



Three Cheers for the Early Years

Healthy Pregnancy Weight Project

Evaluation Report

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Acknowledgements

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Table of Contents

Acknowledgements	2
Table of Contents	3
List of Figures	4
List of Tables	5
Executive Summary	6
Introduction	7
Background	7
Purpose of the Evaluation	7
Evaluation Questions	8
Project Description	8
Methodology	10
Sample	10
Data Collection	10
Data Analysis	10
Results	11
Response Rate and Demographics	11
Distribution and Review of the HPW Package	12
HPW Project's Effectiveness in Enhancing Awareness	13
Perceived Value of the HPW Package	16
Optimal Maternal Weight and Birth Outcomes	18
General Comments	19
Suggestions on Strategies to Disseminate Information	21
Discussion	22
Recommendations	24
Appendices	25
Appendix A: HPW Logic Model	25
Appendix B: Theoretical Assumptions and Linkages	26
Appendix C: HPW Survey	28
Appendix D: List of Clinics Participating in the Survey	30
References	31

List of Figures

- Figure 1: Position/Title
- Figure 2: Office Location
- Figure 3: Did your office receive the Healthy Pregnancy Weight package?
- Figure 4: Have you had an opportunity to review the Healthy Pregnancy Weight package
- Figure 5: Percentage of PHPs indicating they “Agreed” or Strongly Agreed” that the HPW project enhanced their awareness of project goals
- Figure 6: PHPs perceived value of the HPW package
- Figure 7: How would you rate the importance of optimal maternal weight as an important perinatal factor to birth outcomes

List of Tables

- Table 1: PHPs responses on the HPW effectiveness in enhancing awareness
- Table 2: PHP comments
- Table 3: PHPs perceived value of the HPW package
- Table 4: Other comments regarding the HPW project
- Table 5: Do you have any suggestions on strategies to effectively disseminate information like the HPW package to physicians?

Healthy Pregnancy Weight Project

September 2006 to March 2008

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Project Description:

The Healthy Pregnancy Weight project was funded to promote awareness of healthy maternal BMI (body mass index) and optimal gestational weight gain among women in the CHR. Both poor weight gain and excessive weight in pregnancy are associated with negative pregnancy and birth outcomes and thus are equally addressed in this project.

Evaluation Purpose:

The purpose of this evaluation is to assess the Prenatal Health Professionals (PHP's) perceived value of the Healthy Pregnancy Weight (HPW) package. The HPW package was designed and developed as a resource for PHP's to support gestational weight gain recommendations, prenatal weight assessments, and nutritional referrals.

Evaluation Methods:

The methodology used in the HPW evaluation was a mixed qualitative and quantitative approach. The evaluative design was an exploratory, one group, post-test only design. Prenatal Health Professionals were invited to participate in the evaluation of the HPW project by completing a survey questionnaire.

Summary of Findings:

What PHPs reported about the HPW project:

Seventy-two percent of respondents agreed or strongly agreed that the HPW project had enhanced their awareness of the importance of optimal maternal weight.

Eighty-three percent of PHPs surveyed indicated that the HPW project had enhanced their awareness of maternal weight tools.

Seventy-eight percent of PHPs reported that the HPW package had enhanced their awareness of nutritional referral resources in the community for pregnant women.

Eighty-three percent of PHPs indicated the BMI calculator was somewhat valuable/very valuable in supporting pregnancy weight gain recommendations.

Seventy-eight percent of PHPs indicated the HPW poster and brochure was somewhat valuable/very valuable in enhancing the awareness of patients of the importance of optimal maternal weight

Seventy-two percent of PHPs indicated the HPW weight gain graph and calculator was somewhat valuable/very valuable in monitoring weight gain in pregnancy

PHP's rated highly (8.75 out of 10) the importance of optimal maternal weight as an important perinatal factor to birth outcomes

Introduction

Background

Low birth weight, defined as <2500g, is a key indicator of maternal and child health. Compared to provincial and national rates in 2004 (6.4% and 5.9% respectively), the Calgary Health Region's low birth rate is significantly elevated at 7.1% (Child Health Surveillance Project Data Group, 2005). As a result, the Healthy Babies department established the Healthy Pregnancy Weight (HPW) project to focus on modifiable risk factors attributable to maternal weight. These factors include low pre-pregnancy body mass index and inadequate weight gain during pregnancy that are associated with poor perinatal outcomes, including intrauterine growth retardation, small for gestational age infants, and preterm birth (Conti et al. 1998, Bracero & Byrne 1998, Cnattingius 1998, Abraham et al. 1994, Schieve et al. 2000). Although research suggests that prenatal weight gain is an important determinant of fetal growth, only 30-40% of women gain within the Institute of Medicine's recommended ranges (Hickey, 2000). Health Canada's estimates of the proportion of women underweight and the reported 2003 Calgary statistics of women who are overweight or obese, indicate that a large proportion of women in the Calgary Health Region require specific, individualized maternal weight gain guidance (M. Johnson, personal communication, 2007, February 15).

Purpose of the Evaluation

The purpose of this evaluation is to assess the Prenatal Health Professionals (PHP's) perceived value of the Healthy Pregnancy Weight (HPW) package. The HPW package was designed and developed as a resource for PHP's to support gestational weight gain recommendations, prenatal weight assessments, and nutritional referrals.

In August, 2007, the HPW staff distributed 840 HPW packages to Prenatal Health Professionals (PHPs) in the Calgary Health Region. The HPW staff followed-up with approximately 40 of the 840 PHP offices through telephone and/or face to face contact.

The package included the following tools and resources:

- Brochure "A Healthy Baby is Worth the Weight"
- Singleton Prenatal Weight Gain Graph
- Poster "Healthy Weight Gain is an Important Part of Pregnancy"
- Prenatal Nutrition Referral List
- BMI Wheel for Optimal Maternal Weight

A process evaluation approach was used to explore the outputs and short-term outcomes of the project. The intermediate and long-term outcomes of the program were not evaluated as the PHP offices have not had sufficient time to routinize and adopt the HPW tools.

Evaluation Questions

In consultation with the HPW staff and Healthy Babies Manager, the following key evaluation questions were identified:

1. What outputs have been generated through the HPW project?
2. Has PHP's awareness of maternal weight research increased as a result of HPW project activities?
3. Has PHP's awareness of maternal weight tools increased as a result of the development and distribution of the HPW package?
4. Has PHP's awareness of available nutritional referrals in the community increased as a result of HPW staff consults and information in the HPW package?
5. What is the initial perceived value of the HWP package by PHP's?

Project Description

The Healthy Pregnancy Weight (HPW) project was funded to promote awareness of healthy maternal BMI (body mass index) and optimal gestational weight gain among women in the Calgary Health Region. Both poor weight gain and excessive weight in pregnancy are associated with negative pregnancy and birth outcomes and thus were equally addressed in this project.

The design of the Healthy Pregnancy Weight project was influenced by a community assessment conducted between 2002 and 2006. Numerous literature reviews, focus groups with women and health care professionals, review of similar programs operating in Kelowna, B.C. and Denver, Colorado, and an evaluability assessment and logic model (Appendix A) were completed as part of the formative process. The HPW project targeted both prenatal health professionals (PHP) such as family physicians, obstetricians /gynaecologists and midwives, and the general public about optimal prenatal weight gain.

Project staffing resources included two part-time HPW Project Coordinators supervised by the Manager - Healthy Babies. As previously stated, numerous women and health care professionals within the Calgary Health Region contributed to the formulation of the HPW project. The HPW project has operated for eighteen months with funding provided by 3 Cheers for the Early Years. The project utilized a steering committee comprised of mainly Calgary Health Region health professionals to assist with project decision making.

The goal of the Healthy Pregnancy Weight project was to improve birth outcomes attributed to optimal maternal weight in the Calgary Health Region. The long-term outcomes of the project were (1) PHP's to adopt optimal maternal weight tools in their practice, (2) increase percentage of women who gain optimal amount of prenatal weight and, (3) increase access to prenatal nutrition services for pregnant women.

The following table highlights the key activities and outputs of the HPW project. The HPW staff primarily focused on activities and outputs that linked to the short-term outcomes of the project. The activities focused on opportunities for reflective learning, developing relationships with the PHP community, developing and disseminating optimal maternal weight tools, and increasing awareness of the importance of maternal weight. See Appendix B for a summary of the theoretical assumptions and linkages for the project.

Table 1: HPW Project Activities and Outputs

Activity	Outputs
Provide reflective learning opportunities for PHP's regarding optimal maternal weight gain	21 Presentations: <ul style="list-style-type: none"> • Community Health Clinics (8) • High River, Low Risk Obstetrics Group • UCMC Medical Clinics (2) • U of C, Community Health Sciences faculty • Grace Maternal Health and Low Risk Obstetrics group • South Maternity Care Clinic • Health Link staff • Healthy Moms, Healthy Babies • Local Midwives • Perinatal Educators • Banff Medical Clinic • Strathmore Medical Clinic Health Professional Conferences Booth (4x) Health professional articles (7x)
Develop relationship with the PHP community	HPW staff outreached and developed relationships with 102 urban physicians and 20 rural physicians
Develop and disseminate optimal maternal weight gain tools for PHPs	A HPW package was created that included a brochure, weight gain graph, poster, nutrition referral list and BMI Wheel 850 HPW package were mailed out to PHP's in August, 2007
Develop an awareness campaign to inform women about the importance of optimal maternal weight.	A Healthy Pregnancy Weight PSA was developed and aired 80 times on Global and City TV through November – December 2007.

Methodology

The methodology used in the HPW evaluation was a mixed qualitative and quantitative approach using an exploratory, one group, post-test only design. Prenatal Health Professionals were invited to participate in the evaluation of the HPW project by completing a survey (Appendix C).

As with all exploratory designs, this design is limited by not being able to determine casual relationships. The purpose of this design is only to explore the evaluation questions and possibly generate further questions to be explored later with more rigorous research designs.

Sample

The sample for this evaluation was generated through the HPW package distribution list provided by the HPW staff. The list included phone numbers of 155 PHP offices in the Calgary Health Region. All 155 PHP offices were contacted by phone to participate in the survey. The sample for PHP's included physicians, nurses, dieticians, educators, pharmacists and office administrative staff.

Data Collection

During the month of August, 2007, the HPW staff distributed a total of 850 HPW packages to 155 prenatal health professional offices through direct mail delivery. The HPW staff followed-up with approximately 40 of the 155 PHP offices through telephone and/or face to face contact to ensure they received the package and respond to any questions.

The HPW staff provided a contact list of PHP offices that had been mailed the HPW package. Each office was contacted first by phone, requesting they complete the survey over the phone or via fax. As most offices were very busy, fax was a preferred method.

After a period of two to three weeks, the offices that had not completed and returned the survey received a second phone call to serve as a reminder and to request completion. If the survey was not received after the second reminder call, they were considered to have refused participation and no further efforts were made to contact the offices.

Data Analysis

Descriptive statistics was used to generate frequencies and distributions for all categorical variables. Qualitative analysis was used to explore possible trends as recorded in the survey comments.

Results

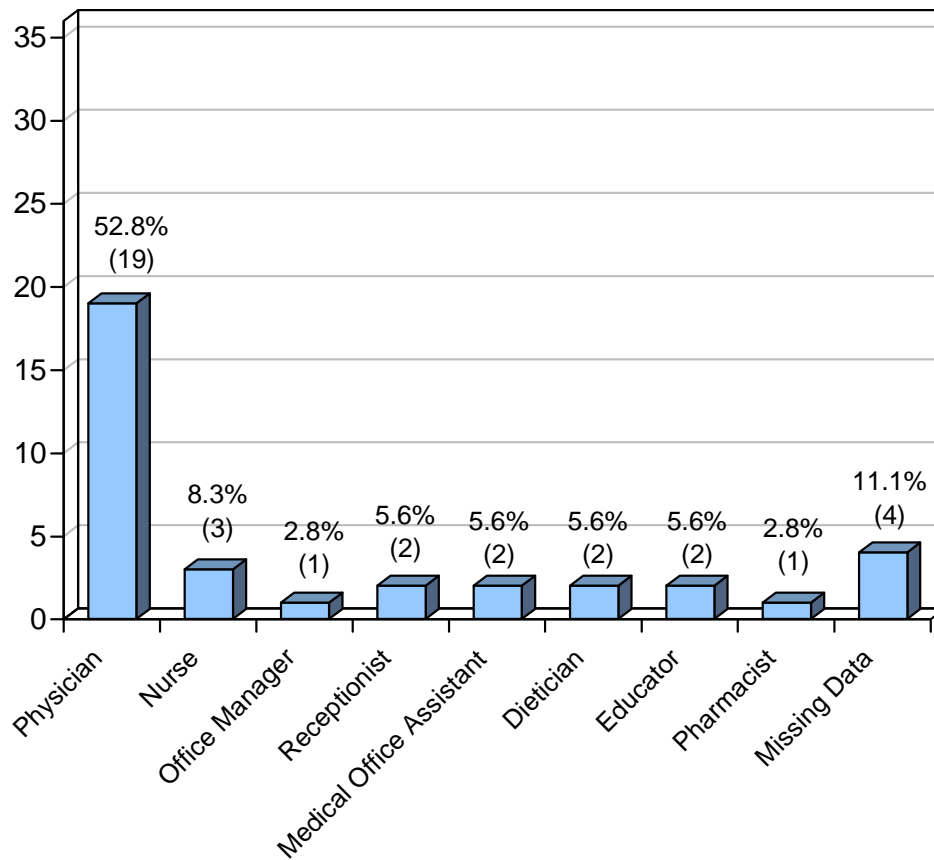
Prenatal Health Professionals Survey

Response Rate and Demographics

One hundred and fifty-five PHP offices were contacted to complete the HPW survey. Thirty-six of the 155 PHP offices completed the survey for a response rate of 23.2%.

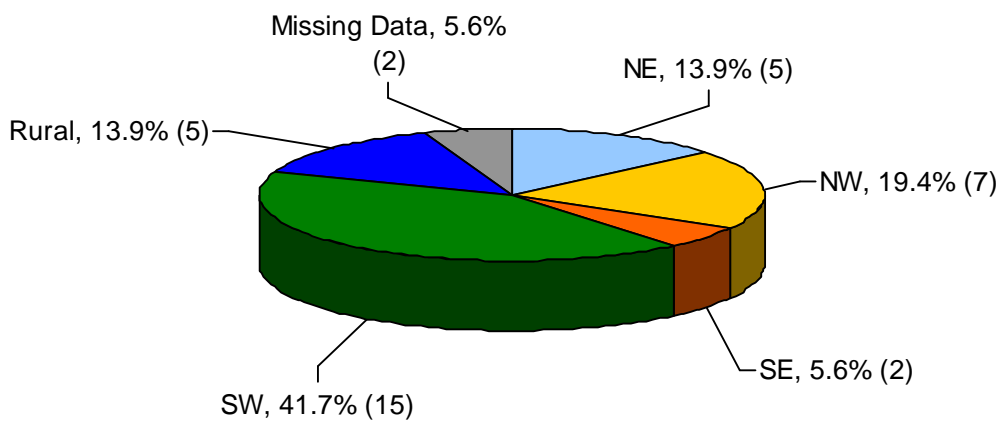
The majority of respondents to the survey were physicians (52.8%). Nurses, Office Manager, Receptionists, Office Assistant, Dietician, Educator and Pharmacist accounted for 36.1% of the respondents. Eleven percent of respondents did not identify their position on the survey.

Figure 1: Position/Title (n = 36)



Of the 36 respondents completing the survey, the highest number reported working in SW Calgary offices (41.7%), followed by NW Calgary (19.4%) and then NE Calgary and Rural (both at 13.9%). Two PHPs (5.6%) did not respond to this survey item. Response rate was strongest with rural offices at 83.3%. The response rate for SW offices was 29.4%, NW offices at 18.9%, SE offices at 12.5% and NE offices at 12.1%.

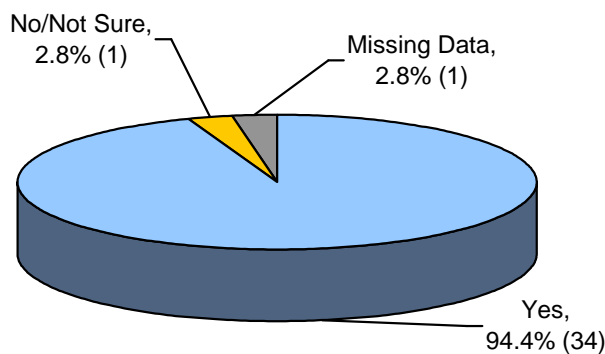
Figure 2: Office Location (n = 36)



Distribution and Review of the HPW package

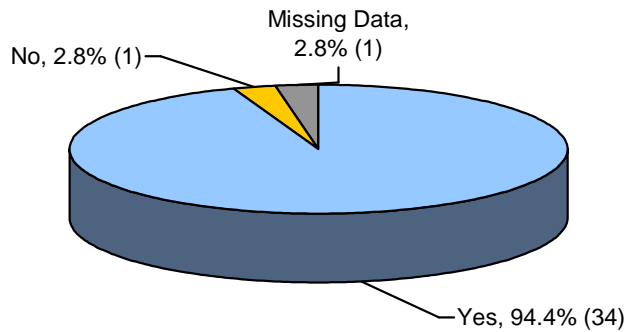
Of the 36 PHP offices that responded to the survey, 34 (94.4%) acknowledged receiving the HPW package. One respondent (2.8%) was not sure if they had received it.

Figure 3: Did your office receive the Healthy Pregnancy Weight package? (n = 36)



Of the 36 surveys completed, 34 respondents advised that they had the opportunity to review the Healthy Pregnancy Weight package. One PHP (2.8%) acknowledged they did not review the package and commented “no time” as the reason.

Figure 4: Have you had an opportunity to review the Healthy Pregnancy Weight package? (n = 36)



HPW Project’s Effectiveness in Enhancing Awareness

Prenatal Health Professionals were asked to rate several statements in regards to whether the HPW project enhanced their or, their patient’s awareness on specific areas relating to the HPW project goals.

Table 1: PHPs responses on the HPW project’s effectiveness in enhancing awareness (n=36)

The HPW project has	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Missing Data
enhanced your awareness of the importance of optimal maternal weight	7 (19.4%)	19 (52.8%)	3 (8.0%)	5 (14.0%)	0	2 (6.0%)
enhanced your awareness of research pertaining to optimal maternal weight	5 (13.9%)	23 (63.9%)	4 (11.1%)	2 (5.6%)	0	2 (5.6%)
enhanced your awareness of maternal weight tools	7 (19.4%)	23 (63.9%)	3 (8.3%)	1 (2.8%)	0	2 (5.6%)
enhanced your awareness of the nutritional referral resources in the community for pregnant women	5 (13.9%)	23 (63.9%)	4 (11.1%)	2 (5.6%)	0	2 (5.6%)

enhanced your patient's awareness of the importance of optimal maternal weight	5 (13.9%)	18 (50.0%)	9 (25.0%)	1 (2.8%)	1 (2.8%)	2 (5.6%)
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Seventy-two percent (26) of the respondents agreed or strongly agreed that the Healthy Pregnancy Weight project had enhanced their awareness of the importance of optimal maternal weight. Fourteen percent (5) of PHPs reported that the HPW project did not enhance their awareness level. Eight percent (3) of PHPs neither agreed nor disagreed with the question.

Approximately, seventy-seven percent (28) of respondents reported the HPW project had enhanced their awareness of research pertaining to optimal weight gain. Two PHPs (5.6%) indicated the project had no impact on their awareness of related research.

Twenty-eight PHPs (77.8%) reported that the HPW project had enhanced their awareness of available maternal weight tools. Less than 3% of respondents reported that the project had no impact on their awareness of maternal weight tools. Three PHPs (8.3%) reported they neither agreed nor disagreed with the statement.

Approximately, seventy-seven percent (28) of PHPs reported that their awareness of nutritional referral in the community had been enhanced through the HPW project. Two PHPs (5.6%) disagreed that the HPW project enhanced their awareness of nutritional referrals.

Prenatal Health Professionals were also asked if the HPW project had enhanced their patient's awareness of the importance of optimal maternal weight gain. The poster and brochure included in the HPW package as well as information shared by PHPs were key strategies to enhance the awareness of patients pertaining to optimal maternal weight. Approximately, sixty-three percent (23) of the PHPs agreed or strongly agreed that the HPW project had enhanced their patient's awareness of the importance of optimal weight gain. Less than six percent (5.6%) expressed that the HPW project had no impact on their patient's awareness. Twenty-five percent (9) of PHP's were neutral in their response, perhaps reflecting a sense that PHPs did not have enough information to assess their patient's awareness level.

Figure 5: Percentage of PHPs indicating they, “agreed” or “strongly agreed” that the HPW project enhanced their awareness of project goals. (n =36)

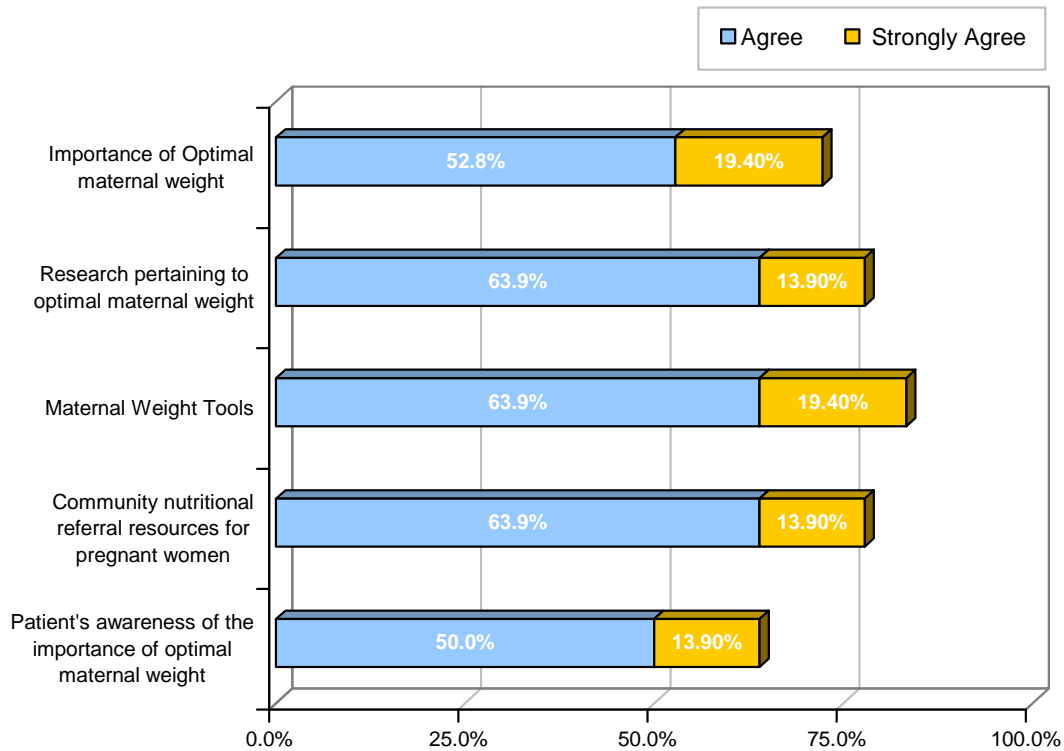


Table 2: PHP Comments

Topic	N (%)	Sample Comments
The HPW project has enhanced your awareness of the importance of optimal maternal weight	6 (16.7%)	<p><i>“Already had this knowledge”</i></p> <p><i>“Already knew this information, but we do agree with it”</i></p> <p><i>“Not as much on pre-pregnancy”</i></p> <p><i>“Our clinic already closely monitors maternal weight on all patients”</i></p> <p><i>“Patients ask for pamphlets”</i></p> <p><i>“We do exclusively prenatal care, so I feel very aware of this issue’s importance”</i></p>
The HPW project has enhanced your awareness of maternal weight tools	4 (11.1%)	<p><i>“Especially the BMI calculator.”</i></p> <p><i>“Thank you. I think it is great. The wheel is easy to use – resource poster excellent.”</i></p> <p><i>“Part of care already given.”</i></p> <p><i>“Type of tools need to be adapted for at risk clients.”</i></p>

The HPW project has enhanced your awareness of the nutritional referral resources in the community for pregnant women	4 (11.1%)	<i>“The nutrition referral list has helped a lot”</i> <i>“Health Link already has these resources”</i> <i>“I still seem to have difficulty finding nutritional counselling for patients”</i> <i>“Referral information wasn’t clear, causing the pre-natal clinic to believe they should refer clients to the Living Well clinic, which is only for patients with a chronic disease “</i>
The HPW project has enhanced your patient’s awareness of the importance of optimal maternal weight	5 (13.9%)	<i>“A couple of patients were interested”</i> <i>“Some patients already had this knowledge “</i> <i>“If they had exposure to it, it would, but the clients Health Link deals with are only over the phone”</i> <i>“It supported the information already given to patients”</i>

Perceived Value of the Healthy Pregnancy Weight Package

Using a scale of very valuable, somewhat valuable, not valuable and no response, PHPs were asked to assess the perceived value of the specific tools and resources provided in the HPW package.

Table 2: PHPs Perceived Value of the Healthy Pregnancy Weight Package

Overall, how would you rate the value of the HPW package as a resource for PHPs in the following areas:	Very Valuable	Somewhat Valuable	Not at all Valuable	No Response	Missing Data
To support pregnancy weight gain recommendations (BMI calculator)	12 (33.3%)	18 (50.0%)	1 (2.8%)	2 (5.6%)	3 (8.3%)
To support patient awareness of healthy weight gain in pregnancy (pamphlet/poster)	15 (41.7%)	14 (38.9%)	3 (8.3%)	2 (5.6%)	2 (5.6%)
To support nutritional referrals in pregnancy (Nutrition referral list)	15 (41.7%)	13 (36.1%)	4 (11.1%)	2 (5.6%)	2 (5.6%)
To support the monitoring of weight gain in pregnancy (weight gain graph/calculator)	15 (41.7%)	11 (30.6%)	3 (8.3%)	4 (11.1%)	3 (8.3%)

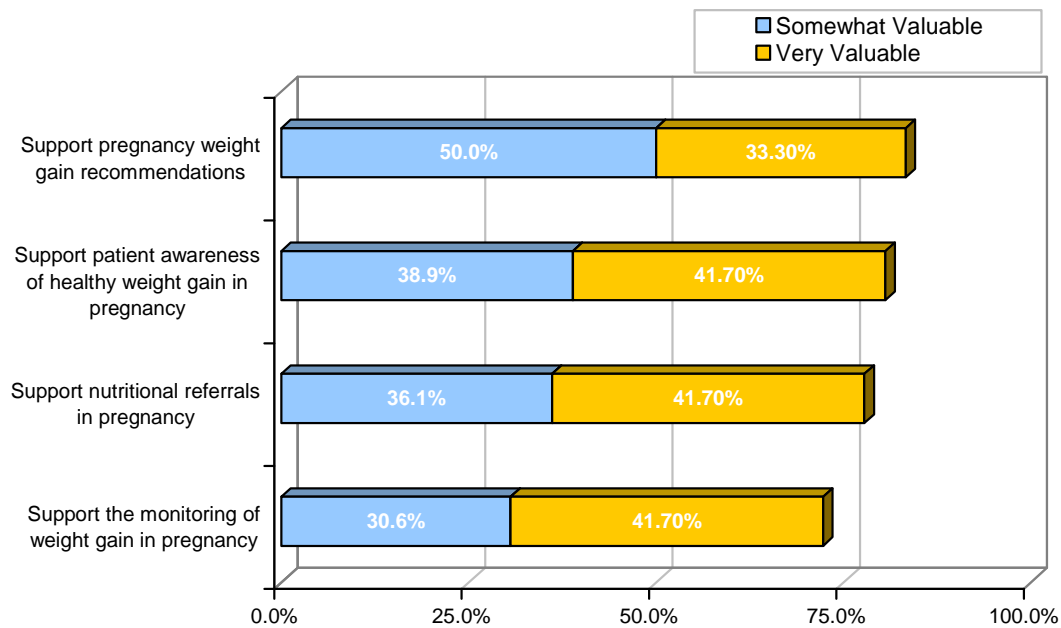
PHP's were asked of their perceived value of the HPW package to support pregnancy weight gain recommendations. Specifically, this question was referring to the BMI calculator within the HPW package. Approximately thirty-three percent (12) of PHPs reported the BMI calculator was very valuable in supporting pregnancy weight recommendations. Fifty percent (18) perceived the BMI calculator as somewhat valuable. One respondent (2.8%) did not feel the BMI calculator was valuable in supporting pregnancy weight gain recommendations. Two PHP's (5.6%) had no response to this survey item.

PHPs were also asked about their perceived value of the HPW package to support patient awareness of healthy weight gain in pregnancy. This survey item specified the HPW poster and brochure enclosed in the package. Fifteen PHPs (41.7%) indicated that the HPW poster and brochures was very valuable in supporting patient awareness of healthy weight gain in pregnancy. Another 14 PHPs (38.9%) reported the messaging tools were somewhat valuable, while 3 PHPs (8.3%) assessed the poster and brochures as not valuable. Two PHPs (5.6%) choose not to respond to this survey item.

PHPs were also asked about their perceived value of the HPW package to support nutritional referrals in pregnancy. This item related to the nutritional referral list provided to PHPs. Approximately, forty-one percent (15) of PHPs indicated that the nutritional referral list was very valuable in supporting nutritional referrals in pregnancy. Thirteen PHP's (36.1%) reported the nutritional referral list was somewhat valuable while one PHP's (2.8%) expressed the nutritional referral list was not valuable.

PHP's were asked if the HPW weight gain graph was valuable in supporting the monitoring of weight gain in pregnancy. Fifteen PHP's (41.7%) indicated the weight gain graph was valuable. Eleven PHPs (30.6%) reported the weight gain graph was somewhat valuable in monitoring weight gain in pregnancy. Three PHPs (8.3%) did not find the weight gain graph as valuable in monitoring weight.

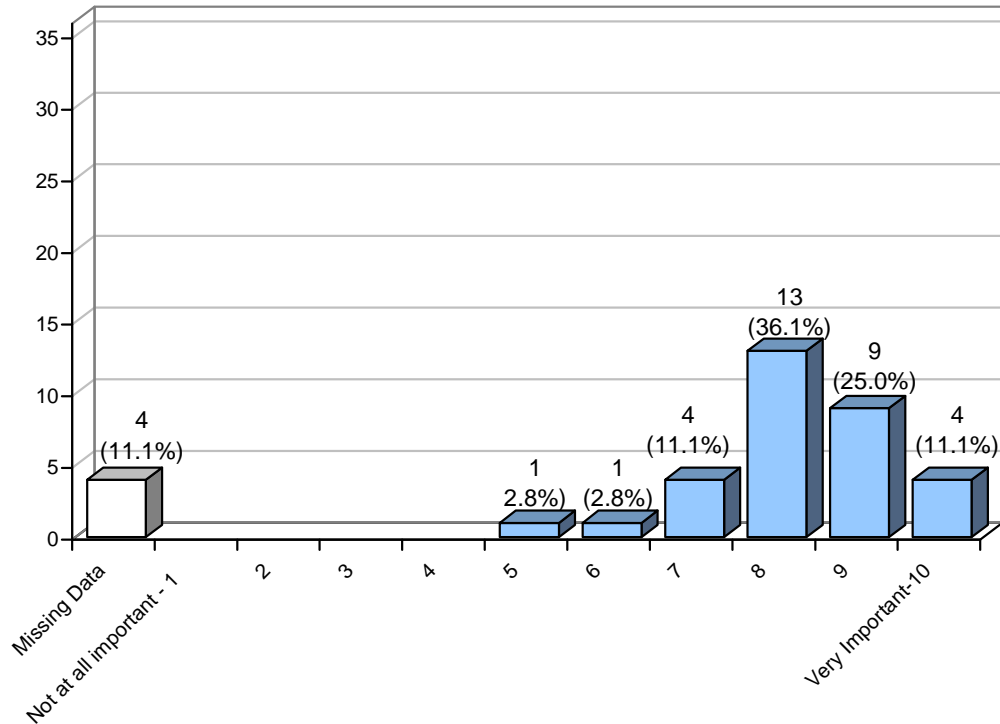
Figure 6: PHPs indicating the HPW package “Somewhat Valuable” or “Very Valuable” resource (n =36)



Optimal Maternal Weight and Birth Outcomes

PHPs also responded to the following survey question, “on a scale from 1 to 10, how important is optimal maternal weight as a perinatal factor relating to birth outcomes.” The scale used was, 1 “not at all important” to 10 “very important.” Twenty-six PHPs (72.2%) indicated that optimal maternal weight was an important perinatal factor to birth outcomes – with ratings between 8 and 10. Four PHPs (11.1%) rated optimal birth rate at a seven while two PHP’s (5.6%) rated it as 5 and 6. Four PHPs choose not to respond to this survey item. The mean score of the 32 PHPs that responded to this survey item was 8.25.

Figure 14: How would you rate the importance of optimal maternal weight as an important perinatal factor to birth outcomes? (n = 36)



Comments shared by PHPs included,

- *“Due to high risk factors such as drugs, abuse and homelessness, this is not as high “*
- *“For those with poor weight gain or high weight gain, very significant.*
- *“It’s up there with blood pressure and blood glucose levels.”*

General Comments

PHP’s were also asked if they would like to add any other general comments regarding the Healthy Pregnancy Weight project/package. Fourteen PHPs provided the following comments:

Table 2: Are there any other comments you would like to add regarding the Healthy Pregnancy Weight project? (n=14)

Category	N	Sample Comments
Positive Comments	n=7 (50.0%)	<p><i>“Very useful!”</i></p> <p><i>“Family Physicians will find it useful for counselling patients, excellent resources.”</i></p> <p><i>“Thank you 😊”</i></p> <p><i>“The package is a good supplement to information and education already given.”</i></p> <p><i>“Good package.”</i></p> <p><i>“Nutrition referral list was very helpful.”</i></p> <p><i>“Good physicians are an important resource and it’s important for them to know this information. This package has been a great sign post for the centre.”</i></p>
Suggestions	n=3 (21.4%)	<p><i>“Best Beginnings cards.”</i></p> <p><i>“Chart/graph is difficult to negotiate and does not tell me about change in BMI later on in pregnancy.”</i></p> <p><i>“Dawn Peacock’s name should be on the poster and/or put more clearly on the nutrition list to encourage proper referrals.”</i></p>
Other Comments	n=4 (28.6%)	<p><i>“These tools were already being used monthly, so their value as a new resource is a bit lower.”</i></p> <p><i>“Some women were overwhelmed by all the information, but others were fine. Personally I think it’s very useful, but you have to catch women at the right time. “</i></p>

Suggestions on Strategies to Disseminate Information to Physicians

Participants were asked if they had any ideas on strategies to distribute this type of information to physicians. Nine PHPs provided the following suggestions:

Table 3: Do you have any suggestions on strategies to effectively disseminate project information like Healthy Pregnancy Weight to physicians? (n=9)

Category	N	Sample Comments
Suggestions	n=7 (77.8%)	<p><i>"I felt mail out with pamphlet, nutrition handouts, BMI calculator all helpful handouts."</i></p> <p><i>"Fax"</i></p> <p><i>"Try Physician's Digest or other online tools/electronic marketing. Simplify the process, for example by making sure Health Link has the correct information, and visit all pre natal clinics."</i></p> <p><i>"Go through primary care networks. Use the internet, rather than having more paper around the office. "</i></p> <p><i>"Include the package in the book "From Here Until Maternity" "</i></p> <p><i>"Meeting with physicians if they're willing to, or give them free dinner or something to motivate them to give up time."</i></p> <p><i>"Separate the 3 graphs and only put one appropriate one in each chart – MOST women don't have a clue about their pre-pregnancy weight so the first concounter weight is used."</i></p>
Other Comments	n=2 (22.2%)	<p><i>"Whatever works for the doctors. "</i></p> <p><i>"The presentation makes a big difference."</i></p>

Discussion

As previously stated, the focus of this evaluation was on the following short-term outcomes of the HPW project: (1) increased awareness of maternal weight research, and (2) increased awareness of maternal weight tools. The target group was Prenatal Health Professionals in the Calgary Health Region.

Survey results indicate that the HPW project has had some positive impact on PHPs awareness of maternal weight research. Seventy-two percent of PHPs agreed or strongly agreed that the HPW project has enhanced their awareness of the importance of optimal maternal weight. However, it is not clear if the increase in awareness can be attributed to reviewing the HPW package, participation in a HPW presentation or a combination of the two strategies. Twenty-two percent of PHPs were neutral or disagreed that the HPW Project enhanced their awareness of the importance of optimal maternal weight. The PHPs that were neutral or disagreed indicated they already had this knowledge, agree that it is important and currently monitor maternal weight.

Patient awareness of the importance of optimal maternal weight appeared to have also been impacted by the HPW project. Approximately 64% of PHPs indicated that the HPW project had impact on their patients. This would suggest that PHPs were reinforcing to their patients the importance of optimal maternal weight and/or patients are reviewing the HPW material (brochure/poster). Twenty-five percent of PHPs were neutral on this subject, while approximately 8% of PHP did not feel the project impacted their patient's awareness of optimal maternity weight. It should be noted that at the time of the administration of the survey, the HPW Public Service Announcement video was aired on Global TV and CITY TV. The HPW PSA was another strategy in enhancing the awareness of women about the importance of optimal weight gain during pregnancy. However, due to the timing of the release of the PSA, the impact of the PSA was not assessed for this evaluation.

Survey results also indicate that the HPW project may have had some impact on the awareness level of available maternal weight tools. Eighty-three percent of PHPs surveyed indicated that the HPW project had enhanced their awareness of maternal weight tools. This suggests that the distribution of the HPW package was effective and that PHPs are aware that these tools and resources are available to them. Approximately 11% of respondents were neutral or disagreed that they were any more aware of maternal weight tools. The uptake and consistent use of the HPW tools and resources was identified as a long-term outcome of the project and was not measured at this time.

As previously identified, the HPW package distributed to PHPs included a list of nutritional referral resources in the community for pregnant women. This was in response to prior key informant interviews in Calgary that identified physicians lacked information for making nutritional referrals. The survey results indicated that approximately 78% of respondents felt the HPW package has enhanced

their awareness of nutritional referral resources in the community for pregnant women. Approximately 6% of the respondents indicated that the HPW package did not help with enhancing their awareness. One PHP stated she/he was still having difficulty finding nutritional counselling for patients. Another PHP indicated the referral information was not clear. At the time of this report, four physicians made seven patient referrals for nutritional counselling with a registered dietician at the Women's Health Resource Center. Another nine patients made self referrals.

The Prenatal Health Professionals perceived value of the HPW package was quite positive. Approximately 83% of PHPs indicated the BMI calculator was somewhat valuable/very valuable in supporting pregnancy weight gain recommendations. The HPW brochure and poster was also perceived as somewhat valuable/very valuable by 78% of the respondents. The HPW weight gain graph and calculator was perceived as somewhat valuable/very valuable by 72% of the respondents. The survey results would suggest that the initial perception of the various tools and resources of the HPW package was valued by the PHPs. This is an important indicator for the potential uptake and adoption of the HPW tools and resources by PHPs.

Most of the PHPs that responded to the survey recognized the importance of optimal pregnancy weight as an important perinatal factor to birth outcomes. Excluding the missing data from four respondents, eighty-three percent of respondents rated optimal maternal weight as important/very important.

The PHP's did have a number of suggestions to improve dissemination of project information to physicians. Suggestions included the use of online tools, using the Primary Care Networks and/or including the material in the "From Here to Maternity" book. During the data collection process, many offices indicated that they already have too much paper around the office and were not sure of the survey getting lost. This supports the suggestion of exploring paperless/electronic development of the tools to increase uptake and utility.

Limitations

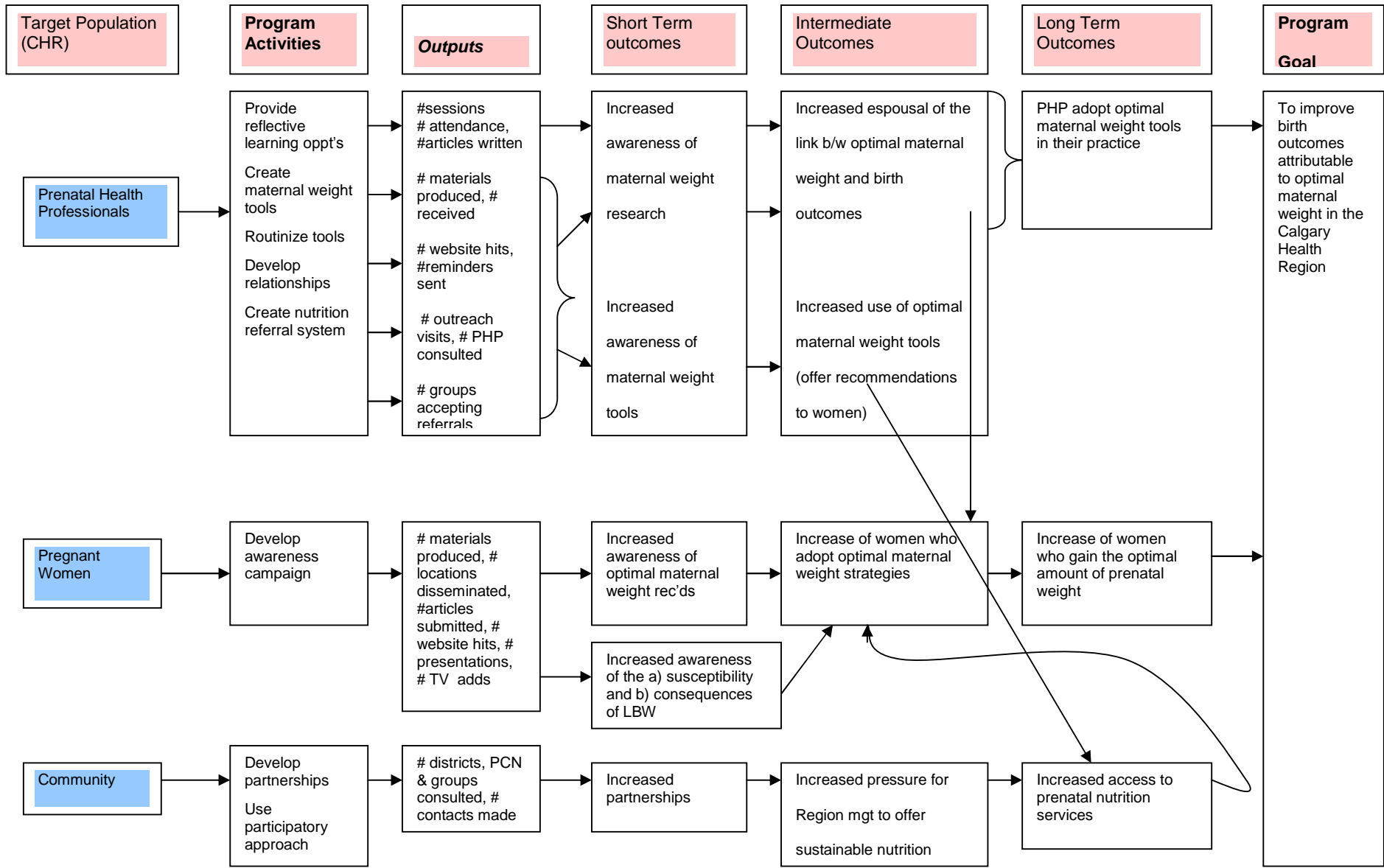
As previously mentioned in this report, the exploratory design used in this evaluation is limited by not being able to determine casual relationships. The purpose of this design is only to explore the evaluation questions and possibly generate further questions to be explored later with more rigorous research designs. A further limitation of this evaluation study was the low response rate of Prenatal Health Professionals completing the survey. With 36 respondents the margin of error was 15% at a 95% confidence level. The findings of this evaluation should be considered in context of the response rate.

Recommendations

The evaluation findings suggest that the Healthy Pregnancy Weight project was successful in achieving the short-term outcomes of increasing awareness of maternal weight research and increasing awareness of maternal weight tools. The Prenatal Health Professionals that responded to the survey indicated a preliminary sense of value for the HPW tools and resources that were developed and disseminated. Furthermore, the following recommendations are based on the evaluation findings.

1. For project staff to monitor and track the uptake and use of the HPW tools and resources by PHPs. This may be done when HPW staff contact PHPs for continued follow-up. (See recommendation 2)
2. For the HPW project staff to continue to follow-up with PHPs by phone and face-to-face contact to support the routinizing and use of the HPW package while promoting the linkage between optimal maternal weight and birth outcomes.
3. To continue utilizing the Primary Care Networks to disseminate information and resources to physicians/PHPs.
4. To explore (1) the development of an online version of the HPW package and (2) incorporating the HPW information in current resources such as, "From Here to Maternity".

Appendix A: Healthy Pregnancy Weight Logic Model



Inputs:

Funding, project staff, PBI committee, resources, conference attendance

Appendix B: Theoretical Assumptions and Linkages

Program Activities	Theoretical Assumptions/Links
Provide reflective learning opportunities for prenatal health professionals (PHP) regarding optimal maternal weight evidence	<ul style="list-style-type: none"> ▪ Key informant interviews suggest that maternal weight recommendations are not generally followed by Calgary physicians but are endorsed by Health Canada, the society of obs/gyn and the college of family physicians of Canada ▪ Local focus groups revealed that PHP feel pregnancy weight is a low priority compared to other factors. ▪ Alberta Perinatal Health Program (APHP) promotes reflective learning to influence PHP practice (www.aphp.ca) ▪ Brief, interactive sessions (outreach visits) can influence PHP practice {better birthing initiative, Obrien et al (2001) & Flottorp et al. (2003)}. <p><i>By providing reflective learning opportunities to PHP, they will espouse the link between optimal maternal weight and birth outcomes</i></p>
Create optimal maternal weight tools for professional practice	<ul style="list-style-type: none"> ▪ There is a lack of local tools and strategies to deal with maternal weight issues ▪ Calgary focus groups revealed that women trust and expect PHP's to recommend optimal maternal weight to them ▪ Research suggests PHP need to place greater emphasis on assessing optimal maternal weight and providing specific recommendations – {Abraham (2001) & Rice (1995)} <p><i>By providing tools to PHP, it will increase optimal weight recommendations to prenatal patients</i></p>
Develop relationships with PHP community	<ul style="list-style-type: none"> ▪ Conducting focus groups, engage the target population and tailor local issues and barriers ((Colorado low birth weight program, & Shaw et al. (2005)) ▪ Opinion leaders can moderately promote evidence based practice -(Doumit et al, (2007) <p><i>By networking and developing relationships, it can influence PHP practice and encourage adoption of program tools.</i></p>
Offer support to routinize PHP office tools	<ul style="list-style-type: none"> ▪ Reminder systems keep the issue on the health agenda –Harvey (2001), Preston (1998) & Davis (1995) ▪ Self audit or audit & feedback mechanisms influence PHP practice particularly when base line adherence is low <p><i>By routinizing office tools, it will encourage use of maternal weight tools in practice.</i></p>
Develop an awareness campaign to inform women about the importance of optimal maternal weight and the strategies to achieve rec'ds	<ul style="list-style-type: none"> ▪ Although general awareness in the Calgary area for low birth weight risk factors was high (95-100%), optimal maternal weight was identified as a risk factor by only 57% (demonstrates a need to shift awareness levels) ▪ There are a vast number of Canadian prenatal nutrition resources, however few directly attend to maternal weight and body image ▪ Social marketing may assist to decrease women's sensitivity to weight gain and body dissatisfaction while pregnant ▪ Multi-strategies (awareness campaigns, influencing provider practices, re-orientating prenatal health and nutrition services) assist to achieve optimal maternal weight recommendations ▪ Awareness strategy is based on similar programs in Colorado and Kelowna, BC (not yet evaluated) <p><i>By implementing multiple strategies, it will encourage women to adopt optimum weight recommendations.</i></p>
Create Prenatal nutrition referral system	<ul style="list-style-type: none"> ▪ Key informant interviews in Calgary stated that physicians lack counseling time and do not know how to refer for nutritional counseling ▪ Research demonstrates the need for specific, individualized gestational weight recommendations and to provide women with tools to achieve appropriate weight gain with proper nutrition & nutrition referrals - Vause, 2006, Calgary Health Region (2003-2005) environmental scan & literature review

	<ul style="list-style-type: none"> ▪ There is a current lack of local nutrition services for prenatal weight issues ▪ It is unknown how many pregnant women in the Region do not have a PHP but they may seek help from health link <p><i>By providing individualized nutrition counseling early in pregnancy, it will assist women to achieve their weight gain goals.</i></p>
Develop new partnerships and low birth weight community linkages	<ul style="list-style-type: none"> ▪ Partnerships can increase local support for permanent community prenatal services ▪ Partnerships are a key health promotion principle and should be included in program plan (Ottawa Charter, 1986) ▪ Comprehensive Health promotion weight strategies include healthy eating, physical activity and body image issues (AB healthy living framework) which align with comprehensive Provincial strategies <p><i>By creating new partnerships, it will assist program dissemination, sustainability and political pressure to offer permanent prenatal services.</i></p>
Use participatory planning approach	<ul style="list-style-type: none"> • Social districts with low SES have higher rates of negative pregnancy outcomes (Alberta Perinatal task report (2004), Calgary Health Region medical officer of health (2006) • Including the target population assures program materials and direction is supportive of their needs (Participation is a key health promotion principle, Ottawa Charter (1986) <p><i>By using a participatory approach, it can equalize opportunities for positive birth outcomes and reduce disparities.</i></p>

Appendix C: Healthy Pregnancy Weight Survey

Healthy Pregnancy Weight Survey

PHP contact name _____

Position 1 Physician 2 Nurse 3 Office Manager 4 Receptionist

PHP office _____

Location: 1 NE 2 NW
3 SE 4 SW
5 Rural

Using the scale of Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, and Strongly Disagree please respond to the following questions. Please note that the term *optimal maternal weight* refers to maternal weight before and during pregnancy.

1. The HPW project has **enhanced your awareness** of the *importance* of optimal maternal weight.

1 Strongly Agree 2 Agree 3 Neither A nor D 4 Disagree
5 Strongly Disagree

Comments _____

2. The HPW project has **enhanced your patient's awareness** of the *importance* of optimal maternal weight.

1 Strongly Agree 2 Agree 3 Neither A nor D 4 Disagree
5 Strongly Disagree

Comments _____

3. The HPW package has **enhanced your awareness** of *research* pertaining to optimal maternal weight.

1 Strongly Agree 2 Agree 3 Neither A nor D 4 Disagree
5 Strongly Disagree

Comments _____

4. The HPW project has **enhanced your awareness** of maternal weight *tools*. (BMI Calculator, Weight Gain Graph, Pamphlets, Nutrition Referral List)

1 Strongly Agree 2 Agree 3 Neither A nor D 4 Disagree
5 Strongly Disagree

Comments _____

Appendix D:

Clinics:

- 71st Avenue Clinic
- Airdrie Medical Clinic
- Brentwood Family Medical Centre
- Chaparral
- Elbow Drive Clinic
- Foothills Hospital
- Health Link
- Living Well Diabetes Center & South Calgary Health Centre
- Marlborough Clinic
- Maternity Care Clinic
- Midwife Education Session
- Nutrition Helpline & Women's Health
- OB/GYN Clinic
- Okotoks Health & Wellness
- Simons Valley Family Clinic
- South Maternity & Family Practice Group
- Southport Pharmacy
- Strathcona Clinic
- U of C Women's Resource Centre

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