

# SECTION 3

## Diabetes education and support

### Introduction

The impact of chronic disease and the growing awareness of the role played by people with chronic conditions in determining their own health outcomes has led to greater awareness of the role of self management in chronic disease. Similarly, the need to support people with chronic conditions to acquire self management skills and the confidence to apply these skills in everyday living has also led to the identification and incorporation of self management support and education in a range of chronic disease models including the *National Chronic Disease Strategy*<sup>1</sup> and the *National Service Improvement Framework for Diabetes*.<sup>2</sup>

Unlike acute medical conditions, chronic conditions are ongoing, with health outcomes and quality of life dependent on client self management and decision making, and the availability of ongoing (versus short term) clinical care and support services. Client-centred approaches in chronic disease management place the person with the condition as the 'expert' rather than the health professional. This does not negate the need for expert or best practice clinical management but recognises that the person with the condition has the absolute power of veto over even the most efficacious clinical management plan.

Diabetes has been considered as one of the most complex of the chronic diseases, requiring the person with diabetes to juggle a range of daily clinical and lifestyle tasks in order to avoid the short and long term complications of diabetes. Diabetes self management education (DSME) aims to build the person with diabetes as an active member of their diabetes team and 'to improve health status by empowering the person with diabetes to;

- acquire knowledge (*what* to do)
- acquire skills (*how* to do it)
- develop confidence and motivation to perform appropriate self care behaviours (*want* to do it)
- develop problem solving and coping skills to overcome barriers to self care (*can* do it).<sup>3</sup>

The role of health care providers is to support people with diabetes along this path by providing self management education and support, enabling them to master the tasks required for effective self care and to become an active participant in their diabetes management.

# Goals and outcomes for diabetes education

The report *Outcomes and Indicators for Diabetes Education – A National Consensus Position*<sup>4</sup> provides a framework for the design and evaluation of diabetes education programs.

Three overarching goals for diabetes education were identified in this report that resulted from a review of relevant literature, survey of service providers, extensive consultation with consumers, service providers and policy makers and a national stakeholder forum:

- optimal adjustment to living with diabetes
- optimal physical (health) outcomes
- optimal (public and personal) cost effectiveness.

The outcomes associated with the attainment of these goals were identified as:

- knowledge / understanding (including the application of knowledge)
- self management
- self determination
- psychological adjustment
- clinical outcomes
- cost effectiveness.

The above outcomes were defined as the results of diabetes education. Indicator areas were identified for each outcome. Indicators are defined in the report as the units of information that can measure progress towards achievement of the result.

## Chronic disease self management and diabetes self care behaviours

There are two widely accepted models for generic chronic disease self management support. The chronic disease education models arising from Stanford University<sup>5</sup> and the Flinders Human Behaviour & Health Research Unit<sup>6</sup> identify common tasks that a person needs to achieve in order to successfully manage a chronic condition.

Stanford University	Flinders Human Behaviour & Health Research Unit
<ul style="list-style-type: none"> <li>• recognising and responding to symptoms</li> <li>• using medications</li> <li>• managing acute episodes and emergencies</li> <li>• maintaining good nutrition</li> <li>• maintaining adequate physical activity</li> <li>• not smoking</li> <li>• using relaxation and stress reducing techniques</li> <li>• interacting appropriately with health care providers</li> <li>• seeking information and using community resources</li> <li>• adapting work and other role functions</li> <li>• communicating with significant others</li> <li>• managing negative emotions and psychological response to illness</li> </ul>	<ul style="list-style-type: none"> <li>• know about the condition and various treatment options</li> <li>• be actively involved in decision making in relation to treatment and management of the condition</li> <li>• follow the treatment plan developed with health care providers</li> <li>• monitor symptoms and take appropriate action to manage and cope with symptoms</li> <li>• manage the physical, emotional and social impact of the condition on their life</li> <li>• adopt a lifestyle that promotes health and does not worsen symptoms.</li> </ul>

The Stanford Model is underpinned by self efficacy theory which is premised on the following: belief in one's ability to perform tasks is a good predictor of motivation and behaviour; self efficacy can be enhanced through skills mastery, goal attainment, modelling and social persuasion; improved self efficacy leads to improved behaviour, motivation, thinking patterns and emotional well being. The Flinders Model also identifies the Transtheoretical Model as a useful model to guide health professional interventions which should be characterised by collaborative goal definition; targeting, goal setting and planning; training and support for individuals to change; active and sustained follow-up. The Stanford Model focuses on peer leadership and generic skill development while the Flinders Model is clinician led and is designed to be integrated with medical management.

The self management tasks identified by these self management models are congruent with the self care behaviours identified in a technical review undertaken by American Association of Diabetes Educators (AADE) as being key behaviours for effective diabetes self management.<sup>3</sup>

<b>AADE Diabetes Self Care Behaviours</b>
Healthy eating
Being active
Monitoring
Taking medication
Problem solving
Healthy coping
Reducing risks

With permission from the AADE, the Australian Diabetes Educators Association (ADEA) has adopted the AADE self care behaviours and published them in *Diabetes Self Care – the 7 Steps to Success*.<sup>7</sup>

The self care behaviours provide an easily understood framework and a common language for people with diabetes and diabetes educators to discuss health behaviours and their associated risks and benefits.

## Health behaviour and health education theory

Health behaviour and health education theories provide frameworks in which to consider why knowledge may not be translated into action, why people may or may not adhere to treatment recommendations and strategies that can be utilised to support behaviour change. The Outcomes and Indicators Framework identified self management and self determination as two outcome areas most impacted on by diabetes education, after knowledge and understanding. The following theories provide insight into these concepts and practical strategies to achieve these outcomes.

The **Health Belief Model**<sup>8</sup> identifies that in order to adopt a behaviour (eg engage in self care practices), a person must believe they are at risk of an adverse event (eg diabetes complications), that the consequences of the event are severe and that the event can be avoided by a particular treatment or engaging in a particular behaviour. The likelihood of a person adopting the behaviour depends on how they perceive the benefits as opposed to the barriers (or costs) of adopting the behaviour.

**Self Determination Theory**<sup>4</sup> describes autonomous motivation versus controlled motivation – doing something because one wants to do it versus being coerced to do it (including health professional pressure or pressure to appease a health professional). Autonomous motivation is associated with greater likelihood of success in adopting and sustaining a behaviour and is associated with the absence of threats and external rewards. An autonomous environment offers choice and the opportunity to discuss and acknowledge feelings.

Self efficacy is one of the five domains of self determination identified in the Outcomes and Indicators Framework. Self efficacy is also one of the key constructs of **Social Cognitive Theory**.<sup>8</sup> People develop self efficacy through experiencing success. Social Cognitive Theory embodies the following strategies for health behaviour interventions:

- providing opportunities for social support
- promoting capability and mastery through skills training
- modelling positive outcomes of healthy behaviours
- describing outcomes of change that are meaningful to individuals
- promoting individual regulation of goal directed behaviour through providing opportunities for decision making, self monitoring, goal setting, problem solving and intrinsic (self) reward
- providing opportunities for observational learning and opportunities to learn from credible models (e.g., peers)
- supporting self initiated rewards / incentives
- approaching behaviour change in small steps and being specific about the change
- providing training in problem solving and stress management, including the opportunity to practice skills in challenging situations.

The **Transtheoretical Model**<sup>8</sup> identifies the various stages of change that individuals move through in order to adopt and maintain a behaviour: pre-contemplation; contemplation; preparation; action; and maintenance. Other important concepts of the Transtheoretical Model are decisional balance (the benefits versus the costs of changing) and self efficacy (confidence that one can engage in healthy behaviours across a range of challenging situations versus temptation to engage in unhealthy behaviours). The Model also clearly identifies that different strategies are required for each 'stage of change' and applying strategies suitable for one stage at another may be counter productive. Given the range of self care behaviours that people with diabetes are required to contemplate, it is important to recognise that individuals may be at different stages of readiness for each one.

## Delivery of diabetes education

A Cochrane Review<sup>9</sup> examining the impact of group training in diabetes self care concluded that group programs impacted favourably on a range of clinical diabetes outcomes.

The NHMRC Patient Education Guideline for Type 2 Diabetes<sup>10</sup> identifies the following:

- Both group and one-to-one diabetes client education provided on a face to face basis have a positive impact on knowledge, lifestyle change and some aspects of psychological outcomes.
- Interventions delivered over the longer term and those with regular reinforcement are more effective than one-off or short term interventions.
- Multidisciplinary team delivery may provide better client outcomes.

## Program aims

The overall aim of diabetes education is to support people with diabetes to acquire the knowledge, skills and confidence to engage in effective diabetes self care practices and be pro-active members of their diabetes care team.

The specific objectives could be to:

- enhance self efficacy
- facilitate the adoption of self care behaviours
- reduce diabetes related distress.

To be effective, education should be designed to build on the person's own life skills and behaviours. It should be sensitive and relevant to the individual's needs, goals and their perception of their illness. Changing behaviour will depend on the educator's approach to the person's beliefs and the knowledge the person already has.

People change their behaviour when:

- they believe their illness will affect their lives
- they are confident that they can positively affect the outcome of their illness
- they believe the benefits outweigh the disadvantages of change
- they are confident that they can succeed
- it will help them achieve their own personal goals.

Recommendations and advice given to people should be based on careful **assessment** of the **individual's needs and priorities**. It is essential to have a broad based knowledge about emotional, cultural and social circumstances. Achievable goals need to be negotiated with the individual.

Educational programs should be planned bearing in mind that any illness and / or admission to hospital can cause regression in an individual's coping mechanisms and emotional responses. This can cloud the person's normal judgment and impede learning.

## Teaching tips

- Use correct but simple terminology.  
**For example:** `glucose' is preferable to `sugar'. People can then relate glucose not only to simple sugars but to carbohydrates as well.
- Having ascertained what people already know, work from that to new areas of information.
- Having ascertained what worries or concerns the person, work to address these as a priority.
- Work from simple to more complex information.  
**For example:** teach the relationship between diet and blood glucose, before expecting people to plan a menu.
- Relate what is currently being taught to the learner's past experiences.  
**For example:** `How did you feel yesterday?'  
`I felt weak, I was sweaty and unsteady on my feet.'  
`Your blood glucose level may have decreased, maybe you had a hypo.'
- Encourage active participation in the teaching session.  
**For example:** ask the person to describe how they might explain an aspect of diabetes self-care to a friend or relative.
- Demonstrate skills - person performs skill **with you** / person performs skills independently with your support / supervision.
- Referring to written step by step information that person may refer to if educator is not present.
- Ask the person to recall information.  
**For example:** `What happens to the glucose concentration in the blood of a person with diabetes?'
- Repetition and reinforcement of information will aid learning.
- It is important to give positive feedback.  
**For example:** say that they have done well to have retained information from a previous session. Commend further reading undertaken on diabetes. Reinforce the positive benefit of asking questions. This will give a sense of achievement, direction and control.
- Use a variety of teaching methods.  
**For example:** groups  
one to one sessions  
videos  
drawings / diagrams  
demonstration practice.
- Leave person with written handouts on subjects covered that will reinforce the information given or skills taught.

## Evaluating teaching effectiveness

The questions the person asks will assist in showing what they have learnt.

Accept the person's right not to follow any / all of the recommendations at the time of teaching. They may take these up later.

People have individual health beliefs and values.

For some people, the need to avoid alcohol, cigarettes, fatty foods and excess calories conflicts with perceived rights for social acceptance, pleasure, gratification and tension reduction.

Therefore, some people need help in substituting one value for another. A new value must be equally rewarding if the behaviour is to be changed.

**For example:**            Not smelling of smoke when smoking is stopped.  
                                  Wearing new clothing after losing weight.  
                                  Feeling better when controlling blood glucose concentrations.  
                                  Being able to work better when exercising / reducing alcohol intake.

Printed text should be provided to reinforce information given and should be specific to the areas addressed.

## Evaluating an education program or service

Evaluation can be formative or summative. Formative evaluation focuses on the processes of a program eg to find out if improvements or adjustments are needed to achieve the educational outcomes. Evaluating processes is a way of monitoring the implementation of the program. The summative evaluation is focused on assessing what outcomes have been achieved from the program eg long term effects of a program.

The first phase for evaluating a program or service can be done using a formative approach as this will inform further adjustments/improvements to the education program or service.

### Formative evaluation

1. Service capacity measures
  - total occasions of service
2. Service reach measures:
  - number of referrals for education versus prevalence of type 2 diabetes for a given geographical area
  - number of referrals for education of gestational diabetes (GDM) versus incidence of GDM for region.
3. Efficiency measures:
  - number of people attending the initial group program versus numbers attending further education sessions
  - number of people who actually attended versus number booked in
  - number referred to other health service providers.
4. Surveys
  - can be used at the end of each session to get a general feel for how the clients felt after the session. See Appendix 1 for an example of a consumer satisfaction survey.

### Summative evaluation

The report *Outcomes and Indicators for Diabetes Education – A National Consensus Position* (Outcomes and Indicators Framework 2007) provides a framework for the design and evaluation of diabetes education programs. Some of the outcomes related to diabetes education from this report were identified as:

- knowledge / understanding (including the application of knowledge)
- self management
- self determination
- psychological adjustment
- clinical outcomes

Some of the tools that can be used pre and post education to assess outcomes can be accessed via the Diabetes Outreach website [www.diabetesoutreach.org.au](http://www.diabetesoutreach.org.au).

Another method for evaluating outcomes can be through the client setting their own personal goals. Explain that goals focus on:

- *Actions* – not attitudes (stop feeling worried)
- Something to do or *start doing* – not something to stop doing
- *One action* at a time
- Actions that individuals feel are *achievable* – even if they pose a bit of a challenge
- Actions that are *personally meaningful*.

You can explain the **SMART** goal acronym, giving examples. Goals should be:

- **Specific** – exactly what will you do? eg I will walk for 30 minutes.
- **Measurable** – how much / how often are you going to do this? eg three times a week.
- **Achievable** – how confident are you that you can do this? On a scale of 1 – 10, confidence should be rated at least 7, otherwise the goal may be unattainable.
- **Realistic** – is this something that really can be done?
- **Time frame** – be specific about the time frame in which you are going to achieve this eg I will achieve this by the end of next week.

See Appendix 2 for an example of a goal setting sheet.

We would like to acknowledge the contribution by Kaye Neylon to this section of the Manual (2009) and her work on the 7 steps education and support program.

## SATISFACTION SURVEY

<b>SERVICE ACCESS</b>	<b>Yes</b>	<b>No</b>
Were you able to get an appointment as soon as you wanted?		
Was the appointment at a venue and time that suited you?		

<b>RESPECT FOR YOUR WISHES</b>	<b>Yes</b>	<b>No</b>
Did the diabetes team member(s) listen to what you had to say?		
Were you involved in decisions about your diabetes education plan?		

<b>INFORMATION AND EDUCATION</b>	<b>Yes</b>	<b>No</b>
Did you get as much information about your diabetes and its treatment as you wanted?		
Did the diabetes team member(s) listen to your questions?		
Did the diabetes team member(s) explain things to you in a way you could understand?		

<b>EMOTIONAL SUPPORT</b>	<b>Yes</b>	<b>No</b>
Did you have any concerns that you wanted to discuss but did not?		
Did you have confidence and trust in the diabetes team member(s)?		
Did the diabetes team member(s) ask about how your living situation might affect your health?		

<b>COORDINATION OF CARE</b>	<b>Yes</b>	<b>No</b>
Were you clearly told about where and when your appointments would be?		
Did you ever feel that members of the diabetes team did not talk to each other enough about your care or situation?		
Did you have any follow-up visits that you felt could have been avoided by better coordination?		
Did you feel the diabetes team member(s) communicated appropriately with your doctor?		

**Being active**

**The purpose of this module is to:**

- describe the relationship between physical activity, diabetes control and risk factors for the development of complications
- discuss physical activity and exercise recommendations for people with type 2 diabetes
- discuss precautions for people with type 2 diabetes engaging in exercise
- assist participants to develop a personal physical activity plan.

**Participant learning outcomes**

At the completion of this module, participants will be able to:

- identify personal benefits of physical activity and planned exercise in their diabetes management
- identify personal barriers to engaging in physical activity / exercise and use a problem solving approach to overcoming them
- state precautions to be taken by people with type 2 diabetes engaging in exercise.

**Goal setting**

- S: Specific            Specific, concrete goals to describe what the aim is.
- M: Measurable        Make sure there is an inbuilt measure so that it is clear when the goal has been accomplished.
- A: Action oriented    Make sure there is a description of how the goal will be achieved.
- R: Realistic            Set achievable and realistic goals that are geared towards success not failure.
- T: Time-bound        Goals that have a time frame can be measured and reset.

**Being Active example**

Eg I'm going to start exercising. This does not meet the criteria for a SMART goal

Instead try

'I'm going to walk for 20 minutes on my lunch break three times a week for the next four weeks.'

This goal clearly states what the person will be doing, when they will be doing, and for how long. It seems realistic and after four weeks it can be evaluated and changed as required. The aim of the goal is to take small steps that will lead to the larger overarching goal of 'being active'. If the person wasn't reaching their goal then it is important to look at what the barriers are eg using the example above perhaps the person has been skipping their lunch break because they have too much work to do. Whatever the reason, it's an indication that the goal needs adjusting. The person might decide to walk after supper for twenty minutes instead. It is important to change the goals so that the person can succeed.

**Being Active – Goal setting record**

Date	Client goal	Barriers identified	Confidence (scale 1-10) *	Follow up		
				Date	Goal Achieved	Outcome

\*Note: if the person does not score 7 (on a scale of 1-10) then they should be encouraged to re-frame their goal

# References

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