This is the authors’ final peer reviewed (post print) version of the item published as:

Dunning, Trisha 2010, *Education modules for the management of diabetes in the older person*, [Australian Diabetes Educators Association], [Melbourne, Vic.].

Available from Deakin Research Online:

[http://hdl.handle.net/10536/DRO/DU:30031286](http://hdl.handle.net/10536/DRO/DU:30031286)

Reproduced with the kind permission of the copyright owner.

**Copyright**: 2010, [Australian Diabetes Educators Association]
Education Modules for the Management of Diabetes in the Older Person

Prepared by Professor Trisha Dunning AM

for the

Australian Diabetes Educators Association

September 2010
Acknowledgements

The project was funded by the Australian Diabetes Educators Association (ADEA) as part of the ADEA National Diabetes Services Scheme (NDSS) Services Plan.

We gratefully acknowledge the contribution of members of the Advisory Group to the project.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Management challenges</td>
<td>4</td>
</tr>
<tr>
<td>Advisory group</td>
<td>6</td>
</tr>
<tr>
<td>Literature review</td>
<td>7</td>
</tr>
<tr>
<td>Developing the Modules</td>
<td>8</td>
</tr>
<tr>
<td>Individual modules</td>
<td>8</td>
</tr>
<tr>
<td>Aims of the modules</td>
<td>8</td>
</tr>
<tr>
<td>The process of developing the modules</td>
<td>8</td>
</tr>
<tr>
<td>Structure of the modules</td>
<td>8</td>
</tr>
<tr>
<td>The Modules</td>
<td>10</td>
</tr>
<tr>
<td>Module 1</td>
<td>10</td>
</tr>
<tr>
<td>A training package for residential aged care workers</td>
<td>10</td>
</tr>
<tr>
<td>Module 2</td>
<td>12</td>
</tr>
<tr>
<td>A module for registered nurses in Division 1 and Division 2/SENs working in generalist settings</td>
<td>12</td>
</tr>
<tr>
<td>Module 3</td>
<td>13</td>
</tr>
<tr>
<td>A module for diabetes educators</td>
<td>13</td>
</tr>
<tr>
<td>Recognition of the learning</td>
<td>14</td>
</tr>
<tr>
<td>References</td>
<td>15</td>
</tr>
<tr>
<td>Appendix 1. The Modules</td>
<td>16</td>
</tr>
</tbody>
</table>

Education modules for the management of diabetes in the older person. Final report 3
Introduction

Currently 7.5% of Australians has diabetes and an estimated 25% of adults aged 75 and older have diabetes (Australian Institute of Health and Welfare, 2010). If diabetes is not managed it can have devastating physical, psychological and spiritual consequences and result in death (Zimmet & Alberti, 2006).

Managing diabetes in older people presents particular challenges regardless of whether they live in the community or in residential aged care facilities because of the effects of aging on metabolic status and vice versa. In addition, many have coexisting diabetes-related complications and/or other comorbidities. Managing medicines is particularly challenging due to the effects of aging and diabetes on key organs and tissues involved in the absorption, distribution and excretion of medicines (pharmacodynamics and pharmacokinetics). All of these issues are complicated by normal aged-related physical, mental and functional changes.

There is a considerable amount of evidence about diabetes management in older people that organisations can access to guide contemporary, evidenced based diabetes education and management. In 2003, The Australian Diabetes Educators Association (ADEA) developed *Guidelines for the Management and Care of Diabetes In the Elderly*, that primarily focus on older people living in the community.

Management challenges

Managing diabetes in older people is complex and requires good communication among health professionals, the person with diabetes and their family/carers as well as effective referral and transition processes among health services. These challenges include:

- A lack of evidence for many current care strategies in older people, largely because they are often excluded from research studies.
- The individual nature of the aging process generally, and of individual organs and tissues within an individual.
- The dilemma many health professionals face when making difficult decisions to safeguard the individual and public. For example, recommending a driver's education modules for the management of diabetes in the older person. Final report
• licence not be renewed, which affects the individual’s independence and often their access to health services.
• Coping with the increasing demand for aged care services, which needs to be provided by knowledgeable practitioners.
• Having appropriate diabetes screening and prevention programs that target older people.
• Providing effective interdisciplinary team care.
• Supporting carers.
• Planning advanced care directives and determining end of life care.

The Australian Diabetes Educators Association (ADEA) commissioned three self-directed learning modules that address managing diabetes in older people. The suite of education modules were designed to help residential care workers, nurses and diabetes educators deliver evidence-based, holistic age-appropriate care for older people with diabetes living in community settings and in residential aged care facilities.
Advisory group

An Advisory Group of key stakeholders with expertise in managing diabetes in older people was established to ensure the module content meets the needs of the clinical agencies and health professional disciplines providing care of older people with diabetes and is current and accurate.

The members of the Advisory Group were:

- Gil Cremer, National Office Project Officer, ADEA
- Liz Obersteller, Credentialled Diabetes Educator, ADEA, Northern Health
- Prof Alan Sinclair, Professor of Medicine, University of Bedfordshire
- Catherine Prochilo, Diabete Australia, Victoria
- Kate Flentje, Pharmacist, Barwon Health
- Dr Huong Van Nguyen, Endocrinologist and Geriatrician, Bankstown Hospital, NSW
- Dr John Staton, General Practitioner
- Ann Hague, Director of Aged Care, Barwon Health
- Amanda Wooton, An RN from a residential aged care facility.
- Dr Rob Malon, Divisional Medical Director, Rehabilitation and Aged Care, Barwon Health
- Jelica Vrkic, Dietitian, Compass Group

These people were invited to provide advice about the content of the draft modules in a voluntary capacity. Communication with the Advisory Group occurred via email, telephone and mail. Regular meetings attended by some Advisory Group members in person, and some by telephone link were held throughout the project.
Literature review

A literature review was undertaken to identify relevant recent literature concerning the care and education of older people with diabetes to ensure the modules reflect current practice. The literature search primarily focused on the period 2003–2010.

Databases such as CINAHL, Cochrane Reviews, PSYCHINFO and EMBASE were searched using relevant terms such as diabetes mellitus, older people, aged care, diabetes education, medical care, nursing care, nutrition, medicines, aging and various combinations of these terms. The reference lists of journal articles, relevant reports and other grey literature were also searched. Members of the Advisory Group were asked to contribute any literature they were aware of, particularly if it was not in the public domain. However, the information was not graded for the level of evidence, which was not relevant to this project.

Relevant literature was obtained and critiqued and summarised by the team. References that were particularly useful were earmarked for inclusion in the modules’ reading lists. Additionally, websites were examined to identify appropriate information to incorporate into the modules. A list of useful websites for each module was developed.

One book was identified as an appropriate recommended text for Module 1:


Two texts were identified as recommended reading for Modules 2 and 3:


Developing the Modules

Individual modules

Separate modules were developed for registered nurses (RNs), Diabetes Educators (DEs) and Aged Care Workers (ACW). The three modules differ in complexity and self-learning and self-assessment activities to suit the relevant target audience, but they contain similar content and have the same aims.

Aims of the modules

The aims of the modules were:

- To enhance knowledge to enable ACWs and RNs and DEs working with older people with diabetes to deliver effective, safe diabetes care that maintains or improves the quality of life and independence within the individual’s capabilities.
- To help ACWs, RNs and DEs understand and work within their level of competence and scope of practice relevant to providing care for older people with diabetes.

The process of developing the modules

The content of the modules was based on expert knowledge and findings from the literature review. Several iterations of the modules were prepared and distributed to the Advisory Group to obtain their expert opinion. The process utilised in developing the modules is presented in Figure 1 (next page).

Structure of the modules

Each module contains key learning outcomes, introductory text, a list of readings and references, and a number of learning activities and reflective activities to extend the learner’s learning about particular topics. Many of these activities involve applying information to case studies that represent common issues encountered in caring for older people with diabetes.
The modules were designed to be accessed individually on the Internet. Reference material that is not readily available is provided as PDF documents, with a link to individual documents on the modules website.

![Diagram](image)

**Figure 1.** The process used to develop the modules
The Modules

Three modules were developed:

1. A module for residential aged care workers (ACW) that can be converted to an online learning module.
2. A module for registered nurses (Division 1 and Division 2/SENs) working in generalist settings.
3. A module for diabetes educators.

The modules differ in complexity and self-assessment tasks to suit the relevant target audience but they contain similar content and have the same aims. Each module has a list of recommended reading and/or references and a self-assessment task to help learners assess their learning after completing the module.

A brief summary of each module and the expected learning outcomes are presented on the following pages. The complete modules are presented in Appendix 1.

Module 1

A training package for residential aged care workers

An underlying assumption of Module 1 is that ACWs will have limited knowledge about diabetes or the aging process other than that gained experientially, through the media, personal reading, training programs or through attending in-service education programs.

Expected learning outcomes

After completing the module, and with further workplace learning, the ACW is expected to be able to:

- Describe the role and scope of practice of the Aged Care Worker, with respect to caring for older people with diabetes.
- State the signs and symptoms of diabetes and how it is diagnosed.
• State the main treatment modes: healthy food plan, activity and medicines and recognise that healthy eating and activity are needed even when medicines are commenced.

• State that people with diabetes should receive a cycle of care from their GP that includes blood tests, measuring blood pressure regularly, foot assessment and physical assessment and medicine reviews at regular intervals.

• Describe the long term complications of diabetes and how they affect the individual’s ability to manage self-care.

• Describe the purpose of blood glucose monitoring (BGM), the significance of the BGM result and the relevant actions the ACW should take if it is outside the documented target range.

• State the signs and symptoms of hypoglycaemia and what the ACW should do if he or she recognises an individual is having a ‘hypo’ or finds a low blood glucose reading when they perform a BGM.

• State the signs and symptoms of hyperglycaemia and what the ACW should do if he or she finds high blood glucose (BG) when performing BGM.

• Describe how diabetes contributes to the risk of falling and some strategies the ACW could use to reduce this risk.

• Outline how diabetes affects cognitive function.

• Describe the importance of personal care to older people with diabetes including foot care, skin care and dental care.

• Describe when, what and how to report changes in blood glucose levels and/or other diabetes-related issues affecting care, and who to report them to.

• Outline the specific care needed by an older person with diabetes that is within the scope of practice of an ACW.

• Use the knowledge and experience gained from completing the learning module to contribute to better care of older people with diabetes to support their self-management in the community and in low level care and reduce complications associated with the disease.

• List the agencies and/or organisations that provide information, support and education for older people with diabetes.
Module 2

A module for registered nurses in Division 1 and Division 2/SENs working in generalist settings

Nurses undertaking Module 2 are expected to have a good understanding of the basic pathophysiology, diagnosis and management of diabetes from their undergraduate education, nursing experience, experiential learning, and in some cases, post graduate study.

Key learning outcomes from completing this self-directed learning module

After completing the module the Registered Nurse (RN) and Enrolled Nurse (EN) should be able to:

• Describe the impact of increasing age on body tissues and organs and the effects of diabetes on the ageing process.
• Describe the nurse’s role in primary prevention and early detection of diabetes in older people.
• Describe the factors that need to be considered when developing a care plan for an older people with diabetes including the need for early referral to relevant services such as a diabetes educator (DE), dietitian, podiatrist, physiotherapist, speech therapist, occupational therapist, general practitioner, community services and early discharge planning from acute or rehabilitation care settings.
• Describe the nurses’ role and responsibility when delegating care to other providers including aged care workers.
• Discuss an appropriate food plan for an older person with diabetes considering their metabolic control, nutritional status, presence of complications and food preferences.
• Describe how the ageing process affects the pharmacodynamics and pharmacokinetics of glucose lowering medicines, antihypertensive agents and other medicines and the safety issues involved such as contraindications, and interactions.
• Discuss the indications for a home medicines review.
• Describe the impact of hyperglycaemia on physical and mental functioning and the associated risk of falls, cognitive changes and hyperosmolar states.
• Describe the impact of hypoglycaemia on physical and mental functioning and the associated falls risk and other safety issues.

• Describe the care of an older person scheduled to have a surgical procedure involving fasting and an investigation that involves using radioactive contrast media.

• Describe the annual cycle of care for diabetes, the various investigations and the recommended management targets.

• Discuss the education needs of older people with diabetes.

Module 3
A module for diabetes educators

Diabetes educators undertaking Module 3 are expected to have specialist knowledge of diabetes education and management.

Key learning outcomes from completing this module

It is expected that diabetes educators will have a good basic understanding of diabetes, education principles and medical management and medicines used to manage diabetes. The module was designed to extend that knowledge and challenge diabetes educators to apply their existing knowledge to completing this module.

• After completing the module the diabetes educator (DE) should be able to:
  • Describe the main characteristics of normal aging.
  • Describe the impact of increasing age on body tissues and organs.
  • Describe the effects of diabetes on the aging process.
  • Understand that aging occurs at different rates among individuals and in the organs and tissues within individuals.
  • Describe the DE’s role in primary prevention and early detection of diabetes in older people.
  • Describe the factors that need to be considered when developing an education program and care plan for an older person with diabetes.
• Discuss an appropriate food plan for an older person with diabetes considering their metabolic control, nutritional status, presence of gastrointestinal and other complications and food preferences.

• Describe how the aging process affects medicine pharmacodynamics and pharmacokinetics and the implications for medicine choices including glucose lowering medicines, antihypertensive agents and lipid lowering agents, and the safety issues involved.

• Describe the indications for a comprehensive medicine review.

• Describe the impact of hyperglycaemia on physical and mental functioning and the associated risk of falls, cognitive changes, pain, hyperosmolar states and ketoacidosis.

• Describe the impact of hypoglycaemia on physical and mental functioning and the associated falls risk.

• Plan an education session for an older person scheduled to have a surgical procedure involving fasting.

• Plan an education session for an older person scheduled to have an investigation that involves using radioactive contrast media.

• Plan a diabetes education program for older people newly diagnosed with diabetes.

• Describe the general practice annual cycle of care for diabetes.

Recognition of the learning

Strategies for acknowledging completion of the modules will be developed in conjunction with the ADEA. An application for endorsement of the modules as online learning for Continuing Professional Development by the Royal College of Nursing, Australia, will be made.
References


