Best practice guidelines

type 2 diabetes

Education

Best practice guidelines for management of type 2 diabetes

Queensland Government

Queensland Health

BRISBANE

INNER SOUTH DIVISION OF GENERAL PRACTICE

Foreword

Diabetes is a national and state health priority. Diabetes is responsible for significant morbidity and mortality, which impacts on the Queensland Health system, and more importantly, on the lives of those with diabetes, their families and carers.

Divisions of General Practice have, in the past, highlighted difficulties in accessing public Allied Health Services. To address this issue, Queensland Health, through the Principal Allied Health Adviser, formed the Queensland Diabetes Allied Health Task Group to develop evidence-based guidelines for the Allied Health areas involved in diabetes care — Diabetes Education, Dietetics and Podiatry.

The resulting Best Practice Guidelines for the Management of Type 2 Diabetes identify:
- evidence-based practices in the area of diabetes
- criteria other professionals should use when referring
- pathways for efficient service delivery, and
- services that can be provided by a range of accredited service providers

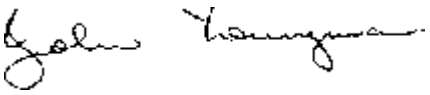
These guidelines support the Diabetes Health Outcomes Plan through implementation of strategies in the plan. Referral information in these guidelines have also been included in the General Practice Advisory Council's Management of Diabetes Mellitus in Adults — Standard Clinical Care Pathway 2000, providing an of overview health professional involvement in type 2 diabetes across the continuum of care.

These guidelines should be used in conjunction with the Diabetes Health Outcomes Plan and the General Practice Advisory Council's Management of Diabetes Mellitus in Adults — Standard Clinical Care Pathway 2000.

Queensland Health is committed to providing efficient and effective services to people with diabetes. These Guidelines provide a blueprint for best practice in the area of type 2 diabetes and diabetes education, dietetics and podiatry.

I recognise the significant work done by professionals and professional associations involved in developing these guidelines and thank all those involved in the task group for their collaboration and support.

I am pleased to endorse these guidelines and ask that health professionals involved in the care of people with diabetes become familiar with this document and encourage its use.



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Acknowledgments

The Diabetes Allied Health Task Force has developed terms of reference to improve the coordination of diabetes care throughout Queensland. As a result, Best Practice Guidelines for Diabetes Education were initiated by Queensland Health and the Brisbane Inner South Division of General Practice. Diabetes educators from various health care settings throughout Queensland formed a working group. The following people have contributed to the development of the best practice guidelines for the management of type 2 diabetes for diabetes educators.

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Contents

1. A diabetes educator

1.1 Definition

Diabetes educators are nurses, dietitians/ nutritionists, podiatrists, psychologists, social workers or doctors who are members of the Australian Diabetes Educators Association, and are working towards or have fulfilled the Association's requirements.

The role of a diabetes educator is defined in "Role of the Diabetes Nurse Educator" (1989)[1]. However, since this document was published, the scope of practice and concept of diabetes education has changed.

Since 1989, allied health and medical health professionals have joined nurses in playing a role in diabetes education. Over time, the role of the diabetes educator has also changed due to progress in technology, education strategies and increased expectations about the quality of life for those with diabetes.

The expectations of communities and governments have also increased. As a result, the Australian Diabetes Educators Association is currently reviewing the "Role of the Diabetes Nurse Educator" (1989)[1]. When this is completed, the Queensland Diabetes Educators Working Group will recommend the use of the revised role statement of the diabetes educator.

1.2 The diabetes resource person

A diabetes resource person is someone employed by a health care service who has an appropriate level of education to support people with diabetes and the diabetes educator in achieving the best possible health outcomes.

The diabetes resource person is supported by the diabetes educator to maintain standards of education within the limits of the resource person's role. It is highly desirable for the resource person to be an Associate member of the Australian Diabetes Educators Association for continuing education and to have regular communication with the diabetes educator.

Documentation of communication and its outcome between the diabetes educator and the diabetes resource person is the responsibility of both parties.

2. Qualifications of a diabetes educator

The Queensland Diabetes Educators Working Group recommends diabetes educators have the following qualifications:

2.1 Mandatory

- Registered or endorsed to practice in the diabetes educator's primary health field
- Australian Diabetes Educators Association membership
- Australian Diabetes Educators Association credentialled or working towards credentialled status through an Australian Diabetes Educators Association accredited advance practice qualification

2.2 Highly desirable

- Registered or endorsed health professional with three year's postgraduate experience in their primary health field
- Postgraduate qualification in an Australian Diabetes Educators Association accredited course

These qualifications appear to be consistent with current thinking in the Australian Diabetes Educators Association. However, National Australian Diabetes Educators Association qualification requirements are being revised. When this is completed, the qualifications required will be reviewed.

3. Standards of professional practice

3.1 Professional competence

Standards of professional practice are integral to the role of the diabetes educator. They provide the professional with guidelines for establishing and maintaining effective diabetes education programs, and ensure consistent practices between professionals.

Standards of professional practice are also useful tools for the professional and the employer. They enable each to determine professional responsibility, scope of practice, accountability, streamlining of services and resources and assist in planning for future services.

All health professionals who have completed an Australian Diabetes Educators Association accredited diabetes educators course can practice diabetes education within the scope of practice of their original qualifications, and provided they conform to the professional standards and competencies of their primary health field.

If practicing in designated isolated practice areas, the guidelines for practice described in The Primary Clinical Care Manual (1998)[2] apply.

At present, the standards that apply to diabetes educators within Queensland are:

- "National Standards of Practice for Diabetes Educators" (1991)[3]
- "The Primary Clinical Care Manual" (1998)[2] (for Indigenous health workers and nurses working in designated isolated practice areas)
- "Performance Indicators linked to National Core Competencies for Diabetes Educators" (1996)[4]

In addition, the Queensland Diabetes Education Working Group recommends the use of the "International Consensus Standards of Practice for Diabetes Education" (1997)[5], as they complement the above standards. diabetes educators should also adhere to profession-specific codes of practice and professional standards.

4. Referrals

"It is a fundamental right of people with diabetes to have access to information, education and to provide them with the opportunity to acquire skills to enable them to participate in the management of their diabetes," according to the Victorian Health Department's Clinical Guidelines for the Management of People with Diabetes [6].

Diabetes education should be provided when a patient is diagnosed and reviewed at least yearly or in instances documented below.

4.1 Referral criteria

Diabetes educators will accept referrals from any health discipline or agency.

Self-referrals are also accepted to:

- be consistent with modern diabetes management
- provide an accessible and timely service
- encourage patient autonomy and self care
- prevent further deterioration of health problems

As a member of a multidisciplinary team, the diabetes educator also promotes access to other specialised services and refers patients to other health professionals, recommending appropriate services.

Referral to a diabetes educator is appropriate when there is:

- initial diagnosis of diabetes
- diagnosis of impaired glucose tolerance
- change in the management of diabetes
- change in physical status: eg. prior to surgery planned, hypoglycaemic incidents
- psychological changes
- social changes
- an annual review of clients (if not seen within one year)
- a person at high risk for developing diabetes
- the risk of Gestational Diabetes Mellitus

5. Education guidelines for type 2 diabetes

5.1 Rationale

Each person is an individual with unique needs that must be assessed before any teaching program is put in place. Education will be affected by a person's age, intellectual ability, how long they have had diabetes, ethnicity and psychosocial situation[6]. Diabetes education is a process spanning a lifetime, requiring regular assessment and updating of knowledge to meet individual needs. It has been shown to be effective in improving compliance, metabolic control and psychological outcomes. (Level of Evidence 1)[10].

The education guidelines described in this document focus on the adult with type 2 diabetes. Their aim is to outline a framework in which diabetes education operates.

They detail:

- patient education scenarios requiring intervention
- education elements considered to provide comprehensive diabetes education (Appendix 1)
- broad timeframes for education

5.2 Level of education

The manner in which assessment, education, intervention and evaluation are carried out does not need to follow a chronological order. However, it is essential that at the completion of the education program, the elements documented have been covered. As the information provided varies with each individual and their needs, elements of education should be selected as appropriate.

5.2.1 Basic level of education

It is mandatory for a basic level of education to be made available to all people with type 2 diabetes to help them develop the skills necessary to manage their health and be safe at home. (These education elements are denoted with a • in the elements column, Table 2.)

5.2.2 Optimal level of education

An optimal level of education is optional for all clients with diagnosed type 2 diabetes. A flow diagram and explanation detailing the steps to follow as the need for diabetes education changes is documented in Appendix 2.

5.2.3 Guide to consultation times

Table 1(opposite) is an outline of the instances that require diabetes education and the recommended time to be spent with the patient. Please note that these times refer to individual consultations only. The use of groups to provide education is discussed in section

Table 1: *Individual consultation variations for diabetes education*

Patient type		Initial session	Review session	Level of evidence
A	Newly diagnosed with type 2 diabetes hours	1.0 - 1.5 minutes x 2	30 - 45	IV
B	Diagnosed with type 2 diabetes 1 Annual review of management 2 No education in the previous 12 months	 ---------- 1.0-1.5 hours	 30 mins x 1 30 mins x 1 (if necessary)	IV
C	Diagnosed with type 2 diabetes and requiring complications management	30 - 45 mins	30 mins x 1	IV
D	Diagnosed with type 2 diabetes – undergoing change in therapy (eg. diet to tablet therapy)*	30 - 45 mins	30 mins x 1	IV

* NB: As each person is an individual with individual needs, situations may arise which require more education than that specified in the above table. The diabetes educator determines the need for further education sessions by assessing whether educational objectives have been met.

5.4. Explanations for levels of evidence used throughout the document are in Appendix 3.

5.3 Priority

The aim of any service is to provide timely education for all people with diabetes as they require it. It is important to note that priority of access to a diabetes educator will vary depending on the individual's health and well being, psychosocial conditions and diabetes management changes.

Priority situations for people with type 2 diabetes include:

- newly diagnosed
- changes to management/treatment of diabetes (eg. tablets to insulin)
- development of complications (retinopathy, neuropathy, nephropathy, wound, infection)
- assistance with blood glucose monitoring technique
- review/assessment of those that do not access the service on a regular basis
- knowledge and educational needs
- assessment of complications
- clinical indicators outside normal parameters (include BMI, HbA1c, Lipids etc)
- for psychological wellbeing reasons
- for social wellbeing reasons

5.4 Group education

There is increasing support for the use of group education sessions for people with type 2 diabetes, with results indicating favourable outcomes for patients[7, 8]. The effectiveness of group education sessions can be seen in level III evidence[9, 10].

Several diabetes services[8, 9, 10, 11] incorporate group education into their standard diabetes education programs. The programs vary widely in the intensity of the education sessions, the needs of the target group, the resources available and the content covered.

This document therefore recommends that group education sessions be incorporated into a comprehensive diabetes education service. Where appropriate, group sessions should be used in place of individual education

sessions –especially when providing general information about diabetes. Timing and group numbers for this education are at the discretion of the individual educator.

Education must be based on the criteria below to ensure that basic survival skills are covered either within group sessions or individually if required. No specific group education format is recommended at present.

Group education sessions may be restricted by:
- the availability of resources and
- the need for a viable number of people to attend the group session so the session is an efficient use of the diabetes educator's time

Individual benefits from group education sessions may be limited by:
- literacy skills
- language barriers
- hearing impairment
- mental health issues
- cultural barriers
- the individual's choice

5.5 Other information

5.5.1 Indigenous health workers

For Indigenous populations it is culturally appropriate for diabetes education to be delivered by trained Indigenous health workers[12]. Indigenous health workers are best placed to consider cultural factors, environmental barriers and social obstacles to implementing interventions.

The involvement of an Indigenous health worker is recommended in any educational intervention provided to Indigenous people with diabetes. This is outlined in the "Systematic Review of Existing Evidence and Primary Care guidelines on the management of non-insulin-dependent diabetes in Aboriginal and Torres Strait Islander Populations"[12].

This document assumes Indigenous health workers who provide diabetes education have undergone appropriate education and can provide the same elements of education a diabetes educator would provide.

The Primary Clinical Care Manual[2] developed by Queensland Health and the Royal Flying Doctor Service includes general clinical care guidelines and the basis of drug therapy protocols. The Manual is intended for use by Indigenous health workers in designated isolated practice areas and includes information on diabetes management. In specific practice areas, Indigenous health workers will be authorised by the Chief Health Officer to practice under a drug therapy protocol after successfully completing an approved course[13].

5.5.2 Flexible competencies

In some regions of Queensland and in some cases, access to a diabetes educator is not possible, requiring other health professional to provide diabetes education. The education other health professionals can provide is listed in the flexible competencies column. These professionals can provide the elements of diabetes education within their professional scope of practice.

These professionals are responsible for ensuring they provide accurate education within their scope of practice or for referring to other health professionals if they do not have expertise in dealing with specific problems.

They are also responsible for ensuring the person has understood the education provided, correcting misconceptions and planning further education sessions if required[14].

5.6 Education elements

The following table lists the education elements considered by many groups (see Appendix 1) as necessary to provide a thorough diabetes education (level IV evidence). Education elements should be selected according to the needs of the individual. The basic level of education should cover basic survival skills education, which is denoted by a •.

Each education element is followed by a summary of the information the individual with diabetes should receive. Headings for these content areas have been adapted from a number of sources, including:

- the New South Wales Health publication, "A Guide to Diabetes Education for Health Professionals"[15]
- the Australian Diabetes Educators Association South Australian Branch publication, "A Guide to Diabetes Education for Diabetes Educators – patient education curriculum guidelines"[14]
- an article by Clement, "Diabetes Self-Management Education"[10]

For more information on the "content covered" column of the following table, please refer to these documents and those in Appendix 1.

Table 2: *Outline of the provision of education for people with diabetes*

Elements	Content covered	Flexible competencies
What is diabetes? •	- establish the person's current knowledge - define diabetes - explain the types of diabetes - list predisposing factors - explain symptoms and signs - explain treatment aims - explain the importance of self-care in diabetes management	Diabetes educator, Dietitian-nutritionist, GP, Indigenous health worker, Pharmacist, Podiatrist
Diabetes control •	- explain blood/urine glucose ranges - explain the aims of glucose control - explain the relationship between nutrition, exercise, medication and glucose control - explain the benefits, risk and management options for improving glucose control	Diabetes educator, Dietitian-nutritionist, GP, Podiatrist
Social issues •	- stress and psychosocial adjustment – patient centred counselling, patient self-efficacy - family involvement and social support - behaviour change strategies – goal setting, risk factor reduction, problem solving and lifestyle modification	Diabetes educator, Dietitian-nutritionist, GP, Health psychologist, Social worker
Dietary advice •	- refer to a dietitian - explain that nutritional planning is necessary for control of all types of diabetes - promote healthy eating guidelines if patient does not have immediate access to a dietitian - define carbohydrates and explain different types - encourage weight loss if appropriate - explain body mass index and healthy weight range - discuss weight goals	Diabetes educator, Dietitian-nutritionist, GP, Indigenous health worker, RN

Monitoring blood and urine •	- demonstrate how to self-monitor blood glucose using a blood glucose meter or visual strips, according to manufacturers' instructions - discuss the purpose of monitoring - discuss factors which influence blood glucose levels - discuss how often tests should be performed - explain safe disposal of used sharps - explain HbA1c	Diabetes educator, GP, RN
Exercise/activity •	- provide advice about exercise and considerations with regard to diabetes - explain the benefits of regular activity - explain the effects of activity on blood glucose levels and weight - explain the different types of activity which would be of benefit - describe aerobic and anaerobic activities - explain the risks of increased activity - discuss aspects to consider when increasing activity - refer for assessment of systems if necessary before commencement of exercise	Diabetes educator, Dietitian-nutritionist, Exercise physiologist, GP, Indigenous health worker, Physiotherapist, Podiatrist, RN
Oral medication •	- explain what oral hypoglycaemic agents are - explain important points regarding oral medication - explain the appropriate time to take prescribed oral agents	Diabetes educator, GP, Pharmacist, RN
Insulin and injection techniques •	- discuss the aim of insulin therapy - describe what insulin is and does - discuss short term complications associated with insulin injections - explain the specific type of insulin the individual will use, the dosage, the time and the action/peaks of insulin - describe how to store insulin and dispose of used needles and syringes - discuss other precautionary measures to be taken when using insulin therapy	Diabetes educator, Dietitian-nutritionist, GP, Pharmacist, RN
	- explain how insulin is administered using an insulin syringe and/or pens - discuss alternative insulin delivery systems - discuss injection sites and problems of injection sites and how to avoid problems	GP, RN
Hypoglycaemia •	- describe the causes, signs and symptoms of hypoglycaemia - explain prevention strategies - describe self care strategies and the management of hypoglycaemia	Diabetes educator, Dietitian-nutritionist, GP
Sick day management •	- discuss when to call the doctor or diabetes educator or go to a hospital emergency department - discuss other sick day management strategies	Diabetes educator, Dietitian-nutritionist, GP

Hyperglycaemia •	- explain the definition of and recommended action for hyperglycaemia - explain the causes of hyperglycaemia - explain the management/prevention of hyperglycaemia	Diabetes educator, Dietitian-nutritionist, GP
Chronic complications •	- explain the types of chronic complications associated with diabetes, stressing that complications are not inevitable and can be prevented or delayed - importance of regular monitoring/screening - describe the risk factors for complications - explain how complications can be minimised or prevented	Diabetes educator, Dietitian-nutritionist, GP, Indigenous health worker, Pharmacist, Podiatrist, RN
Footcare •	- inspect the bare feet and identify signs of current foot problems or risk factors for possible future problems - explain the principles of good foot care - advise the person to have their feet examined by a podiatrist if necessary	Diabetes educator, GP, Indigenous health worker, Podiatrist
Diabetes and pregnancy – planning	- provide information to all women with diabetes of child bearing age - emphasise monitoring strategies during pregnancy - advise the mother prior to delivery to discuss issues with a doctor	Diabetes educator, Dietitian-nutritionist, GP, Medical specialist
Diabetes and pregnancy – management/ gestational diabetes	- provide information at diagnosis - provide information prior to delivery	Diabetes educator, GP, Medical specialist
Diabetes services, support and supplies •	- explain what services, support and supplies are available and where these can be obtained	Diabetes educator, Dietitian-nutritionist, GP, Indigenous health worker, Pharmacist, Podiatrist
Diabetes and driving	- explain the precautions for safe driving - explain the current road and traffic authority requirements	Diabetes educator, GP, Pharmacist
Travelling in Australia and overseas	- explain general recommendations for local and overseas travel - explain additional recommendations for overseas travel	Diabetes educator, Dietitian-nutritionist, GP, Pharmacist

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Appendix 1

Table 3: *A comparison of topics suggested as components for diabetes education*

• topic covered – topic not covered

Topic	Comparison				
	New South Wales	ADEA SA branch[15]	American National	Far North Queensland[17]	Wesley Hospital[18]
What is diabetes	•	•	•	•	•
Dietary advice	•	•	•	•	•
Monitoring blood (and urine)	•	•	•	•	•
Control of diabetes	–	•	•	•	•
Exercise	•	•	•	•	•
Oral medication	•	•	•	•	•
Insulin	•	•	•	•	•
Injection technique	•	•	•	•	•
Hypoglycaemia	•	•	•	•	•
Sick day	•	–	–	•	•
Relationship between nutrition, medications, exercise and BGL	–	•	•	–	•
Hyperglycaemia	•	•	•	•	•
Chronic complications	•	•	•	•	•
Foot care	•	•	•	•	•
Dental care	–	•	•	–	–
Diabetes and pregnancy	•	–	•	•	•
Driving	•	–	–	•	•
Travelling	•	–	–	•	•
Self-care rights and responsibilities	–	•	•	–	–
Behaviour change strategies	–	–	•	–	–
Psychological aspects – stress	–	•	•	–	–
Services, support and supplies	•	•	•	•	•

This table was used to determine education elements for the diabetes education guidelines.

Appendix 2

Patient education

Explanation of Categories (Adopted from continuous Quality Improvement Guidelines[13])

a. Initial diabetes education

Education is to be provided to every person newly diagnosed with diabetes. All basic education must be covered in a sequence that accommodates the needs of the individual to ensure they develop the self-education skills necessary to manage their health and be safe at home. This education should be provided as soon as possible following diagnosis

b. Education update

An update or review of diabetes education is to be provided to all people who have been diagnosed with type 2 diabetes. The information provided depends on the needs of the individual and may focus on:

- readdressing and reinforcing information as appropriate
- monitoring the development of complications
- correcting misconceptions
- providing information about new research/ developments/supplies/services

c. Development of preventable complications

Providing the patient with education to prevent the development of complications and limit the progression of existing complications. This could be useful in the following situations:

- the development of complications such as neuropathy, retinopathy
- admission for hypoglycaemia or uncontrolled diabetes
- new episodes of specific diabetes complications
- the assessment of complications

It is acknowledged that the demands on the time of a diabetes educator in some clinics is high, so assessing for complications and providing advice in these cases is covered in sessions A and B.

d. Major changes in therapy

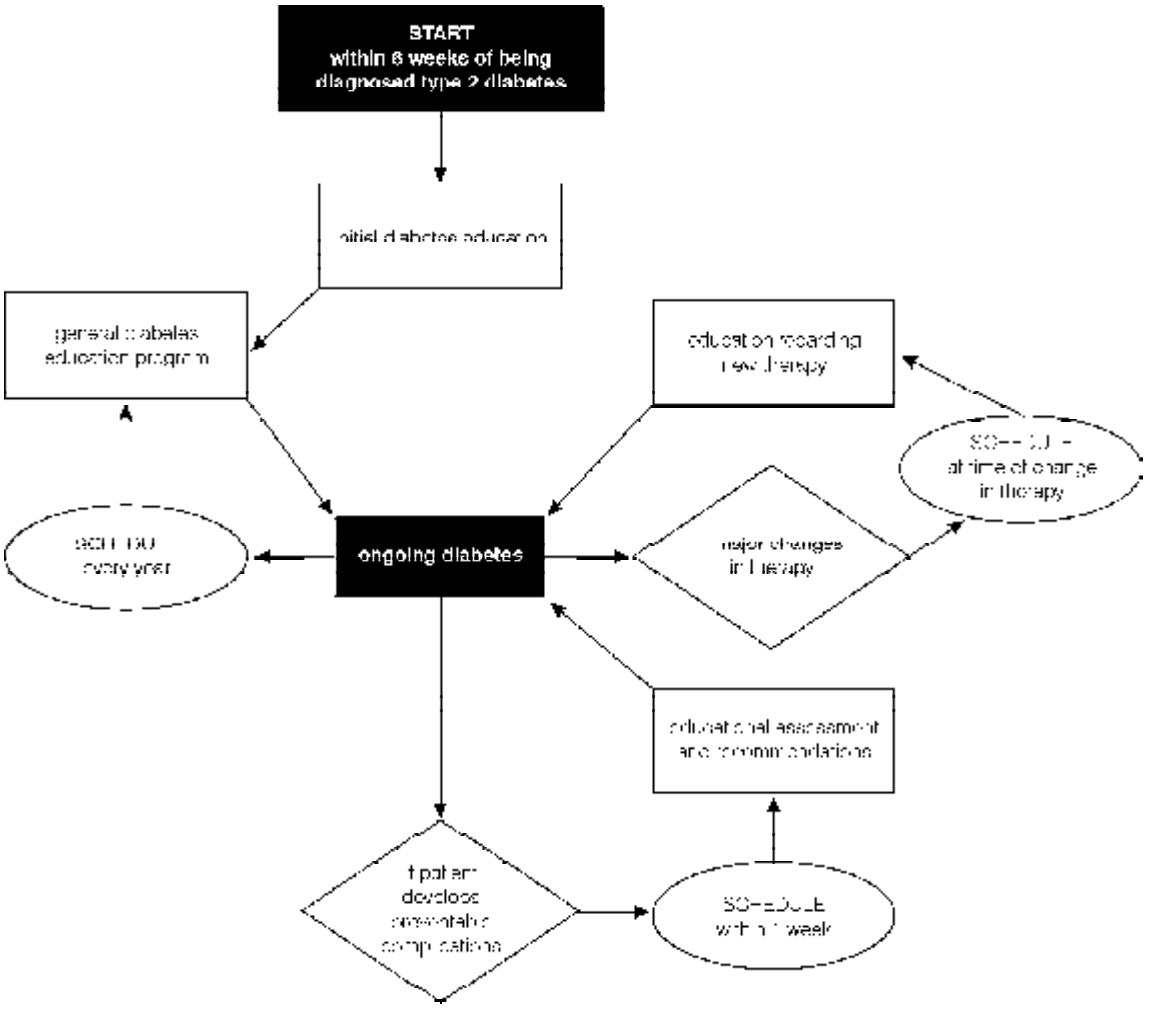
Education is to be provided to people with diabetes who have experienced a major change in the therapy used to manage their diabetes or changes which may affect therapy. These include:

- changes in physical status
- clinical indicators outside the normal parameters
- monitoring concerns
- presence of symptoms
- changes in medication
- changes in management
- pre-surgery management
- social changes
- concerns of the patient
- knowledge and educational needs relating to the above changes

The education elements provided are at the discretion of the diabetes educator and depend on the needs of the individual with diabetes and the changes in therapy they are undergoing.

Figure 1. *Flow chart of diabetes education*

(Adapted from Continuous Quality Improvement Guidelines – Diabetes Mellitus[13]) Appendix 3



Appendix 3

Methodology for determining evidence basis

It is expected that any education guideline developed in the present environment has strategies in place which are supported by evidence showing that the listed practices produce positive outcomes.

The literature searches were focused on but not confined to the period of 1990-1999. Systematic reviews and meta-analyses were the primary sources, including Cochrane Databases, The University of York – NHS centre for reviews and dissemination and Evidence Based Medicine Database.

Medline searches were also used to obtain primary research papers, guidelines, consensus statements and reviews when the systematic reviews or meta-analyses discussed above did not exist for specific topics.

The NHMRC Quality of Evidence rating scale (1995) has been used in judging the quality of evidence where no evidence rating was available.

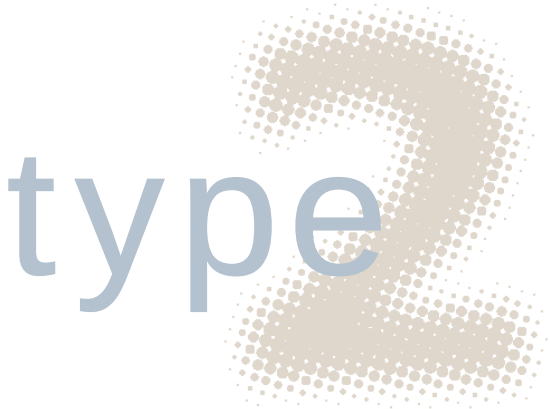
Level of evidence

i Evidence obtained from a systematic review of randomised controlled trials, providing that it includes at least two properly designed trials of moderate size or a systematic review. This does not include trials which could be reasonably argued not to effect the findings of the review.

ii Evidence obtained from a least one properly designed randomised controlled trial.

iii Evidence obtained from a well designed controlled trial without randomisation, from well designed cohort or case-controlled analytic studies, preferably from more than one centre or research group or from multiple time series with or without intervention.

iv Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees.



Best practice guidelines for management of type 2 diabetes

Education

These guidelines areintended as a generalguide only and arenotintendedtobeprescriptive. The guidelines should not be considered allinclusive nor should they be considered exclusive of other methods of service delivery. Health professionals must exercise independent judgement as to what isappropriateforindividualpatients or groups of patientsunderparticularcircumstances.

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