Diabetes and Pregnancy Project

Update for WW Diabetes Network

Wednesday, May 21st, 2014

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Key Research Findings for GDM

- GDM is most common medical complication of pregnancy
- GDM affects between 3 to 20% of pregnancies in Canada
- Increasing rates to as high as 8.5 % -13% among Native Canadians and Cree women[1,2]
- Women from East Asia had a 2 times higher risk of developing GDM than their Canadian-born counterparts (Gestational Diabetes Among Immigrant Women , ICES 2011. www.ices.on.ca)
- Women with GDM have a 20 % risk of developing T2DM within 9 years postpartum
- Untreated GDM increases the risk of having a child who will be obese at age 5-7 years
- Women with DM are more than twice as likely to have a diagnosis of pre-eclampsia or hypertension

Outcome Data for WWLHIN (2007-08)

- Review of WWLHIN Outcome Data showed:
  - Women with GDM, Type 1 and Type 2:
    - were more likely to delivery by C-section (42.5%) than women without diabetes (25.2%)
    - were more than three times as likely to have a diagnosis of preeclampsia
    - were more than four times as likely to have hypertension
  - 46% of the babies were born with macrosomia (>3500g)
  - 1.4% of the babies were born with shoulder dystocia
  - % of infants born to women with GDM/without who were delivered pre-maturely was 11.6% vs. to 6.2% (The POWER study)
- % of women with diabetes visiting specialists (Endocrinologist or Internist) during pregnancy was 63% (ICES)
- % of women with/without diabetes having retinal exam during pregnancy was 31% vs. 12%
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Highlights from the BORN Ontario, 2007-2009
Highlights from the POWER study, 2002/3 – 2006/7
Pregnancy in Women with Diabetes, ICES, 1997-2000

Findings from Focus Groups, Inventories of Service, and Stakeholder Interviews

- There was consistency with screening for gestational diabetes but not for management
  - Need to :
    - develop standards for:
      - management of diabetes in pregnancy
        - gestational diabetes
        - Type 1
        - Type 2
    - improve patient flow between primary care, obstetricians, specialists and diabetes programs
    - Improve post-partum follow-up care
    - Proactively plan for new CPGs in 2013 (anticipated tighter diagnostic criteria)

Previous Work of RCC

Diabetes in Pregnancy Advisory Network Members 2011-12

Debbie Hollahan (Chairperson, DRCC), Regional Director, DRCC
Dr. Nadira Husein (Co-Chair), Endocrinologist Kitchener/Waterloo, DRCC
Sarah Christilaw (Co-Chair), Coordinator Diabetes Best Practices/System Design, DRCC
Elena Oreschina, Health Information Analyst, DRCC
Wendy Graham, Mentor, DRCC
Katie Abbott, Guelph Midwives
Asil Al-Shaibani, Dietitian,Grand River Hospital
Anka Brozic, Manager, Waterloo Region Community Diabetes Programs
Dr. Peter Clarke, Endocrinologist, Centre, East and North Wellington
JoAnne Costello, NP, Guelph FHT, DRCC
Kim Crawford, NP, Guelph General Hospital
Cara Croll, Dietitian, Louise Marshal/Palmerston Diabetes Education Centre
Jennifer DeGrandis-Graham, Dietitian, Palmerston Diabetes Education Centre
Nadine Duhill-Enns
Sharon Fernandez, Diabetes Nurse Educator, Guelph General Hospital Diabetes Education Centre
Trina Fitter, Dietitian, Groves Memorial Hospital Diabetes Education Centre
Adriana Fontaine, Guelph Midwives
Jill Gail, Grand River Hospital
Kelly Galbraith, Diabetes Nurse Educator, Grand River Hospital
Madlin Hopiavuori, Dietitian, Guelph General Hospital Diabetes Education Centre
Brittany Koster, North Wellington Health Care
Dr. Joanne Liutkus, Diabetes Specialist/Internal Medicine, Cambridge
Corinne Malette-Wolter Diabetes Nurse Educator, Groves Memorial Hospital Diabetes Education Centre
Diana McDougall, Diabetes Nurse Educator, Grand River Hospital Diabetes Education Centre
Sadia Mian, Dietitian, Cambridge Memorial Hospital Diabetes Education Centre
Dr. Cam Purdon, Endocrinologist, Guelph
Dr. Rob Norrie, Primary Care Physician, DRCC, Upper Grand FHT, Fergus
Lori Papadopoulos, Dietitian, Cambridge Memorial Hospital Diabetes Education Centre
Dr. Luciana Parlea, Endocrinologist, Kitchener/Waterloo
Dr. Dan Reilly, Obstetrician/Gynecologist, Fergus
Mitra Sadeghipour, Family Midwifery Care of Guelph
Karen Sonnenberg, Diabetes Nurse Educator, Cambridge Memorial Hospital Diabetes Education Centre
Nicole Tarr, Grand River Hospital, Dietitian
Nisha Walibhai, Manager Cambridge Memorial Hospital Diabetes Education Centre
Amy Waugh, Dietitian, Upper Grand FHT, Fergus, Elora

Goals and Objectives

- Goal:
  - To provide a streamlined, multi-disciplinary approach for women with **diabetes and pregnancy** living in Waterloo Wellington Region to achieve healthy outcomes for mother and child.

- Objectives:
  - To develop standards for consistent management
  - To improve maternal and neonatal outcomes
  - To prevent the onset of Type 2 diabetes

What we heard was needed:

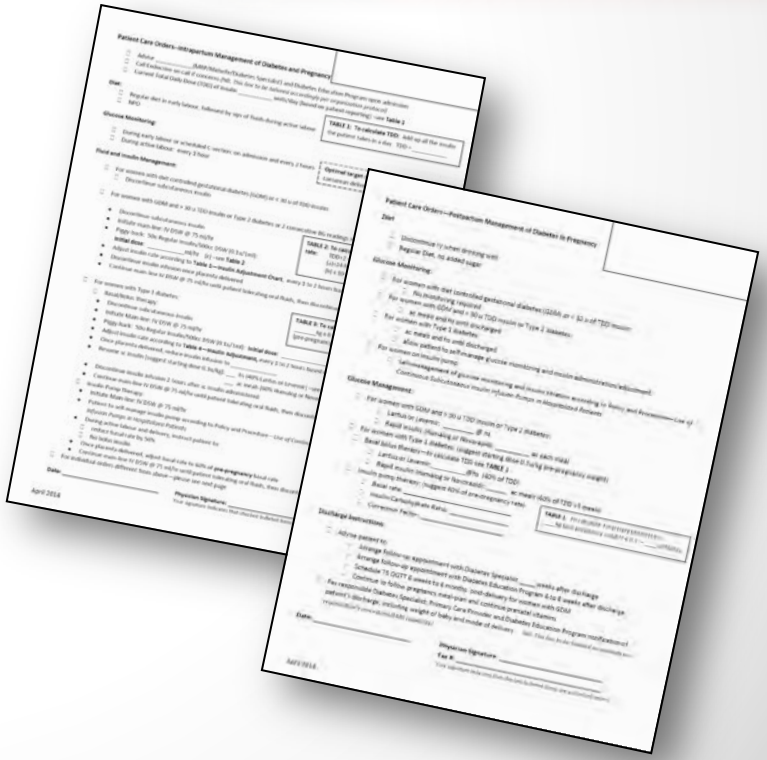
- Components:
  - Pathway (from preconception to postpartum)
  - Physician/Midwife tools
    - Pocket Cards
    - Physician Orders
  - Diabetes Educator tools
    - Core Content
  - Patient Tools
    - Patient Passport
  - Promotional Pieces
  - Consistent “model” of care
    - Schedule
    - Documentation forms

New Funding from LHIN

- One time funding (December 2013 to March 2014) approved by LHIN
- Complete previous work
- Team:
  - Dr. Liutkus, Dr. Husein
  - Wendy Graham
  - Kelly McCammon
  - Nicole VanGerwen
  - Debbie Hollahan
  - Team from Fergus (Corinne Malette-Wolter, Trina Fitter, Amy Waugh)
  - GRH DEC
  - External reviewers

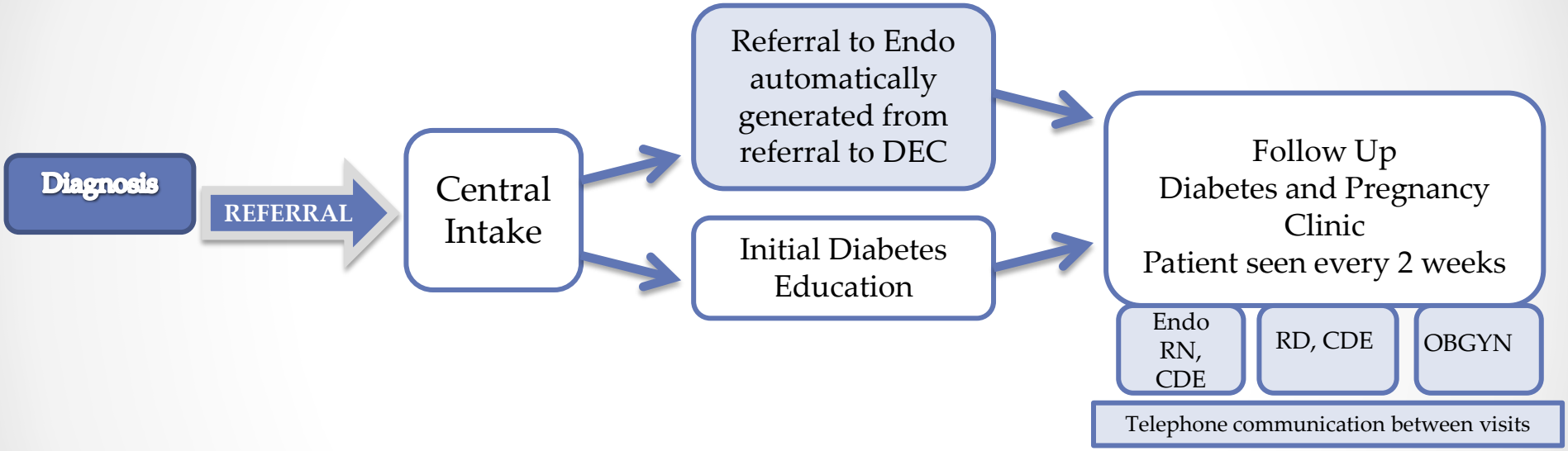
What we developed:

- Components:
  - Pathway (from preconception to postpartum)
  - Physician/Midwife tools
    - Pocket Cards
    - Physician Orders
  - Diabetes Educator tools
    - Core Content
    - Resources
  - Patient Tools
    - Patient Booklet
  - Promotional Pieces
  - Consistent “model” of care
    - Schedule
    - Documentation forms



Diabetes and Pregnancy Clinic

Model of Care in an Urban Area



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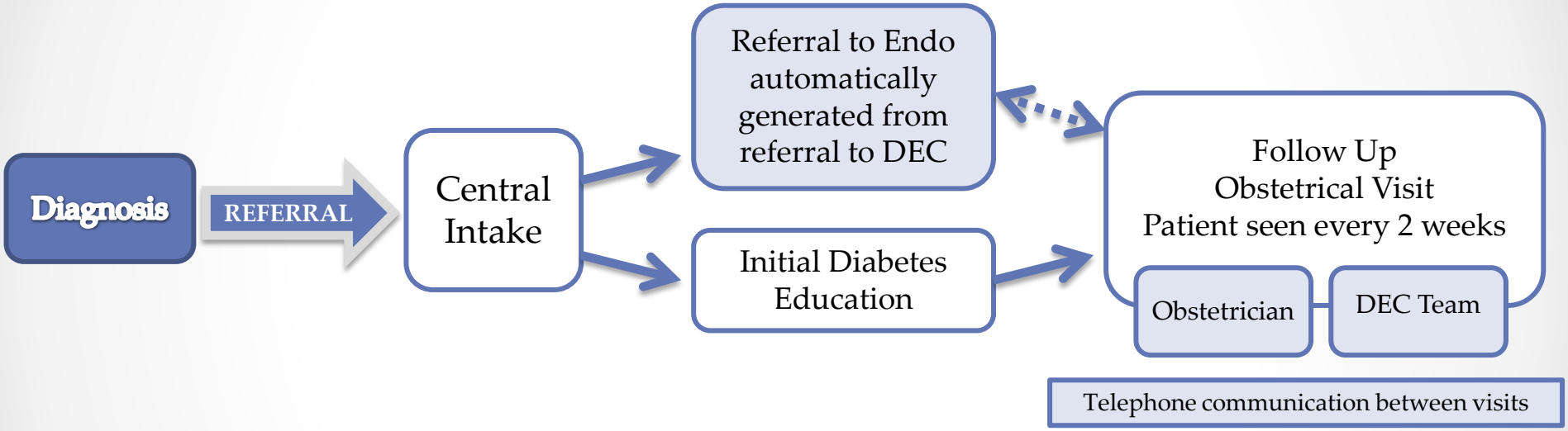
Model of Care in a Rural Area



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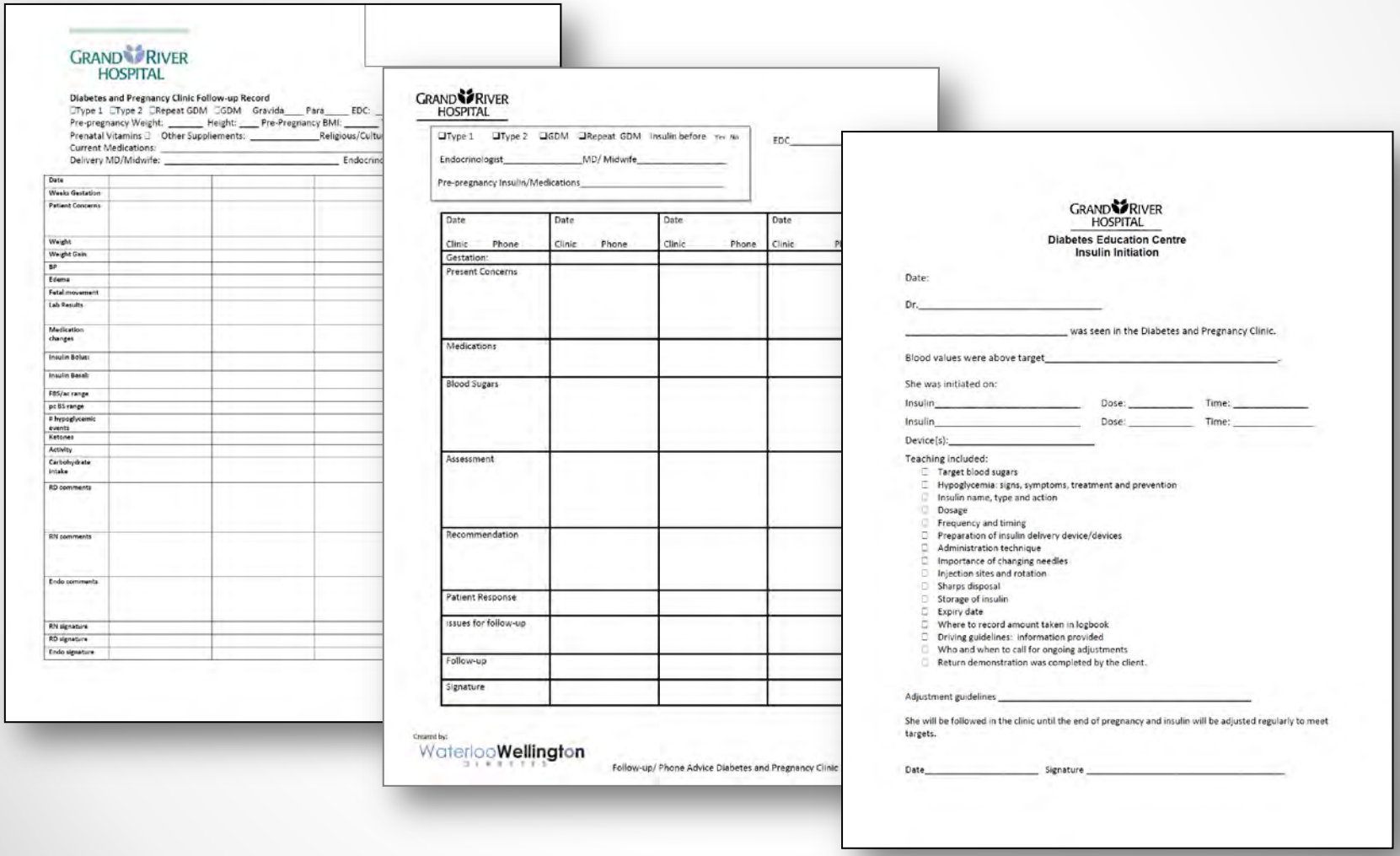
Sample Schedule

6 New patients
11 Follow-up
New #1- refers to a patient's first visit to the clinic after education. It involves an assessment with the endocrinologist and dietitian. The Nurse is in with the Endocrinologist and available to teach insulin on site. Insulin teaching will be done in another office.
FU #1-refers to a patient returning for a follow-up visit with diabetes team and endocrinologist.

Time	Office:RD	Office: Endo/RN	Office: RN Insulin
8:00	*New #1*	New #2	*Nurse available for Insulin start*
8:10	*New #1*	New #2	
8:20	FU#1	*New #1*	
8:30	New #2	*New #1*	
8:40	New #2	FU #1	
8:50	FU#2	FU# 3	
9:00	FU#3	FU#2	
9:10	New # 3	FU# 4	
9:20	New # 3	FU#5	
9:30	FU#4	New #3	
9:40	FU #5	New # 3	
9:50	New #4	FU#6	
10:00	New #4	Fu #7	
10:10	Fu#6	New #4	
10:20	New # 5	New #4	
10:30	New # 5	FU#8	
10:40	FU#7	New#5	
10:50	FU#8	New # 5	
11:00	*New #6*	FU#9	
11:10	*New #6*	FU#10	
11:20	FU#9	*New #6*	
11:30	FU#11	*New #6*	
11:40	FU#10	FU#11	

Forms



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Diabetes and Pregnancy Clinic Follow-up Record

☐Type 1 ☐Type 2 ☐Repeat GDM ☐GDM Gravida____ Para____ EDC: _____

Pre-pregnancy Weight: _____ Height: ____ Pre-Pregnancy BMI: _____

Prenatal Vitamins ☐ Other Supplements: _____Religious/Cultu

Current Medications: _____

Delivery MD/Midwife: _____ Endocrinc

Date			
Weeks Gestation			
Patient Concerns			
Weight			
Weight Gain			
BP			
Edema			
Fetal movement			
Lab Results			
Medication changes			
Insulin Bolus:			
Insulin Basal:			
FBS/ac range			
pc BS range			
# hypoglycemic events			
Ketones			
Activity			
Carbohydrate intake			
RD comments			
RN comments			
Endo comments			
RN signature			
RD signature			
Endo signature			

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☐Type 1 ☐Type 2 ☐GDM ☐Repeat GDM Insulin before Yes No

EDC_____

Endocrinologist_____MD/ Midwife_____

Pre-pregnancy Insulin/Medications_____

Date Clinic Phone	Date Clinic Phone	Date Clinic Phone	Date Clinic P
Gestation:			
Present Concerns			
Medications			
Blood Sugars			
Assessment			
Recommendation			
Patient Response			
Issues for follow-up			
Follow-up			
Signature			

Created by:
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Follow-up/ Phone Advice Diabetes and Pregnancy Clinic

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Diabetes Education Centre
Insulin Initiation

Date:

Dr._____

_____ was seen in the Diabetes and Pregnancy Clinic.

Blood values were above target_____.

She was initiated on:

Insulin_____ Dose: _____ Time: _____

Insulin_____ Dose: _____ Time: _____

Device(s):_____

Teaching included:

- ☐ Target blood sugars
- ☐ Hypoglycemia: signs, symptoms, treatment and prevention
- ☐ Insulin name, type and action
- ☐ Dosage
- ☐ Frequency and timing
- ☐ Preparation of insulin delivery device/devices
- ☐ Administration technique
- ☐ Importance of changing needles
- ☐ Injection sites and rotation
- ☐ Sharps disposal
- ☐ Storage of insulin
- ☐ Expiry date
- ☐ Where to record amount taken in logbook
- ☐ Driving guidelines: information provided
- ☐ Who and when to call for ongoing adjustments
- ☐ Return demonstration was completed by the client.

Adjustment guidelines _____

She will be followed in the clinic until the end of pregnancy and insulin will be adjusted regularly to meet targets.

Date_____ Signature _____

Dissemination/Roll-Out

- DES meeting May 28th
- Mail-out to all physicians/midwives and specialists
- Have shared with Brantford and Central West
- Submitted abstract to CDA national conference

Evaluation

- Survey to all Diabetes Educators, Primary Care, OBS and midwives at 6 month and 1 year
- Patient evaluation of booklet in clinics
- Rely on hospitals for chart audits of success of orders
- Rely on LHIN for system data eg. BORN, Intellihealth etc.