Development of the Calgary Regional Home Visitation Collaborative Postpartum Screening Tool
(The Calgary Postpartum Screen)

Patricia Hull
Research Coordinator,
Calgary Regional Home Visitation Collaborative
July 30, 2007
Table of Contents

List of Tables .......................................................................................................................... i
List of Figures .......................................................................................................................... ii
Appendices ............................................................................................................................. iv
Executive Summary ................................................................................................................ v
Acknowledgements ............................................................................................................... vi

1. The Calgary Regional Home Visitation Collaborative (CRHVC) ................................... 1
   1.1. History of the CRHVC ................................................................................................. 1
   1.2. The Present Day CRHVC .......................................................................................... 1
       1.2.1. The CRHVC Leadership Team .......................................................................... 3
       1.2.2. The CRHVC Administration Team ..................................................................... 3
       1.2.3. The CRHVC Contracted Service Provider Agencies ....................................... 3
       1.2.4. The CRHVC Home Visitors .............................................................................. 4
       1.2.5. The CRHVC Supervisors Team ........................................................................ 5

   Postpartum Screening Tool Development Research Project ........................................... 5

3. Funding Support for the CRHVC 2005-2007 Postpartum Screening Tool
   Development Project ........................................................................................................... 6

4. Literature Review .............................................................................................................. 7
   4.1. Home Visitation Programs to Support at-risk Mothers and Children ................... 7
   4.2. The Goals, Benefits and Characteristics of Effective Home Visitation Programs .... 8
       4.2.1. The Goals of Home Visitation Programs .......................................................... 8
       4.2.2. The Benefits of Home Visitation Programs ....................................................... 9
       4.2.3. The Characteristics of Effective Home Visitation Programs ............................ 11
   4.3. Home Visitation Programs in North America ............................................................ 12
       4.3.1. Home Visitation Programs in Canada ............................................................... 12
       4.3.2. Home Visitation Programs in the United States ............................................... 13
4.4. The Roles of Paraprofessional Home Visitors and Nurses in Home Visitation
............................................................................................................................... 13

4.4.1. The Role of Paraprofessional Home Visitors in Home Visitation Programs........................................................................................................ 13
4.4.2. The Role of Nurses in Home Visitation........................................................................................................ 14

4.5. Screening Tools used in Home Visitation Program to Identify At-Risk Mothers........................................................................................................ 14

4.6. The Development and Evaluation of Screening Tools............................................................... 16

5. The CRHVC 2005-2007 Postpartum Screening Tool Development Project........ 18

5.1. Expected Deliverables of the CRHVC Postpartum Screening Tool Project.. 19

5.2. Responsibility for Development of the CRHVC Postpartum Screening Tool 19

5.3. Guiding Principles for the CRHVC 2005-2007 Postpartum Screening Tool Project.................................................................................................................. 20

5.4 Project Planning Phase Activities - CRHVC 2005-2007 Postpartum Screening Tool Project .................................................................................................................. 21

5.4.1. Activity 1 - Project Planning Phase - Development of Criteria for the CRHVC Postpartum Screening Tool................................................................. 21

5.4.2. Activity 2 - Project Planning Phase - Development of a Validity and Reliability Framework for the CRHVC 2005-2007 Postpartum Screening Tool Project ........................................................................................................ 23

5.4.3. Activity 3 - Project Planning Phase - Literature Review - Postpartum Screening Tools and Home Visitation Programs........................................... 30

5.4.4. Activity 4 - Project Planning Phase - Selection of the Domains for the CRHVC Postpartum Home Screening Tool....................................................... 31

5.4.5. Activity 5 - Project Planning Phase - Development of Questions (Inclusive of Weighting) for the CRHVC Postpartum Screening Tool ................. 32

5.5. Pre-Pilot Phase Activities - CRHVC 2005-2007 Postpartum Screening Tool Project .................................................................................................................. 34

5.5.1. Activity 1- Pre-pilot Phase Activities - Confirmation of the Validity of the CRHVC Postpartum Screening Tool................................................................. 34
5.5.2. Activity 2 - Pre-pilot Phase Activities - Confirmation of the Reliability of the CRHVC Postpartum Screening Tool............................................................... 43

5.5.3. Activity 3 - Pre-pilot Phase Activities - Development of Guidelines and Training Materials for the CRHVC Postpartum Screening Tool ............ 46

6. Pilot Phase Activities............................................................................................................................. 47

6.1. Activity 1 - Pilot Phase Activities - Screening of 266 Mothers with the CRHVC Postpartum Screening Tool .............................................................. 47

6.2. Activity 2 - Pilot Phase Activities - Implementation of the CRHVC Postpartum Screening Tool in a Rural Setting ...................................................... 48

7. Project Post-pilot Activities – Analysis of the Results of the CRHVC Postpartum Screening Tool Project ................................................................. 48

7.1. Activity 1 - Post-pilot Phase Activities - Implementation of the CRHVC Postpartum Screening Tool in other Home Visitation Programs in Alberta 48

7.2. Activity 1 - Analysis of the Distribution of the Mothers’ Answers to Questions/Scores during the CRHVC 2005-2007 Postpartum Screening Tool Project ................................................................................................. 49

7.2. Activity 2 - Analysis of the Demographic Profile of the Mothers Screened with the CRHVC 2005-2007 Postpartum Screening Tool Project .............. 53

7.3. Activity 3 - Finalization of the CRHVC Postpartum Screening Tool .......... 64

7.4. Activity 4 - Development of the CRHVC Prenatal Screening Tool ............. 64

7.5. Activity 5 - Presentation and Publication of the Findings of the 2005-2007 CRHVC Postpartum Screening Tool Project ............................................. 65

8. Conclusions and Recommendations .................................................................................................. 65
List of Tables

*Table 1.* Examples of Screening Tool Development and Evaluation Initiatives........ 18

*Table 2.* Roles and Responsibilities and Time Frames for the CRHVC 2005-2007
Postpartum Screening Tool Project ........................................................................... 19

*Table 3.* Convergent Validity - CRHVC Postpartum Screening Tool and the Healthy
Families America Postpartum Screen........................................................................... 35

*Table 4.* Risk Factors Identified at the Time of Postpartum Screening for Mothers
Participating in the CRHVC 2005-2007 Postpartum Screening Tool Project
........................................................................................................................................... 37

*Table 5.* Risk Factors for Mothers Attending the CRHVC Healthy Families Program
2005-2007 and Screened with the CRHVC Postpartum Screening Tool..... 38
List of Figures

Figure 1. The Structure of the Calgary Regional Home Visitation Collaborative ..... 2

Figure 2. Distribution of Scores/Ratings during the CRHVC 2005-2007 Postpartum Screening Tool Project Pilot Phase .............................................................. 50

Figure 3. Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Pilot Project - Frequency of Scores for Questions with a Weighted Score of 10 ......................... 52

Figure 4. First Languages of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project ................................................................. 54

Figure 5. Culture of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project ............... 55

Figure 6. Age Ranges of Mothers Attending the CRHVC Healthy Families Program ................................................................. 56

Figure 7. Education Levels of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project ................................................................. 57

Figure 8. Prenatal Medical Care of Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project ................................................................. 58

Figure 9. Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project - Opinions about the Availability of Help for the Baby......................................................... 59

Figure 10. Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project - Opinions about their Confidence in Caring for the Baby......................................................... 60

Figure 11. Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project - Opinions about the Timing of their Baby’s Birth in Their Life......................................................... 61

Figure 12. Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 CRHVC postpartum Screening Tool Project - Opinions about Having Enough Money for Basic Necessities.............................................. 62
Figure 13. Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 CRHVC postpartum Screening Tool Project - Opinions about Having a History of Depression .................................................. 63
Appendices

Appendix A

Appendix A includes the final CRHVC Postpartum Screening Tool and the two postpartum screening tools – the Parkyn Postpartum Screen and the Healthy Families America Postpartum Screen that were used as reference screening tools in the Project.

Appendix B

Appendix B includes the final CRHVC Prenatal Screening Tool that would be available for testing in another Home Visitation setting pending consultation with the CRHVC (Marianne Symons, Program Manager, 403-204-0800).
The Calgary Regional Home Visitation Collaborative 2005-2007 Screening Tool Project

Executive Summary

The Healthy Families Program of the Calgary Regional Home Visitation Collaborative (CRHVC) has supported at-risk mothers and their families since its inception in 2002. In 2004, the CRHVC completed an in-depth operational review and noted a number of concerns with the format/questions on the Parkyn Screen which was being used by the Calgary Health Region to screen and refer mothers to the CRHVC. In 2005, the CRHVC undertook an initiative to develop and test a standardized postpartum screening tool that could be used by the CRHVC and other Home Visitation Programs.

The CRHVC Screening Tool Project began in May 2005 and finished in July 2007. The Project activities included a comprehensive literature review, multiple reviews of the proposed screening tool by stakeholders including the staff and teams of the CRHVC, Consultants, representatives from the Alberta Home Visitation Network Association and the Calgary Health Region, mothers attending the CRHVC Healthy Families Program and community representatives. A standardized copyrighted postpartum screening tool, the Calgary Regional Home Visitation Collaborative Postpartum Screening Tool (the Calgary Postpartum Screen) was finalized in July 2007. The validity, reliability and ease of administration of the Calgary Postpartum Screen were tested extensively and confirmed. A counterpart prenatal screening tool, the Calgary Regional Collaborative Home Visitation Prenatal Screening Tool was also developed.

The CRHVC, given its commitment to research that advances Home Visitation, should consider additional studies, notably the development of an evidence-based counterpart postpartum assessment tool and best practice guidelines for Home Visitors.
Acknowledgements

In submitting this Final Report, I would like to acknowledge the exceptional support that I have received from the following people and organizations.

**Funding Agencies**

- The ALVA Foundation, Toronto Ontario (majority of funding)
- Calgary and Area Child and Family Services Authority
- Calgary Children’s Initiative

**The Calgary Regional Home Visitation Collaborative**

- Marianne Symons, Program Manager
- Amanda Robinson, Screener
- Nadine McClure Smith, Research Assistant
- Wichita Ferro, Screener, CRHVC
- Leadership Team
- Supervisors Team
- The Contracted Service Provider Agencies
- Home Visitors
- Mothers

**Consultants and External Support**

- Dr. David Cawthorpe, Research and Evaluation Expert
- Petrina Hough, Evaluation Facilitator
- Calgary Health Region Public Health Nurses
- Members of the community with an interest in mother/child health

**The Alberta Home Visitation Collaborative Network**

- Members of the Board
- Member organizations
1. The Calgary Regional Home Visitation Collaborative (CRHVC)

1.1. History of the CRHVC

It is well-recognized that children who grow up in a home environment where there are low levels of social support, a lack of parenting skills, insufficient funds for basic necessities, alcohol or drug abuse concerns and/or mental health issues are susceptible to neglect and abuse (Hough, 2004). These negative living circumstances are frequently manifested in vulnerable children as delayed cognitive development, lifelong learning difficulties, emotional problems or poor social adjustment.

In the early 2000’s, a number of Calgary-based organizations that served children and families completed a comprehensive review that critically evaluated the availability of community-based support services for vulnerable mothers and their babies/children. This study clearly showed that the level of available support for at-risk mothers and their families was minimal. In order to address this issue, a Steering Committee comprised of representatives from local organizations with an interest in child and family services responded to a provincial Request for Proposal for the creation of a Home Visitation Program in Calgary. The Steering Committee’s efforts culminated in the creation of the CRHVC in 2002. The mandate of the CRHVC was to oversee the development of a comprehensive Home Visitation Program for new mothers and their babies/children who were likely to be living in at-risk situations.

1.2. The Present Day CRHVC

Organizationally, the CRHVC includes a Leadership Team, an Administration Team, Contracted Community Agencies, Home Visitors and a Supervisors Team. The organizational structure of the CRHVC is depicted in Figure 1.
A brief description of the roles and responsibilities of the CRHVC Leadership Team, the CRHVC Administration Team, the Contracted Service Provider Agencies, Home Visitors and the Supervisors Team follows.
1.2.1. The CRHVC Leadership Team

The CRHVC Leadership Team serves as a management committee for the CRHVC and as such, sets the strategic direction and provides overall leadership of the CRHVC. The Leadership Team is comprised of representatives from the fiscal agent (Hull Child and Family Services), Calgary and Area Child and Family Services Authority, Calgary Health Region, the CRHVC Project Manager, and sector representatives (organizations offering home visitation services but who are not providing services for the CRHVC Healthy Families Program and other institutions as deemed appropriate). The Calgary Children’s Initiative served on the Leadership Team from the inception of the CRHVC in 2002 until April 2007 at which time they determined that the CRHVC was operating effectively and no longer required their assistance.

1.2.2. The CRHVC Administration Team

The CRHVC Administration Team hold degrees/diplomas in the Human Services and includes a Program Manager (Marianne Symons) who coordinates and administers the programs of the CRHVC, one fulltime Administrative Research Assistant (Nadine McClure-Smith), one full-time Screener (Amanda Robinson) and a part-time Screener (Wichita Ferro). The Administration Team also includes a Research Coordinator (Patricia Hull) who oversees the design and evaluation of targeted research projects.

1.2.3. The CRHVC Contracted Service Provider Agencies

The Contracted Service Provider agencies provide Home Visitation services through the CRHVC Healthy Families Program. The Contracted Service Provider agencies of the CRHVC include: Closer to Home Community Services, Calgary Immigrant Women’s Association (CIWA), Families Matter, Spectrum Youth and Family
Services Association, Children’s Cottage Society of Calgary and the Salvation Army Children’s Village (SACV). The staffing complement of each agency includes a Program Supervisor and a specified number of Home Visitors; the standard ratio of Supervisor to Home Visitor is 1:5. The Contracted Service Provider Agencies have established solid working relationships and partnerships with the organizations in communities where they provide services. These partner organizations provide community-based support services that can be accessed by families participating in the Healthy Families Program. In order to promote increased utilization of their services, the CRHVC has developed information brochures, consent for service and assessment tools, many of which have been translated into different languages including Chinese, Vietnamese, Punjabi, Arabic, and Spanish. In addition, qualified Aboriginal Home Visitors are employed by the Closer to Home agency and their involvement has increased the participation of Aboriginal families.

1.2.4. The CRHVC Home Visitors

The majority of the CRHVC Home Visitors have diplomas or degrees in the human services fields and in general, their career experience exceeds two years. The Home Visitors support the mothers attending the CRHVC Healthy Families Program by: developing individualized service/goal plans/interventions based on family needs; assessing progress towards those goals; teaching parenting skills to mothers; providing emotional support for the mothers and; making referrals to community resources. Each CRHVC Home Visitor has a caseload of between 15 and 20 families.

The CRHVC Home Visitors are committed to connecting families to needed community-based support programs and specialized services/resources. They make their first visit to the family within a week of referral and depending on family needs (and the
parents desire to remain in the CRHVC Healthy Families Program) may continue to see
the family until the child reaches age five.

1.2.5. The CRHVC Supervisors Team

The CRHVC Supervisors Team serves as an operations committee and facilitates
achievement of the CRHVC’s strategic directives. The Supervisors Team is comprised of
a Supervisor from each of the Contracted Service Provider agencies, the CRHVC
Program Manager and other members of the Administration Team as may be appropriate.

Postpartum Screening Tool Development Research Project

In 2004, the CRHVC organized a review and evaluation of its operations. An
Evaluation Facilitator, Petrina Hough coordinated this evaluation initiative and her
findings are detailed in a comprehensive report (Hough, 2004). One part of the evaluation
assessed the CRHVC’s use and acceptance of the Parkyn Postpartum Screening Tool
which was being used by the Calgary Health Region Public Health Nurses to screen and
refer mothers to the CRHVC Healthy Families Program.

Hough (2004, p 69) made the following conclusions about the Parkyn Postpartum
Screening Tool.

Several issues concerning the use and content of the Parkyn Post-partum screening tool
have been identified.

a. Review of Other Screening Tools: The Parkyn Post-partum screening tool does not
appear to adequately assess the identified concerns of the target population. For
example, more emphasis needs to be placed on social issues, such as domestic violence
and cultural isolation, in addition to the health information already collected through the
existing screening tool. It is recommended that a review of other screening tools be
undertaken to determine if another tool would better fit the strength based philosophy of
the program and address the social concerns that are not reflected by the current
screening tool.
b. **Scoring Guidelines:** It is recommended that guidelines for assigning scores to the “Other” category on the Parkyn Postpartum screening tool be developed. Under-rating and over-rating of issues recorded in the “Other” category have skewed overall scores for the screen, and have resulted in a misrepresentation (less or more severe) of the family’s level of need for service. A different criteria for determining eligibility for service (i.e. a different cut-off score for eligibility) may also be appropriate. More investigation of this issue is required.

c. **Accuracy of Information:** Referrals cannot be efficiently processed unless all information on the screen is present and correct. When training on the use of this tool is given to the Public Health Nurses, emphasis needs to be placed on the importance of the accuracy of the information that is recorded.

d. **Layout of the Form:** It is recommended that the Calgary Health Region examine the physical format of the tool in order to allow more space for Public Health Nurses to record demographic information and any other information that is pertinent to service delivery. In particular, more information should be recorded regarding potential safety concerns that exist within the family. In the meantime, it is recommended that the Public Health Nurses use the Healthy Families Program fax cover sheet to transmit any information that will not fit on the existing screening form.

The CRHVC fully considered the findings of Hough’s (2004) Report and in 2004, sought funding to address the recommendations in her study, notably the development of a validated standardized postpartum screening tool.

### 3. Funding Support for the CRHVC 2005-2007 Postpartum Screening Tool Development Project

The CRHVC, given its commitment to carrying out its mandate in the context of an evaluation and research framework and based on Hough’s (2004) recommendations, proposed a research initiative to develop and test an alternative postpartum screening tool that could be used by the CRHVC Healthy Families Program as well as other Home Visitation Programs across Canada. In October 2004, the CRHVC requested and subsequently received majority funding from the ALVA Foundation (Toronto, Ontario) to undertake the development of a standardized validated postpartum screening tool. The Calgary and Area Child and Family Services Authority and the Calgary Children’s
The Calgary Regional Home Visitation Collaborative 2005-2007 Screening Tool Project provided additional funding support. Patricia Hull was hired as the Research Coordinator in April 2005 and the Project started in May 2005.

4. Literature Review

The literature review provided important background information for planning, implementing and evaluating the CRHVC 2005-2007 Postpartum Screening Tool Project. The literature review focused on the following areas:

- Home Visitation Programs to Support at-risk Mothers and Children
- The Goals, Benefits and Characteristics of Effective Home Visitation Programs
- Screening Tools used in Home Visitation Programs to Identify at-risk Mothers
- Home Visitation Programs in Canada and the United States
- The Roles of Paraprofessional Home Visitors and Nurses in Home Visitation
- The Development and Evaluation of Screening Tools

4.1. Home Visitation Programs to Support at-risk Mothers and Children

The purpose, scope and client base of Home Visitation Programs and the psychosocial risk factors for mothers attending these Programs have been described by a wide variety of researchers, scholars and practitioners (Allen, 2007; American Academy of Pediatrics, 1998; Bull, McCormick, Swann and Mulvihill, 2004; Heaman, Chalmers, Woodgate, and Brown, 2006; Kearney, York and Deitrick, 2000; MacMillan, 2000).

Rapoport and O’Brien-Strain (2001) completed a literature review (79 pages) that provides an excellent overview of Home Visitation Programs. Generally speaking, home visitation refers to initiatives/programs that provide family-focused home-based support and interventions for at-risk parents with young children. The goals and mandates of Home Visitation Programs vary depending on the population served, the philosophical framework for service delivery, the time frame/length of the program (prenatal period through the early childhood years), method of assessing effectiveness, sources of funding
and the credentials/professional background of Home Visitors who range from volunteer lay visitors to trained Home Visitors and/or Public Health Nurses.

Home Visitation Programs provide support for mothers and their families who have one or more of the following psychosocial or medical/health care risk factors:

- Abuse in the home - physical, emotional, verbal, sexual
- Single parent/unwanted baby/insecure mother-baby attachment
- Young age of mother
- Poverty
- Use of alcohol and drugs in the home
- Low level of education
- Social isolation
- Difficult birth/separation after birth
- Mental illness in the home
- Medical health problems in the family (including baby)
- Life stress/coping difficulty
- Instability of the home (frequent moves)
- Large family/babies born close together

Vasquez and Pitts (2006) described high-risk families as “families living in poverty, newly arrived immigrant families, adolescent or single parents, homeless families, families with members who are chronically ill, caregivers with a substance abuse or mental disorder and families with a history of sexual, domestic, physical or mental abuse or neglect” (p 123).

4.2. The Goals, Benefits and Characteristics of Effective Home Visitation Programs

4.2.1. The Goals of Home Visitation Programs

The goals of Home Visitation Programs range from improving maternal health outcomes, fostering better child health and cognitive development to enhancing maternal life-course development through understanding the concerns in the home environment and by promoting positive maternal behaviours. Home Visitation Programs (through Nurses and/or Home Visitors) focus on improving parenting skills by: providing
emotional support and parenting/child care education for participating mothers; linking mothers to other community service agencies that can provide support and/or by: leading or participating in research to better understand the mothers’ needs (Kendrick, Hewitt, Dewey, Blair, Robinson, Williams and Brummell 2000; Lagerberg, 2000; MacMillan, 2000, Duggan, Macfarlane, Fuddy, Burrell, Higman, Windham and Sia, 2004; Olds, Robinson, O’Brien, Luckey, Pettit, Henderson, Ng, Scheff, Korfmacher, Hiatt and Talmi, 2002). Zeanah, Larrieu, Boris and Nagle (2006) noted that many of the families who are referred to Home Visitation Programs faced significant psychosocial and mental health issues which in turn impeded their ability to reach the goals in their service plans.

4.2.2. The Benefits of Home Visitation Programs

Benefits of Home Visitation Programs Identified by Home Visitors and Scholars

Lagerberg (2000), Hammond-Ratzlaff and Fulton, (2001) and others (Daro and Harding, 1999; Hanks and Smith, 1999; Olds, Eckenrode, Henderson, Kitzman, Luckey, Powers, Cole, Sidora, Morris, Pettitt and Luckey, 1997; Olds, Henderson, Cole, Eckenrode, Kitzman, Luckey, Pettitt, Sidora, Morris, and Powers, 1998; Rapoport and O’Brien-Strain, 2001; Taggart, Short and Barclay 2000; Vimpani, 2000) identified a wide variety of benefits of Home Visitation Programs for mothers and their families. The benefits of Home Visitation Programs that have been reported in the literature include:

- Decreased rate of abuse or a changed attitude to abuse;
- Decrease in physical punishment and restriction of infants;
- Increase in the use of appropriate discipline for older children;
- Decrease in the number of verified incidents of child abuse and neglect;
- Fewer accidental injuries and poisonings resulting in visits to doctors;
- Safer homes;
- Improved child care techniques - meeting children’s physical, cognitive, social and emotional needs;
- Improved maternal-child interaction and satisfaction with parenting;
- Improved health and well-being outcomes for mothers and infants;
- Improved growth in low birth-weight infants;
- Developmental gains for children, particularly low birth weight infants;
- Fewer emergency room visits;
- Greater use of social support/less isolation for mothers;
- Increased use of appropriate play materials at home;
- Better access to services such as community-based support programs
- Better access to transportation;
- Decreased psychosocial risk for the family;
- Customized care and timely support for mothers
- Stronger family interaction and dynamics;
- Fewer subsequent pregnancies;
- Increased spacing between pregnancies;
- Increased rate of return to or retention in schools and;
- Increased length of maternal employment

The American Academy of Pediatrics (1998) reported the long term effects and benefits of Home Visitation Programs to be: fewer subsequent pregnancies, reduced maternal criminal behavior, decrease in the use of welfare support, decrease in verified incidents of child abuse and neglect and less maternal behavioral impairment that could be attributed to alcohol and drug abuse. Disadvantaged first-time mothers and adolescent teen mothers (who did not have as strong support system) appeared to benefit most from participation in Home Visitation Programs.

Fergusson, Grant, Horwood and Ridder (2006) conducted a randomized trial of the Early Start Programs and concluded that Home Visitation Programs enhanced positive child-related outcomes in the absence of parent or family-related outcomes. Deal (1994) reported that the benefits of Home Visitation were likely to be greater when:

- Programs were structured to help mothers with multiple risk factors;
- The duration of Program was longer and when;
- The risk(s) were identified early, notably in the prenatal period
**Benefits of Home Visitation Programs Identified by Mothers**

Allen (2007) studied parents’ perceptions of Home Visitor interventions with regard to their effectiveness in meeting the needs of children who were at-risk for having developmental delays or suffering maltreatment or abuse. Ninety parents who participated in the study indicated that they valued close parent-service provider relationships and timely access to Home Visitors to answer their questions and offer support. At the same time, the mothers voiced concern about the inability of Home Visitation Programs to provide sufficient resources to help meet their material needs and/or to link them with needed community-based support agencies.

**The Benefits of Adding Supplementary Home Visits for Mothers**

Morrell, Spiby, Stewart, Walters and Morgan (2000), in another randomized trial found no additional benefits for postnatal mothers (measured in terms of the use of social services and cost savings to the National Health System) when additional home visits were provided for mothers. At the same time, Sharp, Ispa, Thornburg and Lane (2003) noted that the number of home visits actually completed for mothers was often less than the number that had been prescribed.

**The Benefits of Home Visitation for Very High At-Risk Mothers**

There is some evidence that mothers who were significantly at-risk did not benefit from participating in Home Visitation Programs (Olds et al., 1997, 1998).

**4.2.3. The Characteristics of Effective Home Visitation Programs**

A number of features have been reported as being integral components of effective early childhood Home Visitation Programs (American Academy of Pediatrics 1998; Heaman et al., 2006; Kitzman, Olds, Cole and Yoos, 1997; McNaughton, 2000;
The characteristics of effective Home Visitation Programs that have been reported in the literature include:

- Voluntary enrolment of parents;
- A strength-based philosophy;
- Stable funding;
- Regular program evaluation;
- A focus on families in greater need of services (low-income, unmarried teenage mothers, parents with low IQ’s, families with a history of abuse) as opposed to universal programs;
- Interventions beginning in pregnancy and continuing through the second to fifth year;
- Flexibility and family specificity such that the duration and frequency of visits and the kind of services can be adjusted to a family’s needs and risk levels;
- An intervention framework/structure that has well-defined boundaries;
- Regularly scheduled home visits (lasting several months);
- Active promotion of positive health-related behaviors and infant care giving;
- A broad multi-problem focus to address the full complement of family needs rather than focusing on a single domain such as increasing birth weight;
- Mother-service provider trust relationships and communication;
- Measures to reduce family stress by improving social and physical environments;
- Program consistency though the use of the same service provider for mothers;
- Careful attention to the selection, training and supervision of Home Visitors and;
- The use of skilled Nurses or well-trained Home Visitors.

4.3. Home Visitation Programs in North America

4.3.1. Home Visitation Programs in Canada

A variety of Home Visitation Programs have been established across Canada (Drummond, Weir, and Kysela, 2002; Hough 2004; Reiter, 2005). Reiter (2005) completed a comprehensive review of Home Visitation Programs in British Columbia, Alberta, Manitoba, Saskatchewan, Ontario, Nova Scotia, New Brunswick and Newfoundland. Public Health Nurses and/or paraprofessional Home Visitors were involved in these Programs. The Programs vary in size and generally used the Parkyn Screen (or a modified version) for screening at-risk mothers.
4.3.2. Home Visitation Programs in the United States

Currently, Home Visitation Programs exist in most states (Comprehensive Home Visitation Programs for Families with Young Children, 2006). These Programs include the Healthy Families America (Healthy Families America, 2004), Hawaii’s Healthy Start (Center on Child Abuse Prevention Research, 1996), Parents as Teachers (Parents as Teachers National Center, 2000) and the Head Start Program (Head Start, 2000).

Australia (Lines, 1987), the United Kingdom (Bull et al., 2004) and Europe (Cox, 1993) have also developed a wide variety of Home Visitation Programs.

4.4. The Roles of Paraprofessional Home Visitors and Nurses in Home Visitation

4.4.1. The Role of Paraprofessional Home Visitors in Home Visitation Programs

Vogler, Davidson, Crane, Steiner and Brown (2002) conducted a year-long randomized trial in which paraprofessional Home Visitors and Nurses provided service to families with delayed or at-risk preschool-aged children. The paraprofessional Home Visitors provided a more intense level of support than the Nurses. Both groups were able to facilitate early intervention and family assessments. At the same time, the authors noted that specific efforts to improve outcomes (e.g., decreased initiation time and increased use of early intervention services) were still needed. Barlow, Variatis-Baker, Speakman, Ginsberg, Friberg, Goklish, Cowboy, Fields, Hastings, Pan, Reid, Santosham, and Walkup (2006), in another randomized trial, demonstrated that American adolescent Indians were able to significantly increase their knowledge about child care and mother-child interaction after working with trained paraprofessional Home Visitors.

Other studies (Daro and Harding, 1999; Ferguson, Grant, Harwood, and Ridder, 2005; Kendrick et al., 2000; Hiatt, Sampson and Baird, 1997; McCurdy, 2001; Tough,
Johnson, Siever, Jorgenson, Slocombe, Lane, and Clarke, 2006 and Wasik, 1993) have also reported the beneficial role that trained Home Visitors play in supporting at-risk mothers and children; this role has included providing emotional support and being company, making referrals to community-based support services, completing in-depth home environment assessments and teaching parenting/child care skills.

Tandon, Parillo, Jenkins and Duggan (2005) studied the effectiveness of paraprofessional Home Visitors in helping mothers and suggested that their ability to evaluate environmental risks could be enhanced through formal training. Wasik and Roberts (1994) completed a demographic profile of Home Visitors and noted that they had diverse cultural backgrounds with levels of education that often exceeded the specified position requirements.

4.4.2. The Role of Nurses in Home Visitation

The role of Nurses, notably Public Health Nurses in home visitation is well documented in the literature (Carter, 2005; Deal, 1994; Heaman et al., 2006; MacMillan, Thomas, Jamieson, Walsh, Boyle, Shannon and Gafni, 2005; Reiter, 2005). Home Visitation Nurses promote family health through needs identification and goal setting; provide support/counseling; educate mothers about parenting skills; facilitate access and referral to needed community services and; advocate on behalf of the mothers. McDonald (2007) noted that Home Visitors have been effective in preventing child maltreatment.

4.5. Screening Tools used in Home Visitation Program to Identify At-Risk Mothers

Reiter (2005) provided an excellent review of the screening tools that are being used in North America for the early identification of mothers who are living in at-risk
situations and as such, would be eligible for referral to Home Visitation Programs. Reiter (2005) reported that:

“The Parkyn Tool is the most common screening tool utilized across Canada, although different provinces/areas have made modifications to the tool. Helen Parkyn initially developed this tool in Interior Health. There is variability in the type of consent required to administer this tool ranging from written consent to verbal consent. A few areas use only nursing judgment in deciding the type of follow-up/support required versus judgment and standard tools” (p 3-70).

Reiter (2005, p 3-12) in describing Manitoba’s use of the Parkyn Screen stated “An adaptation of the Parkyn Screen is being used. The revised tool has not been formally evaluated but informally an evaluation has indicated that it is meeting needs”.

The Social and Policy Research Division of TSN Canadian Facts and the University of Guelph completed an evaluation of Ontario’s Healthy Babies Healthy Children Program in 2002 (www.tns-cf.com/social/hbhc.html). This report made the following conclusions about the Parkyn Postpartum Screening Tool.

“This study examined the structural validity or integrity of the instrument by looking at the relationships among the Parkyn items and the total Parkyn score. This same analysis also yielded information on the Parkyn’s internal consistency (reliability).

- Do the Parkyn items form a single risk factor?
- What items contribute most strongly to an at-risk score of 9 or more?
- How is the subjective item 14 of the Parkyn instrument used, and what relationship does it hold with the other items?
- How often does item 14 put the family over the at-risk threshold score of 9?

The study examined the external (predictive) validity (sometimes referred to as criterion validity) by assessing the extent to which the Parkyn and the FAI (Family Assessment
Instrument) agree. This work assumed the FAI scores were accurate and examined the extent to which the Parkyn, which is much less costly and is completed for all newborns, predicts the FAI score. Of particular interest was the extent to which the Parkyn results in false negatives and false positives. That is, does the Parkyn flag cases that are not deemed at-risk by the FAI, or fail to flag cases that are judged at-risk by the FAI?”

Hough’s (2004) concerns with the Parkyn Screen were noted earlier (p 5-6 of this report).

Various other postpartum screening tools have been used in Canada and the United States. The domains and questions on these screening tools are similar in content to the Parkyn Screen. Reiter (2005) provided a detailed description of these screening tools and their use in North American Home Visitation Programs.

O’Brien (2001) asserted that it was vital for Home Visitation Programs to use standardized, reliable and valid screening tools because these tools carried a “burden of proof” and as well, had proven accuracy for correctly identifying individuals and families living in vulnerable/at-risk situations.

4.6. The Development and Evaluation of Screening Tools

The design, psychometric properties, development and testing of screening tools for different purposes have been widely reported (Altman and Bland, 1994; Deeks and Altman, 2004; Hanna, Jarman and Savage, 2004; Fountoulakis, Iacovides, Samois, Kleanthous, Kaprinis, Kaprinis and Bech, 2001; Green and Watson, 2005; Laporte, Villalon and Payette, 2001; Nasreddine, Ziad, Phillips, Bedirian, Charbonneau, Whitehead, Collin, Cummings and Chertkow, 2005:). Over the past twenty years, organizations have increasingly administered screening tools as a means of identifying
client(s) who could be at-risk for developing specific problems such as postpartum depression or malnutrition.

The findings and recommendations in these studies and the studies detailed in *Table 1* informed the framework that was used for developing, testing and evaluating the CRHVC Postpartum Screening Tool. These studies provided important criteria that are characteristic of standardized screening tools. In summary, in order to be considered effective and useful, screening tools must:

a) **Demonstrate high validity**: the tool must be unbiased and measure what it is supposed to measure (*the standard for validity*) and correctly categorize families into proper referral (positive or negative) types/domains.

b) **Demonstrate high reliability**: the tool must yield the same results when administered multiple times within the same population by the same person (*the standard for test-retest reliability*) and by different people (*the standard for inter-rater reliability*)

c) **Demonstrate high sensitivity and specificity**: the tool must be able to correctly screen in (positive screen with subsequent assessment verifying that the condition is present) (*the standard for sensitivity*) and correctly screen out (negative screen with subsequent assessment verifying that the condition being screened for is not present) (*the standard for specificity*)

d) **Demonstrate ease of administration and scoring**: the tool must be readily understood by Screeners and amenable to use by a wide variety of Programs (*the standard for adoptability and utility*) with similar mandates and client populations.

*Table 1* provides examples of various studies that have described the development, testing and evaluation of screening tools for different populations. These
studies provided key information that was used for formulating the CRHVC Postpartum Screening Tool and ensuring that it had high levels of reliability and validity.

*Table 1. Examples of Screening Tool Development and Evaluation Initiatives*

<table>
<thead>
<tr>
<th>Purpose of Tool</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early detection of <em>postnatal depression</em></td>
<td>Davies, Howells &amp; Jenkins (2003)</td>
<td>Community Health Nurse/Health Visitors – results showed enhanced early detection of postpartum depression</td>
</tr>
<tr>
<td>Detection of psychiatric disorders</td>
<td>Aidala, Havenns, Mellins, Dodds, Whetten, Martin, Gillis &amp; Ko (2004)</td>
<td>Assessed validity, feasibility and utility of the tool for use by non-clinically trained personnel; sensitivity – 91%; specificity – 78%; utility and feasibility good</td>
</tr>
<tr>
<td>Detection of <em>malnutrition</em> in the elderly</td>
<td>Green &amp; Watson (2006)</td>
<td>Assessed the validity, reliability, sensitivity, specificity and acceptability of 21 nutrition/ malnutrition screening and assessment tools for use by nurses/health visitors</td>
</tr>
<tr>
<td>Detection of <em>drug abuse</em></td>
<td>Yudko, Lozhkina &amp; Fouts (2007)</td>
<td>Assessed the reliability/validity of the (10-, 20-and 28-item) Drug Abuse Screening Test (DAST) - moderate to high levels of test–retest and item–total reliabilities; moderate to high levels of validity, sensitivity/specificity; easy to use</td>
</tr>
<tr>
<td>Detection of <em>behavioral, developmental and emotional changes</em> of preschoolers</td>
<td>Helfrich &amp; Beer (2007)</td>
<td>Assessed the FirstSTEp screening tool’s ability to measure behavioral, developmental, and emotional changes of preschoolers experiencing homelessness and witnessing domestic violence; effective for this population</td>
</tr>
<tr>
<td>Detection of <em>alcoholism</em></td>
<td>Laux, Neuman &amp; Brown (2004)</td>
<td>Assessed the “gold standard” screening tool for alcohol screening, some limitations for some client groups</td>
</tr>
<tr>
<td>Detection of attitudes towards <em>speech and language therapy</em></td>
<td>Glogowska, Campbell, Peteres, Roulstone, &amp; Enderby (2001)</td>
<td>Developed a new tool that incorporated rating scales; integrated factor analysis, validity testing; tool assessed as amenable to use with target group</td>
</tr>
</tbody>
</table>

5. The CRHVC 2005-2007 Postpartum Screening Tool Development Project

The CRHVC 2005-2007 Postpartum Screening Tool Project began in April 2005 and finished in July 2007. A summary of the Project’s key activities and timelines follows. Appendix A includes the final CRHVC Postpartum Screening Tool and the two other postpartum screening tools – the Parkyn Postpartum Screen and the Healthy Families America Postpartum Screen that were used as reference postpartum screening tools.
5.1. Expected Deliverables of the CRHVC Postpartum Screening Tool Project

The primary purpose of the CRHVC 2005-2007 Postpartum Screening Tool Project was to develop a standardized reliable, valid and highly sensitive postpartum screening tool that could be used to assess referred at-risk mothers and their suitability for admission to the CRHVC Healthy Families Program and other postnatal Home Visitation Programs across Canada.

5.2. Responsibility for Development of the CRHVC Postpartum Screening Tool

Table 2 summarizes the roles and responsibilities and time frames for the CRHVC 2005-2007 Postpartum Screening Tool Project. The Research Coordinator was accountable for overseeing the Project’s design, implementation and closeout phases.

Table 2. Roles and Responsibilities and Time Frames for the CRHVC 2005-2007 Postpartum Screening Tool Project

<table>
<thead>
<tr>
<th>Screening Tool Project Activity</th>
<th>Roles and Responsibilities</th>
<th>Start Date</th>
<th>Finish Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Planning</strong></td>
<td>CRHVC Leadership, Supervisors and Administration Teams, Home Visitor focus groups (different cultures), mothers, consultants, Public Health Nurses</td>
<td>April 2005</td>
<td>March 2006</td>
</tr>
<tr>
<td><strong>Pre-pilot Phase</strong></td>
<td>CRHVC Administration Team, consultants</td>
<td>April 2006</td>
<td>July 2006</td>
</tr>
<tr>
<td>America Screen; development of training materials for use by the CRHVC</td>
<td>CRHVC Administration Team, CRHVC Supervisors Team, Screener in Airdrie, consultants, community members</td>
<td>August 2006</td>
<td>January 2007</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Pilot Phase</strong> - implementation of the CRHVC Postpartum Screening Tool for screening 300 mothers inclusive of an interim review after the first 100 screens and a final review after a minimum of 300 screens; testing of the sensitivity of the screening tool via comparison of the screening tool results and assessment information in 45 mothers’ Healthy Families file notes/reports; implementation of the screening tool in a rural area (Airdrie); revision of the screening tool in keeping with feedback from CRHVC Administration Team, CRHVC Supervisors Team, Screener in Airdrie, consultants, community members</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Post-pilot Phase</strong> - piloting of the screening tool in other Home Visitation Programs in Alberta; standardization and copyrighting of the CRHVC Postpartum Screening Tool; independent confirmation of the validity and reliability of the CRHVC Postpartum Screening Tool (Dr. David Cawthorpe, University of Calgary); writing and approval of the Final Report; confirmation of initial arrangements for publications/additional presentations</td>
<td>CRHVC Leadership, Supervisors and Administration Teams, other Alberta Home Visitation Programs, consultants, community members</td>
<td>February 2007</td>
<td>July 2007</td>
</tr>
</tbody>
</table>

5.3. **Guiding Principles for the CRHVC 2005-2007 Postpartum Screening Tool Project**

The CRHVC 2005-2007 Postpartum Screening Tool Project was undertaken in the context of a research and evaluation framework. Its execution was guided by the following principles: the use of evidence to support statements and conclusions; attention to practical feasible recommendations to better understand and/or enhance the needs of persons served by the CRHVC Healthy Families Program; extensive involvement with internal and external stakeholders and the generation of new ideas for further study and research.
5.4 Project Planning Phase Activities - CRHVC 2005-2007 Postpartum Screening Tool Project

The following activities were completed during the planning phase of the CRHVC 2005-2007 Screening Tool Project.

5.4.1. Activity 1 - Project Planning Phase - Development of Criteria for the CRHVC Postpartum Screening Tool

In order to define criteria for developing the CRHVC Postpartum Screening Tool, a comprehensive literature review and in-depth discussions/focus groups with key CRHVC stakeholders (CRHVC Supervisors Team, Leadership Team, Administration Team and Home Visitors), Consultants/experts (Dr. David Cawthorpe, Petrina Hough), mothers attending the CRHVC Healthy Families Program, Public Health Nurses from the Calgary Health Region and community members with an interest in mother/child health were undertaken.

Development Criteria for the CRHVC Postpartum Screening Tool

Based on the literature review and feedback from the key stakeholders, a number of development criteria (characteristic of standardized screening tools) were established as “must haves” for the CRHVC Postpartum Screening Tool i.e. it had to:

- be stakeholder and literature-driven;
- have proven reliability;
- have proven validity;
- be empirical in nature;
- have a professional aesthetically pleasing appearance;
- have an ability to discriminate social health/psychosocial situations/concerns of postpartum mothers (and fathers), the targeted population;
- be confidential but not anonymous;
- be psychometrically sound - i.e. have high sensitivity and high specificity;
- have high positive predictive value;
- be easy to administer in a home setting with an administration time of 20 minutes or less;
- be easy to score;
- be objective;
be able to accommodate (at the discretion of the Screener) the referral of mothers whose screening score was negative and/or in the case of unique circumstances that were not addressed in the screening;
be amenable to administration by Home Visitors;
be amenable to standardization;
address the recommendations in Hough’s (2004) report;
require minimal training time for new Screeners;
have questions that could be readily understood by the Screeners and the mothers being screened, including mothers from a wide variety of cultures to readily understand (this is key given that 50% of the mothers in the CRHVC Healthy Families Program are from different cultures);
use terminology that is acceptable/non-offensive to mothers being screened;
be in keeping with the mandate and purpose of the CRHVC Healthy Families Program;
reflect the questions on the Healthy Babies/Healthy Children Family In-Home Assessment;
be readily adoptable for use in other Postpartum Home Visitation/Healthy Families Program in other locations in Alberta and across Canada;
have an accompanying set of instructions for use by Screeners and;
be copyrighted with the words Calgary, Screening and Postpartum in the title

Definitions - Screening and Assessment Tools

Screening tools are used to quickly evaluate at-risk populations, people or situations. Screening consists of a brief process (usually less than 20 minutes) where a standardized screening instrument(s) is used to make judgment(s) about an individual(s) and/or their circumstances in terms of being at-risk for a specific condition. The screening results are used to determine if a follow-up in-depth evaluation is necessary. Screening tools are generally the initial step of a more extensive process to gather information about an individual(s) and/or their risk-related circumstances. Screening tools cannot be used for diagnosing situations as they do not provide conclusive evidence about an individual (s) and/or their at-risk circumstances. Generally, a positive screening result should be followed by a thorough assessment to determine if the condition being screened for exists/does not exist.
Assessment tools are used in situations where the screening result is positive and an in-depth evaluation of an individual(s) and/or their at-risk circumstances is needed. They are used to assess many areas of an individual(s) functioning and/or their at-risk circumstances. The results of the assessment will be positive (confirming that the condition is present) or negative (confirming that the condition is not present). The results of positive assessments are used as the basis for formulating individualized treatment/intervention plans and outcome goals.

5.4.2. Activity 2 - Project Planning Phase - Development of a Validity and Reliability Framework for the CRHVC 2005-2007 Postpartum Screening Tool Project

Reliability Framework

Reliability refers to the internal consistency or “repeatability” of measurement i.e. the degree to which a measurement tool (such as a screening instrument) gives the same result each time when it is used in the same conditions with the same kind of subjects.

Test/Retest Reliability

Test/retest reliability measures the extent to which the same individual gets the same results when a measurement activity (such as the same individual scoring the same situation at two different times) is undertaken at different times.

Assessing test-retest reliability of the CRHVC Postpartum Screening Tool involved the following steps:

1. Creating 6 paper-based “postpartum mother case studies” wherein the mothers’ situations were such that the mothers “could be screened” with the CRHVC Postpartum Screening Tool.
2. Arranging for three individuals (an experienced Screener, a CRHVC Research Assistant and a newly hired Screener) to independently screen each of the 6 paper-based “postpartum mother case studies” twice with a time interval of 2-3 weeks between the 2 screenings.
3. Comparing the screening results for the individual Screeners and computing the correlation of the screening results between the 2 screenings that each Screener had completed.

**Inter-rater Reliability**

**Inter-rater reliability** refers to the extent to which two or more individuals (such as Screeners) agree in their analysis and scoring (screening) of the same situations.

Assessing the inter-rater reliability of the CRHVC Postpartum Screening Tool involved the following steps:

**Inter-rater Reliability - “Postpartum Mother Paper-based Case Studies”**

1) Creating 6 paper-based “postpartum mother case studies” wherein the mothers situations were such that the mothers “could be screened” with the CRHVC Postpartum Screening Tool.
2) Arranging for three individuals (an experienced Screener, a CRHVC Research Assistant and a newly-hired Screener) to independently screen each of the 6 “postpartum mother case studies”.
3) Comparing the screening results for the individual Screeners and computation of correlation of the screening results between the 3 Screeners.
4) Arranging for an additional 6 individuals (including representatives from different cultures) to screen the 6 case studies and computation of the correlation of their screening results with those of the other 3 Screeners.

**Inter-rater Reliability - Mothers Attending the CRHVC Healthy Families Program**

1) Arranging for the two CRHVC Screeners to independently screen the same 12 mothers using the CRHVC Postpartum Screening Tool.
2) Analyzing and comparing the scoring results for the same 12 mothers by the 2 CRHVC Screeners with a view to assessing the correlation of the scoring results for the individual questions and the screening result (positive or negative)

**Validity Framework**

**Validity** assesses the degree/extent to which a measurement method (such as a screening tool) accurately measures what it is supposed to measure; in the case of the CRHVC Postpartum Screening Tool, the extent to which new mothers live in at-risk situations that, if left could compromise their child’s development/family situation.
Validity may be described in terms of face validity, content validity, construct validity and criterion-related validity, notably convergent validity.

Face Validity

**Face validity** involves “intuitive judgment”; it is concerned with how a measure (such as a screening tool) or procedure appears to “experts” and to those people who will use the measurement instrument; in other words, given what the measurement tool is expected to do, “does it look right”? Does it seem like a reasonable way to gain the information that people need and are attempting to obtain? Does it seem well-designed? Does it seem as though it will work reliably? Does it “look valid”?

Assessing the face validity of the CRHVC Postpartum Screening Tool, notably the domains (the essential areas that screening tool had to address) and questions to reflect/explore the domains involved the following steps:

1) Arranging for multiple reviews of the domains and questions suggested for the CRHVC Postpartum Screening Tool by the CRHVC Leadership Team, Supervisor’s Team, Administration Team, AHVNA representatives, Registered Nurses including Public Health Nurses from the Calgary Health Region, 2 Home Visitor focus groups, one of which was comprised of Home Visitors representing different cultures, mothers and community members with an interest in mother/child health; in essence these groups served as “the “expert” reviewers.

Construct Validity

**Construct validity** is concerned with the level of agreement between a theoretical concept, i.e. “a social construct” and the items/questions on a specific measuring tool or instrument. Construct validity has traditionally been defined as the experimental demonstration that a test is measuring the construct it claims to be measuring. It references whether a scale or rating system (such as a screening tool) measures a social construct (in the case of the CRHVC Postpartum Screening Tool, mothers/children being
in an “at-risk parenting/home situations”) that it expects to measure.

Assessing the construct validity of the CRHVC Postpartum Screening Tool
domains and questions involved the following steps:

1) Arranging for multiple reviews of the domains and questions suggested for the CRHVC Postpartum Screening Tool by the CRHVC Leadership Team, Supervisor’s Team, Administration Team, AHVNA representatives, Registered Nurses including Public Health Nurses from the Calgary Health Region, Home Visitor focus groups, one of which was comprised of Home Visitors representing different cultures, mothers and community members with an interest in mother/child health; in essence these groups served as “the “expert” reviewers.

2) Comparing the domains and questions as suggested for the CRHVC Postpartum Screening Tool “as constructs” with the domains and questions “constructs” in other antenatal/postnatal screening tools that are currently being used in North America.

3) Comparing the domains and questions suggested for the CRHVC Postpartum Screening Tool with the “constructs” for postpartum screening tools that had been identified as necessary in the literature.

Content Validity

Content validity refers to the extent to which a measure (such as a screening tool) represents all facets of a given social concept (in the case of the CRHVC Postpartum Screening Tool, the extent to which mothers with a new baby live in at “psychosocial at-risk” home situations). Content validity is essentially a method for gauging agreement among raters or individuals with respect to whether a particular item/question on the measurement tool under development is essential. The content is considered valid if the majority of raters agree that the item or question (as reflected by the content statements) is useful, necessary or essential.

Assessing the content validity of the CRHVC Postpartum Screening Tool
domains and questions involved the following steps:

1) Arranging for multiple reviews of the domains and questions “content” suggested for the CRHVC Postpartum Screening Tool by the CRHVC Leadership Team, Supervisor’s Team, Administration Team, AHVNA representatives, registered
Nurses including Public Health Nurses from the Calgary Health Region, 2 Home Visitor focus groups, one of which was comprised of Home Visitors from different cultures, mothers and community members with an interest in mother/child health; in essence these groups served as “the “experts”.

2) Comparing the domains and questions suggested for the CRHVC Postpartum Screening Tool with the domains and questions used in other antenatal screening tools that are currently being used in North America.

3) Comparing the domains and questions suggested for the CRHVC Postpartum Screening Tool with the domains and questions for other postpartum screening tools that have been suggested in the literature.

4) Assessing the appropriateness of the domains and questions during the pilot phase of the CRHVC Postpartum Screening Tool Project and revising the domains and questions as deemed necessary.

**Criterion-related Validity**

**Criterion-related validity** involves testing the accuracy of a measure by comparing its measurement results with those of another measurement tool or external criteria that has been demonstrated to be valid in the same kind of circumstances. Convergent validity, as described below is one measure of criterion-related validity.

**Convergent Validity**

**Convergent validity**, a form of criterion-related validity is concerned with the agreement between the overall ratings/individual scores for questions on 2 different measurement tools both of which purport to “measure the same thing”. The two measurement tools are administered independently and the answers to the questions on the two tools (the measurement tool under development and the measurement tool that is in current use) are compared. In theory, both tools will be collecting the same information and as such, measuring the same construct. For instance, to show the convergent validity between an “under development” screening tool (such as the CRHVC Postpartum Screening Tool) and the screening tool currently in use (the Healthy Families America Postpartum Screen) the scoring for the individual questions and the overall scoring result
(positive or negative) on the 2 measurement tools were compared and correlated.

Assessing the convergent validity of the CRHVC Postpartum Screening Tool questions involved the following steps:

1) Arranging for dual screening of the same 19 mothers in which the CRHVC Postpartum Screening Tool and the Healthy Families America Postpartum Screening Tool were independently administered by the two CRHVC Screeners. The process was as follows:

   - The CRHVC Screener screened 9 mothers using the CRHVC Postpartum Screening Tool immediately followed by a second screening using the Healthy Families America Postpartum Screening Tool.
   - Subsequently, the CRHVC Screener screened 10 additional mothers using the Healthy Families America Postpartum Screening Tool immediately followed by a second screening using the CRHVC Postpartum Screening Tool.

2) Analyzing and comparing the results of the 2 screening tools with a view to assessing the extent of correlation for the individual questions on the 2 screening tools as well as the overall screening results with respect to being positive or negative.

3) Comparing the screening results for those mothers who were screened with the CRHVC Postpartum Screening Tool during the pilot phase with screening results for those mothers who were screened with the Parkyn Screening Tool and the Healthy Families Postpartum Screens in 2005-2006.

Predictive Validity

Predictive validity tests the ability of a measurement (such as a screening tool) to predict something it should theoretically be able to predict. Predictive validity assesses the degree of correlation between the scores on a test (or measurement tool such as the CRHVC Postpartum Screening Tool) and some other measure (an in-depth assessment tool such as the Healthy Babies Healthy Children In-Home Family Assessment Tool) that the test/screening tool is designed to predict.

Positive Predictive Validity

The positive predictive value of a measurement tool (such as a screening tool) is
the proportion (or ratio) of clients/individuals with positive screening results who are correctly diagnosed as confirmed during an in-depth follow-up assessment or evaluation. The positive predictive value is considered the “gold standard” as it reflects the probability that the results/findings (outcomes) of both the screening tool and the follow-up in-depth assessment are positive. Both measurements conclude that the underlying condition/situation being tested for is actually present.

**Negative Predictive Value**

The negative predictive value of a measurement tool (such as a screening tool) is the probability that a negative screening result is the correct diagnosis as confirmed during a follow-up in-depth assessment i.e. that the individual will not have the condition being screened for. Both measurements conclude that the condition/situation being tested for is actually not present.

**Sensitivity**

The sensitivity of a screening test is a statistical psychometric measure of how well a screening test/tool will correctly identify individuals who have the condition under study (and thus, have a positive score on the test or tool). The sensitivity of a screening tool reflects the proportion of true positives of all screened cases in the target population. A sensitivity of 100% means that the screening test recognizes all individuals who actually have the condition being screened for.

**Specificity**

The specificity of a measurement tool is a statistical psychometric measure of how well a screening test/tool will correctly identify individuals who do not have the condition under study (and thus, have a negative score on the test). The specificity of a
The screening tool reflects the proportion of true negatives of all screened cases in the target population. A specificity of 100% means that the screening test/tool recognizes all individuals who actually do not have the condition being screened for.

Assessing the predictive validity (notably positive predictive value and sensitivity) of the CRHVC Postpartum Screening Tool involved the following steps:

1) Comparing the screening results of the CRHVC Postpartum Screening Tool for individual mothers with the information detailed in their in-depth Healthy Babies Healthy Children In-Home Family Assessment Tool (and other case file information as appropriate).

2) Assessing the extent to which the results of in-depth assessment information in the mothers’ case file (Healthy Babies Healthy Children In-Home Family Assessment Tool and other file information for the mother as appropriate) was the same as the results for each of the questions on the screening tool.

**External Validity**

**External validity** refers to the ability to generalize the results of a study to other settings i.e. the extent to which a newly developed screening tool (such as the CRHVC Postpartum Screening Tool) could be effectively and readily adopted by other Postpartum Home Visitation/Healthy Families Programs in Alberta and across Canada.

Assessing the external validity of the CRHVC Postpartum Screening Tool involved the following steps:

1. Introducing the CRHVC Postpartum Screening Tool to other Home Visitation Programs in Alberta through AHVNA.
2. Assessing the extent to which other Home Visitation Programs in Alberta believed that they could adopt the CRHVC Postpartum Screening Tool after using it for 4-6 weeks; their assessment included an opportunity to make recommendations for modifications of the CRHVC Postpartum Screening Tool.

**5.4.3. Activity 3 - Project Planning Phase - Literature Review - Postpartum Screening Tools and Home Visitation Programs**

The literature review, as a summary of previous research about screening tools provided important background information for planning, implementing, interpreting and
evaluating the CRHVC Postpartum Screening Tool. The literature review was conducted using the University of Calgary on-line library resources and included a comprehensive exploration of the following topics:

- Overview of Home Visitation/Healthy Families Programs and the benefits for participating families;
- Medical and psychosocial screening tools used in Postpartum Home Visitation/Healthy Families Programs inclusive of their domains, questions and limitations;
- Guidelines for developing, piloting, implementing and standardizing screening tools and;
- Roles of trained Home Visitors and Registered Nurses in postpartum screening

5.4.4. Activity 4 - Project Planning Phase - Selection of the Domains for the CRHVC Postpartum Home Screening Tool

Based on initial and ongoing feedback from the CRHVC Leadership Team, Supervisors Team, Administration Team, Public Health Nurses from the Calgary Health Region, AHVNA representatives, expert external Consultants, mothers and community members with an interest in mother/child health; the findings of the literature review and; review of the domains on other Home Visitation Screening Tools, the following domains were deemed as essential elements of the CRHVC Postpartum Screening Tool:

**Domain Number 1** – Age of Mother (Notably Young Age and Older Age Mothers)

**Domain Number 2** – School/Education Level of Mother/Ability to Learn New Information

**Domain Number 3** – Medical Care during Pregnancy (by a Physician, Nurse, Midwife or other Health Professionals)

**Domain Number 4** – Caring for/Parenting the Baby (Serving as a Sole Parent/Parenting Alone)/ Availability of Help to Care for the Baby

**Domain Number 5** – Mother’s Belief and Comfort (Maternal Self-confidence) in her Skills and Ability to Care for the Baby

**Domain Number 6** – Availability of Social Support for the Mother (Social Isolation of the Mother)
Domain Number 7 – Presence of Unresolved/Existing Medical Health Problems in the Home that May Impact Mother’s Parenting (Non-reconciled medical/health care problems in the home)

Domain Number 8 – Presence of Unresolved/Existing Mental Health Problems in the Home that May Impact Mother’s Parenting (Non-reconciled mental health problems in the home)

Domain Number 9 – Presence of Depression Related to New Mother Role/ History of Depression (Maternal Depression)

Domain Number 10 – Ability to Pay for Food, Housing/Rent and Utilities (Financial Stability/instability of the Home)

Domain Number 11 – Safety of the Physical Environment of the Home for the Baby/Children (Physical Environmental Safety of the Home)

Domain Number 12 – Use of Alcohol in the Home and the Potential Impact of its Use on the Mother’s Ability to Parent (Alcohol Use/Abuse in the Home)

Domain Number 13 – Use of Drugs in the Home and the Potential Impact of their Use on the Mother’s Ability to Parent (Drug Use/Abuse in the Home)

Domain Number 14 – Presence of Physical, Verbal or Emotional Abuse Situations in the Home (Abusive Home Environment/Situations)

Domain Number 15 – Current or Recent Involvement with the Child Intervention/Child Protection (Welfare) Systems (Home Involvement with Social Support/Child Protection Systems)

Domain Number 16 – Maternal Acceptance of the New Baby - notably in relation to the Appropriateness of the Timing of the Baby’s Birth in the Mother’s Life Cycle (Wanted/unwanted baby)

Domain Number 17 – Level of Stress Impacting the Mother (Mother’s Ability to Cope/Manage Stress)

5.4.5. Activity 5 - Project Planning Phase - Development of Questions (Inclusive of Weighting) for the CRHVC Postpartum Screening Tool

Development of the Questions for the CRHVC Postpartum Screening Tool

Based on initial and ongoing feedback from the CRHVC Leadership Team, Supervisors Team, Administration Team, Public Health Nurses from the Calgary Health
Region, AHVNA representatives, expert external Consultants, mothers and members of
the community with an interest in mother/child health; the findings of the comprehensive
literature review and; the questions/ inclusions on other Home Visitation Screening
Tools, a number of questions were deemed as essential for the CRHVC Postpartum
Screening Tool. These questions fully reflected the domains described in the previous
section. A copy of the CRHVC Postpartum Screening Tool is included in Appendix A.

**Weighting of the Point Value for the Questions for the CRHVC Postpartum
Screening Tool**

Based on initial and ongoing feedback from the CRHVC Leadership Team,
Supervisors Team, Administration Team, Public Health Nurses from the Calgary Health
Region, AHVNA representatives and expert external Consultants; the findings of the
comprehensive literature review and; the weighting of scores on other postpartum
screening tools, a weighting scheme was developed for the questions on the CRHVC
Postpartum Screening Tool. This weighting scheme was as follows:

- Questions on the CRHVC Postpartum Screening Tool with a weighting of 10 -
  Availability of help when needed (number 4); worry about skills/ability to care for
  the baby (number 5); baby born at a good time for the mother (number 21)
- Questions on the CRHVC Postpartum Screening Tool with a weighting of 6 -
  alcohol use (number 13,14); drug use (number 15,16); stressful life (number 22)
- Questions on the CRHVC Postpartum Screening Tool with a weighting of 4 - age
  of mother (number 1); level of education (number 2); medical care during
  pregnancy (number 3); people to talk with (number 6); depression (number 9/10);
  sufficient money (number 11); physically safe house (number 12); physical abuse
  in the home (number 17); verbal abuse in the home (number 18); emotional abuse
  in the home (number 19); involvement with Child Welfare (number 20)
- Questions on the CRHVC Postpartum Home Visitation Screen with a weighting of
  2 - medical problem in the home (number 7); mental health problem in the
  home (number 8)

In addition to these questions on the CRHVC Postpartum Screening Tool, and
based on feedback/advice from the CRHVC Home Visitors, the Screeners and the
Supervisor’s Team, a number of non-scored questions were added to the CRHVC Postpartum Screening Tool. These questions ensured the availability of a mechanism for the CRHVC Screeners to refer those mothers who screened negative but would likely benefit from attending the CRHVC Healthy Families Program. These added non-scored questions addressed the following situations:

- Mothers choosing not to answer questions about abuse or alcohol/drug use
- Mothers who, in the professional judgment of the Screener would benefit from participation in the CRHVC Healthy Families Program
- New immigrant mothers who were experiencing adaptation problems

Note: The initial version of the CRHVC Postpartum Screening Tool did not include question 23 (stressful life circumstances). This question was added after the Project pilot phase (August-December 2006) because the majority of mothers who scored negative but were referred to the CRHVC Healthy Families Program had significant levels of stress in their lives. An additional review of the literature confirmed the importance of stress as a contributing at-risk factor for new mothers.

5.5. Pre-Pilot Phase Activities - CRHVC 2005-2007 Postpartum Screening Tool Project

5.5.1. Activity 1- Pre-pilot Phase Activities - Confirmation of the Validity of the CRHVC Postpartum Screening Tool

Face Validity, Construct Validity and Content Validity

Face validity, construct validity and content validity of the CRHVC Postpartum Screening Tool were confirmed through consultation with the CRHVC Leadership Team, Supervisors Team, Administration Team, Calgary Health Region Public Health Nurses, AHVNA representatives, expert external Consultants, mothers and members of the community with an interest in mother/child health; the findings of the literature review and; the inclusions/questions on other postpartum screening tools.
This process involved:

- arranging and obtaining information through 10 focus group meetings;
- reviewing and analyzing the questions on 5 psychosocial antenatal/postnatal screening tools and;
- reviewing and consolidating key information from more than 50 peer-reviewed scholarly articles

**Convergent Validity of the CRHVC Postpartum Home Visitation Screening Tool**

The convergent validity of the questions on the CRHVC Postpartum Screening Tool was assessed by comparing and correlating the rating/scoring results for the individual questions on the CRHVC Postpartum Screen with the scoring results for the Healthy Families America Screen. The scoring results for the same nineteen mothers who were screened with the two screening tools is detailed in Table 3.

**Table 3. Convergent Validity - CRHVC Postpartum Screening Tool and the Healthy Families America Postpartum Screen**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Healthy Families America Screen</th>
<th>Calgary Screen</th>
<th>Congruence (based on 19 Screens) **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sole parent</td>
<td>Question 1</td>
<td>Question 4</td>
<td>high correlation***</td>
</tr>
<tr>
<td>Income level</td>
<td>Question 3</td>
<td>Question 11</td>
<td>high correlation</td>
</tr>
<tr>
<td>Education</td>
<td>Question 6</td>
<td>Question 2</td>
<td>high correlation</td>
</tr>
<tr>
<td>Emergency contact/availability of help</td>
<td>Question 7</td>
<td>Question 4</td>
<td>high correlation</td>
</tr>
<tr>
<td>Substance abuse - alcohol</td>
<td>Question 8a</td>
<td>Question 13,14</td>
<td>high correlation</td>
</tr>
<tr>
<td>Substance abuse - drugs</td>
<td>Question 8b</td>
<td>Question 15,16</td>
<td>high correlation</td>
</tr>
<tr>
<td>Prenatal medical care</td>
<td>Question 9</td>
<td>Question 3</td>
<td>high correlation</td>
</tr>
<tr>
<td>Unwanted baby (adoption/abortion)</td>
<td>Question 12 and 13</td>
<td>Question 21</td>
<td>high correlation</td>
</tr>
<tr>
<td>Mental health issues</td>
<td>Question 11 and 15</td>
<td>Question 8</td>
<td>high correlation</td>
</tr>
<tr>
<td>Marital or family problems/Abuse Situations</td>
<td>Question 14</td>
<td>Question 17,18, 19,</td>
<td>high correlation</td>
</tr>
</tbody>
</table>

**match between the answers at least 16 of 19 times

*** the scoring method differs between the 2 Screens; in 18 of 19 times, the screening results (positive or negative) were the same for both screens. The screening tools were used for the same 19 mothers.

As noted in Table 3, the level of correlation between the scoring/rating for the individual questions was high. The mothers’ total scores could not be compared because
the two screening tools use different scoring methods and because there were some different questions on each of the two screening tools. At the same time, 18 (95%) of the 19 mothers had the same overall screening result i.e. the individual mother’s postpartum screening result was positive (or negative) on both screens.

A correlation analysis of the rating/scoring for the individual questions on the two screening tools for the 19 mothers was independently completed. The results showed correlation scores of .8 or greater for the paired questions on the two screening tools.

**Comparison of the Screening Results for the CRHVC Postpartum Screening Tool, the Parkyn Screening Tool and the Healthy Families America Screening Tool**

The CRHVC 2005-2007 Postpartum Screening Tool Project also explored and compared the mothers’ screening results for the CRHVC Postpartum Screening Tool with the screening results of the Parkyn Postpartum Screening Tool and the Healthy Families America Postpartum Screening Tool which had each been used by the CRHVC Healthy Families Program at different times (though never together) in 2005-2006. *Table 4* summarizes the risk factors for 125 mothers that had been screened in 2005-2006 with the Parkyn Postpartum Screen or the Healthy Families America Postpartum Screen.

The common risk factors identified on the Parkyn Screen and the Healthy Families America Postpartum Screens in 2005-2006 included financial difficulties, lack of social support/social isolation, depression/mental illness, low education level (less than high school), inadequate prenatal care and marital difficulties. Financial difficulties were the most usual risk factor and 98 (78%) of the 125 mothers had this risk. Lack of available support was identified as a risk factor for 63 (50%) of the 125 mothers. Fifty-three (42%) of the 125 mothers had risk factors relating to depression or mental illness.
As noted in Table 4, these two postpartum screens also included other risk factors that were unique to the individual screens. The Parkyn Screen identified risks related to complications of pregnancy/delivery for 35 (42%) of the 84 mothers. Parenting difficulties was mentioned 16 times (thus a risk factor for 19% of the 84 mothers) and low birth weight was a risk factor for 12 (14%) of the 84 mothers. These findings likely reflected the medical/health nature of the questions on the Parkyn Screen.

Table 4. Risk Factors Identified at the Time of Postpartum Screening for Mothers Participating in the CRHVC 2005-2007 Postpartum Screening Tool Project

<table>
<thead>
<tr>
<th>Risk Factor Identified for the Mother at the Time of Postpartum Screening (with the Parkyn Screen or the Healthy Families America Postpartum Screen)</th>
<th>Number of Mothers Screening Positive for the Risk - Parkyn Screen (N=84)*</th>
<th>Number of Mothers Screening Positive for the Risk - Healthy Families America Screen (N=41)*</th>
<th>Total Number of Mothers Screening Positive for the Risk - Both Screens (N=125)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Difficulties</td>
<td>63 (75%)</td>
<td>35 (85%)</td>
<td>98 (78%)</td>
</tr>
<tr>
<td>No Emergency Contacts/No Support (1 or 2 Parents)</td>
<td>49 (58%)</td>
<td>14 (34%)</td>
<td>63 (50%)</td>
</tr>
<tr>
<td>Mental Illness - History of Depression /Postpartum Depression</td>
<td>17 (20%)</td>
<td>36 (89%)</td>
<td>53 (42%)</td>
</tr>
<tr>
<td>Low Education - Grade School to Some High School</td>
<td>20 (24%)</td>
<td>17 (41%)</td>
<td>37 (30%)</td>
</tr>
<tr>
<td>Inadequate Prenatal Care</td>
<td>10 (12%)</td>
<td>5 (12%)</td>
<td>17 (14%)</td>
</tr>
<tr>
<td>Marital Difficulties</td>
<td>5 (6%)</td>
<td>5 (12%)</td>
<td>10 (8%)</td>
</tr>
<tr>
<td>Complications Pregnancy/Delivery</td>
<td>35 (42%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Abortion or Adoption Considered</td>
<td>NA**</td>
<td>17 (41%)</td>
<td>-</td>
</tr>
<tr>
<td>History Substance Abuse</td>
<td>NA**</td>
<td>13 (32%)</td>
<td>-</td>
</tr>
<tr>
<td>Unstable Housing</td>
<td>NA**</td>
<td>11 (27%)</td>
<td>-</td>
</tr>
<tr>
<td>Partner Unemployed</td>
<td>NA**</td>
<td>9 (22%)</td>
<td>-</td>
</tr>
<tr>
<td>Parenting Difficulties</td>
<td>16 (19%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Single (Level of Support not Stated)</td>
<td>NA**</td>
<td>7 (17%)</td>
<td>-</td>
</tr>
<tr>
<td>Low Birth Weight</td>
<td>12 (14%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Family History of Genetic Challenges</td>
<td>12 (14%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Prolonged Maternal Separation With Infant Contact</td>
<td>9 (11%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Single - with support</td>
<td>9 (11%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Age of Mother (15-19)</td>
<td>7 (8%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Mental Illness Mother/Father</td>
<td>7 (8%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Marital Difficulties</td>
<td>7 (8%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Congenital Health Challenges (Baby)</td>
<td>5 (6%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Assessed Lack of Bonding</td>
<td>2 (2%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Prolonged Maternal/Infant Separation</td>
<td>1 (1%)</td>
<td>NA**</td>
<td>-</td>
</tr>
<tr>
<td>Other ***</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The percentages represent the percent of mothers from the total groups of mothers who screened positive for the risk factor; ** Screening factor not on the Screen; ***There were 63 “other reasons” of which 17 were low education, 16 were parenting difficulties and 7 were marital difficulties. Note: The Parkyn Screen was used in 2005 and part of 2006; the Healthy Families America Screen was used in late 2006 when use of the Parkyn Screen was discontinued.
The Healthy Families America Screen identified adoption-abortion as a risk factor for 17 (41%) of the 41 mothers and unstable housing for 11 mothers (thus a risk factor for 27% of the 41 mothers). History of substance abuse was a risk factor for 13 (32%) of the 41 mothers. These findings likely reflected the psychosocial nature of the questions on the Healthy Families America Screen.

*Table 5* summarizes risk factors identified with the CRHVC Postpartum Screening Tool during its initial implementation in 2006-2007.

**Table 5. Risk Factors for Mothers Attending the CRHVC Healthy Families Program 2005-2007 and Screened with the CRHVC Postpartum Screening Tool**

<table>
<thead>
<tr>
<th>Category of Risk</th>
<th>Number of Mothers</th>
<th>Number of Mothers with Risk</th>
<th>Number of Mothers without Risk</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient money for basic necessities</td>
<td>408</td>
<td>222 (54%)</td>
<td>177 (43%)</td>
<td>9 (2%) mothers - didn’t know</td>
</tr>
<tr>
<td>Lack of confidence in caring for the baby</td>
<td>408</td>
<td>202 (49%)</td>
<td>206 (51%)</td>
<td></td>
</tr>
<tr>
<td>Social isolation/lack of social support</td>
<td>408</td>
<td>202 (49%)</td>
<td>206 (51%)</td>
<td>2 mothers - no answer</td>
</tr>
<tr>
<td>Mother depressed since the baby’s birth (postpartum depression)</td>
<td>356</td>
<td>136 (38%)</td>
<td>220 (62%)</td>
<td></td>
</tr>
<tr>
<td>History of depression (mother)</td>
<td>290</td>
<td>57 (20%)</td>
<td>232 (80%)</td>
<td></td>
</tr>
<tr>
<td>Medical health problem in family that could interfere with caring for baby</td>
<td>408</td>
<td>36 (9%)</td>
<td>369 (90%)</td>
<td>3 (0.7%) mothers - didn’t know</td>
</tr>
<tr>
<td>Family involvement with Welfare Services during past 2 years</td>
<td>408</td>
<td>31 (8%)</td>
<td>376 (92%)</td>
<td>1 mother - no answer; 6 (1%) of mothers - Welfare involvement &gt; 2 years earlier</td>
</tr>
<tr>
<td>Low level of education (no or some grade school)</td>
<td>408</td>
<td>27 (7%)</td>
<td>381 (93%)</td>
<td></td>
</tr>
<tr>
<td>Unsafe Home for baby/children</td>
<td>408</td>
<td>28 (7%)</td>
<td>372 (91%)</td>
<td>8 (2%) mothers - didn’t know</td>
</tr>
<tr>
<td>Mental health problem in family that could interfere with caring for baby</td>
<td>408</td>
<td>25 (6%)</td>
<td>378 (93%)</td>
<td>5 (1%) mothers - didn’t know</td>
</tr>
<tr>
<td>Alcohol use in the home likely to make parenting difficult for mother</td>
<td>408</td>
<td>6 (1%)</td>
<td>92 (91%)</td>
<td>101 (25%) of homes had alcohol use</td>
</tr>
<tr>
<td>Emotional abuse in the home</td>
<td>408</td>
<td>11 (3%)</td>
<td>396 (97%)</td>
<td>1 mother - no answer</td>
</tr>
<tr>
<td>Verbal abuse in the home</td>
<td>408</td>
<td>7 (2%)</td>
<td>400 (98%)</td>
<td>1 mother chose not to answer</td>
</tr>
<tr>
<td>Baby not wanted</td>
<td>408</td>
<td>8 (2%)</td>
<td>356 (87%)</td>
<td>42 (10%) of mothers - preferred baby earlier/later</td>
</tr>
<tr>
<td>No or minimal prenatal medical care</td>
<td>408</td>
<td>6 (1%)</td>
<td>402 (99%)</td>
<td></td>
</tr>
<tr>
<td>Drug use likely to make it difficult to care for baby</td>
<td>408</td>
<td>1 (0.02%)</td>
<td>407 (99.8%)</td>
<td>5 (1%) of homes had drug use</td>
</tr>
<tr>
<td>Physical abuse in the home</td>
<td>408</td>
<td>1 (0.02%)</td>
<td>407 (99.8%)</td>
<td></td>
</tr>
</tbody>
</table>
The most usual risk factors (domains) that were identified during screening with the CRHVC Postpartum Screening Tool included lack of sufficient money (i.e. correlates with financial difficulties identified on the Parkyn and Healthy Families America Screen); lack of confidence in caring for the baby (i.e. correlates with parenting difficulties identified on the Parkyn and Healthy Families America Screen); mother depressed/history of past depression (i.e. correlates with depression/mental difficulties identified on the Parkyn and Healthy Families America Screen) and; social isolation (i.e. correlates with no support/social isolation identified on the Parkyn and Healthy Families America Screen).

Based on these findings, we conclude that the CRHVC Postpartum Screening Tool had strong validity given that the most frequently identified risk factors were the same as those that were identified when the Parkyn Screen and the Healthy Families America Screen were administered. Young mothers (<19 years of age) received support from other organizations in Calgary and this accounts for the relatively low number of young mothers in the CRHVC 2005-2007 Postpartum Screening Tool Project.

**Predictive Validity of the CRHVC Postpartum Screening Tool**

The predictive validity of the CRHVC Postpartum Screening Tool was tested by comparing (auditing) the screening results (for 45 mothers) with the findings of the in-depth assessment information detailed on the Healthy Babies Healthy Children In-Home Family Assessment Tool and/or from other information in the mothers’ Healthy Families file/case records. The postpartum screening results for the individual mothers were compared with the findings and conclusions detailed in the follow-up in-depth assessment. Comparative analysis of the mothers’ situations at the time of screening and
assessment indicated that the screening tool results were in agreement (correlated) with the findings of the in-depth assessment 90-100% of the time for the following conditions/demographics: age, education level, level of social support, ability to care for the baby, existence of current or past depression, adequacy of money to pay for necessities, safety of the home environment, abusive situations in the home, use of alcohol or drugs in the home and involvement with Child Welfare/Family Enhancement Services. Thus, we suggest that the positive predictive validity of the CRHVC Postpartum Screening Tool was high and that the screening results for individual questions could correctly predict the actual circumstances as identified/confirmed during the follow-up assessment with the Healthy Babies Healthy Children In-Home Family Assessment Tool.

There were 10 instances/questions (out of 132 questions for the 19 mothers) where there was no match between the mother’s scoring results on the CRHVC Postpartum Screen and the Healthy Babies Healthy Children In-Home Family Assessment. These 10 instances were limited to questions about the use of alcohol/drugs, level of social support, abusive home situations and the adequacy of income. Reasons for the difference in the findings (determined through consultation with the CRHVC Healthy Families Staff) included change in the mothers’ situation between the time of the postpartum screen and the time of the assessment. For example, a mother could have had help with the baby and adequate social support when the CRHVC Postpartum Screening Tool was administered (because her family was visiting, an indication of adequate support) and by the time of assessment with the Healthy Babies Healthy Children In-Home Family Assessment, the mother might no longer have this help and support
(because her family had left, an indication of inadequate social support). This change in the mother’s circumstances would account for the different screening and assessment results. There were also several cases where the mother may not have provided factual information to the CRHVC Screener.

The positive predictive value could not be assessed for several questions on the CRHVC Postpartum Screening Tool because there were no corresponding questions on the Healthy Babies Healthy Children Family In-Home Assessment form and/or in the mother’s case file notes. These questions related to medical care during pregnancy (the assessment file notes focused on attendance at prenatal classes rather than medical care) and the timing of the baby’s birth being/not being a good time in the mother’s life which was not consistently addressed in the mothers’ assessment.

**Sensitivity of the CRHVC Postpartum Screening Tool**

The CRHVC Postpartum Screening Tool was able to identify the mothers’ at-risk factors as later verified by a combination of the information in the mothers’ Healthy Babies Healthy Children In-Home Family Assessment/case file notes for 122 (92%) of 132 questions that were used to screen mothers. This high level of matching between the screening and assessment results suggested that the CRHVC Postpartum Screening Tool had excellent sensitivity.

**Specificity of the CRHVC Postpartum Screening Tool**

Fifty-eight (28%) of the 206 mothers had a negative screening result (score <10) when the CRHVC Postpartum Screening Tool was administered and as such were not eligible to attend the CRHVC Healthy Families Program. Nineteen of these 58 mothers with a negative screening score were admitted to the CRHVC Healthy Families Program.
because they met one or more of the non-scored criteria (in most cases, the mother was experiencing a high level of life stress) and thus met other eligibility criteria. It was beyond the scope of the CRHVC 2005-2007 Screening Tool Project to follow up with the remaining 39 mothers who had a negative screening result and thus, it was not possible to assess the specificity of the CRHVC Postpartum Screening Tool i.e. the extent to which these mothers were not living in at-risk situations.

External Validity of the CRHVC Postpartum Screening Tool

Several other Home Visitation Programs in Alberta piloted the CRHVC Postpartum Screening Tool during February/March 2007. Overall, the feedback about the CRHVC Postpartum Screening Tool from these organizations was positive with comments such as “easy to administer”, “excellent questions” and “good to have a system for referring individuals who score negative on the screen”. There were no suggestions for changing the content of the CRHVC Postpartum Screening Tool. Based on these findings, we conclude that the CRHVC Postpartum Screening Tool had good external validity. In addition, the Alberta Home Visitation Network Alliance (AHVNA) Board reviewed the CRHVC Postpartum Screening Tool in January 2007 with general agreement that it was appropriate for use in other Home Visitation Programs.

Comparison of the Calgary Health Region Reasons for Referral to the CRHVC Healthy Families Program and the Risk Factors Identified during the Pilot Phase

At the time that postpartum screening was requested, the Calgary Health Region Public Health Nurses completed a referral form and, based on their professional judgment indicated a reason(s) for recommending screening by the CRHVC. Fifty referrals from the Calgary Health Region Public Health Nurses that had been made during the pilot phase of the CRHVC 2005-2007 Postpartum Screening Tool Project were randomly
chosen and the reasons for referral compared with the at-risk factor(s) that were identified
at the time of postpartum screening with the CRHVC Postpartum Screening Tool. The
results of this analysis were as follows:

- 47 (94%) of the 50 screens identified at least one of the same factors/reasons that
  the Public Health Nurses had indicated as important on the screening referral
- Public Health Nurses indicated 1-5 reasons for requesting postpartum screening
- Inadequate income for the basic necessities of life (food/shelter) was the most
  frequent reason for requesting screening - 39 (78%) of the 50 referrals; inadequate
  social support and insufficient help were other important reasons for referral
- 48 (96%) of the 50 referrals scored positive on the CRHVC Postpartum Screening
  Tool

These findings suggested that the Public Health Nurses were able to readily identify
at-risk mothers and compromised home situations. At the same time, it was not possible
to assess the extent to which Public Health Nurses may have missed identifying mothers
who were living in at-risk situations.

5.5.2. Activity 2 - Pre-pilot Phase Activities - Confirmation of the Reliability of the
CRHVC Postpartum Screening Tool

Test/Retest Reliability – Screening of the “Postpartum Mother Case Studies”

The test/retest reliability of a measurement tool refers to the extent to which an
individual gets the same results when they undertake the same activity (such as scoring a
screening tool for the same mother) at two different times. Three members of the
CRHVC Administration Team (two CRHVC Screeners and the Research Assistant)
participated in the test-retest procedure for the “Postpartum Mother Case Studies” and
served as the test-retest Screeners. The three Screeners completed the screening
independently and administered the CRHVC Postpartum Screening Tool to each of the
six case studies two times with an interval of 2-3 weeks between these screenings. The
information in the case studies was re-ordered (scrambled) during the retest but the
The salient facts about the mother’s situation were not changed. Analysis of the test-retest scoring results for the two screenings completed by each of the three Screeners revealed that: the first Screener scored the six case studies the same on both occasions with three exceptions; the second Screener scored the six case studies the same on both occasions with three exceptions; the third Screener scored the six case studies the same on both occasions with two exceptions. These exceptions were for the questions that related to

- mother’s ability to care for the baby
- level of social support
- ability to pay for necessities

Overall, the three Screeners scored the questions with the same answer for 784 (99%) of the 792 questions (22 scores on the screening tool/3 Screeners/2 screens for each Screener/6 case studies) when they screened “paper cases” at different times. We conclude that the reliability of the CRHVC Postpartum Screening Tool was excellent given the high level of correlation/matching for the questions when scored by the individual Screeners. It is important to note that the case studies used “plain language” straightforward unambiguous information about the mothers’ situations and this probably accounted at least in part for the high test-retest reliability results.

**Inter-rater Reliability - Screening of the “Postpartum Mother Case Studies”**

The inter-rater reliability of a measurement tool refers to the extent to which different raters/screeners give the same score/rating to the individual questions on the measurement tool. Inter-rater reliability was tested in two ways during the CRHVC 2005-2007 Postpartum Screening Tool Project; initially (stage one inter-rater reliability testing) through the screening and scoring of six “Postpartum Mother Case Studies” by three Screeners (two CRHVC Screeners and the Research Assistant) and secondly; (stage two
inter-rater reliability testing); screening and scoring of the six “Postpartum Mother Case Studies” by an additional six individuals inclusive of five CRHVC Home Visitors with different cultural backgrounds and the CRHVC Program Manager.

The assessment of inter-rater reliability for the stage one “Postpartum Mother Case Studies” encompassed a comparison of the scores/ratings of the three Screeners who independently administered the CRHVC Postpartum Screening Tool to the six case studies (total of 396 scores/ratings for the questions on the CRHVC Postpartum Screening Tool). Analysis of the inter-rater reliability testing revealed that the three raters gave the same score/rating to 390 (98%) of the 396 questions in the case studies. There were six instances where the raters had different ratings/scores for individual questions on the CRHVC Postpartum Screening Tool. These questions related to the mother’s level of social support and mother’s ability to care for the baby. Analysis of the inter-rater reliability for stage two of the “Postpartum Mother Case Studies” revealed that the additional six raters had the same ratings/scores for the questions over 90% of the time.

We conclude that the inter-rater reliability of the CRHVC Postpartum Screening Tool was excellent given the high correlation/matching of ratings/scores for the nine different raters. It is important to note that the case studies used “plain language” straightforward unambiguous information about the mothers’ situations and this probably accounted at least in part for the high inter-rater reliability results.

**Inter-rater Reliability - Screening of Mothers with the CRHVC Postpartum Screening Tool**

In order to test the inter-rater reliability in a Home Visitation practice setting, the two CRHVC Screeners independently screened the same twelve mothers using the CRHVC Postpartum Screening Tool. Analysis of these two sets of scores/ratings for
these same twelve mothers indicated that the two Screeners scored/rated questions the same with the exception of 5 instances where the scores/ratings were different. These exceptions were for the scores/ratings for the questions about depression, mother’s level of worry about caring for the baby and availability of friends/family/other people (i.e. level of social support) for the mother. In all cases, the difference in the scoring was a “relative difference” in answering yes (i.e. “some of the time” vs. “all of the time”). There were no instances where one Screener scored definitive “yes” and the other Screener scored a definitive “no”.

Based on these findings, we conclude that the inter-rater reliability of the CRHVC Postpartum Screening Tool in a Home Visitation practice setting was high. The test-retest and inter-rater reliability of the CRHVC Postpartum Screening Tool were independently analyzed and correlated in April/May 2007. This analysis confirmed: high levels of inter-rater reliability of the scores/ratings for the nine different raters who screened the “paper case studies” and; high levels test-retest reliability when scores of the three raters who rated the “paper cases” at two different times were correlated. The correlations for both inter-rater reliability and test-retest reliability were .85 or >.

5.5.3. Activity 3 - Pre-pilot Phase Activities - Development of Guidelines and Training Materials for the CRHVC Postpartum Screening Tool

A set of administration instructions guidelines/training materials was developed for use by CRHVC Screeners. These training materials were used during and after the CRHVC 2005-2007 Postpartum Screening Tool Project.
6. Pilot Phase Activities

6.1. Activity 1 - Pilot Phase Activities - Screening of 266 Mothers with the CRHVC Postpartum Screening Tool

Between August 2006 and December 31, 2006 a total of 266 mothers were referred to the CRHVC Healthy Families Program by Public Health Nurses from the Calgary Health Region. The CRHVC Administration Team phoned the referred mothers and was able to contact 230 mothers. Some of the mothers could not be contacted for different reasons inclusive of a family move or residing in an area served by the CRHVC. Two hundred and one (76%) of the 230 mothers that the CRHVC was able to contact agreed to be screened by the CRHVC. These findings reflect the usual referral patterns of the CRHVC i.e. approximately 85% of mothers who are referred to the CRHVC Healthy Families Program each year agree to postpartum screening.

Ease of Administration of the CRHVC Postpartum Screening Tool

The Screeners evaluated the CRHVC Postpartum Screening Tool from the perspective of its ease of administration. Their feedback indicated that the screening tool:

- was easy to administer and required 10-15 minutes with a maximum administration time of 20 minutes (the longer times were needed if an interpreter was required);
- was easy to score;
- used questions that were clear and straightforward and readily understood by the mothers with one exception - the question about the timing of the baby being at good time in the mother’s life; the term “a good time to have the baby” was confusing to mothers (note: as a result, the wording of this question was changed to the present wording) and;
- used questions that were acceptable to the mothers - the mothers did not object to any of the questions i.e. there was no negative feedback and there were no comments about the questions being offensive (there were only 11 instances where the mothers chose not to answer the question)
6.2. Activity 2 - Pilot Phase Activities - Implementation of the CRHVC Postpartum Screening Tool in a Rural Setting

In late 2006, the CRHVC Postpartum Screening Tool was also used to screen 5 mothers from a rural setting (Airdrie/surrounding area). Feedback from the Screener indicated that the CRHVC Postpartum Screening Tool was easy to administer with a time requirement of approximately 10 minutes. The Screener recommended that more attention be given to introducing the screening tool i.e. there should be more initial “small talk”. There was also some concern that the questions did not always “cut to the chase”, for important issues such as homelessness.

7. Project Post-pilot Activities – Analysis of the Results of the CRHVC Postpartum Screening Tool Project

The pilot phase of the CRHVC 2005-2007 Postpartum Screening Tool Project ended on December 31, 2006. The post-pilot phase incorporated: further testing of the CRHVC Postpartum Screening Tool by other Home Visitation Programs in Alberta and; an evaluation and data analysis of the screening information and results collected during the pilot phase and during January-March 2007.

7.1. Activity 1 - Post-pilot Phase Activities - Implementation of the CRHVC Postpartum Screening Tool in other Home Visitation Programs in Alberta

In February/March, 2007, six other Home Visitation Programs in Alberta were asked to pilot the CRHVC Postpartum Screening Tool. Feedback was received from three organizations. Overall, the comments were positive with feedback such as “easy to use and score”, “excellent questions”, appropriate for other Home Visitation Programs” and “good to have a system for referring individuals who scored negative on the screen”. There were no suggestions for changing the content or format of the CRHVC Postpartum Screening Tool.
Some of the organizations could not pilot the CRHVC Postpartum Screening Tool because screening was completed during the prenatal period.

7.2. Activity 1 - Analysis of the Distribution of the Mothers’ Answers to Questions/Scores during the CRHVC 2005-2007 Postpartum Screening Tool Project

A comprehensive analysis of the screening result scores/ratings for the questions on the CRHVC Postpartum Screening Tool was completed. The results are detailed in the following sections.

a) Screening Results – Scores/Ratings on the CRHVC Postpartum Screening Tool

The distribution of the scores/ratings for the questions on the CRHVC Postpartum Screening Tool during the pilot phase of the CRHVC Postpartum Screening Tool Project is depicted in Figure 2.

The distribution of the scores/ratings on the CRHVC Postpartum Screening Tool was as follows:

- 39 (18.9%) of the 206 mothers scored negative (lower than 10) and were not admitted to the CRHVC Healthy Families Program
- 19 (9.2%) of the 206 mothers scored negative (lower than 10) but were referred to the CRHVC Healthy Families Program because of meeting the criteria for admission the non-scored questions
- 10 (4.8%) of the 206 mothers scored 10
- 90 (43.7%) of the 206 mothers scored between 11 and 20
- 41 (19.9%) of the 206 mothers scored between 21 and 30
- 6 (2.9%) the 206 mothers scored between 31 and 40
- 1 (0.04%) mother scored above 40
The average score/rating on the CRHVC Postpartum Screening Tool during the pilot phase was 15.2 while the median score was 14. The range of scores was 60 (2-62). Ninety (43.7%) of the 206 mothers had screening scores between 11 and 20. One hundred and thirty-one (63.6%) of the mothers 206 mothers had scores ranging between 11 and 30. We suggest that scores between 11 and 30 are (will be) the most frequent scores since almost two-thirds of the mothers had screening scores/ratings in this range.

b) Distribution of Scores/Ratings during the CRHVC 2005-2007 Postpartum Screening Tool Project on the Modified CRHVC Postpartum Screening Tool

Feedback from the CRHVC Screeners during the pilot phase, in conjunction with recommendations in the literature resulted in the addition of a stress question on the CRHVC Postpartum Screening Tool. Nineteen (33%) of the 58 mothers who had a negative screen (score <10) but were admitted to the CRHVC Healthy Families Program had stressful life situations. The use of a question related to mother’s stress had also been
given full consideration during the initial development stage of the screening tool. The
SCRHVC Screeners and Supervisors Team, as well as the CRHVC Home Visitors
endorsed the addition of the stress-related question.

Screening results on the CRHVC Postpartum Screening Tool ranged between 8
and 48 for mothers admitted into the CRHVC Healthy Families Program after the stress
question was added. The range of scores on the CRHVC Postpartum Screening Tool prior
to the addition of the stress question was 2 to 42. We suggest that the addition of the
stress-related question resulted in overall higher screening scores.

c) Questions on the CRHVC Postpartum Screening Tool Having a Weighted Score
of 10 (Positive Screen Criteria)

One hundred and fourteen (55%) of the 206 mothers had a score of 10 on at least
one of the three questions on the CRHVC Postpartum Screening Tool that could be
scored as 10, the scoring criteria for a positive screen. The frequency of scores of 10 on
these three individual questions for the 206 mothers who were screened during the pilot,
and as depicted in Figure 3 was as follows:

- Question 4 (no help available to help care for the baby) - 89 (43.2%) of the 206
  mothers scored 10
- Question 5 (worry about ability to take care of the baby) - 19 (9.2%) of the 206
  mothers scored 10
- Question 21 (baby not born at good time) - 6 (2.9%) of the 206 mothers scored 10

We suggest that, of the three questions with a possible score of 10 (positive score),
having no help for the baby was the question most likely to be scored as a 10. It is of
interest to note that no mother scored 10 on all three of the questions that could be scored
as 10. A number of mothers scored 10 on the two questions relating to no help available
to help care for the baby and lack of skill and ability to take care of the baby.
Feedback from the Screeners and CRHVC Home Visitors confirmed the importance of ensuring that mothers who scored 10 on one or more of the questions that could be scored as 10 should be given priority as these mothers generally lived in exceptionally vulnerable situations and often scored high (i.e. 4 out of 4) on a significant number of the other screening questions. The lack of sufficient financial resources was often a factor for mothers scored 10 on the questions that could be scored as 10. Future studies could examine the relationship between overall screening scores and the questions with a possible score of 10. It is also of interest to note that the questions about lack of confidence and no help for the baby generally (both with a possible score of 10) characterized the mothers who later screened positive for postpartum depression (CRHVC data).
d) Questions on the CRHVC Postpartum Screening Tool that Mothers Chose not to Answer

Overall, the mothers readily answered the questions on the CRHVC Postpartum Screening Tool. There were only 11 (negligible per cent of all questions that were answered) instances where mothers chose not to answer the questions inclusive of:

- Question 6 (having someone to talk to/visit with) - 3 mothers
- Question 21 (baby not born at a good time) - 2 mothers
- Question 4 (availability of help for the baby) - 1 mother
- Question 10 (history of depression) - 1 mother
- Question 17 (physical abuse in the home) - 1 mother
- Question 18 (verbal abuse in the home) - 1 mother
- Question 19 (emotional abuse in the home) - 1 mother
- Question 20 (involvement with Child Welfare) - 1 mother

We suggest that mothers were not offended by the questions on the CRHVC Postpartum Screening Tool and that they would/will readily answer the questions.

7.2. Activity 2 - Analysis of the Demographic Profile of the Mothers Screened with the CRHVC 2005-2007 Postpartum Screening Tool Project

A comprehensive analysis of the demographic profile of mothers who were screened with the CRHVC Postpartum Screening Tool in 2006-2007 was completed; the results of this analysis are described in the following sections.

a) First Language of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project

The first languages of mothers attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project are depicted in Figure 4.
We suggest that, collectively mothers whose first language was a language other than English comprised almost half of the total population of mothers who attended the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project.

b) Culture of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project

The cultures of mothers attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project are depicted in Figure 5.

We suggest that, collectively mothers whose culture was a culture other than Canadian (inclusive of Aboriginal) comprised almost half of the total population of mothers attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project.
**Figure 5. Culture of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project**

<table>
<thead>
<tr>
<th>Culture of Mothers Attending the CRHVC Healthy Families Program in Calgary 2006-2007 (N=563)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unknown</strong> 31, 6%</td>
</tr>
<tr>
<td><strong>Canadian including Aboriginal</strong> 259, 46%</td>
</tr>
<tr>
<td><strong>Other</strong> 273, 48%</td>
</tr>
</tbody>
</table>

**c) Age Ranges of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project**

The age ranges of mothers attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project are depicted in *Figure 6.*

We suggest that mothers attending the CRHVC Postpartum Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project were most likely to be 26-40 years old.

It is important to note that young mothers (< 19 years) of age received postpartum support from other Calgary-based organizations whose mandate is to assist teen mothers and thus accounting for the small number of mothers in this category. The number of mothers in this study over 40 years of age was minimal.
**Figure 6. Age Ranges of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project**

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;17 years</td>
<td>18</td>
<td>4%</td>
</tr>
<tr>
<td>18-25 years</td>
<td>153</td>
<td>38%</td>
</tr>
<tr>
<td>26-40 years</td>
<td>234</td>
<td>57%</td>
</tr>
<tr>
<td>41+ years</td>
<td>3</td>
<td>1%</td>
</tr>
</tbody>
</table>

**d) Education Level of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project**

The education levels of mothers attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project are depicted in Figure 7. One hundred and fifty (37%) of the mothers attending the CRHVC Healthy Families Program had not completed high school. We suggest that mothers with education levels ranging from some/no grade school to some high school, all of high school or college/university levels were all likely to be living in at-risk situations and thus eligible to attend the CRHVC Healthy Families Program.

During the planning phase of the CRHVC 2005-2007 Postpartum Screening Tool Project, consideration was given to the inclusion of a question about the mother’s ability to learn new knowledge. A question “Do you have difficulty learning new information?” was included during the pilot phase of the Project but removed at the conclusion of the
pilot because the mothers had difficulty in its interpretation. We suggest that the question about education level addresses the ability to learn new information.

**Figure 7. Education Levels of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project**

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>College or university</td>
<td>153</td>
<td>37%</td>
</tr>
<tr>
<td>Some high school</td>
<td>123</td>
<td>30%</td>
</tr>
<tr>
<td>All high school</td>
<td>105</td>
<td>26%</td>
</tr>
<tr>
<td>No/some grade school</td>
<td>27</td>
<td>7%</td>
</tr>
</tbody>
</table>

**e) Prenatal Care of Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project**

The level of prenatal care for mothers attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project is depicted in Figure 8. We suggest that mothers who attended the CRHVC Healthy Families Program had excellent attendance at prenatal medical care appointments during the CRHVC Postpartum Screening Tool Project.

The CRHVC 2005-2007 Postpartum Screening Tool Project did not consider non-attendance at prenatal classes as a risk factor; rather there was agreement that the level of prenatal medical care was a more important domain in terms of its relevance as a risk factor. There was also an assumption that many mothers with more than one child had not
have attended prenatal classes; this assumption was confirmed as correct during the
text

review and analysis of the information in the Healthy Babies Healthy Children In-Home
Family Assessments.

Figure 8. Prenatal Medical Care of Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project

![Pie chart showing prenatal medical care attendance]

- Regular attendance, 373, 92%
- Occasional attendance, 29, 7%
- No/one time attendance, 6, 1%

f) Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project - Opinions about the Availability of Help to Care for the New Baby

The Mothers’ opinions about the availability of help to care for the new baby are
depicted in Figure 9. We suggest that the number of mothers believing that they had
sufficient help and the number of mothers who believed that they did not have sufficient
help were essentially equal at approximately fifty per cent.

The CRHVC 2005-2007 Postpartum Screening Tool Project did not assess the
relationship of the individuals (mother/partner/friend) who helped the mother in caring
for the baby or the extent of their help. We suggest that the nature of help to care for the
new baby could be explored in future targeted studies.
Figure 9. Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project - Opinions about the Availability of Help for the Baby

Mothers Attending the CRHVC Healthy Families Program 2006-2007
Opinions about the Availability of Help to Care for the New Baby (N=408)

- Help Available, 196, 48%
- Help Not Available, 211, 52%
- No Answer, 2, 0%

Figure 10. Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project - Opinions about their Confidence in Caring for the New Baby

The mothers’ opinions about their confidence in caring for the new baby are depicted in Figure 10. We suggest that the number of mothers who were confident about caring for their baby and the number of mothers who were not confident about caring for their baby were essentially equal at approximately fifty per cent. Thus, we suggest that lack of maternal confidence was a key postpartum risk factor for the mothers in this study.
**Figure 10.** Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project - Opinions about their Confidence in Caring for the Baby

- **Mothers Attending the CRHVC Healthy Families Program 2006-2007 - Opinions about Their Confidence in Caring for the Baby (n=408)**

<table>
<thead>
<tr>
<th>Confident about Caring for Baby, 206, 50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Confident about Caring for Baby, 202, 50%</td>
</tr>
</tbody>
</table>

**h) Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project - Opinions about the Timing of the Baby in their Life**

The mothers’ opinions about the timing of the baby’s birth happening at a good/not so good time in her life are depicted in **Figure 11**. We suggest that the majority of mothers were accepting and happy about the timing of their baby’s birth. At the same time, it is important to note that mothers who expressed an opinion that they would rather not have had the baby were considered as high at-risk mothers. These mothers were immediately eligible for admission to the CRHVC Healthy Families Program given that the score for this question is 10 which is the threshold for a positive screening score.
Figure 11. Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project - Opinions about the Timing of their Baby’s Birth in Their Life

Mothers Attending the CRHVC Healthy Families Program 2006-2007
Opinions About the Timing of the Baby’s Birth in Her Life (N=408)

- Baby born at a Good Time, 356, 88%
- Earlier/Later a Better Time, 8, 2%
- Prefer Baby Not Born, 42, 10%
- No Answer, 1, 0%

i) Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project - Opinions about Having Enough Money for Basic Necessities

The mothers’ opinions about having/not having enough money to pay for the basic necessities (rent/food/utilities) are depicted in Figure 12. One hundred and ninety-six (52%) of the 408 mothers believed that they did not have sufficient money for basic necessities. Lack of money was also the most common reason that the Calgary Health Region Public Health Nurses requested CRHVC postpartum screening. We suggest that lack of money/financial difficulties were key risk factors for mothers attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project.

This risk factor was also consistently identified when mothers were screened with the Parkyn and Healthy Families America Postpartum Screening Tools.
**Figure 12.** Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 CRHVC postpartum Screening Tool Project - Opinions about Having Enough Money for Basic Necessities

![Pie chart showing opinions on having enough money for basic necessities](chart)

- Enough money for necessities: 177 (46%)
- Not enough money for necessities: 196 (52%)
- Don’t know: 9 (2%)  

j) Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project - Opinions about Having a History of Depression

The mothers’ opinions about having/not having a history of depression are depicted in *Figure 13*. Fifty-eight (20%) of the 290 mothers had a history of depression. It is important to note that the question about mothers’ current depression was not included on the initial version of the CRHVC Postpartum Screening Tool. This question was added to the CRHVC Postpartum Screening Tool when it was modified in December 2006 because of the significant proportion of the mothers who indicated that they were experiencing depression at the time of screening.
Figure 13. Mothers Attending the CRHVC Healthy Families Program during the 2005-2007 CRHVC postpartum Screening Tool Project - Opinions about Having a History of Depression

No history of depression, 232, 80%
History of depression, 58, 20%

Mothers Attending the CRHVC Healthy Families Program 2006-2007 Opinions about Having a History of Depression (N=290)

k) Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project - Opinions about Safety in the Home, Medical Health Problems in the Home, Mental Health Problems in the Home and Involvement with Welfare/Child Protection

Overall, less than 10% of the 408 attending the Healthy Families Program during the 2005-2007 Postpartum Screening Tool Project mothers had environmental or psychosocial risks relating to safety in the home, medical health problem in the home, mental health problems in the home and involvement with Welfare/Child Protection/Intervention Services. We suggest that these factors were not significant risk factors for the mothers attending the CRHVC Healthy Families Program during the 2005-2007 CRHVC Postpartum Screening Tool Project.
1) Mothers Attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Postpartum Screening Tool Project - Opinions about Abuse (Physical, Verbal and Emotional) and the Use of Alcohol/Drugs Making it Difficult to Care for the Baby

Overall, the mothers attending the CRHVC Healthy Families Program during the CRHVC 2005-2007 Screening Tool Project reported a very minimal number of abusive situations in their homes. The mothers also indicated that the use of alcohol or drugs did not, for the most part, affect their ability to care for the baby. We suggest that verbal/physical/emotional abuse and the use of alcohol/drugs were not significant risk factors for the mothers in this study. Alternatively, the mothers in this study may not have provided true answers to these sensitive questions because of the inherent difficulty in forming a trusting relationship with the CRHVC Screeners during the brief screening process i.e. screening generally required less than 20 minutes.

7.3. Activity 3 - Finalization of the CRHVC Postpartum Screening Tool

The final version of the CRHVC Postpartum Screening Tool was completed in June 2007. A copy of the screening tool is included in Appendix A. Copyright privilege for the CRHVC Postpartum Screening Tool was completed during fall 2007. The CRHVC Postpartum Screening Tool is unique in that it addresses risk factors related to both psychosocial situations and medical/health circumstances that may characterize at-risk new mothers. As well, it includes a mechanism to refer other mothers with unique needs but who score negatively on the CRHVC Postpartum Screening Tool.

7.4. Activity 4 - Development of the CRHVC Prenatal Screening Tool

It became evident during the pilot phase that many Home Visitation Programs complete screening during the prenatal period. In view of this, a Prenatal Home Visitation Screening Tool was developed. This tool mirrors the domains, questions and
scoring used in the CRHVC Postpartum Screening Tool but references the prenatal rather than the postpartum period. The CRHVC Prenatal Screening Tool is included in Appendix B.

7.5. Activity 5 - Presentation and Publication of the Findings of the 2005-2007 CRHVC Postpartum Screening Tool Project

The results of the CRHVC Postpartum Screening Tool Project will be presented to AHVNA in fall 2007. As well, the CRHVC Administration Team will proactively seek additional opportunities to present the findings of the Project and to publish the results in professional journals and reports. The CRHVC Program Manager, Marianne Symons will present the CRHVC Postpartum Screening Tool to representatives of the Alberta government in 2007/2008.

8. Conclusions and Recommendations

This Report has detailed the activities that were undertaken during the CRHVC 2005-2007 Screening Tool Project to successfully develop a standardized, validated and reliable postpartum screening tool, the CRHVC Postpartum Screening Tool. There were twenty-three versions of the CRHVC Postpartum Screening Tool.

There are a number of conclusions and recommendations forthcoming from the CRHVC Postpartum Screening Tool Project; these are detailed in the following section.

Conclusion and Recommendation 1- Consideration Should be Given to Piloting the CRHVC Prenatal Screening Tool

It is suggested that an organization which routinely engages in prenatal screening for at-risk mothers should pilot the CRHVC Prenatal Screening Tool pending consultation with the Program Manager of the CRHVC. The validity and reliability of the CRHVC Postpartum Screening Tool are proven and an organization could readily
implement a pilot study to assess the CRHVC Prenatal Screening Tool. These organizations could also screen mothers postpartum and compare changes in screening scores.

**Conclusion and Recommendation 2 - Consideration Should be Given to the Development of a Counterpart Postpartum In-depth Assessment Tool**

Many of the Home Visitors/Supervisors who participated in the CRHVC 2005-2007 Screening Tool Project expressed concern about the length of time required to complete the Healthy Babies Healthy Children In-Home Family Assessment Tool and as well, voiced concerns about the format and content of the questions. The CRHVC 2005-2007 Postpartum Screening Project as well as the 2005-2007 CRHVC Postpartum Depression Research Project (which was completed concurrently) identified a number of emerging risk factors/circumstances (such as having a baby of the non-desired gender, new immigrant status and insufficient knowledge about baby care secondary to early discharge from the hospital) that may impact new mothers. Ideally, an assessment tool should address these issues as well as known and emerging barriers to accessing postpartum support programs and resources. It is recommended that the CRHVC undertake the development of an alternate in-depth user-friendly assessment tool that fully reflects at-risk psychosocial, environmental and health-related risk factors for new mothers and particularly mothers who are new immigrants.

**Conclusion and Recommendation 3 - Consideration Should be Given to Further Study of the Mothers’ Demographics and Postpartum Risk Factors**

The CRHVC has established an exceptional postpartum database system that links to their postpartum depression database. Both databases continue to evolve. It is recommended that the CRHVC seek funding for more in-depth analysis of the
demographics and the risk factors for all mothers attending the CRHVC Healthy Families Program. In particular, studies of mothers from different cultural groups and an assessment of the reasons for early closure from the Healthy Families Program and reasons for refusing the initial postpartum screen (15% of referrals) are suggested. The CRHVC should also consider undertaking an in-depth analysis of other information that is routinely collected (such as the results of the Nipissing Screen for infants/babies and mothers’ level of social support) and use the findings as the basis for further study of these parameters.

**Conclusion and Recommendation 4 - Consideration Should be Given to Further Study of the Home Visitors Role in Supporting At-risk Mothers**

The literature has confirmed the important role that Home Visitors play in supporting at-risk mothers. It is recommended that the CRHVC seek funding to complete a more in-depth analysis of the important role that Home Visitors play in terms of “the difference” they make in helping vulnerable mothers and the work-related challenges they face. Such studies would necessarily incorporate the mothers’ perceptions and viewpoints. Other studies could focus on collaborative goal-setting and assessment of the number of Home Visits needed to foster successful outcomes for the mothers.

The CRHVC could actively seek partnership with other organizations (such as the Calgary Health Region) to undertake these and other joint studies.

**Conclusion and Recommendation 5 - Consideration Should be Given to the CRHVC Taking a Lead Role in Developing Best Practice Guidelines for Home Visitors**

Best practice guidelines for Home Visitors have not been well-established. It is recommended that the CRHVC lead an initiative that would culminate in the development of evidence-based best practice guidelines for Home Visitors.
guidelines should include the development of evidence-based training programs to best reflect contemporary knowledge and best practices. Ultimately, such initiatives would increase awareness about the professional role of Home Visitors while addressing an important gap in Home Visitation professional practice.

**Conclusion and Recommendation 6 - Consideration Should be Given to Studies that Link the Results of Postpartum Screening and Postpartum Depression Screening**

Over twenty percent of the mothers who attend the CRHVC Healthy Families Program also screen positive for postpartum depression. It is recommended that studies be undertaken to better understand the relationship (predictive ability) of the postpartum risk factors to postpartum depression. This study would allow a better understanding about whether specific screening factors (notably the presence of depression, financial difficulties, lack of confidence in caring for the baby and insufficient help to care for the baby at the time of postpartum screening) might be predictors of postpartum depression; these results would in turn inform program planning in relation to early interventions for managing postpartum depression (the effectiveness of which could then be evaluated).

**Conclusion and Recommendation 7 - Consideration Should be Given to Studies that Would Advance the Skills and Practices of Home Visitors in Planning Goals and Services for Mothers who have Specific Risk Factors**

The results of the CRHVC 2005-2007 Postpartum Screening Tool Project should inform future program planning for the CRHVC Healthy Families Program, notably with regard to Home Visitors’ best use of the screening results of the CRHVC Postpartum Screening Tool to design goals and interventions for the mothers. Ideally, revisions of existing training programs should address contemporary knowledge about recommended training for helping at-risk mothers.
Conclusion and Recommendation 8 - Consideration Should be Given to Proactive Engagement in Knowledge Mobilization and Sharing of the Findings of the CRHVC 2005-2007 Postpartum Screening Tool Project

It is important that the CRHVC proactively disseminate the knowledge gained from the CRHVC Postpartum Screening Tool Project; key opportunities include:

- Contacting other local and provincial practice-based/academic organizations that are involved with Home Visitation and requesting opportunities to make presentations that would highlight the relevance of the CRHVC 2005-2007 Postpartum Screening Tool Project
- Seeking media coverage - newspaper and magazines that target mothers
- Posting the results of the CRHVC 2005-2007 Postpartum Screening Tool Project on the CRHVC and AHVNA web sites and linking to other web sites
- Submitting results to journals and magazines for publication
- Seeking funding opportunities to undertake further related studies
- Working with other researchers involved with the study of Home Visitation and seek opportunities for collaboration

Summary Statement

The CRHVC has a unique opportunity to use the results of the CRHVC 2005-2007 Postpartum Screening Tool Project and further strengthen the professional role of Home Visitors including awareness by other disciplines involved in Home Visitation.

The CRHVC 2005-2007 Screening Tool Project achieved its stated goals and is well-positioned to participate in ongoing studies given its strength-based operating philosophy, rigorous databases, ongoing commitment to research and evaluation, cost-effective methods, use of evidence and dedicated Teams (the Leadership Team, Supervisors Team, Administration Team and the Home Visitors). The CRHVC should proactively seek funding to continue its excellent work including the dissemination of results.

Respectfully submitted

Patricia Hull
M.Sc., M.Sc., EdD (candidate), PMP, CHE, CHRP, RD
References


Appendices

Appendix A

Appendix A includes the final CRHVC Postpartum Screening Tool and the two postpartum screening tools – the Parkyn Postpartum Screen and the Healthy Families America Postpartum Screen that were used as reference screening tools in the Project.
### CALGARY REGIONAL HOME VISITATION COLLABORATIVE POSTPARTUM SCREENING TOOL (THE CALGARY POSTPARTUM SCREEN)

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is your age?</td>
<td>17 or younger (4) □ 18-25 (0) □ 26-40 (0) □ 41 or older (4) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>2. How much school have you completed?</td>
<td>No grade school/some grade school (4) □ Grade school/some high school (2) □ All high school (0) □ College/university courses (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>3. How often did you visit a doctor, nurse, midwife or other health professional during this pregnancy?</td>
<td>Regularly (0) □ Occasionally (2) □ One time only or never (4) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>4. Do you have a partner, family, friends or other people who can help you to take care of the baby when you need help (especially in an emergency)?</td>
<td>Yes (0) □ No (10) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>5. How worried are you about your skills and ability to take care of your baby’s needs - such as feeding the baby or comforting the baby if she/he is crying?</td>
<td>Very worried (10) □ Occasionally worried (4) □ Not worried (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>6. Do you have a partner, family, friends or other people that you can talk to or visit with when you need to (or when you are lonely)?</td>
<td>Yes (0) □ No (4) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>7. Do you, your baby or anyone living in your home have a medical health problem that might make it difficult for you to take care of your baby?</td>
<td>Yes (2) □ No (0) □ Not certain/don’t know (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>8. Do you or anyone living in your home have a mental health problem that might make it difficult for you to take care of your baby?</td>
<td>Yes (2) □ No (0) □ Not certain/don’t know (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>9. As a new mother, do you sometimes feel depressed (for example, crying for no reason or feeling sad for no reason)?</td>
<td>Yes (4) □ No (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>10. Do you have a history of depression?</td>
<td>Yes (4) □ No (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>11. Is there enough money to pay your family’s food, housing/rent, heat, water and electricity bills?</td>
<td>Yes (0) □ Don’t know (0) □ No (4) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>12. Is your house a physically safe place for your baby/children?</td>
<td>Yes (0) □ Not now, but it will be (2) □ No (4) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>13. Do you or anyone living in your home drink alcohol?</td>
<td>Yes, go to #14 □ No score □ No, go to #15 □ No score</td>
<td></td>
</tr>
<tr>
<td>14. Is this use of alcohol likely to make it difficult for you to take care of your baby?</td>
<td>Yes (6) □ No (0) □ Not certain/don’t know (2) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>15. Do you or anyone living in your home use drugs?</td>
<td>Yes, go to #16 □ No score □ No, go to #17 □ No score</td>
<td></td>
</tr>
<tr>
<td>16. Is this use of drugs likely to make it difficult for you to take care of your baby?</td>
<td>Yes (6) □ No (0) □ Not certain/don’t know (2) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>17. Is there any physical abuse in your home?</td>
<td>Yes (4) □ No (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>18. Is there any verbal abuse in your home?</td>
<td>Yes (4) □ No (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>19. Is there any emotional abuse (feelings hurt on purpose) in your home?</td>
<td>Yes (4) □ No (0) □ No answer(0)</td>
<td></td>
</tr>
<tr>
<td>20. Has your home ever been involved with Child Protection Services/Welfare/Family Enhancement Services?</td>
<td>Yes, now/past 2 years (4) □ Yes, &gt; than 2 years ago (0) □ No (0) □ No answer (0) □</td>
<td></td>
</tr>
<tr>
<td>21. Now that your baby is here, do you think that she/he was born at a good time in your life?</td>
<td>Yes, my baby was born at a good time in my life (0) □ No, earlier or later would have been better (2) □ No, I would have preferred not to have had this baby at all (10) □ No answer □</td>
<td></td>
</tr>
<tr>
<td>22. Overall, how stressful is your life?</td>
<td>Very stressful (6) □ Occasionally stressful (4) □ Not stressful (0) □ No answer (0) □</td>
<td></td>
</tr>
</tbody>
</table>

**Mother’s Name:** _____________________________________________

**Mother’s ID:** _____________________________________________

**Score:**

<table>
<thead>
<tr>
<th>Sub-total</th>
<th>Total Score</th>
<th>Sub-total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

© Calgary Regional Home Visitation Collaborative (CRHVC) 2007
Screening Results: Total Score /100

(A score of 10 or greater is considered a positive screen)

1. Positive Screen (Complete section below)
   - Screened positive - mother accepted referral to the Home Visitation Program
   - Screened positive - mother refused referral to the Home Visitation Program

Comments/follow-up plans (as appropriate):

2. Negative Screen (Complete section below)

   NOTE: Mothers who score less than 10 are also eligible for admission to the Home Visitation Program if they meet one or more of the following conditions:

   - Mothers who "choose not to answer the question" about verbal, physical, or emotional abuse and/or questions about drug and alcohol use.
   - Mothers, who in the professional judgment of the Screener, would benefit by attending the Program.
   - Mothers who indicate/identify a reason that they could benefit from participation in the Program and the Screener agrees with the mother’s reasons.
   - Mother/family who are newcomers to the country and are experiencing adaptation problems.

   - Screened negative and is eligible for admission - mother accepted referral to the Home Visitation Program
   - Screened negative and is eligible for admission - mother refused referral to the Home Visitation Program
   - Screened negative and is not eligible for admission - mother does not meet any of the above criteria

Comments/follow-up plans (as appropriate):

3. Interpreter required Language:

4. Screener Information

   Screener Name (please print):

   Screening Organization:

   Screener Signature:

© Calgary Regional Home Visitation Collaborative (CRHVC) 2007

Scoring Notes – The Calgary Postpartum Screen

Question 1 - (age); scoring reflects a younger or older age of the mother as a risk factor.

Question 2 - (level of education attained); scoring reflects a lower level of education/ability to learn new information as a risk factor.

Question 3 - (level of medical care during pregnancy); scoring reflects less than a regular level of medical care during pregnancy as a risk factor.

Question 4 - (level of help to care for the baby that is available to the mother); scoring reflects lack of available help to care for the baby (parenting alone) as a very significant risk factor; thus, a score of 10 is used.

Question 5 - (level of maternal confidence in taking care of the baby); scoring reflects mother’s lack of confidence in caring for the baby as a very significant risk factor; thus, a score of 10 is used.

Question 6 - (level of social support available to the mother); scoring reflects mother’s low level of social support/social isolation as a risk factor.

Question 7 - (presence of a medical problem in the home); scoring reflects the presence of a medical problem in the home (including medical problems of the mother or baby) as a risk factor.

Question 8 - (presence of a mental health problem in the home); scoring reflects the presence of a mental health problem in the family (including mental health problems of the mother) as a risk factor.

Questions 9-10 - (present or past depression, including postpartum depression); scoring reflects mother’s depression as a risk factor.

Question 11 - (level of financial stability in the home/ability to pay for basic necessities); scoring reflects the inability of the family to pay for basic necessities as a risk factor.

Question 12 - (physical safety of the house environment for babies/young children); scoring reflects an unsafe home environment for the baby/other children as a risk factor.

Question 13-14 - (use of alcohol in the home); scoring reflects the use of alcohol in the home whose use may impact the mother’s ability to care for the baby as a significant risk factor.

Question 15-16 - (use of drugs in the home); scoring reflects the use of drugs (primarily illegal drugs but also prescription drugs particularly if these drugs affect behavior) in the home whose use may impact the mother’s ability to care for the baby as a significant risk factor.

Question 17-19 - (presence of physical, verbal or emotional abuse in the home); scoring reflects the presence of physical, verbal or emotional abuse in the home as a risk factor.

Question 20 - (extent of the home’s involvement with Child Welfare/Protection Services/Family Enhancement); scoring reflects present involvement or involvement of the home in the past two years with these services as a risk factor.

Question 21 - (mother’s acceptance of the timing of the baby’s birth in her life); scoring reflects mother’s preference not to have had the baby as a very significant risk factor; thus, a score of 10 is used.

Question 22 - (level of mother’s stress); scoring reflects a high level of stress in the mother’s life as a significant risk factor.

Limitation of Liability

The Calgary Regional Home Visitation Collaborative has created the Calgary Postpartum Screen for the specific purpose of assisting trained professionals (nurses, physicians, social workers and home visitors) to screen new mothers who may be living in at risk psychosocial situations. The Calgary Postpartum Screen is not an assessment tool and does not substitute for the advice and support of professionals including but not limited to nurses, physicians, social workers and home visitors. The Calgary Postpartum Screen is meant to be used in conjunction with an in-depth Home Visitation Assessment Tool.

The Calgary Postpartum Screen is copyrighted by the Calgary Regional Home Visitation Collaborative and is subject to copyright laws and other intellectual property laws. You may print and download the Calgary Postpartum Screen for your own non-commercial use. Any other copying, redistribution, retransmission or publication of the Calgary Postpartum Screen is strictly prohibited without the express written consent of the Calgary Regional Home Visitation Collaborative. You agree not to change or delete any part of the Calgary Postpartum Screen.

Under no circumstances will the Calgary Regional Home Visitation Collaborative be held responsible or liable, directly or indirectly, for any loss or damage that is caused or alleged to have been caused to you in connection with your use of, or reliance on the Calgary Postpartum Screen.

You may not sell or modify the Calgary Postpartum Screen or reproduce, display, publicly perform, distribute, or otherwise use the Calgary Postpartum Screen in any way for any public or commercial purpose.
## APPENDIX I:

### Calgary Health Region

#### Healthy Families

**Postpartum Screening Tool**

**A. Children with Congenital or Acquired Health Challenges:**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>.9</td>
<td></td>
</tr>
<tr>
<td>.6</td>
<td></td>
</tr>
</tbody>
</table>

| 1. Major (probability of permanent disability) e.g. down's syndrome, cerebral palsy | .9 |
| 2. Moderate (severity may be possible) e.g. cleft palate, loss of limb | .6 |

**B. Development Factors:**

<table>
<thead>
<tr>
<th>3. Low Birth Weight:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) &lt;1499 gm</td>
</tr>
<tr>
<td>b) 1500-1999 gm</td>
</tr>
<tr>
<td>c) 2000-2499 gm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Complications of Pregnancy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Infections that can be transmitted in semen may damage the fetus (e.g. Rubella)</td>
</tr>
<tr>
<td>b) Drugs (e.g. alcohol or drug abused in mother)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Complications of labour and delivery:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Baby requiring resuscitation or cesarean delivery</td>
</tr>
<tr>
<td>b) Infant trauma or illness (e.g. convulsions, respiratory distress syndrome)</td>
</tr>
<tr>
<td>c) If baby less than 7 lbs 5 oz, deduct Premature score from 10</td>
</tr>
</tbody>
</table>

| 6. Family history of a genetic challenge (e.g. deafness, mental challenge) | .4 |

**C. Family Interaction Factors:**

<table>
<thead>
<tr>
<th>7. Age of mother:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 15 and under</td>
</tr>
<tr>
<td>b) 16-17</td>
</tr>
<tr>
<td>c) 18 or over</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Social situation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) One parent family with adequate social support</td>
</tr>
<tr>
<td>b) Two parent family - no social support</td>
</tr>
<tr>
<td>c) Two parent family - no social support without severe isolation related to culture, language or geography</td>
</tr>
</tbody>
</table>

| 9. Financial difficulties | .3 |

| 10. No prenatal care before sixth month | .4 |

<table>
<thead>
<tr>
<th>11. Mental developmental challenge in mother and/or father: Disable score if both parents positive in a) or c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Schizophrenia or bipolar affective disorder</td>
</tr>
<tr>
<td>b) Postpartum depression or psychosis</td>
</tr>
<tr>
<td>c) Mentally challenged parent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12. Prolonged postpartum maternal separation (5 days or more):</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) With frequent infant contact (visits or phone as feasible)</td>
</tr>
<tr>
<td>b) Little or no contact</td>
</tr>
</tbody>
</table>

| 13. Assessment of bonding (e.g. minimal eye contact or touching) | .6 |

<table>
<thead>
<tr>
<th>14. Other e.g. (Please circle) parental distress, low education status, failure to thrive, parenting difficulties, family violence, no prenatal class attendance, maternal smoking during pregnancy (Score 0 to 9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify reasons</td>
</tr>
</tbody>
</table>

- □ Referred to Early Intervention Program
- □ Refused consent to screening
- □ Negative screen
- □ Positive screen refused referral
- □ Positive screen referral to Calgary Regional Home Visitation Collaborative (CRHVC) - Healthy Families (Region Four)
- □ Not done REASON

**Time to complete program and complete screening**

<table>
<thead>
<tr>
<th>Travel time (only if applicable for Healthy Families)</th>
<th>Total Hours</th>
</tr>
</thead>
</table>

**Total Score**

**PHN Signature**: 

**Date (mm/dd)**

---

Adapted With Permission From Parajy. Prioritization Assessment (Parajy. 1995)

01/01 (2002/01)

White: Client Chart
Yellow: Data Entry Copy
HEALTHY FAMILIES AMERICA SCREENING TOOL
(format adapted for use by CRHVC)

Screener ________________________  Date _____________________

REFERRAL INFORMATION
Mother’s Name __________________________________________________
Phone __________________
Address __________________________________  Community ____________
Baby’s Name _______________________   Birth date ____________________

RECORD SCREEN
____ 1) Marital Status: Single, Separated, Divorced, Widowed
____ 2) Partner Unemployed
____ 3) Inadequate Income per patient or no information regarding source of income
____ 4) Unstable housing
____ 5) No phone
____ 6) Education under 12 years
____ 7) Inadequate emergency contacts. (If given, relationship _________ and phone number __________)
____ 8) a. History of Alcohol use
   b. History of drug use
____ 9) Late prenatal, no prenatal care, poor compliance
____ 10) History of abortions
____ 11) History of psychiatric care
____ 12) Abortion unsuccessfully sought or attempted
____ 13) Relinquishment for adoption sought or attempted
____ 14) Marital or family problems
____ 15) History of or current depression

SCREEN RESULT
Screened Positive accepted referral to Healthy Families _______
Screened Positive refused referral to Healthy Families _______
   Reason for refusal _________________________________________
Screened Negative no referral required     _______
Screened Negative requested alternate referral to ________________________

HEALTHY FAMILIES REFERRAL
Family referred to ___________________________ (agency) on ____________.
________________________________________________________________

Scoring  
T = True   F = False   U = Unable to ascertain truth value

Positive Screen
1.  True score on #1, #9 or #12 (only one required)
2.  Two or more true scores
3.  Seven or more unknowns
Appendix B

Appendix B includes the final CRHVC Prenatal Screening Tool that would be available for testing in another Home Visitation setting pending consultation with the CRHVC

(Marianne Symons, Program Manager, 403-204-0800)
### Calgary Regional Home Visitation Collaborative Prenatal Screening Tool (The Calgary Prenatal Screen)

**Mother’s Name:** ___________________________

**SCORE**

1. **What is your age?**
   - 17 or younger (4)
   - 18-25 (0)
   - 26-40 (0)
   - 41 or older (4)
   - No answer (0)

2. **How much school have you completed?**
   - No grade school/some grade school (4)
   - Grade school/some high school (2)
   - All high school (0)
   - College/university courses (0)
   - No answer (0)

3. **How often are you visiting a doctor, nurse, midwife or other health professional during this pregnancy?**
   - Regularly (0)
   - Occasionally (2)
   - One time only or never (4)
   - No answer (0)

4. **Once your baby is born, will you have a partner, family, friends or other people who can help you take care of the baby when you need help (especially in an emergency)?**
   - Yes (0)
   - No (10)
   - No answer (0)

5. **How worried are you about your skills and ability to take care of your coming baby’s needs - such as feeding the baby or comforting the baby if she/he is crying?**
   - Very worried (10)
   - Occasionally worried (4)
   - Not worried (0)
   - No answer (0)

6. **Do you have a partner, family, friends or other people that you can talk to or visit with when you need to (or when you are lonely)?**
   - Yes (0)
   - No (4)
   - No answer (0)

7. **Do you, or anyone living in your home have a medical health problem that might make it difficult for you to care for your coming baby?**
   - Yes (2)
   - No (0)
   - Not certain/don’t know (0)
   - No answer (0)

8. **Do you or anyone living in your home have a mental health problem that might make it difficult for you to care for your coming baby?**
   - Yes (2)
   - No (0)
   - Not certain/don’t know (0)
   - No answer (0)

9. **As an expecting mother, do you sometimes feel depressed (for example, crying for no reason or feeling sad for no reason)?**
   - Yes (4)
   - No (0)
   - No answer (0)

10. **Do you have a history of depression?**
    - Yes (4)
    - No (0)
    - No answer (0)

11. **Is there enough money to pay your family’s food, housing/rent, heat, water and electricity bills?**
    - Yes (0)
    - Don’t know (0)
    - No (4)
    - No answer (0)

12. **Is your house a physically safe place for your coming baby/children?**
    - Yes (0)
    - Not now, but it will be (2)
    - No (4)
    - No answer (0)

13. **Do you or anyone living in your home drink alcohol?**
    - Yes, go to #14 (no score)
    - No, go to #15 (no score)

14. **Is this use of alcohol likely to make it difficult for you to take care of your coming baby?**
    - Yes (6)
    - No (0)
    - Not certain/don’t know (2)
    - No answer (0)

15. **Do you or anyone living in your home use drugs?**
    - Yes, go to #16 (no score)
    - No, go to #17 (no score)

16. **Is this use of drugs likely to make it difficult for you to take care of your coming baby?**
    - Yes (6)
    - No (0)
    - Not certain/don’t know (2)
    - No answer (0)

17. **Is there any physical abuse in your home?**
    - Yes (4)
    - No (0)
    - No answer (0)

18. **Is there any verbal abuse in your home?**
    - Yes (4)
    - No (0)
    - No answer (0)

19. **Is there any emotional abuse (feelings hurt on purpose) in your home?**
    - Yes (4)
    - No (0)
    - No answer (0)

20. **Has your home ever been involved with Child Protection Services/Welfare/Family Enhancement?**
    - Yes, now/past 2 years (4)
    - Yes, > than 2 years ago (0)
    - No (0)
    - No answer (0)

21. **Do you think that your pregnancy has come at a good time in your life?**
    - Yes, my baby will be born at a good time in my life (0)
    - No, earlier or later would have been better (2)
    - No, I would have preferred not to have had this baby at all (10)
    - No answer (0)

22. **Overall, how stressful is your life?**
    - Very stressful (6)
    - Occasionally stressful (4)
    - Not stressful (0)
    - No answer (0)

**SCORE**

**Mother’s ID:** ___________________________

**SCORE**

**Total Score**

<table>
<thead>
<tr>
<th>SUB-TOTAL</th>
<th>/100</th>
<th>SUB-TOTAL</th>
</tr>
</thead>
</table>

© Calgary Regional Home Visitation Collaborative (CRHVC) 2007
CALGARY REGIONAL HOME VISITATION COLLABORATIVE PRENATAL SCREENING TOOL (THE CALGARY PRENATAL SCREEN)

Screening Results:  

(A score of 10 or greater is considered a positive screen)

1. Positive Screen (Complete section below)
   - □ Screened positive - mother accepted referral to the Home Visitation Program
   - □ Screened positive - mother refused referral to the Home Visitation Program

Comments/follow-up plans (as appropriate):

2. Negative Screen (Complete section below)
   - NOTE: Mothers who score less than 10 are also eligible for admission to the Home Visitation Program if they meet one or more of the following conditions:
     - □ Mothers who “choose not to answer the question” about verbal, physical or emotional abuse and/or questions about drug and alcohol use.
     - □ Mothers, who in the professional judgment of the Screener, would benefit by attending the Program.
     - □ Mothers who indicate/identify a reason that they could benefit from participation in the Program and the Screener agrees with the mother’s reasons.
     - □ Mother/family who are newcomers to the country and are experiencing adaptation problems.

   - □ Screened negative and is eligible for admission - mother accepted referral to the Home Visitation Program
   - □ Screened negative and is eligible for admission - mother refused referral to the Home Visitation Program
   - □ Screened negative and is not eligible for admission - mother does not meet any of the above criteria

   Comments/follow-up plans (as appropriate):

3. □ Interpreter required  Language:  

4. Screener Information
   - Screener Name (please print):  
   - Screening Organization:  
   - Screener Signature:  
   - Date Screen Completed:  

Limitation of Liability

The Calgary Regional Home Visitation Collaborative has created the Calgary Prenatal Screen for the specific purpose of assisting trained professionals (nurses, physicians, social workers and home visitors) to screen pregnant women who might be living in at risk psychosocial situations. The Calgary Prenatal Screen is not an assessment tool and does not substitute for the advice and support of professionals including but not limited to nurses, physicians, social workers and home visitors. The Calgary Prenatal Screen is meant to be used in conjunction with an in-depth Home Visitation Assessment Tool.

The Calgary Prenatal Screen is copyrighted by the Calgary Regional Home Visitation Collaborative and is subject to copyright laws and other intellectual property laws. You may print and download the Calgary Prenatal Screen for your own non-commercial use. Any other copying, redistribution, retransmission or publication of the Calgary Prenatal Screen is strictly prohibited without the express written consent of the Calgary Regional Home Visitation Collaborative. You agree not to change or delete any part of the Calgary Prenatal Screen.

Under no circumstances will the Calgary Regional Home Visitation Collaborative be held responsible or liable, directly or indirectly, for any loss or damage that is caused or alleged to have been caused to you in connection with your use of; or reliance on the Calgary Prenatal Screen.

You may not sell or modify the Calgary Prenatal Screen or reproduce, display, publicly perform, distribute, or otherwise use the Calgary Prenatal Screen in any way for any public or commercial purpose.

© Calgary Regional Home Visitation Collaborative (CRHVC) 2007