The Early Detection and Risk Reduction Program for Women who have had Gestational Diabetes Mellitus (2004 Evaluation Report)

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EXECUTIVE SUMMARY

In July 2003 the Early Detection and Risk Reduction Program for Women who have had Gestational Diabetes Mellitus (GDM) was implemented in the Bentley region. The program was jointly implemented between the East Metropolitan Population Health Unit, Bentley Health Service (BHS) and the Canning Division of General Practice (CDGP).

In Western Australia GDM occurs during pregnancy in about 3–8% of women, however the figure is considered to be an underestimate (Health Department of Western Australia 1999; Oats and Beischer 1986). Research shows that women with a history of GDM are at risk of developing Type 2 diabetes in later life (Health Department of Western Australia 1999; Segal, Dalton et al. 1996). There is an increasing body of knowledge demonstrating that diabetes is a lifestyle condition which can be prevented.

The program began as a pilot with four divisions of general practice and three hospitals in 2000 and received national and state interest. The lessons learnt from the pilot were addressed to make the program applicable to health professionals and clients in the Bentley health service area.

The program aimed to decrease the incidence of Type 2 diabetes in women with a history of GDM. Various strategies were implemented to achieve this aim including:

- Developing and implementing a comprehensive discharge system in BHS Maternity Unit to facilitate referrals and screenings in the post partum period
- Increasing the capacity of midwives, child health nurses and general practitioners (GPs) to provide these women with relevant health risk reduction information.
- Increasing the capacity of GPs to regularly screen women who have had GDM.

An evaluation of the program was conducted using telephone interviews with clients who had delivered at BHS and with nominated program partner representatives. Surveys were disseminated to child health nurses, midwives and the CDGP.

Key outcomes highlight that the program was well received, straight forward and effectively integrated into routine practice. The program partners involved in the program demonstrated strong commitment to the pilot phase and have expressed commitment and interest to sustain the program.

RECOMMENDATIONS

It is recommended that:

- A forum be held with past, present and potential future partners to identify essential elements of the program versus those which can be modified to meet the context of the local area and organisations. The forum should also consider the implications of the pending health reform which distinguishes the north and south regions, and evaluation/monitoring requirements.
- The program is augmented with ongoing and multiple strategies in line with the principles of the Ottawa Charter and Jakarta Declaration as the provision of information resources alone are unlikely to promote healthy lifestyle behaviour changes amongst the primary target group. This should include developing and disseminating a 'healthy lifestyle' newsletter, and fostering strategic partnerships with local government and service organisations whose activities affect health outcomes (eg. working in partnership to promote access to physical activity programs and opportunities).
- Appropriate evaluation and monitoring mechanisms are in place to monitor program reach and effectiveness in the short, immediate and longer term.
- The initial screening message for Type 2 diabetes is modified from the six week check to between six to eight weeks post partum. Women need to be encouraged to have their initial and subsequent screenings for Type 2 diabetes by their regular GP.
- Changes are made to the GDM Take Home Pack. These should include inserting an explanatory note in the GDM Take Home Pack which outlines the purpose of each resource, including a 'Change of Address Form', placing a 'For GP' sticker on the GP letter and placing all resources into an envelope to promote ease of handling for clients and the health professionals disseminating the resources. The consent form for the healthy lifestyle data base is changed to include an item

asking women to identify who provided them with information about the GDM healthy lifestyle database (eg. GP, midwife, CHN).

- Maternal history of GDM is made available to CHNs through the birth notification system. This is key information that will enable CHNs to provide holistic care to clients and improve their capacity to identify the primary target group.
- Formal orientation systems are put in place to ensure that new staff members involved in implementing the GDM program are made aware of their role and responsibilities.
- Practice nurses are actively engaged in the program and trained to reinforce the importance of screening and healthy lifestyle behaviours.
- Explore the feasibility of enabling program resources to be down loaded from computer by GPs.
- Following the pilot phase the needs of Aboriginal groups are considered as a priority target group. Consultations with community leaders and the community are needed to ensure the program is relevant and culturally appropriate. The needs of other cultural groups will also need to be considered.

ABBREVIATIONS

BHS	Bentley Health Service
CALD	Culturally and linguistically diverse
CDGP	Canning Division of General Practice
CHC	Child Health Clinic
CHN/s	Child Health Nurse/s
CNM	Clinical Nurse Manager
CNS	Clinical Nurse Specialist
DPO	Diabetes Prevention Officer
EMPHU	East Metropolitan Population Health Unit
GDM	Gestational Diabetes Mellitus
GP/s	General Practitioner
MOU	Memorandum of Understanding

1.0 INTRODUCTION

In 2003 the Early Detection and Risk Reduction Program for Women who have had Gestational Diabetes Mellitus (GDM) was implemented in the Bentley health area. The program represented a combined initiative of the East Metropolitan Population Health Unit (EMPHU), Bentley Health Service (BHS) and Canning Division of General Practice (CDGP).

The program began as a pilot with four divisions of general practice and three hospitals in 2000 in the east metropolitan region and received national and state interest. There were no known programs prior to this time specifically designed to follow up women with a history of GDM who are at risk of developing Type 2 diabetes in later life. The lessons learnt from the original pilot program were addressed to make the program applicable to service providers in the Bentley health area.

An evaluation of the program was conducted in March 2004 to determine program satisfaction and awareness amongst target groups, program reach and impact. This report describes the results of the evaluation undertaken. Recommendations for the future direction of the program are also presented.

2.0 RATIONALE[1]

GDM is one of the most common medical complications of pregnancy. It is defined as 'carbohydrate intolerance of variable severity with onset or first recognition during pregnancy' (Hoffman, Nolan et al. 1998). Women with GDM are at elevated risk of numerous maternal health complications, and their infants are at elevated risk of death and morbidity (Dye, Knox et al. 1997).

The incidence of GDM is reported to be 6.3% in Anglo Celtic populations and up to 15% in higher risk populations. Populations at higher risk of developing GDM are also at higher risk of developing Type 2 diabetes, with more than 50% of Latino women in California developing diabetes within 5 years of GDM (Kjos, Peters et al.

[1] Taken from: Polley, A and Unsworth, M. 2002. The early detection and risk reduction program for women with a history of gestational diabetes mellitus. East Metropolitan Population Health Unit, Perth Western Australia.

1995). Thus the high risk of developing Type 2 diabetes in women with a history of GDM warrants the development of appropriate intervention strategies.

2.1 GDM as a health issue in Western Australia

The Western Australian Diabetes Strategy (Health Department of Western Australia 1999) reports that the prevalence of GDM in Western Australia is 3.5%. This is lower that the reported national prevalence, which is suggested to be around 5% in Anglo-Celtic women (Oats and Beischer 1986).

An analysis of data collected at the Mercy Women's Hospital in Melbourne on pregnant women with GDM show that 50% went on to develop Type 2 diabetes (Segal, Dalton et al. 1996). Peters et al cited in (Segal, Dalton et al. 1996) found 22% of their sample of women who had GDM were diagnosed with diabetes after an average of 21 months follow up. The Western Australian Diabetes Strategy (Health Department of Western Australia 1999) suggests that 5-9% per annum of women with GDM develop Type 1 or Type 2 diabetes.

Although there is a genetic contribution to the aetiology of Type 2 diabetes, it is now recognised as being a potentially preventable condition. Segal et al. (1996) completed a research project with the central focus being to determine the risk of the development of Type 2 diabetes in women with a history of GDM. The results suggested that a woman who has had GDM and loses weight, is at far less risk of developing Type 2 diabetes than a woman whose weight remained unchanged or increased. This is supported by O'Sullivan (cited in Segal, Dalton et al. 1996) who found that 26.8% of women who developed Type 2 diabetes later in life were of average weight, whilst the remaining 75% were overweight or obese. This reinforces the importance of preventing overweight and obesity as a preventive strategy in the reducing the risk of developing Type 2 diabetes.

3.0 AIMS

To decrease the incidence of Type 2 diabetes in women with a history of GDM.

4.0 OBJECTIVE

To reduce the risks of the development, and promote the early diagnosis, of Type 2 diabetes in women with a history of GDM.

4.1 Sub-objectives

- To promote awareness amongst women with a history of GDM of their risk of developing Type 2 diabetes.
- To promote regular screening for Type 2 diabetes amongst women with a history of GDM by their general practitioner (GP).
- To promote participation in regular physical activity and healthy eating amongst women with a history of GDM.

5.0 TARGET GROUPS

5.1 Primary target group

Women with a history of GDM who reside or give birth in the Bentley area.

5.2 Secondary target group

Health professionals who provide health care to the primary target group specifically midwives, community health nurses (CHNs) and GPs.

6.0 PROGRAM DESCRIPTION

6.1 Partnerships

In 2003 the BHS Maternity Unit contacted EMPHU (Diabetes Program) expressing interest in implementing the GDM program which was piloted in 2000[2]. An agreement was made to adapt the comprehensive GDM discharge process in the Bentley region.

During the initial planning phase, GPs were identified as key health care providers to follow up women in the community setting. Consequently GP support and involvement was sought through liaison with the CDGP who accepted EMPHU's invitation to become a program partner.

6.1.1 Memorandum of Understanding (MOU)

An MOU was developed to formalise the partnerships between the three organisations by securing their commitment for the length of the pilot phase (June 2003-June 2004). To ensure program partners actively contributed in the planning and implementation,

[2] See http//www.rph.wa.gov.au/hpnetwork/emphu for information about the pilot program.

the MOU clearly outlined the roles and responsibilities of each organisation. This included program partners nominating representatives to attend the three monthly meetings held with other program partners. The meetings provided a cooperative environment for program partners to review progress, plan new initiatives and problem solve emerging issues as required.

In line with the MOU, program partners were also responsible for promoting the program to their respective client groups (see 6.4 Program orientation) and in some cases providing a financial contribution (see 6.2.Program resources).

Program coordination

The Diabetes Prevention Officer (DPO) from EMPHU was responsible for ensuring communications between participating organisations by organising the three monthly meetings, preparing and distributing the agenda items and minutes to program partners prior and following each meeting respectively. In addition her role involved developing and revising the necessary resources for the primary and secondary target groups, responding to requests for more resources, developing the evaluation plan and compiling the final evaluation report. These activities involved seeking feedback and assistance from participating organisations.

6.2 Program resources

EMPHU (Diabetes Program) and the CDGP provided funding to produce the various resources required for the program.

6.2.1 Client resources

The GDM Take Home Pack, previously developed from the 2000 pilot program, was revised and adapted for the Bentley program. The GDM Take Home Pack contained various risk reduction information resources designed to raise clients' awareness of the following:

- Their personal risk factors for developing Type 2 diabetes in the future.
- The importance of regular physical activity and eating a balanced diet in terms of reducing their risk of developing Type 2 diabetes in the future.

- The importance of regular screening for Type 2 diabetes to promote early detection and diagnosis of Type 2 diabetes to avoid potential of complications caused from undiagnosed diabetes.

The GDM Take Home Pack contained the following resources:

- **GP Letter:** This letter was designed to be given to the client's GP at her six to eight week follow up visit. This letter informed the GP of the client's future risk of developing Type 2 diabetes and the client's screening follow up requirements. Enclosed in the envelope with the letter was a flier outlining information about the program and the CDGP contact details, including a sticker the GP could place onto the patient's file, thus flagging the patient has had GDM and required ongoing screening.
- **Screening reminder card:** This card was designed for the client to keep in her wallet to remind her when her next screen was due.
- **Two information brochures** (So You've Had Gestational Diabetes What Now? And Planning Another Pregnancy?): These brochures contained healthy lifestyle prevention information about what the women could do to reduce their future risk of developing Type 2 diabetes, including future pregnancy issues.
- **Healthy lifestyle database consent form**: Clients were asked to complete a consent form if they wanted to be registered onto a healthy lifestyle database coordinated by EMPHU. The database was established as a means to disseminate healthy lifestyle information to the primary target group in the post-natal period and/or as a means to contact clients for future consultation. Also included in the GDM Take Home Pack was a Withdrawal Form clients could complete if they decided they wanted to be removed from the database at any stage.

The GP sticker and healthy lifestyle database were new resources and initiatives of the Bentley program.

6.2.2 Resource kits for the secondary target groups

Resource kits were specifically developed to assist the secondary target group implement the program strategies as required. The resource kits contained copies of the GDM Take Home Kits to disseminate to clients, including manuals and checklists clearly outlining program instructions and the roles and responsibilities of each of the

health professionals involved in the program. Information about the resource kits developed for the secondary target groups, including their respective roles are described in 6.3 Role delineation and orientation.

6.3 Role delineation and orientation

6.3.1 Midwife's role

The BHS midwives were the first of the secondary target group to implement the program, the time coinciding with National Diabetes Week in July 2003. The DPO prepared an orientation resource file containing copies of the GDM Take Home Packs and program instructions. This file was given to the midwife representative to use to orientate her colleagues to the program.

The role of midwives was to provide patient education about GDM and to disseminate the GDM Take Home Packs to clients before they were discharged from the hospital. To initiate the process midwives were asked to place a 'GDM sticker' on the Clinical Pathway Form, thus ensuring the midwife did not forget to disseminate the relevant information and resources to the client in question. Other responsibilities included placing a GDM sticker onto the mother's CHS11 Personal Health Record booklet to alert CHNs and other health professionals that the client has had GDM, has received a GDM Take Home Pack and requires ongoing support and screening. Unlike the CHNs and GPs, the midwives were given the additional task of assisting clients to complete the Consent Form for the healthy lifestyle database and posting the form on the client's behalf.

A checklist (BHMR130 Form) was developed by EMPHU in association with the BHS to ensure all the necessary protocols as part of the GDM discharge processes were implemented. Once completed the BHMR130 forms were placed into the client's file (Appendix 1).

Anecdotal discussions with past and current program partners highlighted that not all clients have a regular GP whom they visit for diabetes screening and other health related matters. Consequently an A4 flier was developed asking clients to provide the BHS at the time of admission with the name, address and telephone number of their regular GP. The flier was sent to clients before they were scheduled for admission into

the hospital and was designed to encourage clients to select a GP prior to being admitted into BHS if they did not already have one.

6.3.2 CHN role

CHNs were identified as an ideal group to become involved in the program because of their role in providing universal home visits to post natal women residing in Bentley over an 18 month period, commencing one to two weeks following delivery. This demonstrated their capacity to expand program reach by targeting those women who delivered at a hospital not involved in the program (eg. St John of God's Hospital).

The CHN's role in the program was to ascertain whether their client had a history of GDM and, if so, to disseminate resources accordingly. If clients had already received a copy of the GDM Take Home Pack, the CHN was asked to reinforce the key lifestyle and prevention messages (eg. regular screening and physical activity).

The DPO presented information and the relevant resources about the program to the Bentley CHNs during an in-service training event held in September 2003. This included providing staff with GDM resource packs containing:

- An instruction sheet outlining their roles and responsibilities (Appendix 2)
- Five GDM Take Home Packs to disseminate to clients
- An A4 GDM poster designed to be placed into the child health clinics (CHC) waiting rooms
- Record keeping sheet to monitor the number of GDM Take Home Packs disseminated.
- A resource order form to order more resources.

Following the in-service orientation, in December 2003 the DPO conducted on site visits to each CHC to review program progress. This provided an opportunity for the CHNs to ask any questions relating to the program.

6.3.3 GP role

The role of GPs was similar to that of the midwives and CHNs in terms of disseminating the relevant risk reduction information and resources when they came into contact with the primary target group. They were however also given the added

responsibility of providing follow up support and screening over the course of the client's life.

To increase the capacity of GPs to systematically screen their clients for Type 2 diabetes, the CDGP offered GPs assistance in establishing an electronic register and recall system. As previously noted, the sticker was developed for GPs to place onto their client's files to prompt them when their next screen was due. This was particularly important for GPs who did not have an electronic register recall system.

The Resource Officer and Practice Nurse Project Officer from the CDGP conducted visits to GP surgeries to promote the program and to orientate GPs to the program and resources. The process of raising awareness and encouraging GPs to become involved in the program commenced in October 2003 and continued throughout the pilot phase. GPs who expressed interest in the program were provided with a GP GDM resource kit. Each GP GDM kit contained:

- A GP information manual outlining their roles and responsibilities
- GDM Take Home Packs to disseminate to clients
- A resource order form to order more resources from the CDGP
- A5 GDM poster to place in their waiting room
- Information about the diabetes education services available at BHS
- A referral form to assist GPs refer clients to the diabetes education services offered at BHS
- An assessment sheet to monitor client's lifestyle activities, particularly physical activity and healthy eating.

7.0 EVALUATION

An evaluation of the pilot program was conducted in March 2004, approximately nine months after the program was implemented in the BHS Maternity Unit.

A description of the various evaluation methods and tools used to gather the relevant information is outlined below.

7.1 Client telephone survey

A telephone survey was developed and conducted with the women with a history of GDM who had delivered at BHS during the pilot phase. The survey was modified from the client survey developed as part of the pilot program in 2000 (Appendix 3).

The survey aimed to evaluate the effectiveness of the discharge processes within the hospital, specifically whether clients had:

- received a GDM Take Home Pack
- been registered on the healthy lifestyle database
- given the GP letter to their regular GP as recommended by the midwife.

It was anticipated that each interview would last approximately 10 minutes. The actual time spent however was between 15 to 20 minutes for each interview. The midwife representative who conducted the interviews explained that many respondents used the telephone contact as an opportunity to ask questions about GDM, hence the additional time required. The midwife allocated time at the end of each survey to address their questions and to reinforce key prevention messages, thus not interfering with the survey results.

7.2 Midwife's survey

A survey, designed by the midwife representative for the program, was given to all the midwives working within the BHS Maternity Unit. The survey assessed the ease of use, compliance in use and suggestions for improvement to the GDM Take Home Pack.

A telephone interview was also conducted with the midwife representative to ascertain her opinions about the program.

7.3 CHN survey

A survey was developed and posted to all the CHNs working in the Bentley region. Where there was more than one CHN based at a CHC (eg. staff job-shared), staff were asked to complete the survey as a team as opposed to individually. In total 10 surveys were posted (Appendix 4).

A telephone interview was conducted with the CHN Clinical Nurse Manager (CNM) to ascertain a manager's perspective about the program.

7.4 CDGP survey

Program partners identified that the time-frame between marketing the program to GPs and the evaluation was insufficient for GPs to become familiar with and implement the program. It was therefore decided not to directly evaluate GPs' level of satisfaction and uptake of the program at this time. Consequently a survey was developed and sent to the CDGP to complete based upon their own experience of the program. The survey sought information about promotional efforts implemented to raise GPs' awareness about the program, resource dissemination, GP satisfaction and recommendations for future improvement (Appendix 5).

8.0 RESULTS

8.1 BHS results

8.1.1 Discharge packs distributed by BHS Maternity Unit

A total of 21 women with GDM received the GDM Take Home Packs. Of these, 14 clients received the GDM Take Home Packs at discharge and nine via the post with an explanatory letter enclosed. These latter clients did not receive their copy at discharge because they had delivered at BHS approximately one month before the resources were available for dissemination.

8.1.2 Client telephone survey

Response rate

Of the 21 women who had received a GDM take home pack from BHS, 14 women were contacted and asked to participate in the telephone survey. One woman declined because of other commitments, thus giving a total response rate of 62% (n=13).

Women who received a take home pack and read its contents

Most respondents (n=9, 69.2%) answered 'yes' to the question 'Have you received a gestational diabetes information pack?' Of these clients, seven (n=7/9) had received a copy via the post and the same number (n=7/9) recalled reading the enclosed brochures and screening reminder card.

Four women (31%) said they did not receive a GDM Take Home Pack.

Letter to GPs

Of the respondents who received the pack, four (4/9) had given the letter to their regular GP. All four reported that their GP discussed the future risk of diabetes and suggested they have a follow up diabetes test.

Three women did not give the letter as recommended, two of whom reporting they had seen their GP but forgot to give the letter. One respondent said she 'moved around a lot' and therefore did not currently have a regular GP to give the letter to.

Two respondents could not recall whether they had given the letter to their GP or not.

Adequate information

Ten respondents (n=10/12) reported that they had received adequate information about their future risk of diabetes. Only two respondents felt they had not received adequate information.

Knowledge and awareness

'Eating a balanced diet' (n=10/11) and 'be physically active' (n=9/11) were the most commonly reported responses when asked 'What things do you think you can do to lower your risk of getting Type 2 diabetes in the future?'

Only four women (n= 4/11) mentioned 'visiting their GP for regular screening'.

One respondent indicated she did not know what to do to reduce her risk.

Healthy lifestyle database

Seven women (n=7/11) indicated that they had signed a form to be registered onto the healthy lifestyle database, whilst three said they had not registered (n=3/11) and one respondent could not remember.

All three respondents who said they had not been placed on the database were interested in being registered.

8.1.3 Midwife survey

Response rate

Twelve surveys were disseminated to staff. Ten midwives completed the survey, giving a response rate of 83%.

Program implementation and satisfaction

Seven midwives had implemented the program whilst three had not.

All of the midwives reported they were 'happy with the program', the instructions on the BHMR130 Form were clear and that there was 'not too much information on the BHMR130 Form'. One respondent commented:

> *"It's good it's a package and everything is in one spot when needed".*

Although no suggestions for improvement were made one midwife wrote there are 'never enough prompts to include in patient education' thus suggesting the need for more prompts.

8.1.4 Telephone interview with the midwife representative

Staff orientation

The Midwife representative explained that all new staff were 'buddied up' with an existing staff member between a few days to a week. Depending on whether a woman with a history of GDM had delivered at the time the new staff member commenced working was likely to determine whether or not her buddy informed her about the program and location of the GDM file within the ward. She reported that although the process of informing new staff about the program was not formalised, it was unlikely to be an issue of major concern because staff turnover was low.

The midwife representative further reported that she had made a point of informing all staff about the program, and further commented that those staff who had not implemented the program were either on annual leave or registered days off when clients with GDM had delivered at the ward.

Program outcomes

The midwife representative reported a number of positive program outcomes, including:

- Perceived raised awareness of GDM as a health issue amongst BHS midwives and the primary target group.
- Increased number of GPs referring clients with GDM and/or Type 2 diabetes to the BHS Diabetes Educator for diabetes education. The increase was attributed to her informal discussions with the GPs who attend deliveries about the diabetes education services available for women who had GDM and adults with Type 2 diabetes.
- Increased communication between the BHS maternity ward and BHS Diabetes Educator. The BHS Diabetes Educator routinely forwarded the details and file notes of clients who were going to deliver at BHS and to whom she had provided diabetes education. By providing access to this information and being able to collapse the patient's notes into one file meant the midwives were able to provide optimal and holistic care to patients, thus representing yet another positive outcome of the program.
- Improved discharge-planning processes in line with quality assurance practice. The BHS have identified that the program can be promoted as a quality best

practice initiative. Information about the program has been outlined in BHS Discharge Planning Process Policy.

Opportunities for improvement

Part of the midwife's role is to place the GDM sticker onto the patient's yellow record book in order to alert CHNs that the woman had GDM. The midwife representative identified that although this instruction was included in the Instruction Sheet, it was omitted from the Checklist Form (BHMR130 Form) which all midwives must complete. She thus recommended the instruction be written onto the Checklist Form to ensure that this aspect of the discharge process was followed by all staff.

8.2 EMPHU results

8.2.1 Number of clients registered on the healthy lifestyle database

Eighteen women were registered onto the healthy lifestyle database during the pilot phase of the program. The process by which these women were registered is unknown, that is, on their own behalf or through assistance by the midwife.

8.2.2 CHN survey results

Response Rate

A survey was sent to the 10 CHCs in the Bentley region, of which nine were completed and returned. In two instances staff working in two CHCs in close proximity collapsed the information into one survey (ie. South Perth/Kensington and Cloverdale CHCs).

Number of women who presented with GDM

During the pilot phase approximately 24 women with a history of GDM presented at the CHCs. The figure is an estimate because one respondent indicated there were '2+' women with a history of GDM who presented at the CHC during the pilot phase of the project. This suggests there may have been other women with a history of GDM who presented but who were not identified.

GDM Take Home Packs disseminated

Twenty-two GDM Take Home Packs were disseminated during the pilot phase. One CHN commented that one client who was given a pack was surprised to learn she had GDM because her delivering doctor had not previously informed her.

The women who received the packs had delivered at the following hospitals: King Edward Memorial Hospital, St John of God, BHS and Mercy Hospital. A break down of where the women had delivered is presented in Table 1.

Table 1: Delivery Sites

Delivering Hospital	***N***
Attadale	*1*
Bentley Health Service	*1*
King Edward Memorial Hospital	*8*
Mercy Hospital	*1*
St. John of God (Murdoch	*1*
St. John of God (Subiaco)	*5*
Missing data	*5*
Total	*22*

Aspects of the program working well

The CHNs identified the following aspects of the program that were working well:

- Discreet pack with the relevant information is easy to disseminate
- Reordering resources was an easy process
- Support provided by the by the Diabetes Prevention Officer

> *"Clients are very interested in receiving the information. Having the packs makes it easy to disseminate the info."*

> *"It's good to have all the info in the pack-easy to disseminate and unlikely that anything will be forgotten."*

> *"Pack is good – good information. When going through the pack with women it is a good opportunity to provide women with education."*

Identified barriers and suggestions for improvement

Overall the results suggested the program was well received by the CHNs with few barriers identified. The most commonly reported barriers included 'staff not having contact with the target group' (n=3), 'staff forgetting to hand packs out' (n=2) and clients already having received the packs elsewhere (n=2) (Table 2).

Table 2: Barriers to implementing the program

Barriers	N
Staff not aware of the GDM program	1
Staff unclear of their role in program	1
Staff have had no contact with the intended target group	3
Staff unable to identify intended target group women who have had GDM	1
Staff forgot to give GDM packs to intended target group	2
Time constraints during consultations with clients	1
Client disinterested/declined GDM pack	1
Resources culturally inappropriate	1
Clients have already received packs from another source	2

One CHN reported not having the packs 'on hand' during their initial home visits may prevent the CHN from implementing the program. The same respondent identified that on the occasion she gave the resources to a woman with poor English literacy skills, her husband was able to translate the information to her, thus overcoming cultural and language barriers.

Suggestions were put forward to overcome some of the barriers identified by the CHNs. These included:

- CHNs to carry GDM pack in car as part of initial home visit
- Reminders to the CHN to ask clients if they had GDM
- Ensuring information that the client had GDM is included on the birth notification forms circulated to the CHNs
- Client informed at the hospital to inform the CHN of GDM history

One respondent reported that the issue of staff being unclear of their role in the program was overcome by the DPO's visit to the CHC.

8.2.3 Interview with the CHN CNM

Staff orientation to the GDM program

Other than the initial training provided to the CHNs at their professional development day in September 2003, the CHN representative reported that no other formal processes were in place to orientate new staff to the GDM program. The orientation was likely to be informal and take place between existing staff and new staff during hand over. The CHN representative reported that not having a formal process in place was unlikely to be a problem because staff turn over was not high. Nevertheless she suggested that information about the program could be in the CHN Centre

Management File to alert new staff about the program, including where they could obtain extra information and relevant resources.

Program outcomes

The CNM reported that prior to the program there was no systematic follow up of post GDM women who were at risk of developing Type 2 diabetes in later life. In other words the program had addressed an identified need in terms of raising awareness amongst the primary target group of their risk factors for developing Type 2 diabetes and their need for ongoing care and screening.

Barriers and suggestions for improvement

The CNM reported that the program appeared to be working well and was easy to implement. Nevertheless she identified some barriers which could affect the program. These included new mothers being overwhelmed as a result of receiving too much health information during visits by CHN and time constraints affecting CHNs' capacity to cover all health issues with new mums (eg. sleep, breast feeding). The CNM further reported that there was a potential for a communication gap between program organisers and the CHNs as many worked off site and do not readily access electronic mail. Suggestions to maximise communication between CHNs and program organisers were discussed and included the following communication media:

- CHN Newsletters. This newsletter is prepared by the child health managers and is circulated bi-monthly. The newsletters outline information about local initiatives of interest to the CHNs.
- Memo (circulated weekly)
- Meetings (eg. professional development days, reflective practice meetings)

8.3 CDGP survey

Strategies implemented to engage GPs

Prior to implementing the program practice visits were jointly conducted by the (*former*) CDGP Resource Officer and the DPO from EMPHU. The purpose of these practice visits was to ascertain feedback from the GPs whether the program was likely to be well received, feasible and any perceived barriers that may occur. Practice visits were scheduled to Dr Alexander (Geddes Street Family Practice, Victoria Park) and Dr Fitzharding (Healthpoint Belmont, Cloverdale).

Over the course of the pilot program, the CDGP implemented various strategies to raise GPs' awareness about the program. These are outlined in Table 3:

Table 3: Promotional strategies to raise GP awareness

Strategy	**Date/s**
CDGP Newsletter Article about the program placed in the CDGP Newsletter. Fax back sheet inserted for GPs to complete if interested in obtaining more information.	April 2003 August 2003 December 2003 (*fax back sheet only*) April 2004 (*fax back sheet only*) May 2004
Fax-stream Information about the program, including other programs delivered by CDGP circulated to GPs through fax stream.	6th May 2003
Diabetes Management Workshop GDM GP resource kits disseminated to GP participants of training workshop.	21st July 2003
Fax-stream Letter Given to nurses when Practice Nurse Support Officer conducts a practice visit. Encourage nurses to discuss with their GPs.	12th December 2003
GP Practice visits Practice visits conducted at GP Practices who requested information via the Canning Newsletter and fax back sheets.	Conducted over course of program

Number of GDM GP kits disseminated to GPs

Thirty-seven GDM kits were disseminated to 37 GPs. It was noted that some GP practices were provided with more than one kit.

CDGP program outcomes

The CDGP identified that the program had enhanced delivery of quality service to clients and provided GPs with up-to-date, best practice information on GDM.

The CDGP reported that although all of the 37 GPs who were registered onto the program had an existing recall system in place, it was difficult to ascertain which GPs had a recall system specifically for GDM because of the different software packages

used and available. For example, some client details were recorded under a generic 'diabetes' category rather than 'GDM' specifically. Nevertheless they were able to report on assisting:

- 5 GPs in installing the GDM template letter
- 2 GPs in establishing an electronic register system specifically for GDM.

Effective communication between program partners

During the pilot program the CDGP Resource Officer was specifically responsible for addressing queries from GPs about the program and GDM as a health issue. If she was unable to answer questions relating specifically to the project, she would contact the DPO from EMPHU for further clarification and assistance. This ensured that the project was implemented effectively by the two organisations.

The CDGP reported that effective communications with the BHS had similarly occurred as a result of the program. This involved the Diabetes Coordinator at BHS e-mailing the names of GPs with GDM clients to the CDGP Resource Officer. The CDGP Resource Officer would consequently contact these identified GPs to arrange a practice visit to provide them with information about the program and a copy of the GDM GP resource kit. The CDGP reported these practice visits were successful in engaging more GPs into the program (see Practice Visits below). Approximately six new GPs were recruited into the program as result of the communications between BHS and the CDGP.

Practice visits

In addition to conducting practice visits to GPs identified via the BHS, GP practices were visited on request resulting from attendance at educational workshops or via the Canning Newsletter and fax back sheets. The CDGP reported GPs did not have time to go through the GDM GP resource kit so valued these visits by the Resource Officer.

GP receptiveness

The CDGP reported that the majority of GPs they came into contact with were very positive and interested in the project and the GDM resource kit. The few GPs who expressed no interest may have had little contact, if any, with the primary target

group. Time constraints were identified by the CDGP as a potential barrier preventing GPs from implementing the program.

Future dissemination options

The CDGP reported that having a central agency prepare the kits for dissemination had worked very well to date. It ensured that all stakeholders were receiving the same information. They identified that a few of the GDM GP resource kits had some material missing but overall the kits were very good.

The CDGP suggested that the brochures and resource materials be made available electronically. It was also suggested that the development of electronic referrals, GDM information, and other materials that can be down loaded into relevant medical software packages would be very useful in terms of reducing the time between placing and receiving orders.

Practice nurse involvement

The CDGP reported that practice nurses had the potential to play a key role in providing basic diabetes information to clients and ensuring register and recalls happen in the practice. As a result the CDGP recommended that the GDM kits designed for GPs be modified for use by practice nurses. They recommended the program and GDM GP kits could be marketed to practice nurses via a GDM workshop to provide up-to-date best practice information on GDM and explain the program to them. The involvement of practice nurses would overcome the issue of time constraints commonly experienced by GPs.

Program standardisation

The CDGP expressed support for standardising the program across the EMHS. They reported that the GP GDM kits for GPs would need to be modified as a result to ensure explanations are provided for both paper-based and electronic recall systems utilised in GP practices. They also suggested that the GP GDM kits be standardised so that all service providers utilised the same resources and information.

9.0 DISCUSSION

9.1 Effective program reach

During the eight month pilot phase, the BHS maternity ward staff and EMPHU's CHNs disseminated 43 GDM Take Home Packs to the primary target group. According to the 2002 Birth notifications data (Department of Health 2002), there were 1595 deliveries in the Bentley region over an eight month period. If the prevalence of GDM in Western Australia is approximately 3.5% (Health Department of Western Australia 1999) it can be extrapolated that approximately 55 clients with GDM delivered during this time. Our evaluation findings were therefore encouraging, demonstrating effective program reach by capturing 78% of the expected number of women with GDM in the Bentley region.

9.2 Best practice

Although clients involved in the telephone interview were able to recall the importance of healthy lifestyle prevention measures, our evaluation did not investigate whether respondents had actually adopted any of these behaviours. In their research of lifestyle issues affecting women with a GDM history, Polley and Unsworth (2002: 48) found that over half of the women surveyed were not physically active and were generally more receptive to changing their nutrition behaviours than modifying their physical activity levels. The authors concluded this could be attributed to a perception that implementing nutrition behaviours required less effort and energy compared to being more physically active. The women surveyed also valued receiving healthy lifestyle information in a written format such as newsletters and pamphlets. An informal discussion group conducted more recently (May 2004) with five women who had received a GDM Take Home Pack before being discharged from the Swan District Hospital showed similar results. These women reported that during pregnancy the health of their unborn child was of primary importance and therefore motivated them to eat well and control their blood glucose levels. Following pregnancy however most found it difficult to maintain positive healthy lifestyle practices, particularly in terms of physical activity, and cited reasons such as no time, family commitments, lack of motivation and perception that they were unlikely to develop Type 2 diabetes. They suggested that receiving a regular newsletter outlining physical activity opportunities in their local community, low fat recipes and general diabetes facts and

figures would remind them of their future risk of developing Type 2 diabetes and possibly encourage them to lead a healthier lifestyle.

These results demonstrated that improving knowledge and raising awareness through the dissemination of information resources alone does not always lead to the desired lifestyle behaviours. Research and experience in health promotion has shown that multiple strategies in line with the Ottawa Charter and Jakarta Declaration sustained over time are required to create environments and conditions that are conducive to achieving population wide behaviour changes (Lilley 2000). These principles include building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and reorienting health services (World Health Organisation 1986). Furthermore given that many of the conditions which influence people's lifestyle choices are outside the jurisdiction of the health sector, forging partnerships with other sectors whose activities affect health outcomes is essential (Lilley 2000). *It is thus recommended that the dissemination of the GDM Take Home Pack to clients represent one component of a bigger health promotion program, one which comprises ongoing and multiple strategies in line with the Ottawa Charter and Jakarta Declaration.* Discussion between program partners and consultations with the primary target group are needed to determine appropriate interventions to augment the existing program. In the first instance developing a newsletter, which provides lifestyle information such as motivational tips and strategies, healthy recipes and available recreation facilities, appears a logical starting point. Longer term, however equally important strategies include broadening partnerships with local councils and the recreation sector to provide affordable physical activity programs with access to creche facilities or to ensure the provision of safe walking footpaths which will encourage walking by mothers in their local community. Such strategies represent an intersectoral approach which ensure that health care services do not work in isolation (Department of Health 2002).

9.3 Partnerships

Our program relies on partnerships between different departments within the population health unit, divisions of general practice and a health service. Program partners identified that the partnership arrangement appeared to work effectively and could be attributed to the MOU, which helped to formalise the partnership and

delineate roles and responsibilities accordingly. The involvement of each organisation was essential as each had a distinctive and equally important role to contribute in the overall planning, implementation and evaluation of the program. For example, the evaluation highlighted the CDGP's invaluable role in being able to access and promote the program to GPs and their ability to act as a conduit between GPs and other program partners involved in the program. Other identified critical factors for successful collaboration included extensive consultation with all partners at every stage of the implementation and planning process, building the program around existing organisational structures and functions and the provision of regular feedback on progress and issues arising through meetings and e-mail communications. Involvement of partners from the program inception ensures organisational ownership and commitment.

Program partners identified several immediate benefits as a result from their participation in the program including raised awareness amongst clients and staff, meeting a previously unaddressed health issue, and improvement in internal and external communication systems. Communication with program partners has indicated their ongoing support and continuation for the program beyond the pilot phase. *It is recommended that consultative strategies that bring partners together are maintained to facilitate cooperation between partners and ensure sustainability of the program. It is further recommended that MOUs continue to be developed between partner organisations to sustain commitment and resource allocation to the program.*

9.4 GP letter and initial screening

One of the program objectives was to encourage clients to be regularly screened to prevent complications from undetected Type 2 diabetes. One of the main strategies implemented to achieve this was asking clients to present the GP letter and request to have their first diabetes screen at their six week follow up appointment with their 'regular or family GP', that is, their physician who will provide ongoing care and follow up. This strategy is largely based on the premise of empowering clients to take responsibility of their own health.

The results from the client telephone survey highlighted that only four respondents had given the letter to their regular GP. This combined with few clients recalling

'regular GP screening' as an important lifestyle measure suggests the screening message was less well received and/or understood by clients. Many of the respondents interviewed had received the GDM Take Home Pack via the post and therefore did not receive the patient education that other clients received at discharge by the midwife. It is plausible that receiving the GDM Take Home Pack this way may have diluted the importance of the screening message and providing the letter to the GP and therefore affected the overall results of the program.

Anecdotal communications have highlighted however that clients may see different physicians between six to eight weeks post partum, including their obstetrician or delivering doctor and, if necessary, their paediatrician. Another perspective offered was that many new mothers see their regular GP at the eight-week immunisation visit. The main problems identified were that clients could become confused as to whom they needed to give the letter and when. This could lead to clients not giving the letter to any physician and/or giving the letter and organising their initial screen with a physician who will not provide ongoing care or who may not communicate the results to the client's regular GP. Although most of the respondents in the telephone interview had forwarded the GP letter and/or had the issue of diabetes raised with their regular GP, we can not assume that all clients will do the same particularly given the small sample size. *Given clients may visit their regular GP anytime between six to eight weeks, it is recommended the initial screen for Type 2 diabetes is modified accordingly. It is further recommended that a 'For regular and/ or family GP' sticker is placed on the GP letter to remind and reinforce to clients that the letter be given to their regular GP. Ongoing evaluations are needed to draw conclusions about the proportion of clients who give the letter to their regular GP as requested and the outcomes of their visit.*

The results from the evaluation were nevertheless encouraging from the point of view that all of the GPs who received the letter had discussed their client's future risk of Type 2 diabetes and the importance of regular screening. This suggests the GP letter worked effectively in encouraging the GPs to consider GDM as an important health issue and their receptiveness to screen clients. This is supported by the CDGP evaluation findings which revealed that the majority of GPs who received the GDM resource kit responded positively to the program.

9.5 Registrations on healthy lifestyle database

The healthy lifestyle database was established as a means of disseminating lifestyle information to the primary target group in the post-partum period. Although 43 women had received the GDM Take Home Packs, only 18 women were registered onto the database upon completion of the pilot phase. As of 30th July 2004 another 12 women have registered, thus reaching a total of 30 women. It is unknown however whether these women applied to be registered themselves or were registered by the midwife. This information would be helpful in terms of monitoring the effectiveness of the different registration processes and specifically whether clients who are asked to register themselves are under represented on the database and therefore potentially disadvantaged in terms of receiving ongoing information and support. *It is thus recommended that in the post pilot phase the consent form is changed to include an item asking women to identify who provided them with information about the GDM healthy lifestyle database (eg. GP, midwife, CHN).*

9.6 Midwife survey findings

The midwives' survey findings were encouraging, revealing that the program had been easily implemented and adopted by staff. Several positive benefits were identified including the Maternity Unit's ability to provide holistic care to clients as a result of improved communications between their department and Diabetes Services, and being able to promote the program as a quality improvement initiative, which has added value to their existing service.

Although no barriers were identified, one staff member did write there are 'never enough prompts to include in patient education,' her comments suggesting that additional information on the checklist (BHMR130 Form) would be beneficial in terms of assisting staff provide GDM client education. *It is recommended that this issue be monitored to ascertain whether her comments are shared by other staff, thus warranting changes to the existing form and/or highlighting the need for additional support and training be provided to assist midwives deliver GDM patient education.*

Not having a formal orientation system in place in the Maternity Unit was not considered an issue of great concern because of low staff turnover. Nevertheless

during informal discussions, the Clinical Nurse Specialist suggested that a brief note alerting new staff about the program and location of the GDM Resource File could be inserted into the Staff Orientation Pack to address this issue. *It is thus recommended that measures to formally integrate the discharge process into current induction systems for new staff members are further explored and implemented.*

9.7 CHN survey results

Like the midwives, the program was well received by the CHNs, with many describing the GDM Take Home Pack as informative, discreet and easy to disseminate. The role of the CHN is primarily to provide postnatal care and support to clients in clinics or in their homes. This combined with their capacity to reach all clients residing in the Bentley region, not only those who delivered at BHS, makes them essential players in the program. Our evaluation supported this by demonstrating their capacity to disseminate GDM Take Home Packs to women who delivered in hospitals not involved in the program (eg. Attadale, St John of God). It appears however that resources were also disseminated to clients who had delivered in hospitals involved in the original pilot program[3]. It appears that resources were either disseminated to some women twice or not provided at all. There could be reasons for this including depletion of resources, new staff in the participating hospitals unaware of the program and/or the women misplacing or not recalling receiving the GDM Take Home pack. The need for formal orientation to the program within hospitals has already been highlighted in the previous section. The need to respond to orders for resources in a systematic and timely manner is imperative to ensure the continuity of the program. *It is recommended that in the post pilot phase the CHNs record the hospital sites of delivery, in addition to the number of GDM Take Home Packs disseminated. This will provide the mechanism to monitor whether the discharge process in participating hospitals is working effectively or needs to be reviewed and modified.*

Barriers

The CHNs identified some barriers, which warrant further discussion. These barriers included staff forgetting to give out the GDM Take Home Packs to clients because they did not have the resources available during home visits and/or they were not

[3] The original program was piloted in 2000. See http//www.rph.wa.gov.au/emphu for information.

aware the client had a history of GDM. Strategies were adopted in the program to try to overcome some of these issues. For example, the BHS midwives were asked to place a GDM sticker onto the mother's yellow booklet, thus alerting the CHN that the client had GDM and has received the relevant resources and information. The CHN's role in this instance was to reinforce key prevention messages (eg. regular physical activity, importance of screening). The main problem however remains that there is no mechanism in place to inform CHNs of all other clients with a GDM history who did not deliver at BHS. It is current practice for maternal information to be deleted from the birth notifications prior to posting to CHNs, despite maternal hospitals including data such as whether a mother has had GDM in her medical record documentation. This has been posed as a confidentiality issue. Advice has been provided by representatives of DoH that maternal data will be available eventually once electronic birth notification systems are established. *However, it is recommended that advocacy efforts are continued to ensure that maternal history of GDM is made available to CHNs through the DoH birth notification system. This is key information that will enable CHNs to provide holistic care to clients and enable them to readily identify the primary target group.*

An interim, however less effective strategy may be to remind the CHNs through notices placed in their bi-monthly newsletters, to ask every mother whether she has had GDM and to disseminate the resources accordingly. In addition a checklist of all the relevant resources CHNs need when conducting home visits is one strategy that may also warrant being developed to ensure staff have the resources readily available for distribution.

The CHN survey revealed that one client only learnt about her history of GDM following contact with a CHN, that is, she had not been informed by her GP. This was not altogether surprising to program partners as currently there is no consensus of the implications and care of women with GDM in Australia. This is despite the Australian Diabetes in Pregnancy Group having guidelines for ante-natal and post-natal care of women with GDM. Until this situation is resolved, processes need to be in place to ensure all women with GDM, despite their level of ante-natal care, are appropriately followed up and supported according to NHMRC guidelines (Australian Centre for Diabetes Strategies 2001).

9.8 Cultural considerations

The issue of resources being culturally inappropriate for some groups was identified in the evaluation. According to the ABS 2001 Census people from Chinese, Indonesian, Arabic countries and Vietnamese backgrounds comprise the largest non-western culturally and linguistically diverse (CALD) groups which reside in the BHS region. In Australia, GDM affects around 5% of all women however the incidence is thought to be as high as 20% among Indigenous and Torres Strait Islander women (Australian Institute of Health and Welfare 2002). This is likely to be underestimated as anecdotal evidence suggests many young Aboriginal women present late in the antenatal period and are likely to remain undiagnosed. *Whilst the needs of CALD groups cannot be ignored, it is recommended that priority be given to address the needs of the Aboriginal community. It is recommended that resources are dedicated to address the needs of other CALD groups after the needs of Aboriginal groups have been met.*

It cannot by assumed however that the same strategies will be appropriate for each cultural group. The process of adapting the program to different cultural groups needs to encompass a community development approach, whereby community representatives and leaders are actively engaged and consulted to determine how the program can best be applied to this cultural group. This is in line with the DoH's Healthy Lifestyle 2002-2007 document (Department of Health 2002: 19) which states that:

> *"Community participation in program development helps to ensure that interventions are relevant and meet the expressed needs of the community".*

9.8 CDGP findings

The short time between implementing and evaluating the program meant it was not feasible nor appropriate to seek feedback directly from GPs. The evaluation revealed that all of the 37 GPs who received a GP GDM Manual responded positively to the program and had an existing register and recall system in place. Despite this, further evaluation is required to determine whether the register and recall systems are actually utilised to encourage ongoing screening and whether the program has facilitated any change in practice. For example, do GPs provide lifestyle advice to clients regarding

how to reduce their future risk of Type 2 diabetes, how many GDM Take Home Packs were disseminated etc.

Inclusion of practice nurses

The evaluation highlighted the potential role practice nurses may play in the program in terms of reinforcing key prevention and screening messages and disseminating resources, particularly as many are involved in providing immunisations for babies at eight weeks of age. Practice nurses are skilled practitioners ideally placed in general practice to meet the needs of people diagnosed with Type 2 diabetes, GDM and impaired glucose tolerance. This is supported by Roche and Freeman (Roche and Freeman 2003: 10) who, in their paper at the International Research Symposium, stated:

> *"….practice nurses excel in providing preventive care, counselling, patient education, management of chronic illness, and follow up care. In studies in the U.S. and the U.K., patients have indicated a high level of satisfaction with practice nurse interventions, suggesting that patients support the legitimacy of practice nurses on delivering health services".*

It is thus recommended that practice nurses are actively engaged in the program. This may require modifying resources accordingly and providing appropriate training and orientation.

9.9 Program expansion and implications

GDM forum

The GDM program has attracted interest from a number of other health services in Western Australia. A forum with existing and new interested parties in the metropolitan area is recommended to identify the elements of the program which are considered essential for program integrity versus those elements which can be modified to meet the needs and context of the local area and organisations. The forum should also consider the implications of the pending health reform which distinguishes the north and south regions. A brokerage or a clearing house is desirable to ensure information resources are readily available to the growing number of organisations and regions involved in the program and that they can be updated and maintained in a timely manner. Consensus is needed to determine appropriate ongoing

review and monitoring requirements. Collection of data on formal processes to orientate staff, investigating appropriateness of resources, monitoring record keeping systems, number of resources disseminated need to be a component of the review process. All partners and staff involved in the program need to be involved in this process.

Evidenced based planning

The GDM program attempts to achieve two main outcomes. One is to reduce the incidence of diabetes related complications through early detection and intervention. The other is to decrease the incidence of Type 2 diabetes amongst women with a history of GDM. Both components are based on research demonstrating that 5-9% of women with a GDM history develop Type 2 diabetes per annum and that Type 2 diabetes can be prevented through the adoption of healthy lifestyle behaviours (Commonwealth Department of Health and Aged Care 1999; Health Department of Western Australia 1999).

Whilst program partners can identify the positive short-term outcomes, it is not possible to comment on the longer-term outcomes at this stage. Many programs which attempt to address chronic health conditions need to be implemented over a long period to demonstrate a health benefit ((Department of Health 2002). In a recent study into the effectiveness of programs supported and/or implemented by EMPHU it was concluded:

> "*With the rising costs of health care, decisions about purchasing and provision in the health care system should be based, where possible, on interventions proven to work. In addition, with public spending of all kinds under intense scrutiny, investment of the available resources allocated to health care should be directed at those interventions that have been shown to be most cost-effective in addressing the community's priority health needs" (Hendrie, Feeney et al. 2003:28).*

This raises the important issue, that if this, and indeed other health programs, are to continue, and be supported by GPs and other health professionals, appropriate evaluation systems need to be in place to demonstrate program effectiveness. *It is thus*

recommended that longitudinal follow up studies are considered to determine whether the program is able to achieve its overall aims and objectives.

10.0 CONCLUSION

Our program was implemented as a joint initiative in July 2003 between the BHS Maternity Unit, EMPHU and CDGP with an overall aim to reduce the incidence of Type 2 diabetes in later life amongst women with a history of GDM.

Our evaluation highlighted excellent recognition and dissemination of GDM Take Home Packs by the CHNs and midwives and favourable support of the program by GPs. A telephone interview conducted with a sample of clients demonstrated their awareness of the importance of regular physical activity and following a balanced diet in terms of reducing their future risks of Type 2 diabetes.

Disseminating healthy lifestyle information to the women with a history of GDM represents one component of what needs to be a broader comprehensive health promotion program. Achieving the program's overall aim requires long term planning and commitment, an intersectoral approach, multiple strategies sustained over a period of time and ongoing monitoring and evaluation.

In light of the upcoming health reform and strong interest expressed by other health regions to implement the program it is imperative that the program is standardised and issues regarding its future sustainability are considered.

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APPENDIX 1: BHMR130 Form (used by midwives in BHS)

BENTLEY HEALTH SERVICE MATERNITY WARD

DISCHARGE INFORMATION **CHECKLIST FOR WOMEN WITH GESTATIONAL DIABETES (POSTNATAL)**	**PATIENT'S IDENTIFICATION LABEL**

Initial boxes when completed.

At Discharge

Women with GDM on insulin

Four point blood glucose (BG) profile with meter prior to discharge – can be done by patient. Fasting, and 2 hours post meals, if elevated notify patient's doctor:

Non pregnant range = <5.5 mmmol/L fasting OR <7.8 mmmol/L non fasting

All women with GDM

☐ Reinforce importance of regular screening as women with history of GDM are at increased risk of developing Type 2 diabetes in later life:

- Diabetes test recommended at either during **6-12 weeks post birth** – by patient's nominated GP (or delivery GP). *See box below for more information.*

☐ Give **Follow Up GDM GP Letter** to patient to hand deliver to GP:

- Place this letter into blank envelope containing **Patient Identification Sticker** and **GP Information Flier** (purple sheet).
- Write patient's nominated GP name and contact details onto envelope.

☐ Discuss importance of healthy lifestyle to reduce risk of developing Type 2 Diabetes:

- Physical activity 30 minutes most days / week
- Diet: low in fat and high in fibre
- Cease smoking
- Ideal weight

☐ Ask patient to sign **Consent Form** if she would like to be placed onto a database to receive relevant healthy lifestyle information. Information is confidential.

If **yes**, place signed copy into self-addressed envelope to be posted to EMHS Diabetes Administration Officer.

If **no** place the Consent Form and self-addressed envelope into Take Home Pack (see below). This provides patient opportunity to be placed onto database at a later date.

☐ Ensure patient's nominated GP (identified during Pre-admission Interview and/or Admission) is informed that their patient has had GDM:

- Ward Staff include note that patient has had GDM on **Doctor's Delivery Record Form** (under Post-natal Instructions).
- Send completed Doctor's Delivery Record Form to patient's nominated GP. Original kept in file and other copy given to patient to keep.

☐ Give **GDM Mothers Take Home Pack** to patient:

Flag enclosed resources enclosed including two **information brochures**, **Withdrawal Request Form** and **Screening Reminder Card** (designed to remind patient when she needs to be re-screened. This will be determined by GP following her initial test result).

☐ Place GDM: Screen for Type 2 Diabetes Sticker on patient's yellow record booklet. If you have been loaned a BG meter please return to Diabetes Service (9334 3750).

Any queries please contact the Coordinator of Discharge Planning:

Name: ……Signature:……..……Date: ……/ …… / 20……..

APPENDIX 2: Instruction sheet for Child Health Nurses

Role of Child Health Nurse (CHN)

CHN are asked to do the following during home visits to women who have had GDM:

- Place 'GDM: Screen for Type 2 Diabetes' Sticker on new mother's Personal Health Record' (CHS 11). (place sticker inside cover to remind her *of the importance of regular screening by her regular GP*).

- Check whether new mother has received a Take Home Pack information pack and education (*she may have already received the resources if she delivered at Bentley Hospital or through their diabetes service*).

If new mother has **not** received any information/resources to date:

Please provide her with a Take Home Pack and flag the following resources:

- **GP letter**: Designed for new mothers to give to GP. Letter informs GP that patient has had gestational diabetes and needs to be regularly tested for Type 2 diabetes. *Diabetes test recommended at 6-12 weeks post birth & 1-2 years there-after*.

- **Screening Reminder Card**: Designed to remind patients when they need to be re-screened (*ie either annual or 2 yearly screening*). This will be determined by the results of her screening test and by her GP.

- **Two Information Brochures**: These brochures provide tips about making healthy lifestyle changes to reduce their risk of developing type 2 diabetes in later life (ie regular physical activity and healthy eating).

- **Consent Form**: Patient to complete this form if she would like to be placed onto a database to receive healthy lifestyle information. A self addressed envelope is also provided, including a Withdrawal Form should she decide to be removed from the database. *The database is based at the Swan Health Service as it is a centralised database for the entire East Metropolitan region.*

If she **has** received any information/resources to date:

- Please reinforce key risk reduction messages (ie importance of regular physical activity and healthy eating)

- Remind patient of need to be regularly screened for Type 2 diabetes. *Diabetes test recommended at 6-12 weeks post birth & 1-2 years there-after.*

Please record the number of women with GDM and the number of resources you disseminate on the Tally Sheet enclosed.

If you have any questions please contact Clinical Nurse Manager on 0404 826 805.

APPENDIX 3: Client telephone survey

GDM Client Discharge Pack Evaluation Survey

Name	Tel Number	Date called	Time	Outcome	GDM diagnosis*	ID

*GDM or high blood sugar levels during pregnancy – test not conducted by GP.
Follow up women six weeks post delivery.

LM: Left message on machine/with another person
DI: Declined Interview
CI: Conducted Interview
NR: If after 5 attempts to contact/conduct interview with woman has been unsuccessful, please indicate NR (ie. no response).

ID (cross of as you use ID numbers):

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
21	22	23	24	25	26	27

Please place ID number on each telephone survey you conduct.

ID:_____

Client Discharge Pack Evaluation Survey

Hello my name is _____.
I am a midwife from Bentley Hospital. I am calling to ask you a few questions about our program for women who have had gestational diabetes, that is diabetes during pregnancy. Our records indicated that you had gestational diabetes. Do you have 10 minutes to answer some brief questions?

There are no right or wrong answers so please answer as honestly as you can and feel free to ask me to repeat any questions.

If Yes continue (see Question 1 below). If No, thank the person for their time and ask if possible to make another time (record on first page). If No, thank the person for their time and finish interview.

1. Have you received a Gestational Diabetes Information Pack?
Listen and tick appropriate response.

Yes	(go to Q2)	☐
No	(go to Q12)	☐
Does not remember	(go to Q12)	☐

2. The Gestational Diabetes Information Pack had the following contents. Do you recall reading any of these?
Listen and tick appropriate response.

'So you've had Gestational Diabetes What Now?	Yes	☐
	No	☐
	Does not remember	☐
'Planning another pregnancy'	Yes	☐
	No	☐
	Does not remember	☐
Screening reminder card	Yes	☐
	No	☐
	Does not remember	☐

Questions 3-6 refers to the client's Family Doctor. If necessary please clarify this means the doctor they usually see when she is unwell/for health care.

3. The Gestational Diabetes Pack contained a letter for your <u>family doctor</u>. Have you given the letter to your <u>family doctor</u>?
Listen and tick appropriate response.

Yes	(go to Q7)	☐
No	(go to Q4)	☐
Does not remember	(go to Q12)	☐

4. What stopped you from giving the letter to your <u>family doctor</u>?

Listen and tick appropriate response. Probe if necessary to ascertain which doctors, if any, they have been to following delivery. Tick as many as applicable.

Client has not visited **any** doctor following delivery	(go to Q5, then Q13)	☐
Client has not visited family doctor for eight week immunisation	(go to Q5, then Q13)	☐
Client gave letter to GP who cared for her during pregnancy & delivery	(go to Q6)	☐
Client gave letter to obstetrician	(go to Q7)	☐
Client visited family doctor but forgot to give the letter	(go to Q12)	☐
Client didn't know she was supposed to give the letter to family GP	(go to Q12)	☐
Other	(go to Q12)	☐

_____

If client has not visited any doctor post delivery **or** has not visited family doctor for eight week immunisation and has not given the letter to any doctor go to Question 5, then Q13.
If client has not visited family doctor for eight week immunisation but gave letter to another doctor (eg. obstetrician) go to Question 5, then Q7.

Tailor the following question according to their response to Question 4.

5. What has stopped you from visiting your doctor {after delivering your baby
or for your baby's eight week immunisation}?

Listen and probe with 'anything else' but DO NOT READ RESPONSES. Tick as many that apply.

Forgot to	☐
Too busy	☐
Don't want to have a check	☐
Transport difficulties	☐
Client didn't realise need for six week check/eight week immunisation	☐
Other (record details)	☐

_____

6. Is the doctor who cared for you during pregnancy located in the same practice as your family doctor?

Listen and tick appropriate response.

Yes	☐
No	☐

Questions 7-11 refers to the Doctor client gave the letter to.

7. Did your doctor discuss your future risk of diabetes?

Listen and tick appropriate response.

Yes	☐
No	☐
Does not remember	☐

Space to record additional comments:

_____

_____

8. Did your doctor suggest you have a follow up test for Type 2 diabetes?
Listen and tick appropriate response.

Yes	(go to Q12)	☐
No	(go to Q9)	☐
Does not remember	(go to Q9)	☐

Space to record additional comments:

_____

_____

9. <u>Did you ask</u> your doctor to have a follow up test for Type 2 Diabetes?
Listen and tick one response only.

Yes	(go to Q10 then Q12)	☐
No	(go to Q11)	☐
Does not remember	(go to Q12)	☐

10. How did your doctor respond to your request to have a follow up test for Type 2 Diabetes?

Listen and tick appropriate response. Probe if necessary BUT DO NOT READ RESPONSES.

Doctor did not arrange a test for Type 2 diabetes ☐
Doctor arranged a test for Type 2 diabetes ☐
Does not recall ☐
Other (record details) ☐

_____

Space to record additional comments:

_____

_____

11. What stopped you from asking for a follow up test for Type 2 diabetes?
Listen and tick appropriate response. Probe but DO NOT READ RESPONSES.

Client did not want to be tested ☐
Client forgot to ask ☐
Client did not want to bother the doctor ☐
Other (record details) ☐

_____

12. Do you feel that you have received adequate information about your future risk of diabetes?

Yes ☐
No ☐

Unsure ☐

13. Is there any additional information you would like to receive?

_____

_____

14. What things do you think you can do to lower your risk of getting Type 2 diabetes in the future?

Listen and tick all that are mentioned but DO NOT READ RESPONSES. Probe with 'anything else?'

Eat a balanced diet ☐
Be physically active ☐
Visit doctor for regular screening ☐
Does not know ☐
Other (record details) ☐
☐
_____

Space to record additional comments:

_____

_____

15. Have you signed the consent form to be placed on the database so that we can send you healthy lifestyle information?

Yes (go to Q17) ☐
No (go to Q16) ☐
Does not remember (go to Q16) ☐

16. Would you like to be registered on the database?

Yes (record details on separate sheet) ☐
No (go to Q17) ☐

17. That takes us to the end of the survey. Is there anything else you'd like to add?

_____

_____

_____

Thank the participant for their time.
End of survey.

APPENDIX 4: Child Health Nurse survey

The Early Detection & Risk Reduction Program For Women Who Have Had Gestational Diabetes Mellitus (GDM)

Process Evaluation Report

To be completed by all Child Health Nurses

For period September 2003 – March 2004

1. How many post GDM women have you seen during the pilot phase? (September – March 2004)

_____ post GDM women.

2. Are you aware of the GDM packs (in a file) in your area? (please tick ☑)

☐Yes ☐No (go to Q8)

3. Do you give the GDM packs to every appropriate woman? (please tick ☑ one only)

☐ Yes, always (go to Q4)

☐ Yes, sometimes (go to Q4)

☐ No, never (go to Q6)

4. To whom have you given the GDM Packs? (please tick ☑ as many as apply)

☐ Women with undiagnosed GDM

☐ Post GDM women

☐ Women with Type 2 Diabetes

5. In total how many GDM packs have been disseminated to date in your clinic?

_____ resource packs

6. What has stopped you from implementing the program/disseminating the GDM packs to women (please tick <u>all</u> that apply).

No contact with intended target group ☐

Don't want to overwhelm new mother with too much information ☐

Patient disinterested ☐

Unclear what my role is/how to implement the program ☐

Unsure which women has had GDM to give resource pack to ☐

Forgot about the GDM packs to give out ☐

Time constraints ☐

Patient indicated they had already received packs from another source ☐

Resources culturally inappropriate (eg. Patient does not read/speak English) ☐

Other (please specify) ☐

_____

7. Please list ideas/strategies to overcome the above barriers identified.

_____

_____

_____

8. Please suggest how the program can be improved.

_____

_____

_____

9. Would you like additional information included within the GDM pack?
(please tick ☑)

☐Yes ☐No ☐Unsure

If yes please specify what additional information/resources are required:

_____

_____

_____

10. Any other comments

_____

_____

_____

APPENDIX 5: CDGP survey

The Early Detection & Risk Reduction Program For Women Who Have Had Gestational Diabetes Mellitus (GDM)

Process Evaluation Report
To be completed by the Canning Division of General Practice
June 2003 – March 2004

1. **How many GDM kits have been disseminated to GPs to date? _____resources**

2. **How many GPs have established an electronic register system to recall women with a history of GDM? _____**GPs

3. **Please list promotional strategies CDGP has implemented to engage GPs in the program. Where possible, please provide specific information (eg. newsletter edition/date), including future planned promotional strategies.**

_____

_____

_____

_____

4. **Please briefly describe the perceived benefits of the program for your organisation, GPs and women with a history of GDM?**

_____

_____

_____

_____

5. What aspects of the program are working well within its current form? Please describe.

_____

_____

_____

6. What has the response from GPs <u>you have spoken to or visited,</u> been like?

_____

_____

_____

7. Please describe any barriers/problems your organisation has experienced during their involvement in the program?

_____

_____

_____

8. Which of the following barriers have been identified by GPs that may prevent them from implementing the program (please tick <u>all</u> that apply).

Little contact with target group ☐

GPs perceive screening program in post GDM women is unnecessary ☐

GPs unclear of their role in program ☐

GPs unclear what resources to disseminate ☐

GP perceive resources are not user friendly for patients ☐

Time constraints ☐

Patient indicated they had already received packs from another source ☐

Patient disinterested ☐

Other (please specify) ☐

_____

9. Please list ideas/strategies to overcome any of the barriers you and/or GPs have identified.

_____

_____

_____

10. Do you foresee any problems associated with standardising the program across EMHS?

_____

_____

_____

11. Any other comments

_____

_____

_____