

# SHARING EXPERIENCES and EDUCATION on DIABETES



Diabetes Prevention for Immigrant & Refugee Women:  
Findings from the Diabetes Healthy Living Project  
Report prepared by Carolyn Poljski  
Contribution from Regina Quiazon



Multicultural  
Centre for  
Women's Health

# **DIABETES PREVENTION FOR IMMIGRANT AND REFUGEE WOMEN:**

## **Findings from the Diabetes Healthy Living Project**

**Report prepared by Carolyn Poljski**

**Contribution from Regina Quiazon**

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In the early stages of the project, a consultation was undertaken with health professionals involved in diabetes education and/or prevention in the community. The consultation involved nine participants from six agencies and organisations. Thank you to these participants whose inputs have facilitated a better understanding of immigrant and refugee experiences of diabetes and culturally-appropriate interventions that could be implemented to prevent diabetes in immigrant and refugee communities.

A two-day training program for all the MCWH bilingual health educators, eight of which subsequently conducted diabetes prevention education sessions for immigrant and refugee women for the project, was held. Thank you to the trainers whose contributions resulted in a comprehensive, entertaining and informative professional development exercise for the bilingual health educators.

A huge thank you to the eight bilingual health educators involved in the diabetes prevention education program, the women who attended the education sessions, the organisations and women's group facilitators involved in the organisation and hosting of the sessions; and the scribes enlisted to assist with the documentation of the sessions. The participation and contribution of all these individuals has increased understanding of culturally-appropriate diabetes prevention interventions for immigrant and refugee women. This knowledge will go a long way towards ensuring that future diabetes prevention initiatives meet the specific needs of women from immigrant and refugee communities.

The details of advisory committee members, consultation participants, trainers, bilingual health educators, scribes and the organisations that arranged and/or hosted the diabetes prevention education sessions are listed in Appendix 1.

## ACRONYMS

ACDS	Australian Centre for Diabetes Strategies
AIHW	Australian Institute of Health and Welfare
BHA	Bilingual health advocate
BHE*	Bilingual health educator
CIRCA	Cultural and Indigenous Research Centre Australia
DAV	Diabetes Australia - Victoria
GP	General Practitioner
MCWH	Multicultural Centre for Women's Health
NHMRC	National Health and Medical Research Council
NSW	New South Wales

\* The acronym *BHE* and the term *bilingual health educator* are used interchangeably to minimise repetition

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## EXECUTIVE SUMMARY

In response to the growing prevalence of Type 2 diabetes in some overseas-born people resident in Australia, the Multicultural Centre for Women's Health implemented the Diabetes Healthy Living Project. This innovative pilot project aimed to increase the capacity of immigrant and refugee women to make healthy lifestyle choices so to minimise their risk of developing Type 2 diabetes.

Initially, a consultation with key stakeholders was undertaken and available literature was reviewed to gain an understanding of culturally-appropriate diabetes prevention interventions for immigrant and refugee communities, particularly women. Using research findings, a comprehensive diabetes prevention program for immigrant and refugee women that utilised a narrative-based approach was developed. This gendered approach to diabetes prevention using storytelling as the main education strategy was the first of its kind in the world. Core components of the program included training for bilingual health educators and the delivery of diabetes prevention education sessions for immigrant and refugee women.

A comprehensive, informative and entertaining training program for all of the centre's bilingual health educators was conducted to provide educators with the diabetes-related information necessary to educate immigrant and refugee women about diabetes prevention. Bilingual health educators rated the training program, which was delivered over two days and involved a number of presenters, very highly. Following this program, diabetes prevention education sessions were delivered in eight languages: Amharic, Arabic, Italian, Macedonian, Sudanese Arabic, Tagalog, Turkish and Vietnamese. Overall, 26 education sessions for 104 immigrant and refugee women were held, with up to three sessions per language. Only one group of women per language (two for Arabic) was recruited to participate in all three education sessions which were delivered as a series. The diabetes prevention education sessions incorporated culturally-appropriate strategies such as storytelling, multilingual visual and written resources, and food-based activities. Women's responses to the education sessions were extremely positive, with women reporting increased awareness of the importance of diabetes and the role of healthy eating and an active lifestyle in preventing and managing diabetes. Women also reported discussing diabetes with family members, adopting healthy cooking practices and undergoing diabetes screening. The education strategies utilised in the sessions were instrumental in the project's success.

Immigrant and refugee women's capacity to engage in healthy living and to encourage their families to do the same can be significantly improved. This can be achieved by a gendered approach to diabetes prevention education that uses culturally-appropriate strategies such as storytelling, multilingual resources and food-based activities, and is delivered by trained bilingual health educators. General practitioners could also be informed of culturally-appropriate diabetes prevention programs to which they can refer their immigrant and refugee female patients.





# CHAPTER 1: INTRODUCTION

Type 2 diabetes is considered a global epidemic. In Australia, over 700,000 Australians (3.6% of the population) were diagnosed with the disease in 2004-05 (AIHW, 2008). Immigrants and refugees are particularly susceptible to developing this chronic condition due to a host of factors including socio-cultural and political-economic influences (including communication problems), genetic predisposition to the disease, and lifestyle and nutrition changes due to migration. Prevalence rates for Type 2 diabetes in some overseas-born people are higher than in people born in Australia. In 2004-05, the age-adjusted prevalence of diabetes for overseas-born people was 4 percent compared to 3 percent in Australian-born people. Rates are highest in North African (7%), Middle Eastern (7%), South East Asian (6%), and Southern and Eastern European (5%) communities (AIHW, 2008).

These high prevalence rates highlight the need for culturally-appropriate diabetes prevention programs.

## 1.1 Background to the Diabetes Healthy Living Project

The Multicultural Centre for Women's Health (MCWH) is a women's health organisation committed to improving the health of immigrant and refugee women across Australia. The centre is for all women from immigrant communities, including refugee and asylum seekers and women from emerging and established communities.

The Multicultural Centre for Women's Health has been providing health education and information to women in the workplace and community for thirty-two years. The centre's education program follows a holistic, peer education model known as the *woman-to-woman approach*, which is participatory in design and respects immigrant and refugee women's experiences and knowledge. Trained bilingual health educators conduct health promotion sessions for women in the preferred language of the participants, covering a range of women's health issues including sexual and reproductive health, occupational health, mental health, drugs and alcohol, and financial literacy. The centre provides health education to immigrant and refugee women in twenty languages.

As part of its mission to improve the ability of women to assume greater control over their health and wellbeing, the Multicultural Centre for Women's Health implemented a pilot project known as the Diabetes Healthy Living Project. This diabetes prevention initiative utilised a narrative-based approach to increase the capacity of immigrant and refugee women in Melbourne, Australia to make healthy lifestyle choices so to minimise their risk of developing Type 2 diabetes. This gendered approach to diabetes prevention using storytelling as the main education strategy was the first of its kind in the world.

More specifically, the objectives of this pilot project were to:

- conduct high-quality research into culturally-appropriate diabetes prevention interventions for women from immigrant and refugee communities;

- develop diabetes prevention education modules for immigrant and refugee women;
- provide training to bilingual health educators on diabetes-related issues and on the delivery of the diabetes prevention education modules;
- conduct a number of diabetes prevention education sessions for immigrant and refugee women;
- collect data in relation to the above programs to evaluate the impact of the programs; and
- produce and disseminate a report so that the outcomes of the project are widely known among key stakeholders.

Diabetes and Diversity in Western Melbourne (D2West), a Victoria University research program that aims to improve diabetes prevention interventions, particularly those focused on immigrants and refugees, assisted with the preparation of a literature review and with the training of the bilingual health educators.

An advisory committee, consisting of community representatives and health and community professionals involved in diabetes education and/or prevention, was formed to ensure that the project was guided by individuals with relevant expertise. The committee, which met on two occasions during the project's lifetime, ensured that the project was well-planned, monitored and managed, and that mechanisms were in place for good practice throughout the project. Appendix 1 lists all the advisory committee members.

This report has four chapters. This first chapter has provided a brief overview of the Multicultural Centre for Women's Health and the Diabetes Healthy Living Project. Presented in Chapter 2 are research findings, based on a key stakeholder consultation and a literature review, on culturally-appropriate diabetes prevention interventions. A comprehensive overview of the diabetes prevention education program (training for bilingual health educators and education sessions for immigrant and refugee women) is presented in Chapter 3 while key recommendations are included in Chapter 4.

## CHAPTER 2: RESEARCH FINDINGS

Despite the high prevalence of Type 2 diabetes in some immigrant and refugee communities, there is very little information available on culturally-appropriate diabetes prevention interventions, particularly for women from these communities, which could guide the implementation of the Diabetes Healthy Living Project. Consequently, research was undertaken to gain an understanding of immigrant and refugee experiences of diabetes and to identify examples of diabetes prevention interventions implemented for immigrant and refugee communities.

The research component, which was very brief given the limited timeframe, involved consultation with key stakeholders and a literature review. A consultation was conducted with health professionals involved in diabetes education and/or prevention for immigrant and refugee communities and/or experience in delivering health-related services to women from these communities. Seven semi-structured interviews with nine participants from six health agencies and organisations were conducted (see Appendix 1 for the full list of agencies and organisations represented in the consultation). Nursing (community health, diabetes education and midwifery), medicine (general practice) and dietetics were the main disciplines represented in the consultation. Quotes from consultation participants are included verbatim to support key consultation findings. Appendix 2 contains the questions discussed during the consultation.

D2West prepared a draft literature review which brought together existing knowledge about diabetes prevention interventions appropriate for immigrant and refugee communities. The literature review was subsequently adapted for inclusion in this report.

### 2.1 Immigrant and refugee experiences of diabetes

Immigrant and refugee experiences of diabetes are characterised by varying attitudes, beliefs and levels of knowledge about the nature and causes of this chronic condition. Furthermore, various barriers impede the ability of immigrants and refugees to regard diabetes and its prevention and/or management seriously. These factors need to be considered in the development and implementation of diabetes prevention interventions that are culturally-appropriate for immigrant and refugee women.

#### 2.1.1 *'I don't feel anything now, [so] why should I change my lifestyle?'*

The lack of concern for and limited knowledge about Type 2 diabetes is universal across the Australian population. For immigrants and refugees, the belief their diet is low in sugar and their perception that diabetes is a 'sugar' disease may explain this lack of concern. Conversely, others believe a little bit of sugar does no harm. Furthermore, immigrant and refugee perceptions of health and illness, particularly the notion that *illness* is synonymous with *symptoms*, may also influence their understanding of the severity of diabetes or their risk of developing the condition. As diabetes is an insidious and silent condition with no external symptoms unless poorly controlled, some immigrants and refugees may be less inclined to think diabetes is a serious condition and thus to adopt healthy lifestyle practices:

*“They wouldn’t think diabetes is a dangerous disease because they don’t see it, they don’t feel it...[so] why should I change my lifestyle?”*

(Consultation participant: diabetes nurse educator 1)

Diabetes may only be taken seriously if diagnosed, if symptoms develop, or if a family member is diagnosed with and/or affected with the condition.

### **2.1.2 ‘Trying to get them to maintain a healthy lifestyle is more difficult’**

Engaging in healthy lifestyle practices to prevent or manage diabetes is fraught with difficulty for many immigrants and refugees. Whilst some may demonstrate commitment to living healthily, the effect of complex personal beliefs related to social norms about the role of food in the community and cultural identity is a barrier to positive lifestyle changes (Grace et al., 2008). In some immigrant and refugee communities, perceptions of weight - particularly recognition of larger body sizes as indicators of high status, good health, strength and beauty - are common, especially in African, Bangladeshi and Pacific Islander communities (Ahmed, 2003; Ahmed et al., 2001; Greenhalgh et al., 1998; Vainikolo et al., 1993). Religious beliefs can also affect the ways in which diabetes is managed, with some Muslims inclined to believe that diabetes is a sign sent from God to test their faith, resulting in acceptance and tolerance of its complications (Ahmed, 2003). Also, religious practices - such as fasting or, conversely, the importance of food during religious festivities - can have adverse health implications for people with diabetes and those at-risk (Burden, 2001).

Immigrant and refugee women who demonstrate commitment to engaging in a healthy lifestyle, either to prevent or manage diabetes, may be impeded by family reluctance to adopt nutritious eating practices. Expecting the whole family to conform to a new and healthier diet can end in conflict, resulting in women preparing separate meals for themselves and for their families:

*“[Women] change theirs [diet], but often the husband won’t change [his] – I’ve heard that story many many a time. The woman will be cooking her own meals separately to the rest of the family.”* (Consultation participant: GP 1)

In other cases, women cease preparing healthy meals for themselves due to the difficulty in cooking separate meals and so consume the one meal prepared for the whole family. Conflict also occurs when partners with diabetes refuse to eat healthy meals. In these situations, women continue cooking the same foods to appease their partners.

For many immigrants and refugees, especially women, barriers to physical activity can be attributed to lack of time due to carer or work responsibilities, the perception that exercise is costly, immodest or culturally-inappropriate, or health conditions - such as arthritis in older women - that make exercise difficult. Structural and financial barriers, namely lack of transport options or cost, may impede the ability of immigrant and refugee women to purchase healthy foods such as fruit and vegetables. For newly-arrived women in particular, the demands and/or consequences of settlement – such as housing,

social isolation, domestic violence and family breakdown - assume greater priority over engaging in healthy eating and exercise.

The willingness of immigrants and refugees to adopt a healthy lifestyle to prevent diabetes may be enhanced if general practitioners (GPs) demonstrated more concern for at-risk patients:

*“People take doctors very seriously and if the doctor says ‘you have to be careful, you have to change your life, go to (service) and find out what you need to do’, people would take it more seriously.”* (Consultation participant: diabetes nurse educator 2)

For some newly-diagnosed immigrants and refugees, diabetes diagnosis is a shock, especially upon discovering their GPs knew of their risk and did not advise them to make changes to eating practices and to engage in physical activity. Understandably, factors such as heavy GP workload and the limited time available in consultations for health promotion make it difficult for GPs to encourage healthy living to immigrants and refugee patients. However, low GP utilisation of free interpreting services (Atkin, 2008) may also be a significant contributing factor. Using professional interpreters enhances the quality of health care provided to immigrants and refugees, and with interpreting services – telephone and onsite - free of charge for Australian general practices, more GPs should be encouraged to utilise interpreters. Immigrants and refugee patients should also be empowered to demand qualified interpreters for GP consultations. General practitioners should also be informed of culturally-appropriate diabetes prevention programs to which they can refer their immigrant and refugee patients.

## **2.2 Diabetes prevention programs for immigrant and refugee communities**

The benefits of providing diabetes information to immigrant and refugee communities is well-documented (Foliaki and Pearce, 2003; Ingram et al., 2005; Norris et al., 2006; Vincent, 2007). However, there is little evidence from Australia of culturally-appropriate diabetes prevention interventions. Whilst there is no formalised mechanism for sharing information about diabetes-related programs for immigrant and refugee communities in Australia, two agencies have been instrumental in creating profiles of Australian programs and projects targeting these communities: Australian Centre for Diabetes Strategies (ACDS, 2005) and NSW Department of Health (Colagiuri et al., 2007). These profiles provide a valuable resource for the development and implementation of diabetes-related interventions for immigrant and refugee communities, but there are very few examples of programs with a focus on diabetes prevention. According to these profiles, Australian diabetes prevention interventions for immigrant and refugee communities can be summarised as follows:

- Communities targeted for diabetes prevention include Arabic, Chinese (predominantly Cantonese-speaking), Croatian, Ethiopian, Filipino, Greek, Italian, Maltese, Samoan, South Sea Islander, Tongan and Vietnamese;
- Only one intervention targeted immigrant and refugee women, including those at-risk of, or who have diabetes, or who provide care to a person with diabetes;

- Education strategies developed and/or utilised to inform communities about diabetes prevention principles include a video, education sessions (some with a focus on physical activity), a community forum, a state-wide radio campaign and education resources (including a booklet on healthy eating);
- Collaboration and partnerships with communities was a feature of several projects;
- Outcomes of diabetes prevention interventions include improved knowledge and understanding about diabetes-related issues; improved referral to GPs and health professionals; increased screening; and increased utilisation of health services. In many cases, the outcomes reported were not based on results from proper evaluations but more on observations.

There is little quality evidence of the effectiveness of diabetes prevention interventions for immigrant and refugee communities. Instead, cultural inclusiveness, appropriateness and relevance are often used as indicators of effectiveness in health promotion programs for these communities, with program successes often based on collaboration, needs assessment and practical efforts to meet the target group's need, program participation and acceptability (Karantzas-Savva and Kirwan, 2004). In this regard, immigrant and refugee access to appropriate health-related services is best addressed through the use of multilingual GPs and community health workers (Ingram et al., 2005; Norris et al., 2006). Bilingual health education, utilising trained community representatives to deliver health information to members of their own communities in their own languages, is a respected culturally-appropriate model of health promotion:

*"I think the way in which getting [information] to these women is perhaps within their own groups. Hearing that sort of information within their own communities I think they perhaps take it on board if there is someone trained up to impart that information because they relate to one another so much better that way and they understand one another so much better and they're coming from the same background."*

(Consultation participant: diabetes nurse educator 3)

The most successfully-implemented and only clinically-tested example of this model of health promotion for diabetes is an intervention in the United Kingdom (Greenhalgh et al., 2005a, 2005b). The project involved the development and implementation of bilingual health advocate (BHA)-led group education and support groups for South Asian people with diabetes. The BHAs used a storytelling approach to impart key messages about diabetes management. The most significant outcomes of the project were the development of a nationally-accredited training program for the BHAs and the establishment of two BHA-facilitated groups for South Asian patients with diabetes at community centre and hospital settings. Project evaluation confirmed that BHA-facilitated diabetes storytelling groups, supported by health professionals, are feasible (Greenhalgh and Collard, 2003; Upshur, 2005), popular with non-English speaking Asian patients, and could be applicable to other immigrant and refugee groups.

Bilingual health education focusing on diabetes has been implemented in Australia. Two projects, both of which targeted men and women, trained bilingual community educators to conduct education sessions that aimed to increase diabetes awareness and to reduce the risk of diabetes in immigrant and refugee communities. The education sessions were conducted in several languages: Arabic, Chinese, Greek,

Italian, Samoan, Tongan, Turkish and Vietnamese. The model was found to be an effective means of increasing immigrant and refugee understanding of diabetes (ACDS, 2005; CIRCA, 2008).

There is no evidence that bilingual health education has been adopted for gender-specific diabetes prevention interventions in Australia or even globally. Only one gender-specific diabetes prevention intervention has been implemented in Australia, but health professionals were utilised as guest speakers with the assistance of interpreters to provide information to immigrant and refugee women.

## **2.3 Key findings**

Some overseas-born people resident in Australia are at a higher risk of developing Type 2 diabetes than Australian-born people, highlighting the importance of culturally-appropriate diabetes education for the prevention and management of diabetes in immigrant and refugee communities. Of importance are interventions which consider the varying attitudes, beliefs and levels of knowledge about diabetes in these communities.

Given the prevalence of diabetes in some immigrant and refugee communities, culturally-appropriate interventions focusing on diabetes prevention, particularly for immigrant and refugee women, are scarce. Also lacking is evidence documenting the effectiveness of previous and existing programs or projects. Instead, key characteristics of successful culturally-appropriate health promotion initiatives are based on consultation, collaboration and practicality. The most successful culturally-appropriate model of health promotion utilises trained bilingual community workers, a model that has been utilised with great effect in narrative-based diabetes education with ethnic minority groups in the United Kingdom. However, the model has never been used in a gendered approach to diabetes prevention in Australia or globally.





## **CHAPTER 3: DIABETES PREVENTION EDUCATION PROGRAM FINDINGS**

Following the consultation, a comprehensive diabetes prevention education program was developed and implemented. Core components of the program included training for bilingual health educators (BHEs) and diabetes prevention education sessions for immigrant and refugee women.

Quotes are included verbatim to support key program findings. Quotes are from women for whom English is not their first language. No amendments have been made to spelling or grammar used in the quotes.

### **3.1 Training program for bilingual health educators**

Before the MCWH bilingual health educators conduct education sessions on any new women's health topic, they are required to undergo training. While the Diabetes Healthy Living Project was funded to provide diabetes prevention education to immigrant and refugee women in eight languages, all of the MCWH bilingual health educators (n=20) participated in the two-day training program, as it was expected that diabetes prevention would be incorporated into the centre's core health education program. This comprehensive, informative and entertaining professional development exercise involved a number of presenters who provided the BHEs with the information necessary to deliver the education sessions. Presenters included a well-known Australian actor (arranged through Diabetes Australia – Victoria or DAV), public health researchers and an accredited diabetes nurse educator from Victoria University and a dietitian from Eat Well Nutrition Service. Appendix 1 provides a list of the training program presenters.

A narrative-based approach was integral to all education delivered as part of the Diabetes Healthy Living Project. Narrative methods, or storytelling, are increasingly utilised in public health research and health promotion. Storytelling is an age-old tradition and a form of communication that provides meaning to and facilitates engagement with presented material. Whilst informally featured in MCWH health education sessions for immigrant and refugee women for many years, storytelling was first officially incorporated and utilised in the MCWH Healthy Credit Project (Poljski and Murdolo, 2009). This project involved the delivery of credit education sessions for immigrant and refugee women in eight languages. Case study discussions, as they were formally referred to in the project, were initially included in the education sessions as an evaluation tool designed to collect information about women's knowledge, attitudes and practices related to credit and debt. The sensitive nature of money for many people warranted the use of an evaluation tool which could generate discussion without creating discomfort or embarrassment for participants. During these sessions, the bilingual health educator generated informal discussions about the credit and debt experiences of fictional characters, thereby removing the emphasis from the women. It was during these discussions that the BHE was expected to generally note women's level of knowledge about, attitudes towards and practices related to credit and debt. However, in many cases, usually after establishing rapport with other participants and the BHE, women felt comfortable disclosing details about their own credit and debt experiences. These disclosures appeared to facilitate a better understanding of the possible problems and their solutions than didactic education ever could. The unexpected discovery

of the value of case study discussions as an education strategy for immigrant and refugee women, unanimous BHE support for the continued use of this strategy in future education sessions and evidence supporting the significant effect of storytelling in previous diabetes education programs conducted with ethnic minority groups (Greenhalgh et al., 2005a, 2005b) justified the adoption of a narrative-based approach in the Diabetes Healthy Living Project.

Storytelling was incorporated into the training program for the bilingual health educators and into the diabetes prevention education sessions for immigrant and refugee women with great effect. Maggie Millar, a well-known Australian actor who has starred in television programs such as *The Sullivans*, *Prisoner*, *Neighbours* and *Blue Heelers*, began proceedings on the first day of the training program with her one-woman play, *A Very Good Thing*, about being about being diagnosed and living with Type 2 diabetes. Maggie's well-received performance generated much lively discussion and set the tone for the rest of the training program. Image 1 shows Maggie Millar (seated in the centre in the blue dress) with the bilingual health educators.



**Image 1: Maggie Millar with the bilingual health educators**

(Image courtesy of Nalika Unantenne)

A range of diabetes-related topics were covered in the training program. Daniel Chew from Victoria University's School of Nursing and Midwifery, an accredited diabetes nurse educator who proved incredibly popular with the BHEs (see Image 2), provided an entertaining yet informative overview of

diabetes (types, role of insulin, risks, genetic factors, treatment and prevention) through his humorous and unique use of imagery and metaphors. Regina Quiazon, the Diabetes Education Project Officer from Victoria University's Faculty of Health, Engineering and Science, presented on the effects of diabetes on psychological wellbeing, quality of life and family life. In her presentation, Adele Mackie, a dietitian with Eat Well Nutrition Service, discussed dietary issues relevant to diabetes, including meal preparation and modification, healthy shopping choices, encouraging children and family to eat healthy foods, and physical activity. The full training program outline, including topics covered, is presented in Appendix 3.



**Image 2: Daniel Chew with bilingual health educators during his entertaining presentation**

(Image courtesy of Nalika Unantenne)

Upon completion of these key presentations that transferred the necessary diabetes-related information to the bilingual health educators, Regina together with Nalika Unantenne, D2West's Research Officer, engaged the BHEs in group activities designed to consolidate the information presented during the training program. The first of these activities involved discussion of five case studies, with each case study presenting a different set of diabetes-related experiences (see Box 1). The bilingual health educators were divided into five small groups, with each group given a different case study to discuss and to then present back to the larger group. The second activity, *Negotiating Health Beliefs*, was a group question and answer exercise that aimed to encourage BHEs, using information presenting during the training program, to respond appropriately to possible diabetes-related beliefs that could be held and presented to them by women participating in the diabetes prevention education sessions. Appendix 4 provides the list of health beliefs discussed in this group exercise.

**Box 1: Case study discussions used in the training program for bilingual health educators**

Five case studies were included for discussion in the BHE training program of the Diabetes Healthy Living Project. The workbook *Narrative Based Health Care: Sharing Stories* (Greenhalgh and Collard, 2003) assisted in the development of the five case studies, which were as follows:

**Case study 1: Adelina**

Adelina is 36 years old and married with three young children. She does not work and stays at home to look after the children who all attend primary school. Since immigrating to Australia, Adelina has put on extra weight, but she does not feel self-conscious about her new size because she does not feel any larger than the other women in her community. Apart from walking a short distance to the school, she cannot do much exercise anyway because of a foot problem. Adelina recently had what she thinks is thrush - she has been too embarrassed to see a doctor - but has been keeping it under control through creams purchased from the chemist. Although she has been feeling very tired lately, especially after a busy day with the children, she generally feels well. Adelina thinks she could have diabetes because her mother had diabetes; however, she does not think she needs to be tested for diabetes because she knows that diabetes is a 'sugar disease' and she rarely eats sweet things.

**Case study 2: Lourdes**

Lourdes is 62 years of age and lives alone. Just after her husband died, Lourdes fell ill due to lack of nutrition, and shortly after this, she was diagnosed as having diabetes. Her doctor told her that as long as she ate properly, exercised and took her medication, she could keep her condition under control. Lourdes never really came to terms with her diabetes and does not understand how improving her lifestyle can help her. She thinks that the shock of her husband's death caused her to get diabetes and she feels she is too old to change her habits. She sometimes resorts to herbal remedies used in her culture to treat diabetes, but does not want to tell this to her doctor for fear of reprimand. She often says to her friends: '*I will die when my time is up and nobody can change that.*' She takes the tablets for her diabetes irregularly when she is feeling weak and dizzy, expecting the tablet to 'cure' her. Lourdes is accepting of her diabetes but feels that her life is 'practically over' anyway. She misses her husband and feels lonely most of the time.

**Case study 3: Adi**

Adi, a previously healthy eight year old boy, discovered a few months ago that he had diabetes. He lost a lot of weight, felt thirsty, frequently went to the toilet and his lips were very dry. His parents took him to the hospital and his blood sugar was tested. Adi's blood sugars were very high and the doctors said he should go on a careful diet as well as have insulin injections. Adi's mother has been very strict about his diet, always giving him vegetable and other boiled food. Adi's father sometimes sneaks him some chocolates and sweets as he feels bad that his six year old son can eat anything he likes. On one occasion, Adi had to go to hospital because his blood sugar became very high. Now Adi is frustrated and tired. He has been missing a lot of school. His parents are worried at his lack of enthusiasm and interest in his studies.

*Case studies continued on the next page*

**Box 1: Case study discussions used in the training program for BHEs (contd-)*****Case study 4: Aaliyah***

Aaliyah is 30 years old, is four months pregnant and has diabetes. When she was two months pregnant, she thought she had a miscarriage because she was bleeding. Two weeks ago, she went to the doctor for a check-up. The doctor sent her for a scan to confirm that she was still pregnant. The scan showed that she was more than 16 weeks pregnant. Aaliyah is very upset. She thought she had lost the baby. She does not want to keep the baby as she is diabetic, and when she was previously pregnant she was in and out of hospital and had to have insulin injections. At the moment, she has stopped taking her diabetic medication. Now she is worried sick as she is over the normal 12 weeks to have a termination. Her husband is supporting her decision.

***Case study 5: Riya and Shan***

Riya and her husband Shan, both in their mid-forties, immigrated to Australia two years ago. Neither of them has been able to find proper ongoing employment. Riya works as a waitress and Shan works at a nearby market where his job is to unload crates of food before trading hours, often starting around midnight and working till 5am. They are under immense financial strain and they do not see much of each other due to their working hours. Recently, Shan has been feeling very tired, has lost quite a bit of weight and feels thirsty all the time. The GP diagnosed him with Type 2 diabetes and advised him to make some lifestyle changes, including changes to his diet. The GP provides Riya with some simple “Western” recipes. Riya has since tried to modify the way she cooks by incorporating more fish, fruit and vegetables in their meals and by cutting down on ‘bad’ oils and fatty red meat. She does not feel comfortable cooking unfamiliar recipes and foods, and does not know where to find traditional food items and ingredients that she is familiar with but still tries her best. Shan, however, loves his red meat, hates seafood, is not too fond of fresh vegetables and fruits and does not like the taste of olive oil in his meals. He insists that Riya gives up her new way of cooking and will have it no other way. Shan’s GP meanwhile sees no improvement in his blood sugar levels. Riya is very worried and feels guilty that her food is the main cause of Shan’s diabetes.

At the end of the two-day training program, the Diabetes Healthy Living Project Officer (the author of this report) delivered a separate session for the eight bilingual health educators participating in the project to provide them with an overview of the diabetes prevention education sessions and the resources required to deliver the sessions (including the education modules to be delivered and the visual resources to be used in the sessions and the multilingual education materials to be distributed to women participating in the sessions). These resources were additional to the kit of diabetes-related resources distributed at the start of the training program to all the BHEs to complement the information provided during the training and to assist in the planning and delivery of diabetes prevention education sessions. Resources in the kit were sourced from a number of agencies including the Better Health Channel (Victoria), Diabetes Australia (New South Wales, Victoria and national branches), Jean Hailes Foundation for Women’s Health (Victoria), National Health and Medical Research Council (NHMRC) and the New South Wales Multicultural Health Communication Service.

### **3.1.1 Training program: evaluation**

A comprehensive evaluation survey about the training program was administered to the bilingual health educators (see Appendix 5). On a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent', the quality of the training program was given an overall rating of **9**. The comprehensive nature of the training program, or the diverse range of topics covered, was also rated highly (**8.6**) and reported to be a contributing factor to the program's success. The training program was also strongly rated as an informative (**8.3**), understandable (**8.7**) and interesting (**9**) professional development exercise that increased the confidence of bilingual health educators to educate women about diabetes (overall rating of **8.1** on a scale of 1 to 10, with 1 being 'not at all' to 10 being 'extremely').

The cultural relevance of the information presented during the training program also rated well (overall rating of **8.8** on a scale of 1 to 10, with 1 being 'not at all' to 10 being 'extremely'), with bilingual health educators unanimously reporting that all the information provided was relevant to women from their communities. On an individual level, many BHEs reported a better understanding of diabetes overall and recognition that this chronic condition cannot be cured but managed without compromising quality of life. The messages about the importance of a healthy diet and regular physical activity in the prevention of Type 2 diabetes also appeared to resonate strongly with many of the bilingual health educators. The BHEs reported that women from their communities would most likely respond favourably to messages about diet and exercise.

In addition to the comprehensive nature of the training program, the quality of the presenters and the education strategies were dynamics strongly emphasised as factors contributing to the program's success. On a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent', individual presenter ratings ranged from **7.9** to **9**. On a scale of 1 to 10, with 1 being 'not at all' and 10 being 'completely', individual ratings for the ability of presenters to increase knowledge and understanding about the issues and topics presented ranged from **8** to **9**. However, BHE reports about the amount of information provided by each of the presenters were variable. While 93% of the bilingual health educators reported that Regina Quiazon provided sufficient information in her presentation, only 67% and 77% of the BHEs indicated the same for Daniel Chew and Adele Mackie respectively. One-fifth (20%) and nearly one-quarter (23%) of BHEs reported that Daniel and Adele did not provide enough information correspondingly. These statistics are not meant to detract from the quality of Daniel's and Adele's presentations. In fact, the abilities of Daniel and Adele to increase BHE knowledge and understanding of diabetes and nutrition respectively were rated highly. However, limited resources that were afforded to deliver the training program, combined with the variety of diabetes-related topics that needed to be covered in the program, meant that all presenters were constrained by time and so could only provide bilingual health educators with fundamental information. In-depth and all-encompassing presentations on the variety of diabetes-related topics were not possible in the time allocated for the training program. These figures suggest that significant time is required to fully provide bilingual health educators with a detailed overview of diabetes, nutrition and healthy eating, as highlighted by one BHE:

*"I would like to have more longer sessions. It was useful but still a long way to really grasp all the information to enable us to get the skills to empower women."* (BHE 1)

The complexity of diabetes, particularly the various facets of the condition, and the role of good nutrition in its prevention and management, warrants the need for in-depth introductory training for BHEs that comprehensively covers diabetes and healthy eating in particular. Ongoing professional development to maintain BHE knowledge base about this public health issue is also essential, a recommendation over half the bilingual health educators supported in requesting that further training be provided.

Narrative-based education strategies were a core component of the training program. Bilingual health educators responded positively to these strategies. The effectiveness of Maggie Millar's one-woman play as a training strategy was given an overall rating of **8.3** (on a scale of 1 to 10, with 1 being 'not at all' and 10 being 'extremely'). One bilingual health educator summed up the value of Maggie's performance:

*"Having a speaker who's actually managing diabetes is great. Very powerful training strategy!"* (BHE 2)

The five case studies used in the small group discussions were rated **8.4** (on a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent'), with the relevance of these case studies rated **8.6** (on a scale of 1 to 10, with 1 being 'not at all' and 10 being 'extremely'). The effectiveness of the case study discussions as a training strategy was given an overall rating of **8.3** (on a scale of 1 to 10, with 1 being 'not at all' and 10 being 'extremely'). The majority of BHEs (75%) reported that case study discussions should be included in future training programs. However, no feedback was given to explain why this strategy was considered effective or should remain in professional development exercises.

The final activity designed to consolidate the information provided during the training program, *Negotiating Health Beliefs*, was given an overall rating of **8.1** (on a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent') and the resource kit distributed to all BHEs at the start of the program was rated **9.1** (on a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent'). Table 1 provides overall ratings for presenters and for education strategies used in the BHE training program.

Although the training program was successful and its narrative-based approaches were well-received, two key suggestions for improvement to the training program were made. These were increasing the time allocated to the training program, an issue discussed earlier, and using visual resources throughout the program. The need for visual resources was also raised in the evaluation of the diabetes prevention education sessions and is discussed in 3.2.2 *Diabetes prevention education sessions: evaluation*.

A visual representation of the BHE training program is shown from Images 3 – 6.



**Table 1: Overall ratings for presenters and education strategies used in the BHE training program**

<b>Presenter/Education strategy</b>	<b>Overall rating (out of 10)</b>
<b>Maggie Millar (one-woman play)<sup>1</sup></b> <ul style="list-style-type: none"> <li><i>Effectiveness of one-way play as training strategy<sup>2</sup></i></li> <li><i>Extent to which the performance increased knowledge and understanding about diabetes in women<sup>3</sup></i></li> </ul>	8.2 8.3 8.3
<b>Daniel Chew (presentation)<sup>1</sup></b> <ul style="list-style-type: none"> <li><i>Extent to which presentation increased knowledge and understanding of diabetes<sup>3</sup></i></li> </ul>	9.0 9.0
<b>Regina Quiazon (presentation)<sup>1</sup></b> <ul style="list-style-type: none"> <li><i>Extent to which presentation increased knowledge and understanding of the psychological implications of diabetes<sup>3</sup></i></li> </ul>	8.5 8.6
<b>Adele Mackie (presentation)<sup>1</sup></b> <ul style="list-style-type: none"> <li><i>Extent to which presentation increased knowledge and understanding of nutrition and diabetes<sup>3</sup></i></li> </ul>	7.9 8.0
<b>Group exercise: Case study discussions<sup>1</sup></b> <ul style="list-style-type: none"> <li><i>Relevance<sup>2</sup></i></li> <li><i>Effectiveness as a training strategy<sup>2</sup></i></li> <li><i>Extent to which case study discussions reinforced understanding of diabetes<sup>3</sup></i></li> </ul>	8.4 8.6 8.3 8.3
<b>Group exercise: Negotiating Health Beliefs<sup>1</sup></b> <ul style="list-style-type: none"> <li><i>Extent to which this exercise enabled BHE to advise women about diabetes<sup>3</sup></i></li> </ul>	8.1 8.5
<b>BHE resource kit<sup>1</sup></b>	9.1

<sup>1</sup> On a scale of 1 to 10, 1 is 'poor' and 10 is 'excellent'

<sup>2</sup> On a scale of 1 to 10, 1 is 'not at all' and 10 is 'extremely'

<sup>3</sup> On a scale of 1 to 10, 1 is 'not at all' and 10 is 'completely'

In summarising the BHE training program, there was much:



**Image 3: Collaboration**

(Image courtesy of Nalika Unantenne)



**Image 4: Discussion**

(Image courtesy of Nalika Unantenne)



**Image 5: Laughter**

(Image courtesy of Nalika Unantenne)



**Image 6: Unity**

(Image courtesy of Nalika Unantenne)



### **3.2 Diabetes prevention education sessions for immigrant and refugee women**

The Diabetes Healthy Living Project was funded to deliver diabetes prevention education sessions for immigrant and refugee women in eight languages. Statistics documenting the high prevalence of Type 2 diabetes in certain immigrant and refugee communities (see Chapter 1) guided decision making about the languages in which to deliver the education sessions. Two languages from each of the four most-affected communities were selected and these were:

- North African: Amharic (the official language of Ethiopia), Sudanese Arabic;
- Middle Eastern: Arabic, Turkish;
- South East Asian: Tagalog (a language spoken in the Philippines), Vietnamese; and
- Southern and Eastern European: Italian, Macedonian.

Overall, 26 diabetes prevention education sessions were held, with up to three education sessions per language. The comprehensive nature of the education sessions, covering the administration of a participant survey and the delivery of four education modules which incorporated case study discussions (or storytelling) and the distribution of multilingual resources, meant the sessions were best delivered as a series of three 2-hour sessions. Consequently, one group of women (maximum of 15) per language (two groups of women for Arabic) was recruited to participate in all three education sessions. Three education sessions were delivered in seven languages as well as the three sessions for the additional group of Arabic-speaking women. The second group of Arabic-speaking women was included in the project as the group contacted MCWH at the time the education sessions were being arranged, without prior knowledge of the project, and requested education sessions about diabetes. The group accepted the invitation to participate in the project. Due to circumstances beyond the centre's control, only two education sessions were delivered in Sudanese Arabic. The eight bilingual health educators that were involved in the project (BHE training and education sessions) are listed in Appendix 1.

Overall, 104 immigrant and refugee women participated in the diabetes prevention education sessions. During the first education session in every language, women's informed consent to participate in the sessions was collected (see Appendix 6) and a short survey designed to collect information from women about basic demographics and their knowledge, experiences and practices related to diabetes was administered (see Appendix 7). Of the 104 women:

- Nearly three-quarters (72.1%) were aged 51 years and over, with most of these older women aged over 61 years;
- More than half (58.7%) had lived in Australia for over 21 years while 14.4% had lived in Australia for up to five years;
- Nearly half (47.1%) were living with their partners while 36.5% were widowed; and
- More than half (58.7%) were pensioners or retired.

Table 2 provides a demographic background of the women who participated in the diabetes prevention education sessions.

**Table 2: Demographic background of women who participated in the diabetes prevention education sessions**

<b>Demographic</b>	<b>Number of women</b>	<b>% of women</b>
<b><i>Main language spoken</i></b>		
Amharic	10	9.6
Arabic	20	19.2
Italian	11	10.6
Macedonian	12	11.5
Sudanese Arabic	9	8.7
Tagalog	15	14.4
Turkish	17	16.3
Vietnamese	10	9.6
<b><i>Total</i></b>	<b>104</b>	<b>100.0</b>
<b><i>Age</i></b>		
No response	2	1.9
18-30 years	7	6.7
31-40 years	14	13.5
41-50 years	6	5.8
51-60 years	19	18.3
61+ years	56	53.8
<b><i>Total</i></b>	<b>104</b>	<b>100.0</b>
<b><i>Time spent in Australia</i></b>		
No response	1	1.0
0-5 years	15	14.4
6-10 years	8	7.7
11-15 years	10	9.6
16-20 years	8	7.7
21+ years	61	58.7
Born in Australia	1	1.0
<b><i>Total</i></b>	<b>104</b>	<b>100.0</b>
<b><i>Relationship status</i></b>		
No response	3	2.9
Single	7	6.7
Living with a partner	49	47.1
Widowed	38	36.5
Separated or divorced	7	6.7
<b><i>Total</i></b>	<b>104</b>	<b>100.0</b>
<b><i>Employment status</i></b>		
No response	1	1.0
Working (part-time or full time)	8	7.7
Studying (part time or full time)	7	6.7
Parenting duties	21	20.2
Retired/pensioner	61	58.7
Other duties	9	8.7
<i>*Figures do not add up to 100% as participants could tick more than one box</i>		

Survey findings also revealed interesting information about the diabetes-related experiences of immigrant and refugee women. Of the 104 women:

- Nearly three-quarters (69.2%) had heard of diabetes (Type 1, Type 2, gestational);
- Two-thirds did not have Type 2 diabetes (65.4%), but over a quarter did have Type 2 diabetes (26%);
- Of the women who did not have diabetes, 60% had been tested for Type 2 diabetes;
- Over half (57.7%) had sought information about diabetes;
- Over half (55.8%) did not have an immediate family member with diabetes (Type 1, Type 2, gestational);
- Over half (52.9%) were solely responsible for the purchase of food while over a third (35.6%) shared the responsibility for buying food;
- Nearly three-quarters (72.1%) were responsible for cooking food and only a fifth (19.2%) shared cooking responsibilities; and
- Over a quarter (25.9%) engaged in up to 30 minutes of physical activity a day while 39.4% did more than 30 minutes a day. The amount of physical activity per day was variable for nearly a third (30.8%).

Whilst the Diabetes Healthy Living Project focused on *diabetes prevention* for immigrant and refugee women, those with diabetes were not excluded from participating in the education sessions because the principles of *diabetes prevention* and *diabetes management* are similar. The education sessions were considered useful for women with and without diabetes.

These statistics highlight the importance of a gendered approach to diabetes prevention education for immigrant and refugee women. In particular, the statistics demonstrating women's responsibility for the purchase and preparation of food highlight the substantial capacity women have to engage in healthy living and to encourage their families to do the same, supporting the need for a gendered approach to diabetes prevention. One-size-fits-all diabetes prevention efforts do not always address these issues.

### **3.2.1 *Diabetes prevention education sessions: development and implementation***

A comprehensive diabetes prevention education program for immigrant and refugee women using a narrative-based approach was developed, including four education modules and case studies for discussion. Multilingual visual and written resources about diabetes prevention were also collated for demonstration of key messages and for distribution to the women during the education sessions. Appendix 1 lists the organisations that arranged and/or hosted the education sessions.

Three diabetes prevention education sessions were delivered per language and only one group of women per language (two groups for Arabic) participated in the education sessions. The purpose of the first session was to provide an introduction to diabetes prevention education; to fully inform women about their rights and responsibilities vis-à-vis participating in the education sessions; to obtain their consent (see Appendix 6); to administer the participant survey (see Appendix 7), and to introduce the two case studies

that would underpin discussion during the education sessions (see *Case study 1: Adelina* and *Case study 5: Riya and Shan* in Box 1). Questions for the case study discussions in the first education session are presented in Appendix 8.

During the second and third diabetes prevention education sessions, the four modules were delivered (see Appendix 9). The education modules were designed to flow from one to the next and could be complemented with visual resources highlighting healthy foods. Bilingual health educators were given laminated multilingual and/or English resources collated for this purpose. Whilst the modules featured several key messages to be transferred to the women, as well as questions relating to the two case studies to present to the women, the onus was on the BHEs to decide which messages and questions were most relevant to deliver to their group of women within the allocated timeframe. Bilingual health educators were also given the responsibility of determining how food-based activities, incorporated into the modules to highlight the importance of healthy eating in diabetes prevention, could be implemented in the education sessions. A set amount of funds for these activities, namely for the purchase of foods, were allocated for each group. After the four modules were covered, the case studies discussed during the first education session were revisited at the end of the third session, using the same questions from the first session, to gauge if the program had resulted in changes in knowledge, attitudes and intended practices. Also, at the conclusion of the third education session, multilingual visual and written resources about diabetes prevention (with a focus on risk factors, good nutrition, physical activity and local sources of multilingual information on diabetes) which could reinforce the messages transferred during the sessions were distributed to women. The visual and written resources utilised and distributed in the education sessions were primarily sourced from local agencies or programs including Brimbank City Council; Centre for Multicultural Youth; Diabetes Australia (New South Wales, Victoria and national branches); Go For Your Life Victoria; Isis Primary Care; Migrant Resource Centre North West Region; NHMRC; and New South Wales Multicultural Health Communication Service. Whilst every attempt was made to obtain resources from Australian agencies, the variability of multilingual diabetes-related education materials, with some languages better represented than others, meant that resources from agencies based in the United States of America were also sourced. These agencies included the Georgia State University; Mount Carmel Health; National Heart, Lung and Blood Institute; OhioHealth; Ohio State University Medical Center; and United States Department of Health and Human Services. Where vital multilingual resources were not available, the English equivalent was utilised and/or distributed. In addition to receiving multilingual written resources, all women received a fridge magnet from DAV with details of the service's multilingual telephone information line and the NHMRC-produced *Australian Guide to Healthy Eating* colour brochure featuring a visual representation of healthy foods.

All the diabetes prevention education sessions were documented. Bilingual scribes were enlisted to document education sessions delivered in four languages. Bilingual health educators conducting the education sessions in the other four languages recorded their sessions and took notes from the recordings. Scribes and BHEs documented the strategies used, key discussion points and women's responses to the material presented in the education sessions. Bilingual scribes are listed in Appendix 1.

Table 3 provides an overview of the diabetes prevention education sessions for each language.

**Table 3: An overview of the diabetes prevention education sessions for each language**

	Overview of education sessions (strategies, discussion points, responses)
<b>Amharic</b>	<ul style="list-style-type: none"> <li>• Education strategies included case study discussions, group conversations, healthy cultural dishes prepared and eaten during the sessions, laminated visual resource used to highlight healthy foods, distribution of written resources</li> <li>• Discussion focused on types of diabetes, risk factors, myths (<i>having diabetes is a hard life</i>), healthy and unhealthy foods, food portions, cooking practices, health professionals – GPs and social workers at community health centres - who can assist people in the prevention and/or management of diabetes, kinds of physical activity</li> <li>• Women told their own stories related to diabetes, including misdiagnosis and its implications and the positive effects of migrating to Australia (correct diagnosis and management), cooking practices in Ethiopia, problems with cooking same food and the family boredom or conflict this created, diabetes experiences of associated others (husbands, family members, friends), effect of culture on physical activity levels</li> <li>• Women requested exercise classes in the local area</li> </ul>
<b>Arabic</b>	<ul style="list-style-type: none"> <li>• Education strategies included case study discussions, brainstorming, group conversations, healthy cultural dishes prepared by women and brought to the final session for a shared lunch, video on gestational distribution shown, laminated visual resource used to highlight healthy foods, distribution of written resources</li> <li>• Discussion focused on symptoms, risk factors, types of diabetes (especially gestational), healthy foods, physical activity, effects of diabetes on the body</li> <li>• Women shared their own diabetes-related stories</li> </ul>
<b>Italian</b>	<ul style="list-style-type: none"> <li>• Education strategies included case study discussions, group conversations, fruit and nuts platter provided as refreshments, healthy cultural dishes prepared by women and brought to final session for a shared lunch, laminated visual resource on healthy foods photocopied and distributed to women along with written resources</li> <li>• Discussion focused on types of diabetes, complications, myths (<i>diabetes is a death sentence</i>), explanation of the pancreas and insulin, signs and symptoms, healthy lifestyle changes, quality of life issues, accessing GPs</li> <li>• Women were very eager to share their personal experiences about diabetes complications, difficulty of affected family members to change their eating habits</li> </ul>
<b>Macedonian</b>	<ul style="list-style-type: none"> <li>• Education strategies include case study discussions, group conversations, drawings on white board used to demonstrate the relationship between pancreas and insulin, laminated visual resource used to highlight healthy foods, healthy versions of typical cultural foods presented, distribution of written resources</li> <li>• Discussion focused on sugar and diabetes, relationship between diabetes and mental health (depression, stress), types of diabetes, complications, weight issues, physical activity, healthy cooking practices, food portions and serving sizes, accessing dietitians</li> <li>• Women shared their diabetes-related stories, including reducing the impact of diabetes complications, diabetes experiences of husbands</li> </ul>
<b>Sudanese Arabic</b>	<ul style="list-style-type: none"> <li>• Education strategies included case study discussions, group conversations, laminated visual resource used to highlight healthy foods, cut fruit provided as refreshments, distribution of written resources</li> <li>• Discussion focused on causes, symptoms, prevention, healthy foods, including foods women had seen but never consumed previously</li> <li>• Women were very interactive in the discussion, and requested local cooking classes and exercise groups be established in the local area</li> </ul>

*Overview continued on the next page*



**Table 3: An overview of the diabetes prevention education sessions for each language (contd-)**

	Overview of education sessions (strategies, discussion points, responses)
<b>Tagalog</b>	<ul style="list-style-type: none"> <li>Education strategies included case study discussions, group conversations, discussion points noted on the whiteboard, simple stretching exercises, PowerPoint presentation, laminated visual resource used to highlight healthy foods, healthy cultural dishes prepared by a guest and brought to final session for a shared lunch, distribution of written resources</li> <li>Discussion focused on health professionals – GPs and diabetes educators, who can assist people with diabetes, types of diabetes, symptoms, blood sugar levels, complications, importance of healthy diet and physical activity (even simple exercise) in preventing, managing or controlling diabetes</li> <li>Women were keen to contribute to the discussion and share their diabetes-related experiences, including complications, difficulties changing eating habits, importance of a good relationship with a doctor, diabetes experiences of husbands</li> </ul>
<b>Turkish</b>	<ul style="list-style-type: none"> <li>Education strategies included case study discussions, group conversations, visual body chart used to highlight location of pancreas (sourced by BHE), discussion points noted on white board, fruit provided as refreshments during the education sessions, distribution of written resources</li> <li>Discussion focused on causes, risk factors, types of diabetes, role of insulin, signs, blood sugar levels, weight loss, complications and associations (stroke, depression), healthy and unhealthy eating habits, cooking practices, food portions and serving sizes, health professionals and services that can assist people in the prevention and/or management of diabetes</li> <li>Women told their own stories about diabetes-related experiences and those of family members, encounters with health professionals</li> </ul>
<b>Vietnamese</b>	<ul style="list-style-type: none"> <li>Education strategies included case study discussions, group conversations, visual resources used to highlight location of pancreas, laminated visual resource used to highlight low-fat and high-fat protein foods, empty containers of low-fat and regular milk and yoghurt and cheese to show women how to read food labels, bread and fruit in Vietnamese bowls used to highlight serving sizes and number of serves, Vietnamese rolls (traditional AND healthy versions) prepared for the education session to document the preparation of a cultural dish with healthy ingredients and cooking practices, different kinds of fruit provided as refreshments, distribution of written resources</li> <li>Discussion focused on types of diabetes, symptoms, screening and diagnosis, healthy eating (especially food portions and serving sizes), physical activity</li> <li>Women spoke of their own diabetes-related experiences and those of husbands and even well-known Vietnamese celebrities suffering diabetes-related complications</li> </ul>

### **3.2.2 Diabetes prevention education sessions: evaluation**

A comprehensive evaluation strategy for the diabetes prevention education program (three education sessions) was developed and conducted. Due to limited resources, only the BHEs were targeted in the evaluation and were required to complete a diabetes education program evaluation survey (see Appendix 10) at the conclusion of the three diabetes prevention education sessions.

Overall, the quality of the diabetes prevention education program was rated highly. On a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent', the quality of the program was given an overall rating of **8.8**. This figure is on par with the BHE training program which was given an overall rating of **9**. The program was also positively rated as a comprehensive (**8.6**), understandable (**8.6**), informative (**8.9**), interesting

(9.1) and culturally-relevant (9.8) diabetes prevention intervention (on a scale of 1 to 10, with 1 being 'not at all' to 10 being 'extremely'). Table 4 presents overall ratings for the diabetes prevention education program (three sessions).

**Table 4: Overall ratings for the diabetes prevention education program (three sessions)**

	Overall rating (out of 10)
<b>Quality<sup>1</sup></b>	8.8
<b>Comprehensive<sup>2</sup></b>	8.6
<b>Clear/understandable<sup>2</sup></b>	8.6
<b>Informative<sup>2</sup></b>	8.9
<b>Interesting<sup>2</sup></b>	9.1
<b>Culturally-relevant<sup>2</sup></b>	9.8
<b>Case studies<sup>1</sup></b>	8.6
• <i>Relevance<sup>2</sup></i>	8.5
• <i>Effectiveness as a teaching strategy<sup>2</sup></i>	9.0
<b>Four education modules<sup>1</sup></b>	8.5
• <i>Effectiveness of teaching strategies in modules (such as food-based activities)<sup>2</sup></i>	8.8
<b>Visual resources used in education sessions<sup>1</sup></b>	7.4
• <i>Extent to which visual resources could educate women about diabetes prevention<sup>3</sup></i>	8.0
• <i>Women's response to resources<sup>1</sup></i>	8.4
<b>Education resources distributed to women<sup>1</sup></b>	8.0
<b>Women's level of interaction<sup>1</sup></b>	9.1
<b>Women's level of interest<sup>1</sup></b>	9.3

<sup>1</sup> On a scale of 1 to 10, 1 is 'poor' and 10 is 'excellent'

<sup>2</sup> On a scale of 1 to 10, 1 is 'not at all' and 10 is 'extremely'

<sup>3</sup> On a scale of 1 to 10, 1 is 'not at all' and 10 is 'completely'

Bilingual health educators also rated highly the support they were given to deliver the diabetes prevention education sessions. On a scale of 1 to 10, with 1 being 'not at all' to 10 being 'extremely', the overall rating for the level of support received was **9.3**. The support given to the bilingual health educators may have contributed to BHE ability to understand the guidelines on the delivery of the education sessions (overall rating of **9.4** on a scale of 1 to 10, with 1 being 'not at all' to 10 being 'completely'), BHE

confidence to deliver the education sessions (overall rating of **8.9** on a scale of 1 to 10, with 1 being 'not at all' to being 'extremely') and BHE ability to answer questions asked during the education sessions (overall rating of **9.3** on a scale of 1 to 10, with 1 being 'not at all' to 10 being 'completely'). These findings suggest that supporting bilingual health educators is necessary for the delivery of effective and culturally-appropriate health promotion interventions.

### **Case study discussions**

*"I think it makes the participant to think about the situation if it applies to them or any one they know."* (BHE 3)

Given the success of a narrative-based approach in previous multilingual health promotion projects (Greenhalgh et al., 2005a, 2005b; Poljski and Murdolo, 2009), it is not surprising the case study discussions were successful in the diabetes prevention education sessions (overall rating of **8.6** on a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent'). All the bilingual health educators were in favour of the case studies remaining part of the future diabetes prevention education sessions. As a teaching strategy, case study discussions were considered highly effective (overall rating of **9** on a scale of 1 to 10, with 1 being 'not at all' to 10 being 'extremely'), possibly due to the relevance of the case studies to the immigrant and refugee women participating in the education sessions (overall rating of **8.5** on a scale of 1 to 10, with 1 being 'not at all' to 10 being 'extremely'). More specifically, *"they [case studies] embraced a variety of situations, age, family and work environments, so participants were able to associate with."* (BHE 4)

The strong oral tradition in many cultures may explain the effectiveness of case study discussions as well as women's acceptance of the case studies. The case study discussions inspired women to tell their own stories. In some cases, storytelling continued beyond the sessions, with women discussing the case studies with their families and friends.

Evaluation was another purpose of the case study discussions in the diabetes prevention education sessions. Two case studies were discussed in the first and third education sessions to introduce a variety of diabetes-related experiences and to collect information about immigrant and refugee women's knowledge, attitudes and practices related to diabetes prevention. Either the BHEs or bilingual scribes noted the points made during the discussions. Only a basic analysis of the information collected from the discussion could be undertaken and demonstrated the following:

For **case study 1**, women were aware of the various issues Adelina was experiencing, namely weight problems, isolation, thrush, shyness and embarrassment about having thrush (possibly due to cultural issues), a foot problem and a predisposition to developing diabetes. Several women commented on Adelina's poor knowledge about women's health issues. Women unanimously reported they would visit their GP if in Adelina's situation and strongly suggested Adelina adopt the same course of action.

For **case study 2**, women reported the issues in Shan and Riya's situation, most of which were related to working life (long working hours, type of work) and the couple's poor financial situation, factors which in most cases were blamed for Shan's poor health. Most women were supportive of Riya and expressed annoyance with Shan's poor attitude and refusal to adopt a healthier lifestyle. Women even complained that Shan resembled men from their own communities. The most commonly-reported solutions to the situation included Shan changing his working arrangements, negative attitude and lifestyle. Social support and advice from a health professional, such as a GP or dietitian, were also required. One group of women mentioned that Riya could make the changes to cooking gradually rather than all at once.

The success of the case study discussions as a culturally-appropriate education strategy in this diabetes prevention initiative suggests narrative-based approaches need to be seriously considered in future health promotion interventions for immigrant and refugee women.

### **Education modules and resources**

The education modules were given an overall rating of **8.5** (on a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent'). Comments from the BHEs about the dynamics of module delivery varied from easy to challenging, with one possible explanation about the difficult aspects of convincing women to eat healthily pertaining to the lack of visual resources.

Paper-based visual resources highlighting different kinds of healthy foods, including portions, were collated for BHEs to use in the diabetes prevention education sessions as a means of reinforcing messages about the role of good nutrition in diabetes prevention. However, the availability of consistent multilingual visual resources that could be used across the eight languages was seriously lacking. Consequently, many BHEs were given an excellent and colourful laminated visual resource in English to use in their education sessions, a resource that women responded to favourably because of the appeal and clarity of the food-based images used. This resource was only available in two of the program's languages (Arabic and Italian), so these BHEs were able to use the resource in their own languages. Accordingly, one of these BHEs reported the appeal of this translated visual resource with women:

*"I photocopied the laminated resource and gave them to the women. They appreciated them and thought they were a magnificent reference to keep in the kitchen and when shopping." (BHE 4)*

A visual resource that was used with positive effect in the diabetes prevention education sessions was food. Given that BHEs possessed the freedom to use food in a manner that was appropriate and/or convenient for their group of women, there was variation in how food was incorporated across the education sessions. Bilingual health educators either brought nutritious food (fruit, nuts) to the education sessions for refreshments, or asked women to prepare healthy cultural dishes to bring to the final session for a shared lunch (based on the principles of healthy food preparation and eating discussed in the sessions), or themselves prepared culturally-specific dishes with healthy ingredients at home and brought

these to the sessions, or cooked nutritious and easy-to-prepare meals during the sessions with the assistance of their group of women. Preparing healthy and culturally-specific dishes either for or during the education sessions was the most successful use of food and the most popular with the women. This may be due to the importance of food in many cultures and also because of the opportunity it afforded women to apply the principles of healthy food preparation and eating into practice without compromising their culture (or the fine taste of their cultural dishes!). Comments from a BHE who incorporated cooking into her education sessions suggested that the method broadened women's world of food, allowing them to learn about foods they had seen but never knew how to prepare. Observations from the bilingual scribe attending these education sessions confirmed the popularity of this method:

*"All the women wanted to be part of the cooking process and they were chopping, peeling and washing. They did not want to simply sit and watch the demonstration. They enjoyed the cooking and of course eating the food."* (Bilingual scribe 1)

The lack of quality multilingual visual resources that could be used in diabetes prevention education sessions may explain the lowest overall rating given in the program's evaluation to the visual resources provided to BHEs to use in the sessions (overall rating of **7.4** on a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent'). The ability of BHEs to impart key diabetes prevention messages with the assistance of these visual resources (most of which were in English) was rated well (overall rating of **8** on a scale of 1 to 10, with 1 being 'not at all' to 10 being 'completely'), but the food-based activities were considered a more effective teaching strategy (overall rating of **8.8** on a scale of 1 to 10, with 1 being 'not at all' and 10 being 'extremely'). Understandably, BHEs unanimously suggested more visual resources in a variety of languages were needed for diabetes prevention education, a suggestion women also endorsed. Despite expressing satisfaction with the laminated visual resource used in the education sessions, women requested more resources in their own languages. Resources recommended were videos, DVDs, body charts, posters (A3 or poster-size at least), and empty food containers. These findings suggest that visual resources (paper-based and food) are culturally-appropriate and thus vital for effective diabetes prevention for immigrant and refugee women. Such resources would allow for the reinforcement and consolidation of healthy eating messages, particularly for women with low literacy levels. However, there is a need to produce consistent and quality visual resources that can be used in diabetes prevention efforts across a number of languages – new, emerging and well-established. Food-based strategies, such as cooking or even tours of supermarkets, also need to be included in these efforts.

Written information about diabetes prevention is also variable across languages, with commonly-spoken languages generally better represented than others. Consequently, the amount of multilingual written resources distributed to women participating in the education sessions differed. Bilingual health educators gave these resources an overall rating of **8** (on a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent'). Whilst women who participated in the diabetes prevention education sessions were pleased to receive education resources, they requested more resources in their language. As with visual resources, there is a need to produce consistent written education materials in a number of languages.

### **Women's responses to the diabetes prevention education sessions**

With overall ratings of **9.1** and **9.3** respectively (on a scale of 1 to 10, with 1 being 'poor' and 10 being 'excellent'), women's level of interaction and interest was high throughout the diabetes prevention education program:

*"Both ways the interaction was excellent. They were helping each other quite often with advises and some times with suggestions and ideas. They were very helpful towards me also, helping me to understand their way of living much better."* (BHE 5)

In particular, the case study discussions facilitated women's interaction through the telling of their own diabetes-related stories, resulting in their understanding of the seriousness of diabetes:

*"They were full with stories and questions on the topic. The interest to know on this topic was very high. Some of the women were not aware of the seriousness of diabetes. After asking more questions and participating actively in discussion, the women started to understand the seriousness of diabetes and the need to change their life towards healthier one."* (BHE 5)

Women responded so well to the education sessions, extolling the virtues of the program to others, that for several languages, newcomers - namely female family members and friends (not counted in the overall number of participants) - were inspired to attend the second and/or third education sessions.

Bilingual health educators reported that, despite the challenges they faced in delivering the education modules, many women reported the information presented as useful and were responsive to the key messages about the importance of healthy eating and physical activity in diabetes prevention. In fact, a couple of the groups of women asked for follow-up education sessions on food preparation and for women's exercise groups to be established in the local area. Expectedly, not all women were responsive, demonstrating reluctance to change lifelong or enjoyable eating habits. In some situations, this was due to their family's (particularly partner's) refusal to adopt healthy eating practices. Whilst a gendered approach to diabetes prevention is important given women's level of responsibility for the purchase and preparation of food and thus their capacity to encourage their families to engage in healthy eating, such an approach needs to be mindful of the conflict that changing eating habits can generate within the family. In addition to providing immigrant and refugee women with information about healthy lifestyle practices, diabetes prevention efforts also need to empower women to positively influence family eating patterns in a gradual and subtle manner.

Bilingual health educators commented on the effects of the overall program on women's knowledge, attitudes and practices. Bilingual health educators reported the consequences of participation in the education sessions were increased awareness and knowledge of the importance of diabetes (including risk factors, types, role of insulin, the relationship between sugar and diabetes, symptoms such as eye problems, complications, role of GPs in diabetes screening and diagnosis) and the role of healthy eating and an active lifestyle in preventing and managing diabetes; discussion about diabetes with family

members; changes in food preparation; and uptake of diabetes screening. Another BHE and a bilingual scribe detailed women's immediate purchase of healthy foods and/or cooking utensils after participating in the education sessions; positive family reactions to the new healthier and tastier foods being prepared; and positive feelings of health and wellbeing:

*"This group of women is interesting. They have gone out and bought electric frying pans and have already started to mix in non-traditional cooking to reduce eating a lot of meat and carbohydrates in their meal as a preventive action for diabetes. The messages given have been taken very seriously."* (Bilingual scribe 1)

Finally, another bilingual scribe summed up the program's positive effect, supportive of the program's use of a narrative-based approach in diabetes prevention:

*"All women agreed that they had learnt a lot. The women cited the first session interesting in terms of lessons learned from the case studies. The case studies have either taught or reinforced the lessons of: seeing a doctor first; the importance of healthy food from the point of view of what NOT to eat; the importance of exercise; and not eating too much rice."* (Bilingual scribe 2)

### **3.3 Conclusions about diabetes prevention education for immigrant and refugee women**

A diabetes prevention education program for immigrant and refugee women involving training for bilingual health educators and diabetes prevention education sessions for women was developed and implemented. Twenty-six sessions were run in eight languages for 104 immigrant and refugee women.

The Diabetes Healthy Living Project provides an understanding about gender-specific and culturally-appropriate diabetes prevention education. Project findings have important implications for future diabetes prevention education programs for immigrant and refugee women. A visual representation of the diabetes prevention education sessions is shown in images 7 – 9.



**Image 7: Women participating in a diabetes prevention education session**

(Image courtesy of Josie Quiazon)



**Image 8: Education session participants with the bilingual health educator**

(Image courtesy of Josie Quiazon)



**Image 9: A diabetes prevention education session in action**

(Image courtesy of Sevgi Bulut)





## CHAPTER 4: KEY RECOMMENDATIONS

Effective diabetes prevention education utilising culturally-appropriate strategies - such as storytelling, multilingual resources and food-based activities - would significantly improve immigrant and refugee women's capacity to engage in healthy living. Key recommendations from this project include:

### 4.1 Diabetes prevention education

- Immigrant and refugee women's responsibility for the purchase and preparation of food and thus their substantial capacity to engage in healthy living and to encourage their families to do the same warrants the need for a gendered approach to diabetes prevention education.
- Health and welfare service providers should provide culturally-appropriate diabetes prevention education for immigrant and refugee women. Education should be delivered by trained bilingual health educators.
- Diabetes prevention education for immigrant and refugee women needs to incorporate culturally-appropriate strategies - such as storytelling, multilingual visual and written resources - and activities revolving around the purchase and preparation of healthy foods, including supermarket tours and cooking classes. Key messages of diabetes prevention should be reinforced regularly.
- Culturally-appropriate diabetes prevention education for immigrant and refugee women should include information about healthy eating habits and cooking practices; convenient and practical exercise options; conflict-free strategies women can employ to involve their families in healthy living; health and community services that can provide diabetes prevention advice and support; and their right to use professional interpreters when consulting with their GP.
- A high-quality collection of multilingual visual resources (including posters, body charts, videos, DVDs, nutrition cards, empty food containers) highlighting different kinds of nutritious foods (including portions and serving sizes), healthy cooking practices and simple exercises needs to be developed for use in diabetes prevention education for immigrant and refugee women. The resources should be developed in and be consistent across a variety of languages: new, emerging and well-established.
- A high-quality collection of multilingual written resources (including brochures, information sheets) that incorporate visuals and easy to understand language and that highlight different kinds of nutritious foods (including portions and serving sizes), healthy cooking practices and simple exercises needs to be developed for distribution to immigrant and refugee women. These resources should be developed in and be consistent across a variety of languages - new, emerging and well-established - to reinforce the key messages of diabetes prevention education.

## **4.2 Diabetes prevention education delivery**

- Bilingual health educators need to be fully trained in the delivery of diabetes prevention education to immigrant and refugee women. In-depth introductory training that comprehensively covers diabetes, in particular healthy eating, and that utilises a narrative-based approach and multilingual visual resources should be provided to educators. Ongoing professional development to maintain educator knowledge about diabetes is also essential.
- Bilingual health educators need to be given clear guidelines on the delivery of diabetes prevention education sessions and be fully supported in their role.
- A BHE diabetes prevention program manual should be produced and disseminated among health and welfare service providers, so that the MCWH diabetes prevention education program may be better understood and replicated in other organisations across Australia.

## **4.3 Diabetes prevention in general practice**

- Cross-cultural training needs to be provided to GPs to encourage them to be more proactive in discussing diabetes prevention with at-risk immigrant and refugee women, to promote GP utilisation of free interpreting services, and to inform GPs of culturally-appropriate diabetes prevention programs to which to refer their immigrant and refugee female patients.
- Administrative and nursing staff in general practices need to be informed about free interpreting services, and should be encouraged and trained to use these services.

## **4.4 Research**

- Further research needs to be undertaken with immigrant and refugee women in order to gain an in-depth understanding of their diabetes-related experiences.
- Gender-specific diabetes prevention interventions for immigrant and refugee women that use a narrative-based approach should be evaluated comprehensively to fully determine their effect on women's knowledge, attitudes, behaviours, and overall health and wellbeing.

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## REFERENCES

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## **APPENDICES**





## **Appendix 1: Project participants - advisory committee members, consultation participants, training program presenters, bilingual health educators, host organisations for diabetes prevention education sessions, scribes**

### **Advisory Committee members**

An advisory committee was formed to ensure that professionals with relevant expertise and representatives from immigrant and refugee communities guided the Diabetes Healthy Living Project. Committee members ensured that the project was well-planned, monitored and co-ordinated, and ensured mechanisms for good practice were in place throughout the project. The committee consisted of the following members:

1. Leigh Barnetby, Melbourne East General Practice Network
2. Helen Borland, Victoria University
3. Hilary Christmas, HC Productions
4. Roger Lindenmayer, North Richmond Community Health Centre
5. Gina Lytras, Filipino Community Council of Victoria
6. Janene Parrent, Diabetes Australia - Victoria
7. Hoa Phan, Australian Vietnamese Women's Association
8. Ellenie Pond, Diabetes Australia - Victoria
9. Regina Quiazon, Victoria University
10. Roslyn Scholz, North Yarra Community Health
11. Nalika Unantenne, Victoria University

### **Consultation participants**

A consultation was undertaken with health professionals involved in diabetes education and/or prevention for immigrant and refugee communities and/or experience in delivering health-related services to women from these communities. Representatives from the following agencies and organisations participated in the consultation:

1. Diabetes Australia - Victoria
2. Greater Dandenong Community Health Service
3. Moreland Community Health Service
4. North Yarra Community Health
5. Royal Women's Hospital
6. Whitehorse Community Health Service

### **Training program presenters**

A number of people were enlisted to present during the two-day training program for the bilingual health educators. Training program presenters included:

1. Daniel Chew, Victoria University
2. Adele Mackie, Eat Well Nutrition Service
3. Maggie Millar (arranged through Diabetes Australia - Victoria)
4. Regina Quiazon, Victoria University
5. Nalika Unantenne, Victoria University

### **Bilingual health educators**

All the MCWH bilingual health educators participated in the two-day training program, but only eight subsequently delivered the diabetes prevention education sessions. They were:

1. Cigdem Guler
2. Medina Idriess
3. Victoria Lolika
4. Violetta Marcianó
5. Christie Rivera
6. Hien Tran
7. Hassenet Younis
8. Irina Zdravevska

### **Host organisations for the diabetes prevention education sessions**

The following organisations arranged and/or hosted the diabetes prevention education sessions:

1. Australian Lebanese Welfare
2. Australian Vietnamese Women's Association
3. Brunswick Neighbourhood House
4. Filipino Community Council of Victoria
5. Moreland Community Health Service
6. New Hope Foundation
7. Spectrum Migrant Resource Centre
8. Western Region Health Centre

### **Scribes**

All the diabetes prevention education sessions were documented. Sessions were either recorded or a bilingual scribe attended to take notes. Scribes were enlisted to document education sessions delivered in four languages. The scribes were:

- |                       |                   |
|-----------------------|-------------------|
| 1. Salma Al-Khudairi  | 2. Sevgi Bulut    |
| 3. Nigisti Mulholland | 4. Regina Quiazon |

## **Appendix 2: Consultation questions**

Consultation questions included:

1. To what extent do immigrant and refugee women interpret diabetes as an important health issue?
2. What do immigrant and refugee women understand about their risk of developing Type 2 diabetes?
3. What do immigrant and refugee women understand about diabetes prevention?
4. What beliefs influence women's knowledge and the uptake of protective behaviours?
5. What are the issues faced by immigrant and refugee women regarding food access and preparation; physical activity; and health service access?
6. Which protective behaviours might be most difficult to maintain?
7. How do protective behaviours change if a family member is diagnosed with Type 2 diabetes?
8. How does family affect women's uptake and maintenance of protective behaviours?
9. What health promotion strategies (diabetes included) have you used for immigrant and refugee communities?
10. What information and education needs to be provided to immigrant and refugee women about diabetes prevention?
11. What culturally-appropriate strategies could be implemented to ensure women understand diabetes prevention and put their knowledge to practice?
12. Other comments?



### Appendix 3: BHE training program outline

The outline for the two-day BHE training program was as follows:

#### Day 1

Time	Presenter	Topics covered
9.30am – 9.45am	<b>SESSION 1:</b>  <b>Carolyn Poljski</b> Project Officer Multicultural Centre for Women's Health	<ul style="list-style-type: none"> <li>• Introduction to Diabetes Healthy Living Project</li> </ul>
9.45am – 11am	<b>SESSION 2:</b>  <b>Maggie Millar</b> Actor Diabetes Australia - Victoria	<ul style="list-style-type: none"> <li>• Performance of a short one-woman play <i>A Very Good Thing</i> about being diagnosed and living with Type 2 diabetes</li> <li>• Post-play discussion</li> </ul>
11am – 11.15am	<b>SHORT BREAK</b>	
11.15am – 12.45pm	<b>SESSION 3:</b>  <b>Daniel Chew</b> Diabetes Nurse Educator Victoria University	<ul style="list-style-type: none"> <li>• Overview of diabetes: types; the role of insulin; debunking myths</li> <li>• Risk and genetic factors</li> <li>• Treatment and prevention</li> </ul>
12.45pm – 1.15pm	<b>LUNCH</b>	
1.15pm – 3pm	<b>SESSION 4:</b>  <b>Regina Quiazon</b> Diabetes Education Project Officer Victoria University	<ul style="list-style-type: none"> <li>• Health and wellbeing: the psychological implications of diabetes; achieving balance rather than control; the family environment</li> <li>• Quality of life issues in relation to diabetes: coping, guilt, depression</li> <li>• Screening of video <i>Understanding gestational diabetes</i></li> </ul>

## Day 2

Time	Presenter	Topics covered
9.30am – 10.45am	<b>SESSION 1:</b>  <b>Adele Mackie</b> Dietitian Eat Well Nutrition Service	<ul style="list-style-type: none"> <li>Meal preparation and modification: substitution, serving size</li> <li>Healthy shopping choices: reading food labels</li> <li>Issues around children and family</li> <li>Physical activity</li> </ul>
10.45am – 11am	<b>SHORT BREAK</b>	
11am – 12.15pm	<b>SESSION 2:</b>  <b>Regina Quiazon</b> Diabetes Education Project Officer Victoria University	<ul style="list-style-type: none"> <li>Introduction to diabetes case studies (five case studies)</li> <li>Group presentation of one case study (5 groups @ 10 minutes each)</li> <li>This session will reinforce the key messages introduced in the training and will allow the BHEs to engage with the issues</li> </ul>
12.15pm – 12.45pm	<b>LUNCH</b>	
12.45pm – 2pm	<b>SESSION 3:</b>  <b>Nalika Unantenne</b> Health Services Researcher Victoria University	<ul style="list-style-type: none"> <li><i>Negotiating Health Beliefs</i>: a group question and answer exercise that aims to revise key training messages</li> <li>Role play</li> <li>Training program evaluation</li> </ul>
2pm – 2.15pm	<b>SHORT BREAK</b>	
2.15pm – 4pm	<b>SESSION 4:</b>  <b>Carolyn Poljski</b> Project Officer, MCWH  <b>Regina Quiazon</b> Diabetes Education Project Officer Victoria University	<ul style="list-style-type: none"> <li>Session for eight BHEs only: Amharic, Arabic, Italian, Macedonian, Sudanese Arabic, Tagalog, Turkish and Vietnamese</li> <li>Overview of the diabetes prevention education sessions (education modules, evaluation procedures)</li> </ul>

#### **Appendix 4: BHE training program group exercise: *Negotiating Health Beliefs***

The following are examples of attitudes, ideas and beliefs related to diabetes. How might you advise the person about diabetes prevention?

1. If you get diabetes, you either get better or you die.
2. If you take insulin for a long time, it builds up in your body.
3. If you take medication, it will cure you.
4. My husband has diabetes because he has been so stressed since we arrived in this country.
5. I don't care if I get diabetes, maybe I already have it. I don't want to live my life thinking '*I can't eat that*', '*I can't do that*'. No, I would rather not know.
6. Why me?
7. My child is normal. He looks a lot healthier than the other children at school.
8. Eating bitter melon will stop me from getting diabetes.
9. It is only prediabetes. It's not serious.
10. Diabetes is caused by eating too much sugar.
11. Diabetes is contagious.
12. I can't exercise because I don't have time...and I'm too scared to go out by myself. Anyway, I don't have anyone to look after my children.
13. Even though I had diabetes while pregnant, my baby must be healthy because when she was born, she was big and chubby.
14. My husband has lost a lot of weight in a very short time, so how can he have diabetes? Only overweight people have diabetes anyway.
15. A person who has diabetes cannot live a normal life.
16. Healthy food is boring. After all, isn't it just boiled vegetables and steamed fish etc?
17. Eating lots of rice, bread and potatoes can cause diabetes.
18. I'm too old to exercise.
19. Exercise is too expensive.
20. How can I have diabetes? I hardly eat any sugary foods.
21. Gestational diabetes is only temporary, so I don't have to be worried about it.





## Appendix 5: BHE training program evaluation survey

This is an evaluation of the BHE diabetes training program held on 18 – 19 September 2008 at MCWH.

### Overall

1. How would you rate the overall quality of the training program?

1	2	3	4	5	6	7	8	9	10
Poor				Good					Excellent

2. How comprehensive was the training program?

1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat					Extremely

3. How clear or understandable was the training program?

1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat					Extremely

4. How informative was the training program?

1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat					Extremely

5. How interesting was the training program?

1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat					Extremely

6. How relevant was the information in the training program to women from your community?

1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat					Extremely

7. What information was **most** and/or **least** relevant for women from your community?

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8. After your participation in the training program, how confident do you feel in educating women about diabetes?

1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat					Extremely

9. What topics presented in the training program are you **most** and/or **least** confident about discussing with women?

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10. What key messages from the training program will you take away with you?

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11. Which messages do you think women from your community will best respond to?

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**Maggie Millar, Actor, Diabetes Australia - Victoria (18 September 2008)**

12. How would you rate Maggie's performance?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

13. How effective was Maggie's performance as a training strategy?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

14. To what extent did Maggie's performance increase your knowledge and understanding of diabetes in women?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

**Daniel Chew, Diabetes Nurse Educator, Victoria University (18 September 2008)**

15. How would you rate Daniel's presentation?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

16. To what extent did Daniel's presentation increase your knowledge and understanding of diabetes?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

17. Did Daniel provide:

Too much information ☐      Sufficient information ☐      Not enough information ☐

**Regina Quiazon, Diabetes Education Project Officer, Victoria University (18 September 2008)**

18. How would you rate Regina's presentation?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

19. To what extent did Regina's presentation increase your knowledge and understanding of the psychological implications of diabetes?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

20. Did Regina provide:

Too much information ☐      Sufficient information ☐      Not enough information ☐

**Adele Mackie, Dietitian, Eat Well Nutrition (19 September 2008)**

21. How would you rate Adele's presentation?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

22. To what extent did Adele's presentation increase your knowledge and understanding of nutrition and diabetes?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

23. Did Adele provide:

Too much information ☐      Sufficient information ☐      Not enough information ☐

**Diabetes training and education strategies**

24. How would you rate the case studies used in Regina's session on Friday September 19?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

25. How relevant were the case studies (content, issues raised) for women from your community?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

26. How effective were the case study discussions as a training strategy?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

27. To what extent did the case study discussions enable you to reinforce your understanding of diabetes?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

28. Do you think case study discussions should be included in future training programs?

Yes ☐      No ☐      Not sure ☐

Any comments:

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29. How would you rate Nalika's session on negotiating health beliefs around diabetes?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

30. To what extent has Nalika's class exercise enabled you to advise women about diabetes?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

31. How would you rate the BHE resource kit distributed at the start of the training program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

**Diabetes training and education needs**

32. Do you have any additional training and/or resource needs on diabetes in women?

	<b>Yes</b>	<b>No</b>
Training	<input type="checkbox"/>	<input type="checkbox"/>
Resources	<input type="checkbox"/>	<input type="checkbox"/>

What additional training and/or resources would be useful to you?

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**Improvements**

33. What were the strengths and weaknesses of the training program?

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34. How could the training program have been improved?

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35. Any other comments or suggestions?

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## Appendix 6: Participant information sheet and consent form

I understand that:

- I am participating in three (3) education sessions in \_\_\_\_\_ run by a bilingual health educator of the Multicultural Centre for Women's Health;
- the education sessions will give me information about Type 2 diabetes prevention and/or management;
- information will be given over three sessions with each session lasting up to two (2) hours;
- I need to attend all sessions to fully and properly benefit from the education;
- I can say as much or as little as I like during the sessions;
- I can stop attending the sessions if I feel uncomfortable;
- personal information will be collected, but this information will always be kept CONFIDENTIAL;
- everything that is said in these sessions will be kept totally CONFIDENTIAL;
- the sessions will either be recorded to enable the bilingual health educator to take notes of the sessions afterwards or a scribe will be present to take notes, but these notes will be kept totally CONFIDENTIAL;
- the notes taken during or after the sessions are for the purpose of learning what information about diabetes needs to be provided to immigrant and refugee women;
- only the bilingual health educator, the Project Worker at the Multicultural Centre for Women's Health, the scribe, if present, will see these notes and know I attended the sessions;
- a researcher from Victoria University may also read the notes, but will not know the names of the women attending these sessions and the researcher will also keep the notes CONFIDENTIAL;
- I will receive diabetes resources during the sessions;
- if I would like additional written information in my language, the bilingual health educator and Project Worker will try to find suitable information, but they cannot promise that this information can be found;
- the information collected during the sessions will be presented in a general way in a report to help the Multicultural Centre for Women's Health and other organisations learn about the best way to educate immigrant and refugee women about diabetes prevention;
- my contribution to the sessions may help the development of culturally-appropriate diabetes health promotion for immigrant and refugee women.

I FULLY UNDERSTAND THE INFORMATION GIVEN TO ME ABOUT THE EDUCATION SESSIONS AND I AGREE TO PARTICIPATE.

---

**Write your name here**

---

**Sign your name here**

---

**Date**

---

Bilingual health educator to complete:

Participant did not want to sign consent form but wants to participate in sessions

☐



## Appendix 7: Participant survey

<p>1. How old are you?</p> <p>18 – 30 years <input type="checkbox"/></p> <p>31 – 40 years <input type="checkbox"/></p> <p>41 – 50 years <input type="checkbox"/></p> <p>51 – 60 years <input type="checkbox"/></p> <p>61 years or more <input type="checkbox"/></p>	<p>2. How long have you lived in Australia?</p> <p>0 – 5 years <input type="checkbox"/></p> <p>6 - 10 years <input type="checkbox"/></p> <p>11 – 15 years <input type="checkbox"/></p> <p>16 – 20 years <input type="checkbox"/></p> <p>21 years or more <input type="checkbox"/></p>
<p>3. Are you:</p> <p>Single <input type="checkbox"/></p> <p>Living with your partner <input type="checkbox"/></p> <p>Widowed <input type="checkbox"/></p> <p>Separated or divorced <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p>	<p>4. What is your occupation? (You can tick more than one box)</p> <p>Employed (full or part-time) <input type="checkbox"/></p> <p>Student (full or part-time) <input type="checkbox"/></p> <p>Parenting duties <input type="checkbox"/></p> <p>Pensioner/Retired <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p>
<p>5. Have you ever heard of diabetes (Type 1, Type 2, or gestational)?</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>Don't know / Not sure <input type="checkbox"/></p>	<p>6. Do you have diabetes (Type 1, Type 2, or gestational)?</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>Don't know / Not sure <input type="checkbox"/></p>
<p>7. If you <u>do not</u> have diabetes, have you ever been tested for diabetes? (<b>Do not</b> answer this question if you have diabetes)</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>Don't know / Not sure <input type="checkbox"/></p>	<p>8. Have you ever spoken to a health professional or looked for information about diabetes?</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>Don't know / Not sure <input type="checkbox"/></p>
<p>9. Does anyone in your immediate family have diabetes (Type 1, Type 2, gestational)? (You may tick more than one box)</p> <p>Yes, my partner <input type="checkbox"/></p> <p>Yes, my child/children <input type="checkbox"/></p> <p>Yes, my mother/father <input type="checkbox"/></p> <p>Yes, my brother/sister <input type="checkbox"/></p> <p>Yes, my grandmother/grandfather <input type="checkbox"/></p> <p>No one in my family <input type="checkbox"/></p>	<p>10. Who in your family is mainly responsible for buying food?</p> <p>Myself only <input type="checkbox"/></p> <p>My partner only <input type="checkbox"/></p> <p>My children only <input type="checkbox"/></p> <p>Buying food is a shared responsibility <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p>



<p>11. Who in your family is mainly responsible for cooking food?</p>     <p>Myself only <input type="checkbox"/></p> <p>My partner only <input type="checkbox"/></p> <p>My children only <input type="checkbox"/></p> <p>Cooking food is a shared responsibility <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p>	<p>12. On average, how much physical activity (ie housework, gardening, playing with the children, walking the children to school, walking to the local shops etc) do you do in one day?</p>     <p>Less than 10 minutes <input type="checkbox"/></p> <p>11-20 minutes <input type="checkbox"/></p> <p>21-30 minutes <input type="checkbox"/></p> <p>More than 30 minutes <input type="checkbox"/></p> <p>Changes from day to day <input type="checkbox"/></p>
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## **Appendix 8: Questions for case study discussions**

Questions for the case study discussions were as follows:

### **Case study 1: Adelina**

1. What are the main issues in this case study?
2. What are your thoughts or opinions about Adelina's situation?
3. Do you think that Adelina has a problem?
4. What would you do in Adelina's situation?

### **Case study 1: Riya and Shan**

1. What are the main issues?
- 2a. What are your thoughts or opinions about Riya's situation?
- 2b. What are your thoughts or opinions about Shan's situation?
3. What can be done to solve this problem?
- 4a. How would you handle the family's situation? Where would you go for help?
- 4b. What else might you do?



## Appendix 9: Diabetes prevention education modules

Aim of module	Key messages	Discussion points/education strategies
<p><b>Module 1: What is diabetes?</b></p> <p>The aim of this module is to provide an overview of the different forms of diabetes, its symptoms and complications.</p>	<ul style="list-style-type: none"> <li>• Diabetes is one of the most common chronic diseases in Australia.</li> <li>• Diabetes is a condition where the body cannot control the level of sugar in the blood.</li> <li>• Insulin is a hormone that controls the level of sugar in the blood.</li> <li>• There are different kinds of diabetes: Type 1, Type 2, gestational.</li> <li>• Pre-diabetes is a condition when blood sugar levels are high but not high enough to be diagnosed as Type 2 diabetes.</li> <li>• Type 2 diabetes may not have symptoms as it is a slow-developing and silent disease. Symptoms can include excessive thirst, frequent urination, blurred vision, mood swings, and fatigue.</li> <li>• If diabetes is not diagnosed or managed properly, it can result in heart disease, stroke, blindness, kidney failure and limb amputation.</li> <li>• Diabetes is a long-term condition. It cannot be cured.</li> <li>• Diabetes can also be an expensive disease, requiring the purchase of medications and other supplies to control the condition.</li> </ul>	<p>Discussion points revolve around the characters in the case studies and include general diabetes questions:</p> <ol style="list-style-type: none"> <li>1. Why might <b>Adelina</b> have Type 2 diabetes?</li> <li>2. What does <b>Adelina</b> know about Type 2 diabetes?</li> <li>3. Why does <b>Shan</b> have Type 2 diabetes?</li> <li>4. What is <b>Shan's</b> attitude towards his condition?</li> <li>5. What do you know about diabetes?</li> <li>6. What do you know about Type 2 diabetes?</li> </ol>
<p><b>Module 2: Why am I at risk of developing Type 2 diabetes?</b></p> <p>The aim of this module is to increase awareness of the risk factors of diabetes.</p>	<ul style="list-style-type: none"> <li>• Women are at risk of developing Type 2 diabetes for a number of reasons including: poor diet, insufficient exercise, ethnicity and family history.</li> <li>• Risk factors such as ethnicity and family history cannot be controlled.</li> <li>• Diet and exercise can be controlled.</li> </ul>	<p>Discussion points revolve around the characters in the case studies and include general diabetes questions:</p> <ol style="list-style-type: none"> <li>1. Why is <b>Adelina</b> at risk of developing Type 2 diabetes?</li> <li>2. Why are women at risk of developing Type 2 diabetes?</li> <li>3. Do you think you are at risk of developing Type 2 diabetes? Why or why not?</li> </ol>

Aim of module	Key messages	Discussion points/education strategies
<p><b>Module 3: How can I prevent Type 2 diabetes?</b></p> <p>The aims of this module are to explain how healthy eating and physical activity can minimise the risk of developing Type 2 diabetes; how to ensure diets can be culturally-appropriate and healthy; and how to encourage families to adopt a healthy approach to living.</p>	<ul style="list-style-type: none"> <li>• Type 2 diabetes can be prevented by eating healthy foods and engaging in physical activity.</li> <li>• Healthy eating is essential in the prevention of Type 2 diabetes. Good eating practices include: eating a variety of healthy foods from the main food groups; limiting portions or serving sizes; reducing the amount of saturated fats, sugar and salt; drinking plenty of water instead of sugary drinks; using low-fat options.</li> <li>• Healthy cooking practices include cooking and eating fresh foods as much as possible; steaming, grilling, boiling, baking, and stir frying food rather than deep-frying.</li> <li>• Physical activity is also important and has many health benefits including weight loss, reduced stress, lower cholesterol and blood pressure, more energy.</li> </ul>	<p>Discussion points revolve around the characters in the case studies and include general diabetes questions:</p> <ol style="list-style-type: none"> <li>1. What lifestyle practices might <b>Adelina</b> need to change to prevent or to manage her diabetes?</li> <li>2. What foods and cooking practices are healthy? What foods do you eat? What cooking practices do you use?</li> <li>3. What foods here are healthy? How much is good to eat? (Using refreshments as a reference)</li> <li>4. What kind of physical activity is beneficial? What other ideas do you have to keep physically active? How can physical activity be practical?</li> <li>5. How can <b>Riya</b> help her husband maintain his lifestyle changes without creating conflict?</li> </ol> <p>Additional education strategies that can be used in this module include the use of food, either refreshments or food (pre-prepared or made during the sessions); laminated visual resources and posters to demonstrate healthy foods and how much could be eaten as part of a healthy diet; and discussion about culturally-appropriate recipes and how these can fit in with a healthy lifestyle.</p>
<p><b>Module 4: Where can I go for information and support?</b></p> <p>The aim of this module is to provide an overview of the health professionals and services that offer information and support about diabetes prevention and management.</p>	<ul style="list-style-type: none"> <li>• There are many professionals and services that can assist with diabetes prevention and management including: medical practitioners (such as GPs), dietitians, diabetes educators, midwives (for gestational diabetes) and Diabetes Australia - Victoria.</li> <li>• Community-based agencies, such as community health centres, run low-cost exercise programs such as walking groups.</li> </ul>	<p>Discussion points revolve around the characters in the case studies and include general questions:</p> <ol style="list-style-type: none"> <li>1. What assistance did <b>Adelina</b> and <b>Riya</b> seek for their situations?</li> <li>2. Where can you go for more information and support?</li> </ol>

## Appendix 10: Diabetes prevention education program evaluation survey

This is an evaluation of the education program (three sessions) for the Diabetes Healthy Living Project. Most of the questions require you to tick a box or circle a response, but others require you to make comments. If the space available for comments is insufficient, please attach extra sheets of paper.

### General

1. How would you rate the overall quality of the diabetes prevention education program (three sessions)?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

2. How comprehensive was the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

3. How clear or understandable was the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

4. How informative was the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

5. How interesting was the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

6. How relevant was the diabetes prevention education program to women from your community?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

7. How supported were you in delivering the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

8. To what extent were you able to understand the guidelines on the delivery of the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

9. How confident were you in delivering the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

10. To what extent were you able to answer questions women asked during the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

### **Case studies**

11. How would you rate the case studies used during the first and final sessions?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

12. How relevant were the case studies (content, issues raised) for women from your community?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

13. How effective were the case studies as a teaching strategy?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

14. Do you think the case studies should remain part of future diabetes prevention education sessions?

Yes ☐ No ☐ Not sure ☐

Any comments on case studies?

### **Modules**

15. How would you rate the diabetes prevention education modules overall?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

16. How effective was the use of refreshments as a teaching strategy about nutrition and diabetes?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Extremely</i>

17. Which module was easiest to deliver?

Module 1: What is diabetes? ☐

Module 2: Why am I at risk of developing Type 2 diabetes? ☐

Module 3: How can I prevent Type 2 diabetes? ☐

Module 4: Where can I go for information and support? ☐

18. Which module was most difficult to deliver?

Module 1: What is diabetes? ☐

Module 2: Why am I at risk of developing Type 2 diabetes? ☐

Module 3: How can I prevent Type 2 diabetes? ☐

Module 4: Where can I go for information and support? ☐

Any comments on module delivery?

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19. How can the modules be improved (ie information to be added or removed, amount of information etc)?

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### **Resources**

20. How would you rate the visual resources (laminated materials, poster) given to BHEs to use during the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

21. To what extent did the visual resources enable you to educate women about diabetes prevention?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Not at all</i>				<i>Somewhat</i>					<i>Completely</i>

22. How would you rate the women's response to the visual resources?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

23. How would you rate the education resources or materials given to women during the diabetes prevention education program (fridge magnet, *The Australian Guide to Healthy Eating* visual resource, brochure)?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

Any comments on education resources?

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24. What further resources or education materials are needed to educate women about diabetes?

Please comment:

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**Women's response to diabetes education**

25. How would you rate the women's level of interaction during the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

26. How would you rate the women's level of interest during the diabetes prevention education program?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<i>Poor</i>				<i>Good</i>					<i>Excellent</i>

27. Can you comment on the effect the program had on women's knowledge, attitudes and practices around diabetes?

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28. Which messages did the women indicate were most important to them?

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29. What information was most useful to the women? What was least useful?

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30. Overall, how can the diabetes prevention education program be improved (omissions, changes, additional or fewer information, teaching strategies, resources etc) so it is relevant and culturally-appropriate for women?

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31. Any extra comments?

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