledge may benefit more (Gomes et al., 2005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight of Evidence Supports Achievement of Outcomes</td>
<td>Mixed or Equivocal Findings</td>
<td>Weight of Evidence Does Not Support Achievement of Outcomes</td>
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<tr>
<td>---------------------------------------------------</td>
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</tr>
<tr>
<td>c) Child development</td>
<td>Cognitive development benefits (small to moderate; ES = .10 – .29). Best outcomes if combined with centre-based early childhood education (ES=.40) and services directed at the child (Gomby, 2005; Sweet &amp; Appelbaum, 2004; Wade et al., 1999; Harding et al., 2007; Caldera et al., 2007). Largest effect sizes if home visiting directed to children with special needs27 (ES = .36), children born to mothers with “low psychological resources” (ES = .22 in GPA and .33 in math and reading) (Olds, Kitzman, Hanks, Cole, Anson, Sidera, Arcoloe, Luckey, Henderson, Homberg, Tutt, Bondy &amp; Stevenson &amp; Bonday, 2007).</td>
<td></td>
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<td></td>
<td>Children’s social and emotional outcomes - small but positive benefit (ES = .10-.15) (Gomby, 2005; Love et al., 2005). Benefits are highest for programs that target children at developmental risk, not low-income (Gomby, 2005, 2006)</td>
<td></td>
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</tbody>
</table>

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27 As noted in Table 1, we were interested in studies of programs similar to KidsFirst, which has a broad focus, so we excluded studies of programs that were designed to address only a few specific needs, such as those for children with physical or developmental delays. However, we included studies of programs that may have served some children with special needs, along with children who did not have special needs, hence the reference to “special needs” here.
### Weight of Evidence Supports Achievement of Outcomes

<table>
<thead>
<tr>
<th>Mixed or Equivocal Findings</th>
<th>Weight of Evidence Does Not Support Achievement of Outcomes</th>
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<tbody>
<tr>
<td>p.26).</td>
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<tr>
<td>Promote early language development (home visiting alone ES=.09-.13) - accentuated by mixed-approach programs (ES =.19-28) (Gomby, 2005, p.24)</td>
<td></td>
</tr>
<tr>
<td>d) Child Health and Safety</td>
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</tr>
<tr>
<td>Fixes to home hazards that are easy and inexpensive (Gomby 2005; Harding et al., 2007)</td>
<td>Reductions in unintentional injuries – two NFP sites report positive findings. Some meta-analyses suggest home visiting “may” lower incidence of such injuries. (Gomby, 2005, p.24)</td>
</tr>
<tr>
<td></td>
<td>Children’s health status – “minimal meaningful effect on children’s physical health and development” (Gomby, 2005, p.19)</td>
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<td></td>
<td>Improve diet, mother’s reports of children’s health, height and weight – little if any benefit (Gomby, 2005)</td>
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<tr>
<td></td>
<td>Use of preventative health services and access “medical home” (Gomby, 2005; Love et al., 2005; Brownell et al., 2007). Harding et al. (2007) and Ryan et al. (2006) found mixed support in the short-term.</td>
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<tr>
<td></td>
<td>Child immunization (Harding et al., 2007; Brownell et al., 2007; Caldera et al., 2005; Love et al., 2005)</td>
</tr>
<tr>
<td>e) Parenting</td>
<td></td>
</tr>
<tr>
<td>Parenting attitudes, knowledge and confidence related to abuse/neglect, child development and school readiness - small but positive benefits (ES &lt;.20). (Gomby 2005; Harding et al., 2007; Ryan et al., 2006; Santos, 2005; Wade et al., 1999)</td>
<td>Parenting behaviours, positive parenting, parent – child interaction and supportiveness (Gomby, 2005; Love et al., 2005; Santos, 2005; Wade et al., 1999)</td>
</tr>
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</table>

14 Effectiveness of Home Visitation Interventions Similar to KidsFirst (literature review)
<table>
<thead>
<tr>
<th>Weight of Evidence Supports Achievement of Outcomes</th>
<th>Mixed or Equivocal Findings</th>
<th>Weight of Evidence Does Not Support Achievement of Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gomes et al., 2005)</td>
<td>Home environment for learning/HOME scores - findings from RCTs mixed; other designs report positive impacts (Harding et al., 2007; Caldera et al., 2007; Duggan et al., 2007)</td>
<td></td>
</tr>
<tr>
<td>Parenting self-efficacy (Gomby, 2005; Caldera et al., 2007)</td>
<td>Parenting Stress – Gomby (2005) reports generally positive finding but Harding et al. (2007 re HFA) did not.</td>
<td></td>
</tr>
<tr>
<td>Use of centre-based parenting services (Caldera et al., 2007)</td>
<td>Economic self-sufficiency - no meaningful change in: • graduation • employment • welfare/Medicaid • receipt of material support (except NFP at Elmira, and differences pertained only to the poorest, unmarried women - Gomby, 2005; Harding et al., 2007; Olds, Sadler &amp; Kitzman, 2007; Caldera et al., 2007)</td>
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</tr>
<tr>
<td>f) Self-sufficiency and Family Functioning</td>
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</tr>
<tr>
<td>Increase enrolment in education (Gomby, 2005; Olds, Sadler &amp; Kitzman, 2007)</td>
<td>Reduction in the use of food stamps (Olds, Sadler &amp; Kitzman, 2007)</td>
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</tr>
<tr>
<td>Longer relationship with current partner (Olds, Sadler &amp; Kitzman, 2007)</td>
<td>Postnatal or maternal depression – only NFP found a positive effect; otherwise “at best very small benefits” (Gomby, 2005; Harding et al., 2007)</td>
<td></td>
</tr>
<tr>
<td>Psychosocial outcomes such as: • access to social support • isolation • decreased stress Only “highly clinical” approach seems to be effective (Gomby, 2005)</td>
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</tbody>
</table>
For home visiting programs like *KidsFirst* to be considered successful, they must help both parents and children, since parents are the primary mediators of child enhancement, and children are intended to ultimately benefit from home visits. Even a cursory review of Table 2 suggests there is a very mixed set of findings on the effectiveness of early childhood home visiting interventions. And as Gomby (2005) pointed out, when positive results are found, the magnitude of change tends to be very modest, usually not exceeding an effect sizes of .20. The findings related to each outcome category are described in more detail below.

5.a Prenatal Outcomes
Prenatal (pregnancy and birth) outcomes covered in this review include reduced low birth weight and preterm births, increased breastfeeding and prenatal nutrition. Participation in prenatal classes was not covered specifically, but given that home visiting programs only sporadically produce small benefits in utilization of health and nutrition services, the literature does not appear to support the achievement of increased attendance at prenatal classes as a benefit for pregnant mothers.

Except for one Nurse Family Partnership site in Elmira, New York, which found fairly large decreases in preterm births and low birth weight, the consensus of other studies is that home visiting programs produce few benefits on birth outcomes (Gomby, 2005). Gomby (2005) noted that two international meta-analyses (Sikorski, 2004; Elkan, 2000) found positive results for breastfeeding, but these were international studies.

<table>
<thead>
<tr>
<th>Weight of Evidence Supports Achievement of Outcomes</th>
<th>Mixed or Equivocal Findings</th>
<th>Weight of Evidence Does Not Support Achievement of Outcomes</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>2005; Harding et al., 2007; Ryan et al., 2006; Santos, 2005</td>
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<tr>
<td></td>
<td></td>
<td>Increased use of community resources (Gomby, 2005; Caldera et al., 2007; Brownell et al., 2007; Ryan et al., 2006)</td>
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<td></td>
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<td>Violence by parents outside home or with partner (Bilukha et al., 2005; Harding et al., 2007; Olds, Sadler, &amp; Kitzman, 2007)</td>
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<td></td>
<td></td>
<td>Substance use, only NFP found some reduction (Olds, Sadler, &amp; Kitzman, 2007)</td>
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<td></td>
<td></td>
<td>Mother’s arrests and incarcerations (Olds, Sadler, &amp; Kitzman, 2007)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health of subsequent pregnancies (Olds, Sadler, &amp; Kitzman, 2007)</td>
</tr>
</tbody>
</table>
making generalizations to the Saskatchewan context problematic.\textsuperscript{28}

A large study of 288 Healthy Families America sites (Harding et al., 2007) also demonstrated positive results, and a Nurse Family Partnership site at Memphis, Tennessee found mothers who had been home visited were more likely to attempt breastfeeding (Olds et al., 1999). While these findings are not altogether conclusive, the existing research suggests that home visiting programs can encourage breastfeeding.\textsuperscript{29}

5.b Child Maltreatment
Change in child abuse and neglect, once these behaviours have begun, is not supported. Most studies do not show decreases in rates of child abuse and neglect, and the best studies show very mixed results.\textsuperscript{30} Less rigorous studies and those which look at indicators other than child protection reports (e.g., proxies such as decreased hospitalizations for injuries or ingestions) however, show the most positive findings.

There is stronger evidence that home visiting has positive effects on parenting competencies. Home visiting interventions can alter parent attitudes about abuse and neglect, reduce certain parenting behaviours such as harsh scolding and spanking, and promote more positive practices such as praise and positive feedback.

The strongest evidence for the benefits of home visiting in the prevention of child abuse and neglect comes from Nurse Family Partnership studies, targeting young, first-time pregnant mothers and when onset of home visiting occurs within 28 months of the first pregnancy. While a central finding in the literature is that home visiting programs that involve paraprofessionals instead of nurses provide fewer benefits and have a minimal impact on reducing child maltreatment, DuMont and colleagues (2008) found these results can be replicated to a significant degree by the paraprofessional Healthy Families America program if targeting a similar population of mothers as the Nurse Family Partnership.

5.c Child Development
Child development outcomes are very mixed, with some subgroups of children benefiting from some programs. However, the subgroups that benefit are not consistent across studies or different sites of the same program model.

Generally, the improvements in child development have been small. Both cognitive and social/emotional outcomes seem most realizable when services provide significant direct attention to the child, and when they are directed to children at developmental/biological risk or those with special needs (effect sizes=.36) as opposed to low-income children (effect sizes=.09).\textsuperscript{31}

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\textsuperscript{28} See footnote 19.

\textsuperscript{29} It is important to remember that studies on home visiting programs intended solely on breastfeeding support were excluded, as noted in Table 1: Criteria for Selection.

\textsuperscript{30} The impact of home visiting on rates of child abuse and neglect may be underestimated by the way maltreatment is measured. Ongoing monitoring by the home visitor makes it more likely that child maltreatment will be noticed. It is difficult to take this “detection bias” into account when comparing families with and without home visiting services (Knoke, 2009). In some cases, home visiting is associated with “increased incidence” of child maltreatment (MacMillan et al., 2005).

\textsuperscript{31} Gomby’s conclusions on child development outcomes appear to be largely informed by programs such as HIPPY and PAT (see Appendix C), which
5.d Child Health and Safety
Meta-analyses have concluded that there is no effect on children’s general health and physical development, or the effect size is very small, even using mothers’ reports of their children’s health (effect sizes = .09 - .12). There are too few studies on the impact of home visiting on children’s diets to draw conclusions. There are relatively few studies that look at increased access to preventative health services, use of a medical home (a single medical professional or group of professionals who provide ongoing, comprehensive primary care) and increased immunization for children. While some studies have found mixed support for these outcomes, the majority of studies do not report positive findings; home visited children appear to make about the same use of these services as do comparable children who do not receive home visits.

Most large studies have not found that home visiting helps parents identify and fix home health hazards, but it does appear that hazards that are easiest and least expensive to repair are most likely to improve as a result of home visiting. As mentioned, reductions in unintentional injuries and ingestions have been found in several large meta-analyses, so home visiting may lower the incidence of such injuries.

5.e Parenting
Results suggest that home visiting programs may lead to small increases in parent knowledge of child development and improve parents’ attitudes about parenting. Effect sizes ≤ .20 seem to be the norm. Some programs may lead to changes in parent behaviour and parent-child interaction (effect sizes = .10 - .15), but outcomes appear to be stronger if families seek services themselves, and in programs of higher intensity (visits weekly or every other week for at least one year). Paraprofessional and semi-professional programs such as Healthy Families America and Early Head Start (EHS) appear to produce these positive, albeit small, effects in parent capacity and parent-child interaction fairly consistently, particularly as part of a multi-faceted intervention that includes professionals.

When followed up longitudinally, benefits have been found to largely disappear after the program’s end, except when home visiting is combined with centre-based care (for Early Head Start). While the literature suggests that home visiting may increase parenting self-efficacy, outcomes are mixed for reducing parenting stress and making improvements in the home environment to promote child development.

5.f Self-sufficiency and Family Functioning
With the exception of the Nurse Family Partnership, few home visiting programs have produced benefits in self-sufficiency for mothers/parents. While NFP sites vary, and follow-up continues, nurse home-visited women have been
found to have fewer subsequent pregnancies and births, longer periods between pregnancies, spent less time on welfare or receiving food stamps, and fewer arrests or problems with substance abuse. At Elmira, NY, these changes have been examined over the course of 15 years, and benefits appear to be greater for more vulnerable, high-risk mothers. Studies of large paraprofessional home visiting programs have not achieved these outcomes.

Although home-visited women may spend more time enrolled in education, it does not appear to translate to additional educational attainment, greater likelihood of employment or decreased use of welfare. It is perhaps too early to draw conclusions about education and related outcomes, since it is possible that programs that encourage parents to return to school may have greater benefits in the long term. Few programs, except those with highly trained clinical support for parents, have shown benefits in terms of increasing mothers’ psycho-social wellbeing or mental health in areas such as social support, stress or use of community resources.

**Results Summary**

It appears the achievement of prenatal outcomes is rare; parenting outcomes are most consistent, but changes in parenting attitudes, knowledge and confidence are more likely than changes in parent behaviour. This applies to the prevention of child abuse and neglect as well. There is very little consistency in child development outcomes and little support for the achievement of family self-sufficiency benefits or enhanced family functioning. As Gomby (2005) notes, home visiting programs can produce small benefits, but do not always do so, and for “every outcome, as many as half of the studies and programs demonstrate extremely small or no benefits at all” (2005, p. 44). Many large programs deliver only 20-30 hours of service over several years, which is very little time to address the multitude of complex issues that home visiting programs are tasked to undertake. For this reason, Gomby (2005) has suggested that expectations should be modest, and home visiting should be integrated as part of a larger system of supports employing multiple service strategies aimed at serving both parents and children.

6. What Do We Make of the Findings as they Pertain to the *KidsFirst* Program?

As discussed in the previous section, most reviews of the relatively vast literature on the effectiveness of early childhood home visiting interventions to date have produced very mild and/or mixed support. This section looks at the proposed processes and practices which may link home visiting to parent and child outcomes, considering these with relevance to the *KidsFirst* program. In doing so, additional literature not included in the focused review is referenced.

Program outcomes appear to depend greatly on the qualifications of the visitors, the model used, the content of the program, how it is implemented, and
the broader system of supportive services in which the program operates (Olds, Sadler, & Kitzman, 2007; Gomby, 2005; Sweet & Appelbaum, 2004). Table 3 provides an overview of evidence-based, “promising directions” from the field of home visiting, looking at: a) family/program match; b) home visitor qualification; c) family recruitment; d) program intensity and duration; e) family retention; f) family engagement; g) parenting/child focus; h) comprehensive programming; i) cultural consonance; j) supervision; k) training; l) home visitor retention; and m) program quality. Following Table 3 is a discussion of these promising directions, highlighting components of particular relevance to the KidsFirst program.

Table 3. Evidence-based Promising Directions for Home Visiting Programs

<table>
<thead>
<tr>
<th>Program Component</th>
<th>Promising Directions</th>
<th>Research Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Family/Program Match</td>
<td>• Match program goals to family needs and program resources.</td>
<td>• Families with high levels of need gain most from more intensive services from more highly trained professionals (Gomby, 2005).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Households with ongoing domestic violence show less benefit from home visiting, particularly regarding child abuse and neglect (Knoke, 2009).</td>
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<td></td>
<td>• The Hawaii Healthy Start (HSP)/Healthy Families America (HFA) program model, which employs paraprofessionals, is less effective with families at highest risk for maltreatment, suggesting it might not be appropriate for them (Caldera et al., 2007; Duggan et al., 2007).</td>
</tr>
<tr>
<td>b) Home Visitor Qualification</td>
<td>• Match qualifications of home visitors (e.g., paraprofessional, professional) to those specified in the program model.</td>
<td>• Some programs that have used nurses rather than paraprofessionals have shown better results, though not in all circumstances. Professional visitors are associated with greater improvement in children’s cognition and the prevention of child abuse, but not parenting and maternal education outcomes (Braun, 2008).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A Nurse Family Partnership study comparing the effectiveness of nurse and paraprofessional home visitors indicates paraprofessionals may produce results at half of the magnitude of nurses in outcomes, such</td>
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33 Table format from Susan Hegland & Kere Hughes (2005), Department of Human Development & Family Studies, Iowa State University: http://www.state.ia.us/earlychildhood/docs/EvidenceBasedHomeVisitingTool.pdf
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<tr>
<th>Program Component</th>
<th>Promising Directions</th>
<th>Research Support</th>
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<td>as deferral of second pregnancies, maternal employment and mother-child interactions (Gomby, 2005: pp. 40-1).</td>
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<td>• Paraprofessionals appear to do best in programs with limited goals and a prescriptive curriculum. Highly qualified home visitors are needed for families with multiple, complex issues, and the most successful home visiting programs servicing families at high risk for child abuse and neglect have appropriate curricula and staff trained to recognize and address the risk factors (Braun, 2008; Green et al., 2008; Bilukha et al., 2005; Gomby, 2005).</td>
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<tr>
<td>c) Family Recruitment</td>
<td>• Recruit families in need of services.</td>
<td>• Home visiting seems to be most beneficial to families where initial need is greatest (most “high risk” or disadvantaged), and where the need is identified by the family, particularly when parents believe their child needs the service (Braun, 2008; Gomby, 2005).</td>
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<td>• Mothers who have few resources (e.g., adolescent, low coping skills, and few social or personal resources) or have children with medical or developmental concerns, benefit more than mothers without these challenges (Knoke, 2009; Peters &amp; Petitclerc, 2009; Gomby, 2005; Santos, 2003)</td>
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<td></td>
<td></td>
<td>• Up to 40% of families recruited fail to enrol (Gomby, 2005).</td>
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<td>d) Program Intensity and Duration</td>
<td>• Monitor frequency and duration of home visits.</td>
<td>• Necessary intensity and duration requirements for various outcomes are largely unknown, but more participation is associated with greater effects (Braun, 2008; Gomby, 2005).</td>
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<td>• It appears that services must be provided once a week for two years to prevent child abuse (Bilukha et al., 2005; Prevent Child Abuse America, 2001).</td>
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<td>• HFA found reduction in physical assault requires three years and completion of 75% of expected visits (weekly for six to nine months, then diminishing) (Harding et al., 2007).</td>
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<td></td>
<td>• Duration is associated with increased home language and literacy development (Raikes et al., 2006).</td>
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<td>• MacLeod and Nelson (2000) found greater</td>
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### Program Component

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<td>effectiveness for family wellness and maltreatment prevention when the number of visits was greater than 12 and the duration was longer than six months.</td>
<td><strong>d) Family Retention</strong>&lt;br&gt;• Jointly plan for parent follow-up activities.</td>
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<tr>
<td>Review parent follow-up at next meeting.</td>
<td><strong>•</strong> Monitor who is dropping out and why.</td>
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<tr>
<td>Minimize attrition by scheduling home visits at family’s convenience.</td>
<td><strong>•</strong> Goal-setting empowers families and helps them build upon their strengths (PCAA, 2001).&lt;br&gt;<strong>•</strong> Families who stay with home visiting programs tend to be ones who least need the program, while highest need families drop out at rates above 50% (Gomby, Colross &amp; Behrman, 1999; Innocenti, 2002).&lt;br&gt;<strong>•</strong> Generally participation is higher when parents perceive a need for the program, but retention seems to depend on whether they think it fulfills their needs (Peters &amp; Petitclerc, 2009).&lt;br&gt;<strong>•</strong> Only about one third of EHS families receive the minimum service dosage (15 visits) required to achieve program outcomes (Daro et al., 2005).</td>
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<tr>
<td>Monitor who is dropping out and why.</td>
<td><strong>•</strong> Goal-setting empowers families and helps them build upon their strengths (PCAA, 2001).&lt;br&gt;<strong>•</strong> Families who stay with home visiting programs tend to be ones who least need the program, while highest need families drop out at rates above 50% (Gomby, Colross &amp; Behrman, 1999; Innocenti, 2002).&lt;br&gt;<strong>•</strong> Generally participation is higher when parents perceive a need for the program, but retention seems to depend on whether they think it fulfills their needs (Peters &amp; Petitclerc, 2009).&lt;br&gt;<strong>•</strong> Only about one third of EHS families receive the minimum service dosage (15 visits) required to achieve program outcomes (Daro et al., 2005).</td>
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### Effectiveness of Home Visitation Interventions Similar to *KidsFirst* (literature review)
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<td>birth.</td>
<td>• Tailor services to fit family needs</td>
<td>clearly reject services can be effective in attracting significant numbers of high-risk families (PCAA, 2001).</td>
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<td>• Services initiated prenatally or at birth reach parents when they are most open and eager to information and assistance (Gomby, 2005; Olds, Sadler, &amp; Kitzman, 2007; PCAA, 2001).</td>
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<td>g) Parenting/Child Focus</td>
<td>• Address needs recognized by the parent (research support under “Family Recruitment” above)</td>
<td>home visiting programs work best when parents’ needs are taken care of first (e.g. housing, food, legal aid) (Mann, 2008, Leventhal, 1996).</td>
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<td>• Ensure that children in families with high needs participate in a high quality early care and education program.</td>
<td>• More at-risk mothers receive fewer visits and have visits less focused on the child (Raikes et al., 2006; Gomby, 2005; Sweet &amp; Appelbaum, 2004; Love et al., 2002).</td>
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<td>• Sharpen child focus of home visit unless mental health concerns of parents necessitate more parent focus.</td>
<td>• Child-focused activities on visits, or when home visiting services are complemented by centre-based, early childhood education that focuses directly on the child, are more successful at changing child outcomes (Daro, 2009; Gomby, 2005).</td>
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<tr>
<td>h) Comprehensive Programming</td>
<td>• home visiting should be part of a system employing multiple service strategies aimed at both parents and children.</td>
<td>Programs that offer home visiting along with centre-based early childhood education, joint parent-child activities and parent groups may produce larger and more long lasting results (Braun, 2008; Gomby, 2005; Love et al., 2005).</td>
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<td>• Creatively and actively link home visiting families to relevant services</td>
<td>• Home visiting programs serve families best by collaborating with other community resources (Powers &amp; Fenichel, 1999).</td>
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|                  | in the community (referral alone is not enough). | **i) Cultural Consonance**  
- Ensure that home visitors use strategies and activities consistent with cultural values of family, not just parents, especially if the parent or parents live with extended family members.  
- Encourage ongoing dialogue between providers and participants about how well the program is meeting their needs and expectations and be open to altering the home visiting format. | Strategies and activities that are inconsistent with the cultural beliefs and values of the family are less likely to be implemented, and more likely to lead to drop outs (Mann, 2008; Gomby, 2005; Prevent Child Abuse American - PCAA, 2001; Cowan, Powell, & Cowan, 1998; Slaughter-Defoe, 1993). |
|                  |                      | **j) Supervision**  
- Ensure program fidelity by providing ongoing review of home visits by both supervisor and home visitor using written documentation, on-site observations or videotapes.  
- Evaluation of staff skills and service quality needs to be integral to training and program operations. | Careful supervision of home visitors increases effectiveness (Heaman et al., 2006; Gomby, 2005)  
- In many cases, scaled up models of paraprofessional home visiting programs such as HSP/HFA have departed widely from the model (Gomby, 2005; Caldera et al., 2007; Duggan et al., 2007).  
- In HFA Alaska, even at the best sites, service delivery fell short of program standards. Almost half of families had no family support plan, visitation rates were half of what was expected (once every two weeks) and retention was 45% at two years (Gessner, 2008). |
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<td>k) Training, Pre-service and In-service</td>
<td>• Close supervision is needed to help home visitors deal with emotional stress, maintain objectivity, prevent drift from protocols and provide opportunity for reflection and professional growth</td>
<td>• Most effective training is spaced in time and includes on-site consultation and assessment of learning. In less effective home visiting programs, staff receive less training—both pre-service and ongoing—and these changes have been linked to weaker outcomes (Gomby, 2005; Yoshikawa, Rosman, &amp; Hsueh, 2002). • As facilitators of social learning, good home visitors have the requisite personal characteristics, reliable up-to-date knowledge and the necessary skills suited to the level of intervention (Mann, 2008).</td>
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<tr>
<td>l) Home Visitor Retention</td>
<td>• Provide the same frequency and intensity (i.e., hours, group size) of pre-service and in-service training as specified in the evidenced-based model. • Assess home visitors’ understanding of adult learning styles as well as program goals and strategies through activities such as role plays and case studies.</td>
<td>• Minimize turnover of home visitors through competitive salary and benefits packages. • High turnover, due to low wages for home visitors, is linked to negative program outcomes (Gomby, 2005). • Careful attention to recruitment, training and supervision of home visitors increases effectiveness (Heaman et al., 2006; Powers &amp; Fenichel, 1999).</td>
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<tr>
<td>m) Program Quality</td>
<td>• Program quality is malleable. Set performance standards, monitor progress and make corrections.</td>
<td>• Only the best programs benefit children and families. Program performance data should be given to Program Managers regularly (Gomby, 2005). • Successful programs focus on continuous</td>
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Effectiveness of Home Visitation Interventions Similar to *KidsFirst* (literature review)
As noted above, this next section is a discussion of the promising practices identified in the table above, highlighting components of particular relevance to the KidsFirst program. Subheadings refer to the item numbers in the table above, and several are grouped for clarity as they are closely related, such as 6.a Family/Program Match and 6.b Home Visitor Qualification, immediately below.

### 6.a) and 6.b) Family/Program Match and Home Visitor Qualification

Research is ambivalent about what training is optimal, but generally families with high levels of need (e.g. low-income teen mothers with low educational attainment and coping skills and mental health problems) gain most from more intensive services with more highly trained professionals. The most successful home visiting programs serving families at high risk for child abuse and neglect for example, have curricula and staff trained to recognize and address the risk factors: 1) domestic violence; 2) mental illness/maternal depression; 3) substance abuse; and 4) extreme parenting stress.

Eleven per cent of the KidsFirst caseload is comprised of “complex needs” families, and these may be admitted to the program on a long-term basis. The fact that KidsFirst is a “dyad” program where paraprofessionals are supported by professionals (primarily supervisors and mental health and addictions staff) is intended to address this issue. Perhaps the strongest recommendation in the literature is that programs hiring paraprofessionals do so only if partnerships are available with professional staff. Effectiveness might be maximized if supervision in the home with the home visiting is regular and structured (see Table 3 under “Supervision”), and when the assistance of other professionals is focused on the higher-risk families.

While paraprofessionals may produce results of smaller magnitude than nurses (estimates differ), some evidence

### Program Component | Promising Directions | Research Support
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• Focus on goals. 
• Ensure curricula match goals. 
• Ensure staff are in sync with goals. 
• Families must receive assistance related to the goals. 
• Check with families to ensure the program is serving their needs and wants. | program improvement, have clear goals and a clearly articulated “model of change” (drawing upon accepted theories of development and behaviour change) that links specific aspects of program content, duration, intensity and service delivery methods to specific outcomes, as well as home visitors who know how to reach those goals (Daro, 2009; Braun, 2008; Mann, 2008; Heaman et al., 2006; Powers & Fenichel, 1999). |
suggests the relative success of the Nurse Family Partnership in reducing rates of child abuse and neglect, and possibly other outcomes, may be more attributable to the Nurse Family Partnership’s target population than to the use of nurses (DuMont et al., 2008). It is estimated that approximately 16% of KidsFirst families match the Nurse Family Partnership population at admission: young, single, first time mothers. If the success of the Nurse Family Partnership is primarily due to the characteristics of mothers enrolled, then higher magnitude results are most likely only for a relatively small subset of KidsFirst families, which are both similar to the Nurse Family Partnership population, and stay in the program long enough to achieve these outcomes.

Recruiting pregnant mothers to home visiting programs like KidsFirst however, can have other benefits besides the short-term health outcomes for the mother or baby. It can: 1) serve as a way to link families with the medical system (establish a “medical home” for the mother and child); 2) initiate services before it is possible for child abuse to begin (making it thus preventable, since there is no evidence to support the idea that it is possible to prevent once it has started); and 3) provide services at a time when women, especially young, first time mothers, are most open to the assistance of a home visitor.

In considering the qualifications of KidsFirst home visitors and “family/program match,” the importance of maintaining fidelity to the program model is a recurring theme in the research. KidsFirst and Healthy Families America both have “complex needs” or “special needs” categories respectively, where families are recognized as requiring additional supports.

The Healthy Families America model operationalizes the response to these families differently than KidsFirst does. Healthy Families America provides more than weekly home visits for short periods of time to be determined by the supervisor, in order to support families experiencing a crisis and/or to connect them to other community resources, including treatment programs. KidsFirst maintains home visiting at once a week, and considers this weighting to be long-term, for a period of 12-24 months, if the family meets a number of high-risk criteria.

The questionable assumptions behind the Healthy Families America approach are

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34 The population targeted by the Nurse Family Partnership includes young single, “psychologically vulnerable” mothers enrolled prior to the birth of their first child.

35 It is known that about 26% (25.9%) of postnatal admissions are both young (under 25 yrs) and first time mothers (719 of 2775 admitted from September 2003-March 2008 from KIMS data). Given that KidsFirst recruits 32% of all families prenatally (from Sept 2003 to March 2008, 1,156 families were admitted prenatally and 2,481 admitted postnatally), and if all families have an equal chance of being admitted prenatally, this means that approximately 8% of these KidsFirst families match the Nurse Family Partnership target population at admission. If the same conditions hold, 26% of prenatal admissions will also be young, first time mothers, adding approximately 8% to the total proportion of KidsFirst families that match the Nurse Family Partnership population (300 out of 3,637 families). Since these are discrete populations (i.e. prenatal and post-natal admissions) and cover all admissions over the time period specified, we can estimate that approximately 16% of KidsFirst families match the NFP population at admission.

36 According to the Program Managers and Supervisors Training Materials, “Healthy Start/Healthy Families programs are not designed to provide more than weekly home visits for long periods of time” and “should be viewed as short term” (p. 74).

37 From the KidsFirst, Definitions: Monthly Data Summary Form, revised April 1, 2008.
that crises faced by these families can be conceived as "short-term," and that services actually exist to which families can be referred. The KidsFirst approach attempts to consider the availability of services, and to assess whether the immediate problems facing the family are longer term in nature, but this may leave the door open to retaining more higher-risk families than the program is designed to accommodate. While it may be laudable that KidsFirst maintains these high-risk families in the program when there are no other services for them, it is possible home visitors are spending disproportionate amounts of time assisting these families with a relatively small chance of improving their circumstances.

6.c) Family Recruitment
The Healthy Families America model, like KidsFirst, holds that contact should be made with the family in the hospital, prior to or just after delivery. In-hospital screening rates in targeted communities averaged 84% between July 2006 and June 2007. The screening rate for all provincial births for the same time period was 69% (or 8,367 of 12,140 births). 38 KidsFirst enrols approximately 32% of all families prenatally. By comparison, in 2003, 43% of all families enrolled in Healthy Families America were enrolled prenataally. 39

The invitation refusal rate for home visiting programs (prior to enrolment) is estimated to be about 40%. 40 While it is not possible to accurately determine the invitation refusal rate for KidsFirst, it is known that approximately 16% of potential KidsFirst clients declined the in-hospital birth questionnaire (IHBQ) during April 2004 to March 2009, and another 19% declined to take the In-depth Assessment prior to entering the program, or refused to enter the program following the assessment. 41 It is common practice however, for KidsFirst to extend outreach to these early decliners in an effort to recruit them back, and anecdotally and according to the research, this can be quite successful. (see “Family Engagement”). Recruiting families that identify a need for services, and those in greatest need for services (single, young, first time mothers with few resources) appear to benefit most from home visiting programs.

6.d) Program Intensity and Duration
Necessary intensity and duration requirements are largely unknown, but generally families that receive more of an intervention receive greater benefits. Given this, home visiting programs should be flexible and rely on guidance from families in designing programs and setting frequency, intensity and duration of visits. The Healthy Families America model indicates that contact with the family should continue for up to five years, with service intensity decreasing as the family becomes empowered and more self-sufficient. 42

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38 The screening rate for untargeted communities is not known.
41 The invitation refusal rate cannot be established by looking at the proportion of families declining the IHBQ, since it is not known how many of these decliners would have been eligible for the program had they completed the questionnaire. Nor is it possible to add the proportion of decliners at various levels of invitation or referral. Families receive referrals to KidsFirst from various sources such as health providers and community agencies, and the proportion of decliners from these referral sources is not known.
42 According to the GGK Caseload Justification Weekly Time Study, each home visit is supposed to last approximately one hour. For programs enrolling
However, families who remain in home visiting programs usually receive a diluted version of the program they are enrolled in, typically receiving about 50% of the scheduled home visits.\textsuperscript{43} Only one-third of those referred to Early Head Start, for example, received the minimum dosage of 15 home visits needed to achieve significant improvements in levels of depression, perceptions of stress, sense of competence and comfort in caring for children.\textsuperscript{44}

\textit{KidsFirst} may be above average in this regard, as it is estimated that \textit{KidsFirst} families receive roughly 68% of scheduled home visits, and the average family receives about two home visits per month.\textsuperscript{45} From February 2002 to February 2009, over 55% of families (or 1,820 out of 3,290 distinct families) received \textit{KidsFirst} services for at least 12 consecutive months and over 70% (72.2%) received services for at least six consecutive months.

This provides an indication of some of the outcomes that might be expected from the \textit{KidsFirst} program for a majority of \textit{KidsFirst} families. For parents prenatally (level 1 – prenatal), weekly home visits are required. After birth, weekly visits continue, but may occur more than weekly for the first two to three months (level 1). As successive levels are reached, frequency drops to two visits per month (level 2), then monthly visits (level 3) and eventually quarterly home visits (level 4).\textsuperscript{43} Gomby (2005).

\textsuperscript{44} Daro, Howard, Tobin & Harden (2005).

\textsuperscript{45} The estimate was derived by looking at the overall, average monthly percent of caseload level across time (February 2002 to February 2009) and all sites and comparing it to the model. It was found that \textit{KidsFirst} home visitors are completing on average 1.8 visits/month/client versus the model goal of 3.2. This suggests they are completing approximately 67.5% of the home visits necessary to achieve fidelity to the GGK/HFA model.

\textsuperscript{43} Gomby (2005).

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It seems important to observe that home visiting programs will more likely achieve outcomes in areas that they prioritize and focus on. As Gomby (2005) asserts, “[e]vidence suggests that benefits are more likely to occur in those program areas that have been emphasized by home visitors in their interactions with families” (p 41).

Programmatic focus has been found to drive outcomes in a variety of domains, such as children’s cognitive and language development, parental support for language and learning, quality of the home environment, mental health and substance abuse, education and economic attainment and contraceptive use (Gomby, 2007).

What appears to influence outcomes the most is the content of the program as delivered by the home visitor and received by the families, not the design of the program itself. This means that “the content home visitors are expected to deliver must align with the program goals and must address the behaviours or risk factors associated with the outcome the program seeks to change” (Ibid, p. 794, italics in original).

An unexpected finding in the meta-analytic literature is that brief interventions (≤ 5 sessions) to increase children’s attachment security are at least as effective as those of longer duration (>16 sessions), and these intervention effects have been generally comparable across risk and socioeconomic status. Also, interventions aimed at increasing attachment are more effective if they begin after the child reaches six months of age.48 While these findings are beyond the scope of this review, since the search criteria excluded home visiting programs of short duration (less than one year) and home visiting was to commence during pregnancy or shortly after birth, they may still be instructive for programs like KidsFirst. Exclusions of this sort will be further discussed in the “Limitations of this Review” section below.

6.e, 6.f) Family Retention and Engagement

Family retention is increased by focusing on needs identified by the parent, jointly planning for parent follow-up activities, reviewing parent follow up at the next meeting, and scheduling home visits at the family’s convenience. Parent confidence and competence are increased when staff use practices which are family-centred and capacity-building.

47 More specifically, interventions with fewer than five sessions were as effective (effect sizes = 0.42) as those with 5-16 interventions (effect sizes = 0.38), but those with more than 16 sessions were less effective (effect sizes=0.21). For an overview of the literature on this topic, see Dozier (2004). The effect sizes referenced in this paragraph were from Bakermans-Kranenburg et al. (2003), a meta-analysis of 70 studies describing 88 interventions. Only a portion of the programs examined were home visiting programs, but effect sizes for programs delivered in the home were reported separately.

48 Additionally, interventions that target parent sensitivity and changes in parent behaviour have been found to be more effective in enhancing attachment security than those targeting other issues (such as parent’s state of mind or attitudes). “Nonprofessionals” were more effective (effect sizes=.33) than professionals (effect sizes=.29) in randomized studies (the opposite was found in non-randomized studies), but interventions “in the home” were found to be less effective (effect sizes=.29) than in clinical settings (effect sizes=.48) in randomized studies (similar results were found in non-randomized studies).
Key characteristics of family-centred practices include: 1) treating families with dignity and respect; 2) providing individual, flexible and responsive support; 3) sharing information so families can make informed decisions; and 4) ensuring family choice regarding intervention options. These practices are generally consistent with the program philosophy of the *KidsFirst* program, which seeks to build on family strengths rather than deficits, and to work with families to achieve goals they have identified, rather than those seen as necessary by professionals and service providers.49

The *KidsFirst* program has an attrition (drop-out) rate which appears to be lower than average for home visiting programs, but the proportion of families that leave the program before completion appears to be above the norm. Gomby (2005) suggests that between 20% and 80% of families leave home visiting programs before services are scheduled to end, with attrition rates often hovering around 50%. During April 2004 to March 2008, the *KidsFirst* program had a drop-out rate of 40%,50 and the proportion of families that left the program before services were scheduled to finish was 66% (which includes those who dropped out as well as those who moved—26%).51

6.g and 6.h ) Parenting/Child Focus and Comprehensive Programming

49 From the *KidsFirst Program Manual*, p. 7.
50 The attrition rate includes “client refuse service” (15%), “no contact with client” (18%) and “other” (8%).
51 This 26% does not take into account those who reconnect with the program later, or those who moved to another *KidsFirst* program in another community.

Home visiting has a long history of being viewed as a silver bullet cure for all the problems faced by families, especially low-income and at-risk families. It has been unrealistically expected to address multiple problems created by poverty, inequality and racism.

While there have been no studies of any programs that relied primarily on home visiting which have found large and/or long-term benefits for children or parents, it seems clear that home visiting can be a valuable front end service system for families. If a sufficient number of visits are delivered carefully and over time, with well-trained, dedicated staff, home visiting can produce important but modest benefits for families. Home visiting should be regarded as one of a range of service delivery strategies offered to families with young children. No single service strategy can serve the needs of all families.

It appears that home visiting should be multi-faceted and address the needs of children and parents in a variety of ways. Ideally, home visiting services are complemented by available, affordable and quality early childhood education that focuses directly on the child to achieve optimal child development outcomes. Child care allows the mothers respite, and the opportunity to develop their own potential, such as advancing their education. Supplementing home visiting with parent support groups or parent classes delivered in the community or job site has been found to produce positive outcomes for parents.52

52 Love et al., 2005.
Few programs, except those with highly trained clinical support for parents, have shown benefits in terms of increasing mothers’ psycho-social wellbeing or mental health in areas such as social support, stress or use of community resources. Programs that can tailor their services to meet the needs of families by offering a combination of centre-based and home-based services with necessary supports from highly trained professionals appear to be particularly effective in serving both parents and children.

It appears that KidsFirst has been implemented to address many of these considerations. The home visiting component is intended to integrate with the range of existing resources available to moderate to high risk families in the community. It is intended to build upon existing community efforts to promote coordination and collaboration with other child, family and health services.

Critical components to be addressed within the five year plans of KidsFirst targeted communities are: 1) early childhood education; 2) child care; and 3) family supports. The collaborative planning efforts of the local KidsFirst Management Committees, Program Managers and community representatives from multi-sectoral partnerships that shape decisions about whether to realign, enhance or, where necessary, develop new services, including parent supports, child care spaces or other early childhood development services. The provision of professional mental health and addictions services are integral to the KidsFirst program, as is maximizing access to other needed services in the community for vulnerable families.

While these practices are supported by the literature on home visiting effectiveness and they appear to have resulted in a strengthened, more coordinated community response to the needs of KidsFirst families across the targeted sites, the success of KidsFirst in these aspects of program delivery have not been formally assessed, nor is it known how the various targeted sites compare to each other.

6.i) Cultural Consonance
The consensus in the literature is that home visiting programs do better at maintaining enrolment if they adapt to the needs and circumstances of their clients, and take into account the social context and culture of those they serve. Sensitivity to the unique characteristics and circumstances of their clients, such as the child-rearing techniques of recipient families, should contribute to parents feeling that the home visiting program has something to offer them, which is in turn associated with increased family retention.

The Growing Great Kids curriculum purports to “reach across all cultures” and to be distinguished from other curricula by “incorporating the family culture, situations and values specific to each parent.” The GGK curriculum (Prenatal – 36 months) has three modules intended to promote support and respect for the home language, culture and family composition: 1) “Cultural Values, Traditions and Family Practices; 2) “Learning About Family Values and Strengths;” and 3) “Becoming a Stronger Family.”

53 http://www.greatkidsinc.org/ggk-research.htm
54 Interestingly, a Program Manager from one KidsFirst site reported parent response to the “Cultural Values, Traditions and Family Practice” module is very “mixed,” with some parents “very open to it”
Since the majority of families in KidsFirst are Aboriginal, it is noteworthy that most sites offer programming with some degree of Elder support, or refer families desiring this type of support to relevant community agencies. It is also common practice for home visitors to be matched with families of similar cultural backgrounds. Although the effectiveness of these practices has not been formally assessed, the locally administered, parent satisfaction surveys suggest a 75% satisfaction rating with these Elder supports. Ninety-five percent of respondents felt their home visitor “understands [their] struggles,” and 85% felt their home visitor “helps them get the services they need from agencies.”

6.j to 6.l) Supervision, Pre-service and In-service Training and Home Visitor Retention

Home visiting programs require well-trained, dedicated staff able to forge partnerships with families and translate curriculum into action. Continued training and close supervision is regarded as crucial for paraprofessional home visiting programs. The literature suggests that only well-prepared home visitors, who are sufficiently compensated and backed up by supportive supervisors and relevant professional services, have a respectable chance of withstanding job stress, avoiding burnout, and achieving constructive, successful and rewarding relationships with their families.

Good home visitors have: 1) requisite personal characteristics (warmth, integrity, humility, flexibility, optimism etc.); 2) reliable up-to-date knowledge (of child development etc.; and 3) the necessary skills suited to the level of intervention (skills of facilitation, adult education, networking and collaborating with colleagues, as well as self-care and boundary setting).

The KidsFirst program complies with the Growing Great Kids curriculum training schedule, which includes 35 topic modules. Core Training is generally delivered as pre-service training, with other modules delivered over time, including on-site consultation and assessment of learning. Anecdotally, program managers have commented positively on the curriculum and have declined suggestions to consider adopting other curricula. There appears to be wide variability in home visitor retention rates across KidsFirst sites, with 0 – 75% of home visitors staying with their respective sites since the program began in 2002. The literature does not provide a clear benchmark to

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55 Seven of nine sites report “Elder Support” on their Parent Satisfaction Survey results. One site has two Elders working in the program, others provide this support “under contract,” and others simply refer to relevant community agencies. Meadow Lake reports no Elder support. KidsFirst North has an Elder who travels to Northern sites and offers support, her cultural perspective and life experiences and language with families and at community events and gatherings. She is available to travel to all Northern sites, however each site works in their own respective communities with their own people and Elders from their own community.

56 Standardized parent satisfaction surveys are administered by each site every two years. All parent satisfaction survey results reported here are from the n=1076 responses recorded between April 2004-March 2009 from all KidsFirst sites. Survey response rates and number/proportion of null responses are not tracked.

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determine what retention level is associated with more positive outcomes for families.

6.m) Program Quality
Program quality is reasonably malleable. Programs that set performance standards, monitor their progress toward achieving those goals, and make adjustments and corrections along the way seem much more likely to produce positive outcomes. According to Gomby (2005), in order to be effective, “programs must focus on the goals that they seek to accomplish and make sure that their curricula match those goals, that their staffs are in sync with the goals, and that the families they serve receive information and assistance related to those goals” (p.45). The most successful programs choose content, format and implementation strategies that fit with their theoretical assumptions, desired outcomes, and the families with whom they work.

Gomby (2005) continues, Programs should seek to enrol, engage, and retain families with services delivered at an intensity level that is as close to the standards for their program model as possible. They should hire the best, most qualified staff they can, and pay them wages that will retain them. They should seek the counsel of their families to make sure that they are offering services that they want and need (p.45).

It has been suggested that efforts to improve program quality should include ongoing assessments of practices concerning families throughout their involvement in the program, delivery of curricula, and training and support for staff. Forums might be created where researchers, practitioners and parents can formulate practice standards and guidelines for their particular program model.58

It is noteworthy that two recommendations from the literature on promising practices could be interpreted as incongruent: 1) maintaining fidelity to evidence-based models and a prescriptive curriculum; and 2) providing flexible, individual and responsive support. To a degree, this tension is inevitable within any home visiting program with a prescribed curriculum that takes a strength-based approach. Home visitors are required to strike a balance between flexibility (e.g., respect for parent preferences or culture) and structure (delivering the program as intended).

From the perspective of Growing Great Kids, these recommendations might be seen as complimentary since taking a strength-based approach is regarded as the best way to ensure the curriculum gets delivered to families and is accepted by them in a way that maximizes learning and behaviour change. For example, learning how to become “culturally safe” is part of home visitor training, 59 and as the research suggests, home visiting programs which are culturally consonant appear to have lower dropout rates. The strength-based approach is central to the KidsFirst program’s model of change (see p. 11), and, as the research suggests, this approach appears to bolster parents’ confidence and competence.

59 See the GGK Family Support Worker Training Materials (2000: p. 13)
Summary Notes on the Relevance of Findings for KidsFirst

KidsFirst program components associated with positive outcomes for vulnerable children and families include: 1) voluntary participation; 2) strength-based approach; 3) community integration and collaboration; 4) structured curriculum; and 5) comprehensive training.

KidsFirst may retain families at higher risk than intended by the Healthy Families America model, and this could lead to increased home visitor stress, diminished program effectiveness, and increase the importance the role of the supervisors and other professional staff such as the mental health and addictions personnel. These challenges may be moderated by focusing on maintaining/enhancing program quality, and integrating home visiting services as part of a broader system of supports employing multiple service strategies.

Single, young, first time mothers with few resources appear to benefit most from home visiting programs. Currently about 16% of the families recruited to KidsFirst fit this description, and it may be advisable to make a special effort to recruit these families. Enrolling families prenatally is a goal of the Healthy Families America model, and KidsFirst, by following this model, appears to increase the type and magnitude of possible benefits for parents and children. KidsFirst enrols approximately 32% of all families prenatally, which is lower than the 43% of prenatal families enrolled in Healthy Families America programs.

While families in home visiting programs typically receive only about 50% of scheduled home visits, KidsFirst families receive approximately 68%. The average KidsFirst family receives two home visits per month, and 70% of families receive KidsFirst service for at least six consecutive months, with 55% receiving home visits for at least a year. The literature on home visiting effectiveness suggests that at least six months (or 12-15 home visits) is typically required to promote family wellness outcomes, suggesting that a significant proportion of KidsFirst families have the potential to achieve these outcomes. The KidsFirst program has a drop-out rate of 40%, which appears to be lower than average for home visiting programs (50%), but the proportion of families that leave the program before completion (66%) could be above the norm (20-80%).

7. Limitations of the Literature and Future Directions

It is frequently noted that the utility of home visiting programs is extremely difficult to establish. One reason is that home visiting is a strategy for delivering a service and is not a service in itself. Home visiting programs tend to vary widely in multiple domains, be multifaceted and complex, and involve practitioners attempting to affect a

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60 As mentioned above, family wellness outcomes include improvements in parenting attitudes; parent-child interactions; increasing parent knowledge, confidence and self-efficacy; and reductions in parent stress.
diverse set of outcomes. It is necessary to both quantify and qualify
development and implementation of individual interventions, and for home
visiting programs this is particularly challenging.61 Comprehensive, two-
generational home visiting programs like Healthy Families America or KidsFirst
are a challenge to implement, and assessing implementation is critical to
understanding and achieving results, as well as replicating success (Gomby et
al., 1999; Daro 2009).

Advancing research on home visiting and improving services requires greater
understanding more about the nature of what is supposed to happen, and does
happen, in the course of a home visiting program.62 As Sweet et al. (2004)
observed: “What happens while a home visitor is in the home is difficult to
quantify; there are many intangible factors, such as the personality and
attitude of the home visitor, that may influence success but often go
unmentioned and unmeasured” (p. 1448).

context is a key issue, as each
community has unique strengths and
challenges which programs must take
into account. Programs should be
evaluated with consideration to their
actual context (Braun, 2008), but
contextual features are seldom examined
or reported in evaluation reports of home
visiting effectiveness.

Interpretation of evaluation findings is
more difficult when results are collapsed
across multiple studies, as is the case in
meta-analytic and systematic reviews
which were utilized in the current
review. The mixed, variable and even
inconsistent set of findings indicate that
generalizing benefits from one home
visiting program or model to another is a
very difficult task (Sweet et al., 2004;
Gomby, 2005).

A general limitation of the scientific
literature noted by Daro (2009) is not
restricted to evaluations of home
visitation effectiveness, but concerns the
priority placed on the randomized
controlled trial, or RCT.63 Generally, the
RCT is believed to offer the strongest
scientific evidence for the efficacy of an
intervention, but some core features of
the RCT, such as a clearly delineated

61 Critics of scientific (i.e. positivistic-empirical)
 attempts to understand complex activities like home
visiting—which are undertaken in unstable, diverse
and constantly changing social spaces—take the
argument further, suggesting they highlight the “limits
of evidence-based practices.” It is proposed that
empirically-derived attempts to understand those
spaces will always be partial and incomplete, and will
only be able to attend to those processes amenable to
the lens applied. Critics see the positivistic-empirical
approach as methodologically inadequate, largely
because it limits the sorts of phenomena that can be
studied, dealing best with those aspects which can be
rendered “visible” to and hence measurable by, the
research tools used by social science (Gray &
McDonald, 2006).

62 Hebbeler and Gerlach-Downie (2002) argue the lack
of understanding about the inner workings and critical
characteristics of home visiting programs may help
explain why “such an appealing strategy” has not yet
lived up to the expectations of policymakers and
program planners.

63 Participants are randomly assigned either to a group
receiving the intervention (in this case, home visitation
services) or a group that does not receive the
intervention.
intervention, consistent implementation and a specific target population, limit their generalizability, particularly to programs delivered in the field where circumstances can differ significantly. Examining programs in real-world situations across a range of settings would help to assess the effectiveness of program content and delivery (Braun, 2008).

High rates of attrition (commonly 50%) have been a significant issue for home visiting programs, but little is known about why families drop out and what their needs are (Gomes et al., 2005). For example, Gomes and colleagues (2005) found few families with children over the age of three years in their Healthy Families programs in the Edmonton area, suggesting that targeting to families with children less than three years might lessen attrition rates. High attrition rates also make it more difficult to assess program impacts.

For example, assessing only families that stay in a program might overestimate the effects of the program. However, if families leave early because they received all they required from the program in a short period, then attrition may mean a study will underestimate program success. In part to address this knowledge gap, the Early Childhood Development Unit is currently planning to link In-Hospital Birth Questionnaire data for families entering the KidsFirst program with those who exit the program at various stages of completion to see if any patterns emerge concerning who leaves and who stays/graduates.

Harding and colleagues (2007) found decreases in low birth weight and birth complications in their review of 33 evaluations of Healthy Families America sites. This calls for further research, as multiple studies across home visiting models have found poor outcomes in this area. Also, Peters and Petitclerc (2009: p. 22) report in their recent review of evidence on encouraging participation of vulnerable families in early childhood development programs that the Healthy Families New York (HFNY) program was awarded the highest ranking of “proven programs” by the Promising Practices Network of the Rand Corporation using the “most reliable research methods.” The DuMont et al. (2008) study of the HFNY program was included in this review with some impressive results (see Appendix E, in the Supplement to this review), so it would seem fruitful to further explore the research on the effectiveness of this program.

A number of bills, including the Early Support for Families Act (ESFA), are currently before Congress in the U.S., which would expand federal funding for home visitation and early childhood intervention programs (Daro, 2009). The ESFA places emphasis on evidence-based programs, infrastructure development and evaluation, creating an implementation culture that emphasizes quality and continuous improvement. This promises to strengthen outcomes for children and families, but also to continue to grow the research base that will inform future systems of care.

7.a The Limits of Home Visiting Programs

While the measurement of home visiting effectiveness is a challenge, the findings from the literature also indicate how difficult it is to change human behaviour. Home visiting is a relatively
fragile support, often delivering only a few hours of intervention per month. Home visiting is dependent on other community agencies for case planning success, and dependent on parents for any success with children. Behaviour change is apparently more difficult if parents do not see the need for change, or may not believe they need changing (when parents see their relatives rearing children the way they do, for example).

Behaviour change is also more difficult when the behaviour is rooted in community-wide or societal problems. If families live in communities or neighbourhoods where poverty and related challenges and barriers are deeply rooted, home visiting programs that focus on the individual and do not address higher level challenges are more likely to be outmatched (Gomby, Colross & Behrman, 1999). This highlights the importance of community engagement, program integration and collaboration, and maintaining attention to broader policy solutions (Braun, 2008).

7.7 Limitations of the Current Review

As outlined in the “methodology” section (p. 12), large reviews and meta-analyses were selected for the current review by applying a set of inclusion criteria (see Appendix A) in an attempt to effectively sift through a vast body of literature in a focused way, seeking quality evaluations of home visiting programs similar to KidsFirst in multiple domains. As in all processes of selection, there is possibility for errors of omission, where relevant studies are deselected or excluded, and errors of inclusion, where studies are included though the findings are not entirely relevant or even misleading.

In terms of errors of omission, it might have been useful to examine evaluations of programs otherwise similar to KidsFirst, but delivered at lower levels of intensity and/or duration, or with later onset. If these programs achieve positive outcomes which are intended by KidsFirst, this information has utility for program planners. Given high attrition rates, they might wish to ensure that families receive the curriculum intended to produce these relatively easy-to-achieve outcomes early in the program, if children are at the appropriate age and so on. Omitting research on parent-child attachment appears to be an example of an error of this type (see “Program Intensity and Duration” on p. 26).64

Also, if a home visiting program otherwise similar to KidsFirst has been delivered at a higher frequency than the current search parameters allowed (more than four visits per month), but still does not achieve an intended outcome, this might lead to a recommendation that KidsFirst should not focus resources towards the accomplishment of that benefit, but rather refer families to other programs or services that might serve families better.

As previously mentioned, studies of home visiting programs designed solely around particular outcomes, such as

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64 Evidently, focusing on parent sensitivity and related parent behaviours can enhance child attachment in five or fewer visits, regardless of the socioeconomic status of the families. This research on parent-child attachment was also excluded because programs similar to KidsFirst were required to “begin prenatally or shortly after birth,” while the most effective interventions for increasing child attachment were delivered when the child was at least six months of age.
increased immunization or breastfeeding, were excluded. They were excluded as they were dissimilar to KidsFirst in that they were not providing comprehensive services, but this decision may have affected our results and conclusions about the impact of particular outcomes.

Errors of inclusion likely occurred in the current review since essentially all large, composite studies reviewed evaluations of programs “dissimilar” to KidsFirst in core domains (such as not being untargeted to at-risk or low-income families for example), and it was occasionally difficult to distinguish those findings which pertained to the most and least relevant programs. Even the Gomby (2005) review, which was taken as representative of the state of knowledge of home visiting effectiveness at the time of its publication, included several large U.S. programs that were considered not similar to KidsFirst.65

8. Concluding Remarks

It appears that home visiting programs similar to KidsFirst can produce benefits of modest magnitude for parents and children. While no home visiting model appears to produce impressive or consistent benefits, and policymakers and practitioners should maintain modest and realistic expectations of home visiting programs, the positive news is that home visiting programs will more likely achieve outcomes in areas in which they place their priorities and focus. Program quality is malleable, and home visiting programs that focus on improving quality and maintain fidelity to evidence-based models are more likely to produce positive outcomes.

While home visiting programs that involve paraprofessionals appear to produce smaller benefits than nurses,66 paraprofessional home visiting programs perform best with: 1) supportive professional partnerships; 2) close supervision; 3) comprehensive training; 4) limited and clearly defined goals; and 4) a prescriptive curriculum. These program components reduce protocol drift, help home visitors deal with job stress, and help ensure complex/high needs families receive necessary, timely supports. No single intervention can meet the needs of all families, so home visiting should be integrated as part of a larger system of supports employing multiple service strategies aimed at serving both parents and children.

The scientific literature on the effectiveness of home visiting has been described as “sobering,”67 but the research on the importance of children’s earliest years cannot be ignored, and families continue to want and need support and services. Establishing evidence-based criteria to guide future efforts is far from straightforward, but it

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65 These include the Home Instruction for Parents of Preschool Youngsters (HIPPY), the Parent Child Home Program, and Parents as Teacher (PAT).

66 The relative effectiveness of paraprofessionals compared to nurses continues to be debated. Depending on the outcomes in question, learned opinion ranges from little or “no differences” related to staff type (meta-analysis by Sweet and Appelbaum, 2004), to the findings of Nurse Family Partnership study (Olds et al., 2004) indicating that paraprofessionals achieve effect sizes of one half the effect sizes of nurses.

67 This terminology is often-quoted from the Future of Children Report in 1999.
is of critical importance to improving the quality of home visiting interventions, and in turn the lives of children and families. Home visiting has become one of the most highly scrutinized human service strategies over the past two decades, and the evidence base for improving implementation and delivery of home visiting programs is growing. Our reading of the literature leads us to believe that home visiting continues to be a promising strategy to promote lasting benefits for at-risk families.
Appendix A: Inclusion Criteria Form

Reference ID# ________

**BASIC CRITERIA**

☐ **Date/Language**: English language only and published since 1990

☐ **Location of Studies**: ☐ Canada, ☐ United States
  ☐ 75% of studies are from the selected countries: Note exceptions

☐ **Study Type**: Literature reviews and/or Meta-analyses wherein studies compared
  ☐ home visits to no home visits or
  ☐ a different type of intervention with similar goals to *KidsFirst*.

☐ **Home Visitation Program**: Home visitation - broad-based support provided on
  frequent basis over extended period of time - is the *central or core component* of
  included studies (if home visiting is combined with other approaches; e.g., parent
  support groups, early child education classes).

☐ **Outcomes**: one or more of the following outcomes are assessed in the review (indicate
  the appropriate outcomes):
  *Infant/Child Outcomes*
  ☐ child development (physical, cognitive, psychosocial, socio-emotional,
    communicative)
  ☐ child health care (including health risk behaviours of mothers with respect to the
    child, pre-and postnatal, such as nutrition, breastfeeding duration, immunization)
  ☐ child injury/maltreatment, safe home environment
  ☐ pregnancy and birth outcomes (e.g., prenatal nutritional supplements, birth
    weights, participation in prenatal classes, including work with Elders)
  *Parent Outcomes*
  ☐ quality of parenting
  ☐ parent knowledge and confidence (realistic expectations of the child, home
    environment, safety)
  ☐ family functioning (trusting, nurturing relationships, problem-solving)
  ☐ family self-sufficiency (literacy, school enrolment, employment)
  ☐ social support for parents (connection with community resources, supports and
    services)
  ☐ family health care
  ☐ mental health (e.g., incidence of maternal depression and anxiety)
  ☐ addictions (e.g., treatment, changes in substance abuse)

**Rating**: All must pass

☐ Check if pass Basic Criteria, first read
Assessment of the Basic Criteria from first reader is correct ☐ incorrect ☐
**Similarity to KidsFirst**

- Voluntary: participation not mandatory
  - □ 85% □ 75% □ <75%
- Two-generational, multi-component programs which seek outcomes in domains of:
  1) child health and development, 2) parenting and family functioning and 3) family self-sufficiency (not all need to be assessed at one time, or in a particular review of course)
  - □ 85% □ 75% □ <75%
- Targeted to economically/socially vulnerable populations
  - □ 85% □ 75% □ <75%
- Onset: programs begin prenatally or within one month of birth
  - □ 85% □ 75% □ <75%
- Duration: programs have an expected duration of at least one year
  - □ 85% □ 75% □ <75%
- Frequency: home visits occur 1-4 times/month
  - □ 85% □ 75% □ <75%

**Similarity Rating:** □ High (≥5 criteria met at 85%) □ Moderate (4 met at 65%) □ Low similarity (≤3 are met) – Reject

**EXECUTION***

- Systematic searching of the literature
- Selection of relevant review-level intervention studies
- Critical appraisal of selected reviews by two readers for:
  - □ transparency
  - □ systematicity
  - □ relevance
- Assessment of the strength of the evidence including:
  - □ gaps in the evidence base
  - □ recommendations for future research

**Rating:** All must pass or reject

* Execution review methodology developed by the Health Development Agency in the UK (Bull, J. and McCormich G., 2004)
## Appendix B: Lists of Reviews Included and Excluded

The following table provides the lists of studies referred to in the section, *Methodology: How was the literature review done?* beginning on page 5. See full citations in the *List of References.*

### Section 1.

**Studies included in Gomby (2005) are listed at the right. An asterisk (*) indicates studies which may be less relevant to the current study, with the main reason noted.**

<table>
<thead>
<tr>
<th>Meta-Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Layzer et al (2001) – family support (not just HV programs) unless otherwise noted</em></td>
</tr>
<tr>
<td>Sweet and Applebaum (2004)</td>
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<tr>
<td>Kendrick et al (2000a)</td>
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<td>Kendrick et al (2000b)</td>
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<tr>
<td>Guterman (1999)</td>
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<tr>
<td>Hodnett &amp; Roberts (2001) – location of studies</td>
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<tr>
<td><em>Hodnett &amp; Fredericks (2003) – location of studies</em></td>
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<tr>
<td><em>Karoly, Kilburn, &amp; Cannon (2005) – HV and parent education are not distinguished, and the focus is on cost-benefit analysis</em></td>
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<tr>
<td>MacLeod &amp; Nelson (2000)</td>
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<tr>
<td><em>Nelson et al (2003) – preschool programs</em></td>
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<tr>
<td>Roberts, Kramer, &amp; Suissa (1996)</td>
</tr>
<tr>
<td><em>Sikorski et al (2004) – location of studies</em></td>
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<table>
<thead>
<tr>
<th>Literature Reviews</th>
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<tbody>
<tr>
<td><em>Bull et al (2004) – location of studies</em></td>
</tr>
<tr>
<td><em>Ciliska et al (1999) – location of studies</em></td>
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<tr>
<td>Cowan, Powell, &amp; Cowan (1998)</td>
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<tr>
<td>Gomby &amp; Larson (1993)</td>
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<tr>
<td>Gomby &amp; Culross (1999)</td>
</tr>
<tr>
<td><em>Guterman (2001) – secondary source (book) on HV to prevent child maltreatment</em></td>
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<tr>
<td><em>National Research Council and Institute of Medicine (2000) – research on the science of ECD</em></td>
</tr>
<tr>
<td><em>Wade et al (1999) – location of studies</em></td>
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</table>

### Section 2.

**Studies published after 1990 and prior to Gomby (2005), but not included in her review. Of generally less relevance and quality, they are excluded from the present review as well.**

<table>
<thead>
<tr>
<th>Systematic Reviews</th>
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<tbody>
<tr>
<td>Dennis (2005, 2004)</td>
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<tr>
<td>De Oliveira et al (2001)</td>
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<td>Drummond et al (2002)</td>
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<tr>
<th>Literature Reviews</th>
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<tr>
<td>Barnett (1995)</td>
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<tr>
<td>Daro &amp; Harding (1999)</td>
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</table>
### Section 3.

**“Post-Gomby” reviews**
published between April 01, 2005 and July 31, 2008. Those not included in the present review are marked with an asterisk and the primary reasons listed.

<table>
<thead>
<tr>
<th>Systematic Reviews</th>
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<tbody>
<tr>
<td>Bilukha et al (2005)</td>
</tr>
<tr>
<td>*Dennis&amp; Hodnett (2008) – not targeted to at-risk, location of studies</td>
</tr>
<tr>
<td>*Doggett, Burrett, &amp; Osborn (2005) – low similarity to KF re onset, duration and frequency</td>
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<thead>
<tr>
<th>Literature Reviews</th>
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<tr>
<td>*Haas (2008) – location of studies</td>
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<tr>
<td>Harding et al (2007)</td>
</tr>
<tr>
<td>*Reiter (2005) – not outcome focused/invalid outcome</td>
</tr>
<tr>
<td>*World Health Organization (2006) – location of studies, insufficient information about HV programs</td>
</tr>
</tbody>
</table>

### Section 4.

**Primary studies conducted too recently to be included in a literature review.** These are follow-up evaluations of HV programs of interest.

<table>
<thead>
<tr>
<th>Primary Studies</th>
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<tbody>
<tr>
<td>Brownell (2007) - Families First/BabyFirst - Manitoba</td>
</tr>
<tr>
<td>Caldera et al. (2007) - Healthy Families - Alaska</td>
</tr>
<tr>
<td>Duggan et al. (2007) - Health Families - Alaska</td>
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<tr>
<td>DuMont et al. (2008) - Healthy Families - New York</td>
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<tr>
<td>Gessner et al. (2008) - Healthy Families - Alaska</td>
</tr>
<tr>
<td>Gomes et al. (2005) - Healthy Families/Best Start model (Capital Region Home Visitation Network) - Edmonton, AB</td>
</tr>
<tr>
<td>Green et al. (2008) - Healthy Start - Oregon</td>
</tr>
<tr>
<td>Love et al. (2005) - Early Head Start – 17 programs in U.S.</td>
</tr>
<tr>
<td>Olds et al. (2007a) - NHF - Memphis</td>
</tr>
<tr>
<td>Ryan et al. (2006) - Healthy Babies, Healthy Children - Ontario</td>
</tr>
<tr>
<td>Santos (2005) - BabyFirst - Manitoba</td>
</tr>
</tbody>
</table>
Appendix C: Home Visiting Programs Considered “Similar” and “Dissimilar” to *KidsFirst* Based on Inclusion Criteria

### Home Visiting Programs Similar to *KidsFirst* with Notable Differences – United States and Canada

<table>
<thead>
<tr>
<th>Programs – United States</th>
<th>Differences from <em>KidsFirst</em></th>
</tr>
</thead>
</table>
| Clinical Nursing Models Project/Mental Health Model (Washington, 1982 – 1987) | • HV has master’s level training in Nursing  
• Focus is mother/child relationship |
| Early Head Start (EHS) (1994 - ) – the last major federal early childhood initiative (by the Clinton Administration) in the U.S. The Comprehensive Child Development Program in Illinois was forerunner. There were more than 650 programs across America in 2004, serving some 62,000 children under age 3. EHS serves low-income pregnant women and families with infants and toddlers (10% of children may be from families that exceed the federal poverty level). EHS is a comprehensive, “two-generational program that seeks to produce outcomes in: 1) child development; 2) family development; 3) staff development and 4) community development. EHS draws on conceptual frameworks which highlight the role of relationships (parent-child, staff-parent, staff-child, family-community). Expectations focus on child competences in terms of everyday effectiveness in dealing with their environment and later responsibilities. Programs are hypothesized to promote child competence directly (through centre-based services) and indirectly through enhanced parenting and parent-child relationships (Brooks-Gunn, 2003). | • Higher education of HV prioritized (semi-professional)  
• 3 types of programming: 1) centre-based; 2) home-based and group socializations, and 3) mixed approach  
• Programs may offer services through primarily home-based or centre-based strategies, or a combination.  
• 10% of available spaces must be used to serve children with disabilities  
• Home visits are weekly  
• Onset, “serve pregnant women” and their families with “children from birth to age 3”  
• Linked to a national resource centre under contract with *Zero to Three.* |
| HANDS Program, Kentucky (1992 - ) | • Trained paraprofessional as well as professional (nurses) HV  
• Intensity is intended to be weekly over 2 yrs |
| Health Families America HFA (1992 - ) | • Higher education of HV prioritized (semi-professional)  
• Targets “high risk” but each community defines its own intended population (e.g., for future criminal behaviour and victimization, reducing anti-social behaviour, child abuse and neglect, exposure to domestic violence, |
<table>
<thead>
<tr>
<th><strong>Home Visiting Programs Similar to <em>KidsFirst</em> with Notable Differences – United States and Canada</strong></th>
</tr>
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<tbody>
<tr>
<td><strong>HFA</strong> seeks to: 1) promote positive parenting; 2) enhance child health and development; 3) prevent child abuse and neglect by enhancing parent-child interactions; 4) promote use of community resources, and 5) create systems of community support for parents and newborns. Caseloads are “light,” from fewer than 10 families to as many as 15. Systematic assessment of all families in an intended population is a distinguishing feature of HFA. Theoretically the program is based on attachment theory. HFA also expects that change is most likely when interventions are targeted at both individuals and the community. HFA advocates that effective interventions must be universal, including varied service options to meet individual needs (Brooks-Gunn, 2003). <strong>Best Beginnings</strong> (1994 - ) is a paraprofessional version of HFA in NY with drug abuse and HIV prevention components (1994 - ) The HF model was implemented in 5 sites across Canada: three in Edmonton, the Kwanlin Dun First Nation in the Yukon and Charlottetown PEI. (1992 - )</td>
</tr>
<tr>
<td><strong>poor parenting skills and parent criminality (from National Crime Prevention Centre). No specific focus on low-income.</strong></td>
</tr>
<tr>
<td><strong>• (Alaska) Use Kempe’s Family Stress Checklist to identify at-risk. Families scoring ≥ 25 are eligible.</strong></td>
</tr>
<tr>
<td><strong>• Higher intensity (visit/week for first 6-9 months), averages to about 2/mo.</strong></td>
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<tr>
<td><strong>• A developed theoretical framework, which includes community change/development</strong></td>
</tr>
<tr>
<td><strong>• “Critical Elements” training in “core” and “wrap around” components</strong></td>
</tr>
<tr>
<td><strong>• HFA HV program is defined by 12 critical elements which are based on two decades of research regarding best practice standards.</strong></td>
</tr>
<tr>
<td><strong>Nurse Family Partnership NFP</strong> (1977 - ) previously the Nurse Home Visitation Program - is a “strengths-based” intervention, attending to the interests and priorities of each family. NFP seeks to: 1) improve pregnancy outcomes; 2) improve child health and development and, 3) family economic self-sufficiency. As of 2002, the program operated in 250 communities in 22 states serving more than 24,000 women. The NFP is based on theories of human ecology (emphasizing familial, neighbourhood and cultural factors, and focusing on first time mothers going through an “ecological change”), human attachment and self-efficacy (Brooks-Gunn, 2003). The program has been tested in scientifically controlled studies in three communities (Elmira NY, Memphis TN and Denver CO), and new sites must commit to implementing the original program model, so program services have remained consistent across sites.</td>
</tr>
<tr>
<td><strong>• Nurse HVs</strong></td>
</tr>
<tr>
<td><strong>• Higher intensity</strong></td>
</tr>
<tr>
<td><strong>• Only to first-time, low-income mothers prior to birth.</strong></td>
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<tr>
<td><strong>Project CARE</strong> (Wasik, 1990) Based on successful Abecedarian Project, with a</td>
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<tr>
<td><strong>• Nurse HV</strong></td>
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<tr>
<td><strong>• Includes a Child Development Centre</strong></td>
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<tr>
<td>Home Visiting Programs Similar to <em>KidsFirst</em> with Notable Differences – United States and Canada</td>
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<td>------------------------------------------------------------------------------------------------</td>
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<tr>
<td><strong>focus on mental health, intelligence and cognitive development. A 1984 evaluation showed no positive effects from HV alone, but positive for children if HV and Child Development Centre were combined.</strong></td>
</tr>
<tr>
<td><strong>program, and it is unclear if the HV program is the “major” component</strong></td>
</tr>
<tr>
<td>• HV weekly for first 3 years, reduced frequency to year 5</td>
</tr>
</tbody>
</table>
| **Prenatal and Infancy Nurse Home Visitor**  
(1979 - )  
(Denver, 70 communities in U.S.) |
| **Nurse HVs** |
| **Steps Toward Effective, Enjoyable Parenting (STEEP)**  
(Minnesota, 1987 - ) |
| • Facilitators (HV) have college education  
• Both HVs and group sessions  
• More intense (every two week starting in 2nd trimester) |
| **UCLA Family Development Project**  
(Los Angeles, 1987 - ) |
| • Professional HV, with training in child development and mental health  
• High intensity  
• Weekly mother-infant groups |
| **Programs – Canada** |
| **Differences from *KidsFirst*** |
| **Best Start** (PEI) - based on HFA. Serves a small urban centre with larger rural constituency where it is hard to maintain integrated, consistent services. |
| See Healthy Families America |
| **FamilyFirst** (Manitoba, established in 1998, province-wide in 1999) - previously BabyFirst, is modeled after Hawaii Healthy Start and uses the GGK curriculum. Primary goal is to prevent child maltreatment, but also seeks to ensure public health and safety, promote healthy growth, development and learning, and to build community connections. |
| • Targeted to families with newborns living in conditions of risk - prenatal to 3 yrs of age  
• Paraprofessional supervised by public health nurses  
• Visitation begins weekly for the first 1-2yrs |
| **Healthy Babies, Healthy Children** (HBHC Ontario) - screens all children born in Ontario. Each new mother receives a call from a public health nurse within 48 hours of discharge from the hospital, and many are subsequently visited by a public health nurse. Where the public health nurse judges that the family may benefit from additional services, the nurse completes an in-depth family assessment. On the basis of the assessment, the nurse may offer the family home visiting. All activities of the program are voluntary. The goals of the HBHC program are to “promote optimal physical, cognitive, communicative, and psychosocial” |
| • HV typically involve visits from a public health nurse and a family home visitor |
**Home Visiting Programs Similar to KidsFirst with Notable Differences – United States and Canada**

<table>
<thead>
<tr>
<th>Program</th>
<th>Differences from KidsFirst</th>
</tr>
</thead>
</table>
| Healthy Families Initiative | - Targeted to families with newborns living in conditions of risk - prenatal to 3 yrs of age  
- Paraprofessional supervised by public health nurses  
- Visitation begins weekly for the first 1-2 yrs |
| Success by 6 Healthy Families | See Healthy Families America |

**Home Visiting Programs Dissimilar to KidsFirst with Notable Differences – United States**

<table>
<thead>
<tr>
<th>Program</th>
<th>Differences from KidsFirst</th>
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</thead>
<tbody>
<tr>
<td>Enrich Project</td>
<td>- Sole focus in children with disabilities and their families</td>
</tr>
</tbody>
</table>
| Healthy Steps for Young Children Program | - Not targeted to low-income/at-risk – minimal exclusion criteria (Brooks-Gunn 2003)  
- Offers assessments beginning at 6 months.  
- Frequency of visits too low (6/3 yrs)  
- HV not the core of program? Services include HV, telephone info line, support groups and “enhanced well-child visits with the child’s paediatrician.” |
| Home Instruction Program for Preschool Youngsters HIPPY | - For parents with pre-school children aged 3-5  
- Parent-focused, child need not be present during visits |
<table>
<thead>
<tr>
<th><strong>Home Visiting Programs Dissimilar to <em>KidsFirst</em> with Notable Differences</strong> – United States</th>
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</thead>
<tbody>
<tr>
<td><strong>background in ECD or social work. HIPPY USA provides each program with intensive pre-service training, training guides and annual site visits and a biannual self-assessment and validation process.</strong></td>
</tr>
<tr>
<td><strong>Infant Health and Development Program</strong></td>
</tr>
<tr>
<td><strong>Infant-Parent Program</strong> (Univ. of San Francisco, 1979 - )</td>
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<tr>
<td><strong>Parents as Teachers PAT (1981 - )</strong> Began as a pilot project in Missouri, 3,000 local program sites existed in all 50 U.S. states and 7 other countries by 2003, serving 330,000 children prenatally to age five. A basic tenant of the program is that all parents deserve to be supported in their role as first teachers. The program’s major goals are to (1) empower parents to give their children the best possible start in life through increased knowledge of child development and appropriate ways to foster growth and learning; (2) give children a solid foundation for school success; (3) prevent and reduce child abuse; (4) increase parents’ feelings of competence and confidence; and (5) develop true home-school-community partnerships on behalf of children. All parent educators receive one week of pre-service training.</td>
</tr>
<tr>
<td><strong>Parent-Child Home Program PCHP (1965 - )</strong> Program is an intensive home visiting model focused on increasing parent-child verbal interaction and enabling parents to prepare their children to enter school ready to learn and to achieve long-term academic success. As of 2005, approximately 4,000 families were served at 140 program sites in 12 states. PCHP programs are often sponsored by school districts, individual schools, social service agencies, community-based organizations, community health centers and public libraries. Many sites operate in conjunction with local family resource centers</td>
</tr>
<tr>
<td><strong>● High intensity center-based care for children 0-3 yrs.</strong></td>
</tr>
<tr>
<td><strong>● Mainly mental health services - mental health is main risk factor</strong></td>
</tr>
<tr>
<td><strong>● Focus is children aged 1-2yrs</strong></td>
</tr>
<tr>
<td><strong>● Universal program (though one multi-site review looked at low-income compared to more moderate income)</strong></td>
</tr>
<tr>
<td><strong>● HVs weekly or monthly until child is two</strong></td>
</tr>
<tr>
<td><strong>● A child-focused program rather than a two-generational program</strong></td>
</tr>
<tr>
<td><strong>● Group meetings are a core component of the program</strong></td>
</tr>
<tr>
<td><strong>● PAT programs are offered by school districts, hospitals, churches and social service agencies at stand-alone programs, or as part of more comprehensive service delivery systems such as Head Start.</strong></td>
</tr>
<tr>
<td><strong>● Frequency too high (2 HVs/wk)</strong></td>
</tr>
<tr>
<td><strong>● Duration too short (1/2 yr only)</strong></td>
</tr>
<tr>
<td><strong>● Participants are usually families with children that are 2 or 3 years old Focus on school readiness</strong></td>
</tr>
</tbody>
</table>
Reference List


http://www.state.ia.us/earlychildhood/docs/EvidenceBasedHomeVisitingTool.pdf.


SPHERU is a bi-university, interdisciplinary research unit committed to critical population health research. The SPHERU team consists of researchers from University of Saskatchewan and University of Regina who conduct research in three main areas - northern and aboriginal health, rural health, and healthy children.

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