

# Good clinical practice guidelines for care home residents with diabetes

**A revision document prepared by a Task and Finish Group  
of Diabetes UK**



# Good clinical practice guidelines for care home residents with diabetes

**A revision document prepared by a Task and Finish Group of Diabetes UK**

*formerly *Guidelines of Practice for Residents with Diabetes in Care Homes*, a report of the British Diabetic Association (1999)*

**January 2010**



# Foreword

A decade on from the original British Diabetic Association (BDA) report, we have seen several important initiatives in diabetes care in the United Kingdom such as the National Service Framework for Diabetes, various evidence-based diabetes guidelines from the National Institute of Health and Clinical Excellence (NICE), and the inclusion of diabetes care items in the Quality Outcomes Framework (QOF) in primary care. While there is worthwhile evidence that these approaches have resulted in a greater emphasis on integrated diabetes care with a focus on community-based and primary care working, there has been relatively little progress in enhancing high quality diabetes care within residential settings. We hope that these good clinical practice guidelines will bring about a renewed interest in this often neglected clinical area and lead to greater recognition of the important issues affecting this group of care home residents.

Improving diabetes care in residential and nursing homes is a major goal but unless there is a commitment by all healthcare professionals involved in diabetes care supported by social services, NHS and independent care home staff, the Department of Health, and other interested agencies, these recommendations are unlikely to have a positive influence.

Diabetes mellitus is one of several chronic disabling disorders such as dementia which are increasing in prevalence and are likely to require greater provision for formal long-term care. These guidelines highlight areas of special need for residents with diabetes in care homes and we hope that by their wide and effective implementation, the ultimate wellbeing and quality of life sustained by residents will be enhanced.



**Professor Alan Sinclair MSc MD FRCP**  
**Working Group Chair**



# Acknowledgments

We would like to thank all those members of the original BDA Working Party who helped to produce the 1999 report. This revision document forms part of a series of initiatives by Diabetes UK to enhance diabetes care within residential care settings. We wish to take this opportunity to thank staff at Diabetes UK – Bridget Turner, Cathy Moulton, David Bryant, Zoë Harrison, Florence Brown and the Publishing and Digital Media teams – for ensuring that this project was prioritised and supported and members of the Diabetes UK Task and Finish Group on older patients in residential care. We would also like to thank the following colleagues at the Royal College of Nursing for their contribution: Margaret Stubbs, Gayle Richards, Jill Hill, Margaret Bannister, Keith Booles, Patricia Clawson.

## Members of the Working Group

### **Professor Alan Sinclair (Chair)**

Professor of Medicine and Consultant  
in Diabetes  
Institute of Diabetes for Older People (IDOP)  
Bedfordshire & Hertfordshire Postgraduate  
Medical School

### **Dr Susan Benbow**

Consultant Diabetologist  
Walton Hospital  
Liverpool

### **Professor Roger Gadsby**

General Practitioner and Associate  
Clinical Professor  
Institute of Clinical Education  
University of Warwick

### **Roisin Wright**

Clinical Lead - Diabetes Education  
NHS Cambridgeshire

### **Sue Thomas**

Nursing Policy & Practice Adviser  
Royal College of Nursing

### **Fiona Kirkland**

Consultant Nurse for Diabetes  
South Staffordshire Primary Care Trust

### **Dr Terry Aspray**

Consultant Physician  
Sunderland Royal Hospital

### **Paul Frisby**

General Practitioner  
Arlington Road Medical Practice  
Eastbourne

### **Haydn Mayo**

General Practitioner  
North Cardiff Medical Centre

### **Nicky Middleton**

DSN  
Oxfordshire PCT

### **Yvonne Gosset**

Local Area Manager (SE)  
Care Quality Commission

### **Professor Jonathan Richards**

Professor of Primary Care  
University of Glamorgan School  
of Care Sciences

# Contents

Executive summary	1
Introduction	5
Aims of the guidelines	7
Background to the problem	9
Recent evidence to support good clinical practice guidance	12
Identification of gaps in the provision of diabetes care in care homes: a UK perspective	16
Aims of care for residents with diabetes in residential and nursing homes: broad principles	18
Barriers to effective diabetes care	20
Definitions and legislative framework for the review of care within care homes	22
Screening for diabetes and its complications at admission to a care home	24
Dietary requirements for residents with diabetes in care homes	27
Provision of effective diabetes care for residents with mental health needs	33
Meeting the needs of diabetes care for residents from ethnic minorities	36
Effective glucose control in care homes	37
Recognition and management of hypoglycaemia within care homes	42
Roles of other key healthcare professions: provision of diabetes care for residents of care homes	44
Role of the diabetes specialist nurse (DSN)	47
Role of the practice nurse	48
Community nurse (district nurse) provision of diabetes care within care homes	49
Foot care and provision of podiatry services for resident with diabetes in care homes	51
Access to ophthalmological services for residents of care homes	53

---

Assessment and treatment of pain in residential settings	56
Care planning: residents with diabetes in care homes	58
Diabetes annual review arrangements	60
Use of robust outcome measures to assess the efficacy and efficiency of diabetes care within care homes	61
Education and training requirements for staff within care homes	63
Ethical considerations in providing diabetes care to residents in care homes	66
End of life care (EoLC) for residents with diabetes in care homes	67
Primary recommendations which sustain effective diabetes care within care homes	69
Conclusions	74
Appendix 1: References	75
Appendix 2: An Insulin delegation scheme for care homes	80
Appendix 3: List of educational and training resources	91
Appendix 4: Resident's diabetes passport	96
Appendix 5: A diabetes care policy for UK care homes – a template	100
Appendix 6: A diabetes audit tool for care homes (expected October 2010)	111



# Executive summary

## Key messages

- Recommendations provided are based on published evidence and interpretation by a multidisciplinary group of diabetes experts.
- These guidelines are designed to represent a national policy of good clinical practice for diabetes care within care homes.
- This document should provide a framework of assessment of the quality of diabetes care within care homes for use by regulatory bodies who have responsibility for this provision.
- This document is primarily based on recommendations for adults living within British care home environments and its focus, by virtue of the nature and characteristics of residents, is on older adults.
- Improvements in diabetes care within residential and nursing homes are likely to follow a sustained commitment by health and social care professionals to ensure that the wellbeing of residents with diabetes is paramount, that high quality policies of diabetes care are implemented and monitored, and effective diabetes education is an a mandatory and integral part of care home staff training.

A care home resident with diabetes has an increased likelihood of frailty and multiple co-morbidities, and of being part of system associated with unstructured diabetes care, lack of clear boundaries of clinical responsibility, and an unwillingness, which is sometimes misguided, by many healthcare professionals to intervene actively in goal attainment and enhancing diabetes care. This has placed an unquantified but heavy health and economic burden on our society.

These guidelines summarise the evidence base of published studies in the area, and reviews documents and other material relevant to care within residential and nursing homes. In addition, this document embodies the views and comments of a multidisciplinary expert panel established as the original Working Party to deliver a series of recommendations relating to the provision and delivery of diabetes care practices primarily for adults within care settings in the UK.

The principal features of these good clinical practice guidelines are as follows:

- residents with diabetes within institutional settings appear to be a highly vulnerable and neglected group of subjects, and are characterised by a high prevalence of macrovascular complications, tremendous susceptibility to infections, increased hospitalisation rates compared with ambulatory patients with diabetes, and high levels of physical and cognitive disability
- the prevalence of known diabetes within residential and nursing homes in England has been estimated to be as high as 26 per cent.

- numerous deficiencies in providing diabetes care within care homes exist and include lack of care planning and case management, inadequate dietary (nutritional) guidance, lack of specialist health professional input, and the presence of inadequate and unstructured medical follow-up practices
- the broad aims for residents with diabetes in care homes can be summarised as follows:
  - a) to maintain the highest degree of quality of life and wellbeing without subjecting residents to unnecessary and inappropriate medical and therapeutic interventions
  - b) to provide sufficient support and opportunity to enable residents to manage their own diabetes where this is a feasible and worthwhile option
  - c) to ensure that residents with diabetes have individualised diabetes care and that follow-up specialist care is easily available depending on clinical need.

Several important barriers to providing improved diabetes care within long-term care homes exist and include a lack of sufficient training in basic diabetes care among care home staff combined with inadequate resources to deliver this training and education, poor communication between staff due to lack of distinct professional boundaries and responsibilities, and a lack of national standards of diabetes care with care homes.

The original primary legislation governing the service provided by care homes in England and Wales was the Registered Homes Act 1984. Since the publication of the original report, there have been several bodies established which had responsibility for ensuring standards of health and social care were being monitored within care home settings. In April 2009, the Care Quality Commission (CQC) assumed this responsibility and have additional authority to enforce legislation and to take action if standards are not met.

- These guidelines review the special areas of dietary provision within care homes and discuss the principle aspects of treatment of residents with diabetes. In addition, the essential roles of the general practitioner, diabetes specialist and community nurses, dietitian, podiatrist and optometrist are outlined.
- Each resident with diabetes should have an individual care plan agreed between the patient (family/carer), general practitioner and home care staff.
- Each resident with diabetes should undergo an annual review assessment preferably conducted within the care home. This will include a review of the relevant history and medication, detailed clinical examination including nutritional assessment, functional assessment (physical and mental), visual acuity measurement, fundoscopy through dilated pupils where possible, and assessment of glycaemic control and renal function. The annual review should also be an opportunity to review the dietary plan and the principal aims of care for each resident.
- Robust outcome measures to assess the efficacy and efficiency of the diabetes care within care homes need to be established. These will be required to assess the quality of care delivered, to assess the impact of diabetes on each resident, and to determine the impact of use of care home resources in providing diabetes care. Specific outcome measures will need to include metabolic targets, frequency of hypoglycaemia for those taking insulin or sulphonylureas, vascular complication rates, hospital admission rates,

change in functional status, and the effect of diabetes in modifying quality of life and wellbeing of each resident.

- Care homes require access to the use of a well designed audit tool for residents with diabetes: this should allow monitoring and evaluation of diabetes care within these environments and by appropriate intervention, produce noticeable and recordable improvements.
- A practical and skills-based delegation policy for the initiation of insulin treatment in community settings including care homes is urgently required to allow residents with diabetes a safe transfer on to insulin. This will include a clear demarcation of roles and responsibilities of care staff and involved healthcare professionals.
- These guidelines recommend that more emphasis is placed on training and educational initiatives for home care staff. The basic elements of a training course should include information and advice relating to diabetes treatments including dietary principles, screening for complications, management of 'sick days', health promotional activity, and the role of care staff in assisting in care plan management.
- A series of ethical principles should govern the way in which both diabetes and other medical care is delivered within care homes. Autonomy for each resident is encouraged consistent with their mental and physical abilities, the Mental Capacity Act Code of Practice (2007), and the Human Rights Act (2004).
- Care home residents with diabetes represent a highly vulnerable group from many perspectives including inequality of care. This may be manifested in terms of lack of clarity about aims/goals of care, lax and inappropriate metabolic targets, lack of access to specialist care, and poor follow-up practices. These guidelines aim to address some of these inequalities by use of good clinical practice guidance and identifying standards of care.
- These guidelines outline a series of recommendations which are designed to enable a measurable improvement in diabetes care within care homes to be achieved. These have been categorised into recommendations which relate to: (a) residents of care homes (b) care home institutions and (c) the organisation of diabetes care within each district.

**Key recommendations include:**

- the use of an individualised diabetes care plan for each resident
- the development of a policy of diabetes care within each care home
- establish a policy of screening for diabetes within care homes at admission and at two yearly intervals
- the development of an audit tool to assess the quality and extent of diabetes care within care homes
- provide an insulin delegation policy template which can be adapted in each district to oversee the initiation of insulin in community settings including care homes
- the appointment of at least one DSN for older adults in each district whose remit and responsibilities encompass the requirements of residents within care homes
- establish opportunities for care home staff to attend a diabetes educational and training programme within each district.

The recommendations put forward within these guidelines are to be seen as a framework for enhancing high quality diabetes care within residential and nursing home settings.

# Introduction

## Key messages

- Residential care settings pose many difficulties for optimising diabetes care which have included inadequate staff education and training in diabetes, lack of national and local guidance on best practice, and a failure to appreciate the vulnerability of residents with diabetes to poor health outcomes.
- Diabetes UK in collaboration with other key organisations have taken on the challenge to bring about change in residential diabetes care: initially, this was through a detailed literature review, multidisciplinary expert review meetings, analysis of current clinical practice in the UK, and publication of a nationally recognised 'good clinical practice' document.
- An important purpose of this document is to summarise key issues, attempt to clarify any uncertainties, and identify suitable assessment tools for diabetes care within care homes.

Diabetes is known to double the risk of admission to a care home<sup>1</sup> and may account for up to one in four residents<sup>2</sup>. Residents with diabetes have an increased risk of disability<sup>3</sup>, pressure sore development<sup>4</sup>, and hospital re-admission<sup>5</sup>. One recent study of diabetes prevalence found the highest rates of undiagnosed diabetes in EMI residential care homes<sup>6</sup> where the standards of diabetes care were considered inadequate.

These observations have significant importance when it is realised that more people are living in care homes and estimates for the UK are that the current population of 450,000 will increase to 1,130,000 in the next 50 years; associated with the social and health cost of providing care escalating from £13 billion to £55 billion by the year 2051<sup>7</sup>.

The publication of the British Diabetic Association document, *Guidelines of Practice for Residents with Diabetes in Care Homes*, in 1999 highlighted many of the deficiencies in diabetes care within institutional settings and provided a framework for enhancing the quality of services available for this often neglected group. Although developed as a set of standards, the guidance was not uniformly taken up by local diabetes services.

The publication of this revision document, however, is firmly as a set of national guidelines for diabetes care within British care homes, and attempts to remove the inherent lack of clarity in delivering effective diabetes care within residential environments. It reflects important collaboration between Diabetes UK, the Royal College of Nursing, the Association of British Clinical Diabetologists, and the Department of Health where there is a major emphasis on tackling inequalities in diabetes care.

These guidelines are aimed primarily at adults with diabetes cared for in residential settings. We acknowledge that there is also a small but significant number of children and young people with diabetes who are looked after in a variety of non-parental residential settings. Issues such as local authority care, foster care, child penal institutions and children and young people with special needs requiring residential or respite care all require further examination by paediatric specialists with an interest in diabetes and agencies working with this vulnerable group of children.

# Aims of the guidelines

## Key aims

- These guidelines aim to represent a comprehensive and evidence-based body of work which focuses on the relevant, practical, and clinically important issues for older residents with diabetes living in care homes in the UK.
- To provide suitable and practicable educational, assessment and monitoring tools which can be used by care home staff, visiting health and social care staff, and regulatory bodies.
- To provide local diabetes teams and the Care Quality Commission (CQC) with a diabetes audit tool which can be used to assess the quality and safety of diabetes care within care homes.
- To be read in conjunction with other national guidance on diabetes care.

Several lines of enquiry were instituted including identification of major issues relating to the nature and delivery of diabetes care within care homes and determining the current evidence base in the published medical literature.

Other relevant objectives included:

- to summarise the main legislative framework for the organisation and operation of residential and nursing homes within the UK
- to estimate the size and age format of the population of people with diabetes within both voluntary and private care homes within the UK by examination of relevant research in the area
- to determine the major barriers to effective diabetes care within care homes
- to summarise the main treatment strategies for residents including dietary approaches, use of insulin, and management of other co-existing medical disorders
- to clarify and define medical, nursing, and care staff responsibilities for effective diabetes care within care homes across all health sector boundaries
- to produce a template for diabetes care plans and follow-up strategies for residents within residential and nursing homes
- to establish a preliminary series of outcome measures which can be applied to diabetes care practices in care home settings
- to include a valid audit tool of care home diabetes capable of dissemination throughout clinical and NHS settings in the UK which can be used as a template for inspection by appropriate regulatory organisations
- to identify a suitable delegation policy for insulin initiation within care homes

- to provide a summary of the available training and educational courses currently operating within the UK that address the special issues of diabetes care with care home
- to determine the content and applicability of educational diabetes care and training programmes for residents/carers and other institutional care staff
- to produce a series of recommendations relating to the provision and delivery of diabetes care practices within care home settings in the UK which are to be regarded as national standards of diabetes care and good clinical practice but would have the advantage of being workable at a local level
- to produce a comprehensive guidance document (guidelines) embodying the above which would become Diabetes UK's strategy for moving closer towards achieving improved outcomes and higher quality of care in line with the Department of Health's vision for the NHS.

These guidelines summarise the detailed and expert views of key health and social service professionals as well as those directly involved in the organisational aspects of long-term care homes. The original purpose was to provide healthcare professionals and others such as care home staff or those in social care with healthcare and diabetes guidance for residents with diabetes living in residential and nursing homes. This revision may be used as a useful reference source for educational and training purposes, clinical audit projects, and reviewing existing care home practices.

The term 'carers' is loosely used to describe those individuals who provide practical assistance, including social, emotional, financial, and sometimes health related support, but who are generally unpaid. These represent a large heterogeneous population of caring individuals within a community who may be related to a resident or who may be previous neighbours or friends. The term 'informal carers' is a better description.

To provide a literature base for this report, a broad search strategy to capture studies focusing on any aspect of institutionalisation and diabetes was carried out using the following four databases:

MEDLINE and PUBMED

CINAHL

Social Science Citation Index

The Cochrane Library

Subject headings and key words included nursing homes/facilities, residential homes/facilities, intermediate care/skilled nursing facilities, homes for the aged, institutions, institutionalised, and institutionalisation. These results were combined with subject headings and key words relating to diabetes in order to pick up any aspect of care and management of institutionalised patients with diabetes including education and support, diet and nutrition, disorders, and complications. In order to capture further studies bibliographies were scanned, sites on the internet were searched, Diabetes UK was contacted, and other experts in the field were consulted.



# Background to the problem

## Evidence base for the 1999 report

### Key background messages

- While there was some recognition that diabetes care within care homes was poorly organised and highly variable in terms of quality of care delivered, there had been few detailed reviews in this area.
- Screening for diabetes at admission to a care home was minimal despite evidence that the prevalence of diabetes was generally higher than in other community settings and residents with diabetes were a group with high co-morbidity levels.
- Evidence for the benefit of educational, dietary and/or pharmacological intervention in care home residents with diabetes was lacking.

Up to fairly recently, reviews of diabetes care practices in care facilities were relatively few in number,<sup>8,9,10,11</sup> and these have generally focused on older residents. People over 45 years of age with diabetes are twice as likely to be admitted to nursing homes as those without diabetes<sup>12</sup>. Residents with diabetes within institutionalised settings appear to be a highly vulnerable and neglected group of subjects and characterised by a high prevalence of macrovascular complications, marked susceptibility to infections (especially of the urinary tract and skin), increased hospitalisation rates compared with ambulatory patients with diabetes, and high levels of physical and cognitive disability<sup>13,2</sup>.

In the USA, the National Nursing Home Survey<sup>14</sup> estimated that 14.5 per cent of nursing home residents had diabetes. Of these, 75 per cent were aged 74 years or over and 75 per cent were female. Prevalence of diabetes within care homes may be underestimated: a screening programme in a Canadian old people's home reclassified a third of residents as having diabetes during a three-year period<sup>8</sup>. A more recent prevalence study in the UK using the 75g oral glucose tolerance test found a rate of diabetes of 26.7 per cent among care home residents, irrespective of whether or not they were living in residential homes or nursing homes<sup>2</sup>.

In another Canadian study, Cantelon reported his observations and results of treatment of more than 650 residents of Homes for the Aged in Toronto over an 11 year period<sup>9</sup>. More than half of the residents died during this period with arteriosclerotic heart disease being the major cause of death.

A descriptive and quality assessment study by Zimmer and Williams in Rochester, New York, involved 359 residents of 39 skilled nursing facilities<sup>15</sup> which represented a prevalence of 12 per cent, with four out of every five residents with diabetes being female. Inadequacies in data recording were frequent (eg recording of weight, height, blood and urine tests for glucose) and pronounced for physicians' assessments characterised by poor ophthalmological and neurological reviews.

Hamman and colleagues reported their findings of a professional and education intervention study of 29 Denver metropolitan-area nursing homes in Colorado, USA, which consisted of providing workshops and follow-up consultations to administrative staff designed to assist in developing and implementing diabetes care policies and procedures<sup>16</sup>. This led to a significant increase in adherence to previously published diabetes care plans after only one year. Although no change in hospital admission rates was observed, the number of bed days occupied by residents with diabetes was significantly reduced post-intervention.

In another study from the USA<sup>13</sup>, the major characteristics of 47 frail nursing home residents with diabetes were determined as well as their level of glycaemic control and frequency of hypoglycaemic episodes. Compared with residents without the condition, those with diabetes had a higher prevalence of renal failure, proteinuria, retinopathy, neuropathy and infections. A high incidence of undernutrition was also observed (one in five residents with diabetes).

Ann Coulston and colleagues from Stanford, USA, questioned the benefits of placing nursing home patients with Type 2 diabetes on diabetic diets<sup>17</sup>. In a small study of 18 residents with initial good glycaemic control (mean fasting glucose of 7 mmol/l) recruited from two homes, glycaemic control was monitored over a 16 week period with residents taking either a 'diabetic' diet or regular diet with a cross-over design. Food intake and body weight were also recorded. 'Diabetic' diets consisted of more than 2,000 kcal/day due to increased amounts of carbohydrate and fat. The authors found less than a 1 mmol/l increase in plasma glucose following the introduction of a regular diet and changes in triglycerides and cholesterol were not significantly different between the varying dietary periods.

A Dutch group from Maastricht<sup>18</sup> reported their findings of a small study of nursing home residents with diabetes and made direct comparisons with a group of ambulatory diabetic subjects attending a diabetic outpatients' clinic. Residents with diabetes were characterised by a high prevalence of macrovascular disease (22 out of 38 residents had a previous stroke which was the principal reason for admission) and high infection rates, glycaemic control (mean fasting glucose levels, 6–9 mmol/l, no overall differences in serum fructosamine or HbA1c) was comparable to the ambulatory group.

The difficulties in providing optimum diabetes care within institutional settings in the USA has previously been recognised<sup>19</sup>. The investigators examined diabetes care policies and practices in a group of 17 skilled nursing homes in Michigan. Although the American Diabetes Association (ADA) and the American Association for Diabetes Education developed guidelines for diabetes care in skilled nursing homes in 1981<sup>12</sup>, the authors carried out their review using more recent but less specific criteria derived from the ADA in 1995<sup>20</sup>. Almost all homes reviewed had some diabetes care protocols, plans or standing orders although standing orders usually consisted of guidelines relating to nutrition or some aspects of nursing care. Guidelines of care relating to parameters of metabolic control, when to call a physician or surveillance of complications, were least often present.

Two previous studies have investigated diabetes care practices in the UK<sup>21, 11</sup>. The first involved a medical examination of and semi-structured interview with 109 residents with diabetes (mean age 83 years, range 58-95 years) of care facilities in South Wales<sup>21</sup>. Compared with a group of age and sex matched residents without diabetes, residents with diabetes had higher hospitalisation rates and higher levels of arterial disease, foot ulceration and dementia. Healthcare professional input was scant and fragmented and knowledge of diabetes among care staff was poor.

In the other study<sup>11</sup>, more than 100 residents with diabetes randomly chosen from 22 nursing (or dual registered) homes, 16 residential and six elderly mentally infirm homes in North West England were compared with a group of sex and near age-matched group of non-diabetic residents living within the same homes. Despite the reported high levels of morbidity and greater use of health service resources, gross evidence of neglect appeared to be present with 64 per cent of residents with diabetes having no record of anyone being responsible for diabetes review and management in the preceding year.

# Recent evidence to support good clinical practice guidance

## **Key messages**

- Residents with diabetes are confirmed to be at significant risk of poor functional status, nutritional impairment, and exhibit variable metabolic control.
- Diabetes is often unrecognised especially in those with mental health needs.
- High levels of pain and depressive symptoms are found in residents with diabetes.
- There is a lack of forward planning for those known to have diabetes which predisposes residents to delayed care and impaired quality of life.
- Diabetes care for residents within care homes consistently fails to meet national and international standards of diabetes care.

Other studies have appeared during the last decade since the publication of the original BDA document. These have provided additional information which characterises patients within these settings more precisely or documents issues relating to the standards and provision of care. These have been summarised as a table in this section (Table 1). These have been reflected in the 'Key messages' section above and in how the final recommendations have been developed.

**Table 1**

Authors	Study design	Participants	Main results	Comment
<b>Sinclair AJ et al, 2001<sup>2</sup></b>	Diabetes prevalence study in Birmingham, UK using glucose tolerance testing	274 residents (median age 83y) of 30 residential and nursing homes underwent OGTT	12% had known diabetes. Calculated total prevalence was 26.7%. Impaired glucose tolerance was 30.2%.	A substantial number of care home residents have undetected diabetes and may be at increased cardiovascular risk
<b>Benbow SJ et al, 2001<sup>22</sup></b>	A cross-sectional evaluation of residents with diabetes in 37 nursing, residential and elderly mentally infirm homes	52 residents with diabetes and 48 age-and sex-matched controls	Results of three-day food diaries. Recommended dietary intakes of fat, protein, carbohydrate and fibre in the diabetes group did not comply with BDA recommendations. 52% of the diabetes group and 46% of the control group had a lower daily energy intake than recommended.	Residents with diabetes of a variety of care home types have evidence of poor nutritional intakes. They represent individuals at high risk of undernutrition.
<b>Hauner H et al, 2001<sup>23</sup></b>	Cross sectional study involving 39 nursing homes in the North Rhine/Westfalia area of Germany using a structured questionnaire and capillary blood sampling	Residents with known diabetes who comprised 26.2% of 1,936 residents	Mean HbA1c level was 7.3% (979 subjects from 20 nursing homes) 16.7% of known diabetes residents had a HbA1c of > 8.5% 47.2% of residents not known to have diabetes had a HbA1c equal to or greater than 6.1%	The authors suggest that only a few residents with undiagnosed diabetes require treatment The quality of metabolic control was considered to be satisfactory

Authors	Study design	Participants	Main results	Comment
<b>Travis SS et al, 2004<sup>24</sup></b>	US-wide evaluation of residents with diabetes using the Minimum Data Set in 2002	144,969 residents with diabetes (26.4% of all admissions)	<p>&gt; 50% residents with diabetes were in pain at admission</p> <p>Heart and circulatory disorders and depression were common</p> <p>Majority required assistance and &gt; third had cognitive impairment</p>	<p>High levels of functional disability and co-morbidity exist among residents with diabetes in the USA</p> <p>Authors suggest that care provider should address pain, depression, and low rates of advance planning</p>
<b>Duffy RE et al, 2005<sup>5</sup></b>	Cross-sectional study of Ohio nursing homes in 1999	Large potential dataset of 161,723 residents who had been assessed by the Centers for Medicaid and Medicaid's Minimum Data Set instrument	<p>25% of residents had diabetes</p> <p>Residents with diabetes were: younger, more often male, more often black, more likely to have cardiovascular disease, visual problems, foot disease, and kidney failure than non-diabetic counterparts</p>	<p>Residents with diabetes have a significant heavy burden of disease</p> <p>The Minimum Data Set can identify important co-morbidities</p>
<b>Gill EA et al, 2006<sup>25</sup></b>	Cross-sectional evaluation of 54 New Zealand rest homes	Residents with known diabetes	<p>Prevalence of known diabetes of 11.7% – these had a minimum of five co-morbidities and were taking a mean of 7.5 medications</p> <p>Mean HbA1c was 7.3% and mean BP was 134/73</p> <p>Frequent hypoglycaemia was often not further monitored</p>	<p>Prevalence of known diabetes similar to those in the UK</p> <p>Quality indicators seemed satisfactory</p> <p>Gaps in the knowledge of care staff were identified</p>

Authors	Study design	Participants	Main results	Comment
<b>Aspray TJ et al, 2006<sup>26</sup></b>	Cross-sectional screening evaluation of residents of four types of care homes in Newcastle, UK	1,275 residents recruited who underwent fasting and postprandial capillary glucose testing	Prevalence of diabetes was about 20% Undiagnosed diabetes present in 13% overall FBG had a sensitivity of 71% and negative predictive value of 97% PPG had a sensitivity of 43% and a negative predictive value of 95%	High level of undiagnosed diabetes present High level of diabetes in EMI care homes (8.5 –13%) Authors recommend that both a fasting glucose and PPG should be taken in the diagnosis of diabetes in this population
<b>Aspray TJ et al, 2006<sup>6</sup></b>	Health need assessment in elderly care homes using rapid evaluation methods	Elderly care home residents residing in Newcastle-Upon-Tyne, UK	Primary care diabetes registers fail to capture care home residents There are inappropriately high levels of blood glucose monitoring Little evidence of coordinated eye screening High rates of (undiagnosed) diabetes in EMI homes	Both qualitative and quantitative methods can be employed quickly to audit diabetes care within care homes The findings suggest continued evidence of difficulties in providing high quality diabetes care in residential settings
<b>Holt RM et al, 2007<sup>27</sup></b>	Retrospective chart review of 11 extended healthcare facilities in Midwestern US	108 residents with diabetes	According to ADA standards: <ul style="list-style-type: none"> <li>• 38% only met glucose goals</li> <li>• 67% only met HbA1c targets</li> <li>• 55% only met blood pressure targets</li> <li>• 42% only had dilated eye in previous year</li> </ul>	Institutionalised residents with diabetes fail to meet ADA standards of diabetes care

# Identification of gaps in the provision of diabetes care in care homes: a UK perspective

## Key messages

- Several of the key failures to deliver effective diabetes care within care homes relate to lack of defined medical, nursing, and social care responsibilities within these environments.
- A previous lack of emphasis on good diabetes care within care homes has been manifested by the lack of care planning and annual review assessments, by the failure to develop appropriate and valid assessment and monitoring tools, and the poor arrangements for promoting specialist diabetes care when needed.
- Well-designed clinical trials which assess the benefits of both single and multifaceted interventions in residents with diabetes have been lacking.

Based on the above literature and on the clinical and professional experience of the former multiprofessional Working Party and the new Task and Finish Group, the following major deficiencies in diabetes care provision in institutions have been identified:

- lack of care plans and case management approaches for individual residents with diabetes. This leads to lack of clarity in defining aims of care and metabolic targets, failure to screen for diabetes-related complications, no annual review procedures, and no allowance made for age and dependency level
- inadequate dietary (nutritional) guidance policies for the management of residents with diabetes
- lack of specialist healthcare professional input especially in relation to community dietetic services, diabetes specialist nurses and ophthalmology review. In addition, there is a lack of state registered podiatrists for residents with diabetes of all ages, especially those at highest risk of diabetic vascular and neuropathic damage
- indistinct medical supervision of diabetes-related problems due to lack of clarity of general practitioner and hospital specialist roles – This leads to inadequate and unstructured follow-up practices
- inadequate treatment review and metabolic monitoring including blood glucose measurement
- lack of effective outcome data to assess the benefits of specific interventions
- a virtual absence of suitable audit tools to assess the quality and extent of diabetes care within care homes



- insufficient medical knowledge of diabetes and diabetes care among institutional care staff
- presence of restrictive/tight work routines and shift patterns along with inadequate allowance for social and behavioural problems
- no structured training and educational programmes for institutional care staff in relation to diabetes and other medical conditions which impact onto the management of diabetes
- a lack of research and diabetes-related information about the nature and quality of care for those residing in care homes from minor ethnic minority backgrounds
- no documented evidence of an estimation of the health inequality gap that exists among care home residents with diabetes.

The above represent general statements which are likely to apply in different degrees throughout care homes in the UK. In general, nursing homes provide better monitoring facilities and increased nursing care as would be expected.

# Aims of care for residents with diabetes in residential and nursing homes: broad principles

In an ideal situation, residents with diabetes in residential and nursing care homes should receive a level of comprehensive diabetes care commensurate with their needs. This should be on an equitable basis with those people with diabetes who do not reside in a care home. The primary aims of diabetes care for residents of care homes involves two important objectives:

- 1 to maintain the highest degree of quality of life and wellbeing without subjecting residents to unnecessary and inappropriate medical and therapeutic interventions**
- 2 to provide sufficient support and opportunity to enable residents to manage their own diabetes condition where this a feasible and worthwhile option.**

There are several additional processes of care which represent important goals to achieve for any resident with diabetes residing in a residential or nursing home:

- to achieve an optimum level of metabolic control which avoids the malaise and lethargy of hyperglycaemia, substantially reduces the risk of hypoglycaemia in those residents taking sulphonylureas or insulin, and allows the greatest level of physical and cognitive function to be attained
- to optimise:
  - a) foot care** to preserve the integrity of feet; this allows individuals to maintain an acceptable body image (eg the absence of missing lower extremities), promotes the highest level of mobility possible, and prevents unnecessary (prolonged) hospital admissions
  - b) eye care** to preserve the highest level of visual acuity
  - c) mobility** and maintain/avoid deterioration of functional status.
- to screen for neurovascular complications within a care home setting, especially screening for peripheral neuropathy and peripheral vascular disease which predispose to lower limb and foot ulceration, is an essential objective for improving diabetes care within care homes
- to manage co-existing disease in a structured manner with an emphasis on:
  - vascular prophylaxis with aspirin or warfarin where appropriate
  - diagnosis and treatment of depressive illness, congestive heart failure, and hypertension.
- to provide a well-balanced individualised dietary plan which is compatible with nutritional wellbeing and maintenance of body weight.

Effective monitoring and control of blood pressure is also an essential aspect of medical management even within care home settings and in some situations may be more important overall than blood glucose control. However, it is recognised that some interventions such as photocoagulation for diabetic retinopathy or angioplasty for peripheral vascular disease may be entirely inappropriate for some residents, eg those with severe physical frailty, terminal illness (life expectancy < 6 months), or progressive dementia. However, even for older residents of nursing homes, the average duration of stay may be as long as two years, which is sufficient time for sight threatening eye disease or gangrenous feet to develop, both of which have devastating effects on the individual. For these, active therapeutic intervention may be warranted.

# Barriers to effective diabetes care

## Key messages

- There has been a lack of clarity within care home settings in defining appropriate competencies in diabetes care for different health and social care professionals.
- The effect of diabetes in worsening clinical outcomes for residents is underestimated and this is exacerbated by poor educational systems and staff training in care homes.
- The lack of understanding and recognition of frailty among residents with diabetes may be a factor why the poor prognostic impact of diabetes may have been underappreciated.
- The unavailability of widely recognised and credible clinical guidelines for both medical and diabetes care in care homes has inhibited improvement in this area.

Several important barriers to providing improved diabetes care within care homes exist. It should be recognised that deficiencies in care may be interpreted as 'barriers' and vice versa. These may be summarised as follows:

- lack of sufficient training to acquire simple competencies in diabetes care among home care staff
- lack of structured provision of educational opportunities for nursing staff combined with lack of continuing professional education. A part consequence is a high turnover of the workforce
- high ratios of unqualified staff who may have little experience of residents with diabetes and who may have negative attitudes to care of older people who are institutionalised
- lack of available resources in terms of staff time, catering services, and equipment
- lack of clear boundaries of both medical and nursing responsibilities which may be exacerbated by poor communication channels
- lack of regular medical review that might identify at an early stage an impending metabolic decompensation, infection, or other co-morbid illness and prevent hospital admission
- lack of alignment of current QOF targets with frail older people with diabetes
- lack of appreciation by institutional staff of the special medical, psychological and social needs of residents with diabetes
- lack of procedures which screen for diabetes in residents not known to have diabetes both at the time of admission and at regular intervals thereafter
- lack of understanding by both care and nursing staff of modern dietary principles

- high level of co-morbidities and communication difficulties in residents with diabetes
- restrictive professional boundaries which prevent secondary healthcare professionals from having specific input into care homes especially within the independent sector
- lack of national standards of diabetes care within care homes.

As a result of many of these barriers to care, common management difficulties arise. These are compounded by vulnerable and characteristic problems in residents with diabetes (characteristically seen in older residents) which include:

- anorexic symptoms and reduced calorific intake may lead to nutritional deficiency and inappropriate weight loss. This also increases the likelihood of hypoglycaemia in those residents on sulphonylurea or insulin therapy, and make achieving satisfactory glycaemic control impossible. Possible contributory factors include: severe physical and cognitive impairment as well as neurological and gastroenterological disorders associated with dysphagia including stroke
- recurrent skin, chest and urine infections which predispose the diabetic resident to marked hyperglycaemia or metabolic decompensation due to hyperosmolar non-ketotic coma or ketosis
- urinary incontinence secondary to hyperglycaemia, urinary tract infections, poor mobility, and cognitive impairment
- increased risk of leg ulceration and pressure sore development which can rapidly deteriorate and require hospital admission
- communication difficulties which are common among older care residents and can lead to unrecognised diabetes care needs. Predisposing factors include: cognitive impairment, dysphasia and dysarthria from cerebrovascular or neurological disease, and sensory impairments such as visual and hearing loss
- increased vulnerability to hypoglycaemia. Several factors predispose diabetic residents to this metabolic complication: cognitive impairment leading to missed meals because of poor memory and orientation; those taking sulphonylureas or insulin; anorexic conditions including gastroenterological disorders, malignancy, and acute infective illnesses. Lack of awareness of the symptoms of hypoglycaemia by the residents themselves and poor diabetes knowledge of care staff compound this situation. Lack of monitoring in many care homes also increases the risk of hypoglycaemia
- increased reliance on others to provide food/meals, poor understanding of dietary needs by care staff, and rigidity of meal times also contribute to diabetes management difficulties
- increased risk of adverse drug reactions in residents taking multiple drugs (polypharmacy) prescribed for co-existing disease. This may be exacerbated by infrequent review of medication and lack of monitoring renal and hepatic function.

# Definitions and legislative framework for the review of care within care homes

Demographic changes within the UK between 1995 and 2001 have led to a 15 per cent increase in the 85 year+ population with long-term trends continuing this pattern in the current decade. This has led to an increase in the demand for continuing care of all kinds.

In the 1980s there was a rapid expansion in private care capacity for long-term care provision which was fuelled by open-ended income support: government spending increased from £6m in 1978 to £1,000m in 1990. Other factors included the absence of a requirement for medical or functional assessment prior to entry to residential and nursing care, and the continuation of patchy and inadequate domiciliary support services<sup>24</sup>.

The NHS and Continuing Care Act 1990 was seen as a mechanism to address some of these issues by introducing the need for pre-admission assessment and case management. However, in the absence of national criteria for eligibility into care settings, the private sector has continued to expand but NHS continuing care provision has contracted resulting in individuals entering independent facilities funded privately or by the Department of Health and Social Services. Within the UK, these changes were not uniform and resulted in some disparities between the availability of NHS-funded continuing care. As a result, most residential care in the UK is provided by the independent sector. Based on prevalence data from several British studies<sup>21, 11, 2</sup>, the possible number of residents with diabetes is likely to be of the order of 75,000-85,000.

## **National Care Standards Commission (NCSC) 2002 – 2004**

The responsibility for regulation of health and social care services was taken from local authorities on 1 April 2002 to establish an independent inspectorate with powers and duties derived from the Care Standards Act 2000. NCSC responsibilities were for inspecting health and social care services, eg private and voluntary hospitals, laser clinics and care home providers. Health activities split from NCSC in 2003 establishing the Private & Voluntary Health Inspectorate now known as the Healthcare Commission. In 2004 Domiciliary Care Agencies and Nursing Agencies were required to register, although healthcare assistants, eg those provided by an agency as care staff to care homes were excluded from the regulations; so too were day care centres. Scotland, Northern Ireland and Wales used the same Act but their own interpretations of the Act in relation to regulations and national minimum standards derived from those regulations.

## **Commission for Social Care Inspection 2004 – 2009**

This was created on 1 April 2004 with the development of the Health & Social Care Act 2003 and saw the merging of National Care Standards Commission, the Audit Commission and Social Care Inspectorate. This was seen as a national organisation again with powers in England only.

## Care Quality Commission (CQC) – operational from 1 April 2009

The Care Quality Commission (CQC) is the new regulator for care quality in health, mental health and social care services and assumed powers on 1 April 2009 replacing the Commission for Social Care Inspection, Health Care Commission and the Mental Health Act Commission. The Commission's powers and duties derive from the Health and Social Care Act 2008 and its vision is of a high quality health and social care which supports people to live healthy and independent lives. Bodies which CQC must register and regulate include those previously required to register with the previous three regulators but also Primary Care Trusts (PCTs) and in the near future GP and dental practices. CQC has the power to carry out national reviews and studies on virtually any topic in health and social care. CQC powers of enforcement are far greater than those currently afforded to existing regulating bodies and the structure of the new organisation will provide a unique perspective across health and social care.

**Residential homes** provide personal and social care only. Residents within these settings are usually mobile and are often continent but require the security and provision of daily services such as meals and assistance with personal care such as bathing. Residents of **nursing homes** have much higher levels of dependency than residential homes and may have both physical and mental disabilities. These residents typically require the skills of a qualified nurse 24-hours a day to undertake many of the following: administration of medicines by injection, wound care, complex feeding regimens, and nursing care of the very frail elderly. **Dual registered homes** have the facilities to offer both types of care. **Elderly Mentally Infirm (EMI)** homes care for residents with dementia and Alzheimer's disease and have registered mental nurses as key staff. They provide long-term care and some provide short-term respite care facilities as well.

It is important to note that the increased frailty of residents makes the distinction between residential and nursing home care appear increasingly redundant. *A Better Home Life*<sup>28</sup> calls for proper medical assessment on admission to a home, ongoing review by a GP of the individual's care and medication and the availability of specialist nursing care from primary care teams where conditions such as diabetes are diagnosed. At the same time, it emphasises the importance of skilled care staff to recognise the symptoms of ill health and to undertake the safe management of medication.

Health and social care services accepting the principle of shared care, from the pre-admission assessment through drawing up the care plan to the training and support of care staff, is fundamental to the proper management of diabetes within care homes.

# Screening for diabetes and its complications at admission to a care home

Screening for Type 2 diabetes, its complications and important co-morbidities are advocated by the WHO, ADA and the Department of Health in the UK. In discussing screening programmes, the Wilson criteria<sup>29</sup> are often applied. However, we should remember that these were originally devised for the identification of potentially curable conditions. For the chronic disease management of older people with diabetes in residential settings, many of the original principles apply although the significant degree of frailty among residents, the lack of agreement on the screening methodology, and the absence of proven interventions for clinical benefit can undermine calls for active screening.

Delivery of diabetes screening can be co-ordinated through general practice or community-based services for older people, with specialist review for co-morbidities and complications through vascular, ophthalmology and chiropody services. Where possible, screening for diabetes in older people (living in care homes or elsewhere) should be linked to services for working-age adults. Although access to screening for frail older people may represent a logistical problem, practicable screening processes should be available for implementation in most care homes and supervised by a medical practitioner or other healthcare professional/member of care home staff who has acquired competency in this area.

## Screening for diabetes in care homes

There is no universal consensus on what diagnostic screening tests should be employed in diabetes. Based on glucose tolerance testing, more than a quarter of all care home residents have diabetes<sup>21</sup> although the majority were diagnosed on conventional WHO screening criteria using the 2hr glucose value. Fasting glucose and HbA1c levels were particularly unhelpful in identifying these individuals. However, another study showed that using HbA1c as a diagnostic tool in 41 German nursing homes nearly half the residents not known to have diabetes had a HbA1c greater than 6.1% (43mmol/mol) but rarely above 7.0% (53mmol/mol)<sup>23</sup>. A recent study of diabetes in care homes demonstrated that more than half of this population may have occult disease and based on sensitivity and negative predictive value analysis, the authors suggested that both fasting glucose and post-prandial glucose should be used to identify cases of diabetes in care homes<sup>26</sup>.

We accept that there is an inconsistency about which method is most applicable and valid for the diagnosis of diabetes among older residents. We also recognise that the benefits of aggressive glucose lowering in residents with diabetes has not yet been demonstrated and may even be harmful<sup>30</sup>. However, in view of the high prevalence of diabetes within care homes, the significant evidence of functional decline and poor clinical outcomes, and the potential availability of diabetes services which can be employed in care homes, this Task and Finish Group advocates diabetes screening at admission to a care home and at two-yearly intervals.



Our consensus opinion is that no single test should be employed to screen for diabetes because of their inherent limitations and variability. As the fasting glucose test may be normal in older patients with diabetes<sup>31</sup> and may be difficult to routinely employ in these settings, we feel it should be used in combination with glycosylated haemoglobin or an isolated 2hr post meal glucose load to diagnose diabetes. We recommend either of the following two methods:

**Screening Test 1:** An HbA1c (no requirement for fasting) combined with a fasting glucose level\* Interpretation of values obtained: a HbA1c of > 6.5% (48mmol/mol) and/or a fasting glucose of  $\geq 7.0$  mmol/l should be regarded as evidence of diabetes

**Screening Test 2:** A fasting glucose estimation and an isolated 2hr post meal load\* Interpretation of values obtained: a fasting glucose of  $\geq 7.0$ mmol/l and/or an isolated 2h-post-meal load glucose of 11.1 mmol/l should be regarded as evidence of diabetes

*\*results based on plasma samples*

It should be borne in mind that diagnosis by HbA1c alone in residents with advanced age (>80 years), uraemia, iron deficiency anaemia, infection or genetic variants of haemoglobin may lead to inaccurate interpretation of whether or not diabetes is present. In addition, we should recognise the growing trend to consider eAG as a better marker of prevailing glucose control<sup>32</sup>. This will require an update on the on-line version of this guideline in due course.

## Screening for co-morbidities

Health commissioning organisations such as PCTs in England and Wales and Health Boards in Northern Ireland and Scotland are responsible for ensuring that appropriate screening for associated medical co-morbidities occurs. The risk of duplication is well recognised so that screening for cardiovascular disease and diabetes should be co-ordinated. This is outlined in the Department of Health publication *Putting Prevention First – Vascular Checks: Risk Assessment and Management* (2008) ([www.do.gov.uk/en](http://www.do.gov.uk/en)), which distils many aspects of good practice which are quite appropriate to this population.

Risk factors for vascular disease include age, gender, smoking, physical activity, ethnicity, body weight, cholesterol, blood pressure and diabetes. Although systematic use of screening in this context is unproven in this population, residents will certainly score high on risk assessment, and to include assessments is a basis for good clinical practice. This increases the opportunity that they are included in diabetes, chronic kidney disease and hypertension registers as well as being subject to regular review by primary care. We propose where feasible that all care home residents at the time of admission to the care home and at annual intervals thereafter should receive a co-morbidity health check as part of their annual review and care plan arrangements.

## Components of a co-morbidity health check

We advocate the collection of relevant data to identify those at high, moderate and low risk of both diabetes and cardiovascular complications/co-morbidities. This is likely to include information on:

- attendance at ophthalmological screening to identify degree of visual loss and need for laser therapy and/or cataract surgery
- podiatry review to identify 'at-risk' feet
- vascular risk screening
- past or current history of:
  - coronary heart disease
  - stroke
  - peripheral artery disease
  - hypertension
  - chronic kidney disease.
- weight/height for body mass index (BMI)
- blood pressure
  - lying and standing.
- blood tests (minimum)
  - cholesterol (vascular risk)
  - electrolytes and eGFR (renal disease and risk of prescribed medicines)
  - liver function tests (fatty liver)
  - haemoglobin (effect on glucose monitoring- HbA1c).

# Dietary requirements for residents with diabetes in care homes

## Key messages

- Undernutrition remains a common finding in care homes and diabetes is known to increase this nutritional risk.
- Dietary recommendations for people with diabetes may not be appropriate for all older people in care homes.
- Additional specific considerations should be made with regards to residents with diabetes in care homes.
- All residents require an individualised nutritional plan and should have access to a registered dietitian.
- Information and education are key to ensure that myths and misconceptions are not exacerbated.

## Nutritional guidelines for older people and care homes

Nutritional guidelines for the older population exist<sup>33</sup> and recommend the majority of people aged over 65 years or more should be recommended to follow similar patterns of eating and lifestyle to those advised for maintaining health in younger adults. The COMA Panel on Dietary Reference Values are also considered appropriate for the well older person<sup>34</sup>. A high level of consideration should be given, however, to the facts that according to one survey of older people in residential care:

- about half are undernourished
- around one fifth of residents are underweight
- intakes of calcium, iron and vitamin C were low in 10–17% of residents
- and all had a low vitamin D intake<sup>22</sup>.

Practical guidelines also exist for the provision of meals in residential and nursing homes<sup>35</sup>. *Care Homes for Older People – National Minimum Standards*<sup>36</sup> reinforces the importance of considering nutrition for the older person in care homes (see box on the following page).

### **Nutrition related subjects included in the National Minimum Standards**

(Department of Health, 2001)

- dietary and weight assessment - including preferences, physical and cognitive abilities, religious or cultural needs
- nutritional screening – frequency and recording of
- quality and nutrition status of food and meals
- dining settings
- frequency and flexibility of meals
- availability of snacks and drinks
- provision of special therapeutic diets
- communication of meal plans to residents
- timings of meals
- appropriate staff assistance to residents
- staffing levels.

Recommendations for the general older population as well as guidelines for care homes are relevant and should be applied to the resident with diabetes. Additional considerations should be made and are discussed later in this section.

### **Nutritional recommendations for diabetes**

Diabetes UK nutritional recommendations<sup>37</sup> (currently being updated to be published in 2011) specifically address the needs of the older person and those in institutional care. The American Diabetes Association's (ADA) recommendations similarly highlights the needs of this potentially vulnerable group of individuals with diabetes<sup>38</sup>.

Food and nutrition, alongside medication and activity, is the cornerstone to diabetes management. Although the food a care home provides is important in helping to manage diabetes, residents with diabetes should be able to continue to enjoy a wide variety of foods. Eating a balanced diet, managing weight (both over and underweight), and following a healthy lifestyle, together with taking any prescribed medication and monitoring where appropriate will benefit health enormously.

In the long run it is better to make small changes that the person with diabetes feels able to stick to rather than completely altering the diet and the person with diabetes not sticking to it.

**Important note:** In some cases dietary recommendations for the older person with diabetes can differ to the general recommendations for people with diabetes. As already highlighted older people in care homes may be more likely to be underweight rather than overweight

and prevalence of malnutrition and undernutrition is high. It may therefore not be appropriate to reduce the fat, sugar and salt in the diet for every older person with diabetes.

ADA recommendations state “the imposition of dietary restrictions on elderly patients with diabetes in long-term care facilities is not warranted.” And “there is no evidence to support prescribing diets such as ‘no sweets’ or ‘no sugar added’”.

## Nutritional assessment of residents with diabetes

Residents of care homes continue to be at nutritional risk or be malnourished and may have varying degrees of protein-energy malnutrition and hypoalbuminuria, both of which may have further adverse consequences<sup>39</sup>. It is not surprising that NICE have recommended that all adults entering a residential or nursing home are screened for malnutrition<sup>40</sup>. Care home staff should have training in recognising malnutrition or a poor nutritional status and need to work collaboratively with professionals in planning a nutritional approach. As indicated above, residents with diabetes may have numerous underlying risk factors for poor nutritional status including multiple medications affecting gastro-intestinal function and appetite, medical co-morbidities, disabilities affecting the ability to eat and drink safely (eg cerebrovascular disease), low mood states, and poor cognition.

Although detailed nutritional assessment can be quite complex, most community dietitians have ‘in-house’ nutritional assessment tools which they employ during routine care. They are rarely used, however, to assess progress with nutritional intervention and in some cases, several tools may be available locally which can create some difficulties in interpretation of findings by varying healthcare professionals.

As a collaborative venture, the Malnutrition Universal Screening Tool (MUST) was developed by BAPEN (British Association of Parenteral and Enteral Nutrition), Royal College of Nursing, British Dietetic Association, and the Registered Nursing Home Association<sup>41</sup> and is considered a valid and reproducible nutritional assessment tool for residents of care homes. This five-step method of assessment involves a calculation of BMI (body mass index), noting any weight loss or the effects of acute illness, and deriving a risk score followed by a nutritional care plan.

These assessments should take place at admission to a care home, at annual reviews, and whenever there is a history of a serious acute illness or re-admission following hospital inpatient stay. They should be reinforced by regular review of medications, oral health, behaviour at mealtimes, and investigating reasons for refusal of food.

## Practical dietary guidelines

Adapted from the Diabetes UK publication *Eating Well with Type 2 Diabetes* (2009) ([www.diabetes.org.uk/EatingwellType2](http://www.diabetes.org.uk/EatingwellType2))

- **Plan for three regular meals a day.** Try to help residents to avoid skipping meals and space breakfast, lunch and evening meal over the day. This will not only help control appetite but also help in controlling blood glucose levels.

- **At each meal include starchy carbohydrate foods** such as bread, pasta, chapattis, potatoes, yam, noodles, rice and cereals. The amount of carbohydrate eaten is important to control blood glucose levels (a registered dietitian can provide more information on quantities specific to individual needs). All varieties are fine but try to include those that are more slowly absorbed (have a lower glycaemic index) as these won't affect blood glucose levels as much. Better choices include: pasta, basmati or easy cook rice, grainy breads such as granary pumpernickel and rye, new potatoes, sweet potato and yam, porridge oats, All bran and natural muesli. The high fibre varieties of starchy foods will also help to maintain the health of the digestive system and prevent problems such as constipation.
- **Cutting down on fat can help with weight management for those people who are overweight.** All fats contain calories. Fat is the greatest source of calories so eating less fat and fatty foods will help with weight management.
- **Include more fruit and vegetables.** Aim for at least five portions a day to provide residents with vitamins, minerals and fibre as well as to help the balance of the overall diet.
- **Include more beans and lentils** such as kidney beans, butter beans, chickpeas, red and green lentils, as these can help to control blood glucose levels and blood fats.
- **Aim to provide at least two portions of oily fish a week.** Examples include mackerel, sardines, salmon and pilchards and can be tinned, frozen or fresh. Oily fish contains a type of polyunsaturated fat called Omega 3 which helps protect against heart disease.
- **Limit sugar and sugary foods.** This does not mean that residents with diabetes need to eat a sugar-free diet. Sugar can be used in foods and in baking as part of a healthy diet. Using sugar-free, no added sugar or diet squashes/fizzy drinks, instead of sugary versions can be an easy way to reduce sugar in the diet.
- **Limit the amount of processed foods provided** since these foods contain high levels of salt.
- **Alcohol should be taken in moderation only** – that's a maximum of two units of alcohol per day for a woman and three units per day for a man. For example, a single pub measure (25ml) of spirit is about 1 unit or half a pint of lager, ale, bitter or cider has 1–1½ units. Over the years the alcohol content of most drinks has gone up. A drink can now contain more units than you think – a small glass of wine (175ml) could contain as much as 2 units. Remember alcohol contains empty calories so cutting back is helpful if a resident with diabetes is trying to lose weight. Alcohol can make hypoglycaemia (low blood glucose levels) more likely to occur when taking certain diabetes medication. For this reason people with diabetes are advised to never drink on an empty stomach.
- **Don't use diabetic foods or drinks.** They offer no benefit to people with diabetes. They will still affect blood glucose levels, contain just as much fat and calories as the ordinary versions, can have a laxative effect and are expensive.

## **Additional nutritional considerations for residents with diabetes**

### **Weight management**

Weight is a significant factor in the development and management of Type 2 diabetes. For residents who are overweight or obese a reduction in weight of between 5 and 10 per cent may be beneficial<sup>20</sup>. Specific goals should be identified and negotiated as part of the care planning process.

Suggestions on reducing the fat and sugar content of recipes for people with diabetes who are overweight are available in Diabetes UK literature. Catering for people with diabetes who are overweight does not require the use of special recipes but Diabetes UK produces a range of recipe books that may help care home catering staff in menu planning. Remember that reducing the fat and sugar content of recipes for most of the residents is not appropriate – check with the resident's registered dietitian for specific advice.

### **Underweight and malnutrition**

A registered dietitian can advise more fully on specific individual requirements. It is important to note that for this specific resident a therapeutic high energy-high protein diet may be appropriate. Nutritional therapy may also include the use of nutritional support, for example via supplement drinks or nasogastric feeds. Where high blood glucose levels are noted in a person receiving nutritional support it may be necessary to adjust diabetes medication to achieve blood glucose levels as near as possible. Discuss with the resident's healthcare team for more guidance.

### **Hypoglycaemia**

More information on the signs, symptoms, treatments and causes of hypoglycaemia (or hypos) can be found in the section 'Recognition and management of hypoglycaemia within care homes' on page 42. It is important to establish whether this is relevant to each resident on an individual basis since there are nutritional considerations, such as:

- quantity and timings of carbohydrate containing foods and drinks
- the potential need for snacks
- timings of meals in relation to medication timing
- effects of alcohol.

### **Oral health**

It is estimated that people with diabetes can be up to approximately three times more likely to develop gum disease than people without diabetes<sup>42</sup>. Their nutritional status may be compromised as a result of poor food and drink intake. Residents with diabetes and gum disease should be identified and dietary adjustment made according to specific need.

### **Dehydration**

It is widely accepted that the older person is at a greater risk of dehydration for a number of reasons. A resident with diabetes and uncontrolled diabetes may be at additional

greater risk of becoming dehydrated as a result of polyuria. Particular attention should be made to the monitoring and provision of fluid for this resident, and treatment modified accordingly so as to limit symptoms of hyperglycaemia.

### **Access to and role of the registered dietitian**

National guidance supports the vital role of the registered dietitian in the nutritional therapy of the person with diabetes as well as the older person in a care home. Care homes should seek to establish good working relationships with the dietetic service and work together to ensure effective nutritional therapy for those residents with diabetes.

Every person with diabetes should have an individualised nutritional care plan in place that has been discussed and agreed with the person with diabetes and their family/carer where appropriate. The dietitian is best placed to facilitate this part of the care planning process.

### **Information and education**

There is a great history to the nutritional recommendations of diabetes and they have changed with time to reflect current research and evidence. Over time, people with diabetes, their carers, family and friends are likely to have been exposed to the abundance of dietary information available from healthcare teams, the media, websites, books and each other. It is inevitable, therefore, that many myths and misconceptions have developed on the subject of diabetes but more specifically the diet for diabetes. For example myths exist such as people with diabetes need to eat a sugar-free diet and people with diabetes shouldn't eat bananas and grapes. These are fallacies.

Regular update of information and education is vital to ensure that residents with diabetes and their carers are up to date with the most evidence based recommendations. The most up-to-date information can be sourced in a number of ways.

Diabetes UK produces a wealth of Department of Health Information Standard accredited information in a number of formats – leaflets, magazines, audio, DVDs and web-based information. Most of the information is free of charge.

The registered dietitian will be able to provide information and may also be able to arrange education for care home staff on the dietary management of people with diabetes.

Diabetes UK has developed a one day course, 'Diabetes Awareness Training', to provide people working with diabetes the knowledge and confidence required to have a positive impact on people with diabetes' lives. The course has been accredited by the Royal College of Nursing (RCN) and provides the theoretical background to support a number of competencies required to obtain a National Vocational Qualification (NVQ).



# Provision of effective diabetes care for residents with mental health needs

Older people with mental health needs living in care homes (both standard residential settings and those previously classed as 'EMI – Elderly Mentally Infirm' homes) are entitled to receive the same range of health and social care services that other older people receive. However, there have been concerns that care is sub-optimal with depression under-detected and under-treated, with excessive prescribing of antipsychotic drugs in cases of dementia, and inadequate assessment of general medical and mental health needs<sup>43</sup>.

More than 40 per cent of residents in standard care homes have mental health needs and services that are designed to provide comprehensive care in these settings require a targeted approach, evidence of systematic assessment, and appropriate follow-up and on-going support<sup>44</sup>. This should foster an improved quality of life and emotional wellbeing, and allow dignity and safety issues to prevail. As more than 25 per cent of residents have diabetes, many are also likely to have a mental health problem, and it will be necessary for the care home manager to ensure that mental health and social care services liaise closely with the local community diabetes teams. This process can be linked to the resident's care plan.

The range of illnesses vary from changes in mood status and depressive illness to cognitive impairment states and advanced dementia. The Mental Capacity Act (MCA) 2005 provides a legislative framework to protect residents unable to make their own decisions and in some cases deputies can be appointed by the Court of Protection to assist residents to make appropriate decisions in the resident's best interest. All community nursing staff will have received mandatory training in the MCA and all care home managers will be familiar with the principles of the Act and how they apply to their residents.

In relation to diabetes care, several problems can emerge where critical decision-making is needed. For example, when a resident's health deteriorates as a result of a vascular diabetes complication and surgery is being considered, or when hypoglycaemia is frequent in a resident on insulin therapy and a decision to stop insulin may need to be taken, convert to tablet therapy and risk a worsening of glucose control, with the potential consequences of that. In these circumstances, an experienced DSN can be invaluable in resolving some of the practical issues, but a direct discussion of the case between the GP and hospital diabetologist is usually required.

The National Institute for Health and Clinical Excellence (NICE) has recently published comprehensive guidance on the assessment and treatment of adults with **depression** and this includes those with a long-term physical health problem such as diabetes<sup>45</sup>. These recommend a stepped approach to management starting with identifying those with depression and can be applied to care home settings. Asking two simple questions can direct a practitioner towards completing a mental health assessment (if competent in this) or directing them to someone who is. These questions are:

During the last month, have you often been bothered by:

- a) feeling down, depressed or hopeless?
- b) having little interest or pleasure in doing things?

If the resident answers 'Yes' to either question, a more detailed mental health assessment is required. Residents with long-standing diabetes who may be troubled with neuropathic pain, discomfort with foot ulceration, repeated problems of medication adverse effects, etc may be at special risk of depressive illness and further questioning and assessment will be necessary.

**Dementia syndromes** are also common in care home residents with diabetes and pose a series of challenges to the healthcare professional since many residents will have lost their diabetes self-management ability. These include: defining glucose targets, choosing the most suitable insulin regime (if insulin is needed), aligning nutritional needs to diabetes treatments, and the extent of addressing other vascular risk factors. Residents with dementia may be anorexic, have difficulties feeding and be undernourished, and have an inability to communicate their needs. Strategies that maximise dietary intake<sup>46</sup> include serving one course at a time (reduces confusion), use resident's own crockery (greater familiarity), allow grazing and extra time should be provided for the resident to return to the plate, encourage low glycaemic index dairy products (eg ice cream, milk shakes) when other food is refused thus reducing the risk of a 'hypo', and reduce environmental stimuli (eg TV in the dining area) if aggressive/negative behaviours are present during mealtimes. Nutrition support may be needed in some residents.

A cognitive assessment at the time of admission to care home and at annual intervals is recommended and there may be benefits from early detection of cognitive impairment including earlier use of appropriate medication in cases of Alzheimer's disease and better more informed care planning. The Institute of Diabetes for Older People (IDOP, [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)) and NHS Diabetes (Department of Health) are currently piloting a simple bedside test of cognition screening called the 'Mini-Cog' which combines a three-word recall test and the clock drawing test. It therefore covers mental performance areas such semantic and short-term memory, language, visuospatial, executive skills and attention. Patients with very severe visual impairment may not be able to attempt clock drawing, but otherwise it is little affected by education, language, or co-morbidity. It takes about three minutes to complete. Scoring is relatively straightforward. If 'positive' a subject undergoes further cognitive testing and if necessary, referral to a specialist<sup>47</sup>. This will be adapted for use in care homes in late 2010.

All currently available treatments for diabetes can be employed in care home settings for residents with diabetes who have mental health needs, and the general framework for their use is outlined in the section called 'Effective glucose control in care homes' on page 37. Particular thought must be made to simplifying insulin regimes, avoiding hypoglycaemia (remembering that they may not recognise the symptoms of hypos), limiting blood glucose monitoring, using treatments that do not require frequent renal and hepatic function blood tests, and ensuring adequate nutritional planning in all cases.

Glucose targets will vary according to the health status, presence of co-morbidities, and life expectancy. For frail residents with a history of a significant mental illness, the following should be considered:

HbA1c: aim for a range 7–8% (53–64 mmol/mol)

Fasting glucose: aim for > 7–8.5 mmol/l

2hr post-prandial glucose: aim for a range of 8–12 mmol/l

This should minimise the risk of hypoglycaemia and maintain glucose levels that will not require frequent dose adjustments of treatments used. Although more research is needed, optimising glucose and blood pressure levels, ensuring adequate hydration, and avoiding electrolyte disturbances should help to maintain cognitive function.

## Meeting the needs of diabetes care for residents from ethnic minorities

It is likely that more than 25,000 minority ethnic elders reside in care homes in England and Wales and this figure is expected to rise<sup>48</sup>. As the prevalence of Type 2 diabetes is higher in ethnic minority populations, as many as 10,000 may have diabetes. It should also be recognised that certain diabetes complications such as end-stage renal failure are more prevalent among the UK's South Asian and African-Caribbean population, and the resulting mortality is higher<sup>49</sup> although specific data for care homes is absent.

Diabetes care provision for elders from ethnic minority backgrounds must satisfy a set of accepted principles which ensures equity of access to care and optimising health outcome. The range of health and social services must reflect language, cultural and religious differences and recognise the inherent diversity of older residents from different populations. Knowledge of diabetes is low among all residents with diabetes including those from minority ethnic backgrounds and the lack of understanding in some cases of their ideas, beliefs, and attitudes to care can create real difficulties for care home staff and the diabetes team in optimising care. The important role of the family in supporting care is altered when care home residency occurs, and every effort should be made to maintain family ties and links. There has been little research in this area although the healthcare need is quite clearly high.

In many areas nurses, support workers, and peers proficient in a variety of languages (eg Urdu, Bengali, Punjabi) are available and can be approached to offer advice and support for residents from varied South Asian and other backgrounds. Specific educational advice about diabetes care issues in ethnic minority populations can be accessed from Diabetes UK. Dietary interventions must aim to correct nutritional deficiencies and maintain nutritional status but by approaches that address the above issues of language, culture and food preference.

# Effective glucose control in care homes

## Key messages

- Inadequately treated hyperglycaemia or hypoglycaemia may result in hospital admission.
- Agreed glycaemic target ranges for residents (depending on their functional status/level of frailty) should be documented in their individual care plan.
- A wide range of oral glucose-lowering therapies are available for use in care home settings but extra vigilance (including more frequent assessments of renal and hepatic function) is required to reduce the risk of adverse events and enhance patient safety.
- The threshold for prescribing insulin to residents in care homes has fallen but unless the clinical need is recognised, the regimen is appropriate, and sufficient supervision is present, treatment may fail. A smaller proportion (compared with those in the community) of residents may self-manage, and the employment of an insulin delegation scheme (see Appendix 2) for other residents may be of value.
- Blood glucose monitoring can be an effective part of diabetes management for care home residents and may be of additional value in those on insulin therapy.

Glucose tolerance has been observed to diminish and diabetes prevalence to increase with time spent in care homes<sup>8</sup>. This has been confirmed with pathophysiological evidence of a decline with age in insulin secretion and insulin sensitivity<sup>50</sup>. However, for some frail older people moving into residential and nursing homes, progressive undernutrition may contribute to a decrease in body fat and a relative decline in insulin resistance. An early review of dosage and frequency of oral hypoglycaemic agents shortly after admission to a care home may prevent unwanted 'over-treatment' effects since adherence may improve (by virtue of staff being designated to administer) and meals becoming more regular.

Sulphonylureas may fail to be effective in some patients, as they develop beta cell failure, while for others sensitivity to these agents may increase, especially in those aged 80 years and over, who may be more susceptible to hypoglycaemia. Equally, although metformin is a logical choice of agent in the presence of cardiovascular co-morbidities, as many as 50 per cent of residents are likely to have a contraindication to its use, mainly due to renal impairment. The safety profile of alpha glucosidase inhibitors is attractive, with fewer drug interactions and no hypoglycaemia, compared with sulphonylureas. However, gastro intestinal side effects may decrease quality of life and lead to non compliance.

Thiazolidinediones are effective in the treatment of Type 2 diabetes and, although there is no specific reason why these agents should be withdrawn from older care home residents with diabetes, they are associated with relatively common side effects of fluid retention and symptomatic heart failure and with less common but serious side effects of anaemia,

bone mineral loss and skeletal fracture. Newer agents, the incretin mimetics such as Exenatide and Sitagliptin, have been used relatively infrequently in older people and are unlikely to have a role for many care home residents with diabetes, as they are thought to be primarily effective early in the course of the condition<sup>51</sup>.

With so many factors influencing the drug treatment of diabetes in care home residents, many are likely to require alterations to their therapy. Thus on-going medicines review is indicated, with choice of agent depending on glycaemic targets, drug adherence and tolerance, co-prescribed medicines and patient co-morbidities present.

### **Prescribing insulin in care home settings**

Prescribing insulin successfully for patients in their own homes usually requires three major considerations<sup>52</sup> and these apply similarly to those in care homes:

- 1)** ability of residents and/or care staff to recognise and manage hypos
- 2)** availability of community nursing support to educate residents and/or care staff on the use of insulin
- 3)** absence of severe physical or cognitive disability or behavioural disturbance which affects compliance with therapy or administration of insulin. If any of these is present then qualified nursing staff would be expected to administer insulin.

The most common reason for initiating insulin therapy in older residents will be for improving glucose control in those with Type 2 diabetes on oral agents while all people with Type 1 diabetes have an absolute necessity for insulin. The clinical decision to use insulin requires careful thought and consideration by the relevant general practitioner with important constructive inputs from community nursing staff (including a DSN if available) and a senior member of the care staff, preferably a qualified nurse or home manager. This may be more realistic in nursing home settings. Where residents have mental capacity, they should be involved in this decision-making process (and family/carer if possible) and the GP should consult with a hospital specialist (diabetologist or other geriatrician with an interest in diabetes) if required.

Other factors which influence the need for insulin include presence of osmotic symptoms which lead to weight loss or lethargy or other uncomfortable non specific symptoms, agreed goals of care and metabolic targets, and a balanced focus between predicted life expectancy and reduction of vascular risk by any improvement in diabetes control. Choice of treatment (for residents with Type 2 diabetes) may range from a combination of basal insulin and oral hypoglycaemic agents, through to mixed insulin or, in some cases a basal bolus regimen<sup>53</sup>.

The most appropriate insulin regimen will vary between residents but those who can self inject can receive insulin in most care home settings. They should be encouraged to use a pen device and any ancillary devices where minor degrees of disability exist, such as visual loss or reduced manual dexterity. In many cases, a once daily regimen of long-acting analogue insulin or a twice daily regimen of isophane (eg insulatard or Humulin 1) may be associated with a relatively low risk of hypoglycaemia. Long-acting analogue insulins such as glargine and detemir have been shown to have significantly lower rates of hypoglycaemia (but not severe hypoglycaemia) compared with NPH insulin, which may be very relevant in this frail group<sup>54</sup>. Where self injection is not possible, those in residential homes (but usually not those in nursing homes) will need community nursing support to administer insulin. For residents with erratic dietary intakes, bolus injections of analogue short-acting insulin may be very useful, as they can be given at the same time as (or immediately after) the resident eats their meal, decreasing the risk of hypoglycaemia.

A local diabetes nurse specialist can play a very important role in the education of all relevant parties including the resident and care staff (including catering staff). In addition, the advice and support of a community dietitian at the commencement of insulin therapy is essential.

### **Care home blood glucose monitoring**

Routine blood glucose monitoring is unusual in residential settings and where present, staff often have insufficient knowledge of diabetes care to act appropriately on the basis of readings obtained. In nursing homes the use of monitoring becomes essential since more residents with diabetes are likely to require insulin. In addition, the high frequency of acute illness and repeated infections makes monitoring a paramount activity to achieve effective diabetes care. For residents with Type 1 diabetes, the ability to measure ketones (in urine or blood) is particularly important.

Changes in local care provision over the last number of years, GPs striving to improve diabetes care for people with diabetes in care homes, and the introduction of newer insulins, have resulted in more residents with diabetes on insulin in residential homes, supported living accommodation and warden-controlled accommodation.

There is increasing interest within the NHS to look at new ways of remote monitoring to enhance patient care. Care homes (and residents with diabetes) provide a suitable model to test out these systems. For example, in those with acute illness, infection, or pyrexia, where glucose levels may be disturbed, remote monitoring would allow data on glucose levels (and other parameters) to be transferred by wireless technology to another site where interpretation, clinical decision making, and intervention planning would take place, ultimately increasing clinical safety, ensuring earlier treatment, and potentially avoiding hospital admission.

The following considerations are required:

- The use of monitoring equipment requires a certain degree of training. It is recommended that no member of staff, registered or otherwise, perform blood glucose

monitoring unless they have a sound knowledge base of diabetes, received training on blood glucose monitoring using the meter specific to their place of employment, aware of how to interpret the reading(s) obtained and subsequent action to be taken. In addition, staff should have training on the upkeep of the meter, storage of test strips and quality control checks of the meter. Ideally, the meter used by care homes, should be the same as professional meters used by community nursing teams in the local area, in order for them to be included in external quality assurance programmes.

- Consideration also needs to be given to the lancing device being used. In its recent report, *Infection Prevention and Control Guidelines for Blood Glucose Monitoring in Care Homes* (2009) ([www.bit.ly/cydLLb](http://www.bit.ly/cydLLb)), the Health Protection Agency noted that outbreaks of hepatitis B in care homes have been attributed to incorrect use of fingerstick lancing devices and to other breaks in infection prevention and control practices. The Health Protection Agency's advice is that for blood glucose monitoring in community care homes, staff should use either disposable single use lancing devices which are discarded after use, or a non-disposable lancing device that has been specifically designed for use on multiple patients.
- Each care home should define who is responsible for blood glucose monitoring. In nursing homes, registered nurses should undertake this task. In residential homes and supported living accommodation, in many areas the community nursing teams will perform blood glucose monitoring for residents, in other areas this may be undertaken by care staff. Where unregistered care staff undertake the task of blood glucose monitoring, this should be delegated, on an individual resident basis, by the community nursing team, following education and training by the DSN and/or community nursing team. The format of training and documentation used will be dependent on locally agreed protocols/policies in place. Blood glucose monitoring should only be undertaken by unregistered care staff, where this agreement has been reached by the home manager, and the care staff have demonstrated competence. The competence assessment should be held by the community nursing team and a copy by the home manager and the individual undertaking the task. Agreement should be sought from the resident and/or relative and documented in the resident's care plan.
- The frequency of blood glucose monitoring and metabolic targets need to be established on an individual basis, and is largely driven by the treatment the resident receives to manage their diabetes. Consensus is required between resident, the general practitioner, any community nursing support, and qualified care home staff. The frequency of monitoring, targets and action to be taken in the event of measurements outside these targets should be documented in each resident's individual care plan. Action to be taken in the event of hypoglycaemia and illness should be apparent in order for these to be acted upon quickly and effectively. Consideration should also be given to the frequency of measurement of glycosylated haemoglobin (HbA1c). It is recommended that this is taken a minimum of every six months, and for many residents three-monthly HbA1c testing may be of some clinical usefulness in monitoring metabolic control.



- Glycaemic goals will vary with each resident but should be sufficient to avoid recurrent hypoglycaemia (a fasting blood glucose level of  $>7-8.5$  mmol/l), a random glucose  $<9$  mmol/l, to avoid osmotic symptoms and lethargy, and is likely to minimise longer term vascular complications. Setting targets to optimise wellbeing is essential: a target HbA1c range should be 7–8% (53–64 mmol/mol). It should be remembered that the average stay in many nursing homes of elderly residents is in the order of two years with a wide variation making the development of visual loss, neuropathy and macrovascular disease possible where a policy involving gross relaxation of glycaemic control is present.
- Recording glucose measures accurately requires appropriate documentation, which should be standardised on a local basis.
- The needles from syringes, insulin pen devices, and lancets from finger-pricking devices used when measuring blood glucose levels, are classified as clinical waste within the Controlled Waste Regulations 1992 and the Controlled Waste Regulations Northern Ireland 2002, because they are sharp and have been in contact with blood. 'Sharps bins' can be obtained on prescription from the GP but need special care in terms of safe disposal<sup>55</sup>. Local authorities are obliged to collect or make arrangements to collect clinical waste such as sharps boxes from householders on request under section 45(3)(b) of the Environmental Protection Act 1990, however, the authority/ council may make a reasonable charge for this service. Relevant legislation in Northern Ireland is the Waste and Contaminated Land (Northern Ireland) Order 1997 where Article 20 applies. Arrangements are agreed locally at present in Scotland.

# Recognition and management of hypoglycaemia within care homes

Hypoglycaemia is both an important adverse reaction of treatment and an outcome measure. It may not necessarily be due to tight glycaemic control but is often multifactorial reflecting the complexity of illness in residents with diabetes. In a randomised placebo controlled trial of three of the major risk factors for sulphonylurea induced hypoglycaemia including advanced age, maximum dose of sulphonylurea and missed meals, the combination of risk factors did not result in hypoglycaemia in healthy elderly patients with diabetes<sup>56</sup>. This offers some support that the existence of co-morbidities is an important factor in the occurrence of hypoglycaemia and may be operative in care home<sup>57</sup>.

We know that risk factors for hypoglycaemia are highly prevalent in residents with diabetes<sup>58</sup>.

## **Risk factors for hypoglycaemia:**

- advanced age
- multiple co-morbidities
- polypharmacy (five or more medications)
- chronic renal or hepatic impairment
- recent hospital admission
- history of hypoglycaemia
- poor nutrition
- use of sulphonylurea or insulin
- acute illness
- hypoglycaemic unawareness
- diminished counter regulatory responses.

Prevention of hypoglycaemia has the potential to improve psychosocial aspects of older people, their quality of life, confidence and compliance with their treatment, and reduce unnecessary hospital admission.

Insufficient data exists about the incidence of hypoglycaemia among older people with Type 2 diabetes, particularly those living in care homes. In a survey among US Medicare diabetic population aged 65 years and over, hypoglycaemia was the most common metabolic complication occurring at a rate of 28.3 events per 1,000 person-years<sup>59</sup>. However, accurate measures of the frequency of hypoglycaemia are probably underestimated in elderly people<sup>60</sup>.

The experience of an episode of hypoglycaemia can range from it being unrecognised by the subject to extreme discomfort and can be frightening to patients, family, friends, and carers. Hypoglycaemia may cause serious morbidity, provoking major vascular events such as stroke, myocardial infarction, acute cardiac failure, and ventricular arrhythmias. The morbidity associated with hypoglycaemia, such as impaired consciousness and convulsions can be particularly debilitating in the elderly, who are at increased risk of injury and bone fractures because of general frailty and osteoporosis.

During hypoglycaemia, both the sympathetic and parasympathetic divisions of the autonomic system are activated, and adrenaline secretion augments these physiological effects. Sweating, palpitations, tremulousness, feeling anxious or nervous are all potential

symptoms. Residents with a 'hypo' may feel faint or very tired, and have difficulty concentrating and exhibit blurred vision. More severe hypoglycaemia may lead to cognitive impairment. For practical purposes, a level of glucose below 3.0mmol/l will activate a symptomatic response and a level below 2.8mmol/l will cause cognitive impairment<sup>60</sup>. Partial impaired awareness of hypoglycaemia may be a particular problem in care home residents with diabetes where symptoms may be present but masked by other conditions, residents are unable to accurately communicate their symptoms to staff, or in some cases, the expected physiological sequelae are diminished. In general, every effort must be made to tailor treatment with sulphonylureas or insulin that significantly minimises the risk of hypoglycaemia and fasting levels should not fall below 6.0mmol/l.

Approaches that can be taken to prevent (and reduce the risk of) hypoglycaemia within care home settings include:

- regular review of medication (including doses, frequency of administration, timing of meals) and minimising adverse interactions: ensure similar process occurs after recent re-admission to care home from hospital
- a full history should be taken about eating habits especially erratic and inconsistent eating behaviour: the involvement of a registered dietitian is needed for cases of recurrent hypoglycaemia
- glycaemic goals of treatment should be individualised to patients needs
- use of the newer class of long-acting insulin analogues which have the potential to limit the risk of hypoglycaemia and can be conveniently injected once daily
- administration of fast-acting insulin analogues after meals on an as required basis may be needed if caloric intake is variable and unpredictable
- switch patients taking longer-acting sulphonylureas onto shorter-acting agents with less hypoglycaemic complications.

Identifying residents at 'high-risk' of hypoglycaemia (eg those on sulphonylureas or insulin, undernourished, cognitively impaired) is a worthwhile practice and can target interventions. Provision of education about diabetes and hypoglycaemia to care home staff remains a principal mechanism to bring about improvements in hypoglycaemic prevention and treatment.

# Roles of other key healthcare professionals: provision of diabetes care for residents in care homes

## Key messages

- High quality diabetes care by a wide range of healthcare professionals requires their inputs to be coordinated and integrated within an overall diabetes care policy for the care home.
- The QOF mechanism can be adapted by a general practitioner to assess process and outcome in residents with diabetes in care homes. Within the primary care setting, practice nurses can play a very supportive role and assist the GP to coordinate diabetes care into the care home.
- A nurse with specialist knowledge in diabetes is an invaluable member of the local community diabetes team and can be instrumental in upskilling the care home workforce in diabetes and acting as a source of advice and education.
- Community nurses have important liaison roles with care homes, provide support for insulin care, offer nutritional and educational advice, and can support new emerging roles such as the modern matron where effective case management of particularly complex cases is needed.

An important part of the medical responsibility for residents with diabetes lies with the GP who may have several residents with diabetes in the same home. Other responsibility must be shared with PCTs, other community providers of healthcare, and the Care Quality Commission (CQC). Although some GPs may make regular visits to review patients, a lack of established protocols of care within these settings may mean that many visits to care homes by GPs may be 'reactive' in nature and take place only when a problem arises. Other factors which contribute to difficulties in residents receiving regular diabetes care include loss of secondary care diabetes follow up when residents have been admitted to a care home and loss of an annual review at the general practice surgery where residents are not able to travel. In some areas, mobile hospital diabetes teams have organised an annual review service operated by DSNs who are able to visit residents of care homes. Some general practices have arranged for their practice nurses to conduct regular reviews of residents with diabetes.

## **Potential and important roles of a general medical practitioner in providing diabetes care to residents of care homes**

The number of residents in care homes is likely to increase substantially in the next decade and new ways need to be established which structure medical responsibility for their care.

### **Important contributory roles of a general practitioner might include:**

- organising an agreed care plan for each resident: this will require coordination with their practice nurse, care home staff, carer and resident and, where necessary, the DSN and community dietitian
- supervising and participating in an annual review for each resident either at the surgery or within the care home
- providing emergency diabetes care as appropriate, eg treatment of hypoglycaemia
- assisting in planning a procedure to screen for diabetes in newly admitted residents to care homes
- agreeing a framework of direct referral of residents in care homes who require secondary sector specialist diabetes care including referral to ophthalmologists and vascular surgeons
- ensuring that diabetes care within care homes is included in clinical audit projects/reviews in their locality
- assisting in the development and delivery of specific education and training packages developed locally for care staff.

The GP contract of 2004 introduced the Quality Outcome Framework (QOF) in which points are achieved for both process and outcome achievement, and points attract a payment. The 18 clinical indicators for diabetes, incentivise practices to ensure that processes such as measuring HBA1c, blood pressure, creatinine, cholesterol, eye screening, and foot examination are carried out annually, and that a quality standard is achieved, for HBA1c, blood pressure and total cholesterol.

From 1 April 2009 for HBA1c this is that 50 per cent or more should have an HBA1c at or below 7% (53mmol/mol), 70 per cent should have an HBA1c at or below 8% (64mmol/mol), and 90 per cent should have an HBA1c at or below 9% (75mmol/mol).

Levels of achievement of both process recording and intermediate outcome measures in QOF have increased year on year<sup>61</sup>. If the practitioner feels that the QOF target is inappropriate for an individual it is possible to exclude them. This will be appropriate for some residents of care homes, eg those with severe physical frailty, terminal illness (life expectancy <6 months), or progressive dementia. Overall practice exclusion rates for the diabetes QOF of between 5 and 10 per cent may be appropriate to take into account the frail elderly populations of many practices.

Practice based commissioning (PBC) has been introduced in the past few years as a mechanism to try to improve care delivery. A PBC diabetes toolkit has been developed to assist commissioners<sup>62</sup>. However the uptake of PBC has been variable across different areas of England. Few schemes have had much impact on the establishment of integrated care for residents of care homes to bring primary, secondary and other community services together to provide excellent integrated care.

Specific roles for secondary care specialists (paediatrician, diabetologist or geriatrician with an interest in diabetes) in the management of diabetes within care homes is more difficult to define. Currently, cross boundary medical responsibility is uncertain and unstructured. Hospital trusts may not place a high value on seeing their consultants devoting time to residential and nursing home care. If, however, an agreed local policy of diabetes care is developed and commissioned which embraces the special needs of those residents within care homes and hospital specialists participate, important contributions can be made.

- Ensure that all secondary sector discharges with people with diabetes to care homes are provided with a follow up plan agreed with the resident, care home, and GP initially.
- Arrange for all new admissions to residential care to receive a prior complete functional assessment to ensure there is no potential for further improvement, and a concise review of the presence of diabetes related problems. For older residents, comprehensive geriatric assessment by a multidisciplinary team and a consultant geriatrician is recommended.
- Agree a concise list of criteria for referral to hospital diabetes teams for assessment of specific diabetes related problems and to consultant geriatricians (for older adults) for assessment of functional status and the need for rehabilitation.

## Role of the diabetes specialist nurse (DSN)

Nurses with special training and education are known to be an invaluable link between primary and secondary diabetes care for older people, and can provide a high quality service to disadvantaged people with diabetes<sup>63</sup>. Developments in recent years have seen more primary care-based DSNs. Where resources are available, a locality-based DSN will be aware of the diabetes care needs of care homes within her remit and establish lines of communication and educational advice between primary care (GP, practice nurses), community care (community nursing teams and allied healthcare professionals) and care home staff. In some areas, this may be a dedicated DSN; in other areas there may be a number of DSNs who have a wider remit to include care homes. The DSN is an important member of the community diabetes team and will assist in setting local standards of diabetes care within care homes.

Specific roles will include:

- planning, coordinating and delivering free, rolling diabetes educational activity for care homes supported, where appropriate by other healthcare professionals (eg community dietitians)
- planning, coordinating and/or delivering 1:1 education for people newly diagnosed with Type 2 diabetes (and their family/carer), where they are unable to access structured diabetes education programmes
- liaising with primary and community care healthcare professionals, care staff, residents and relatives to standardise care locally for residents with diabetes in care homes, to ensure responsibilities are clear for annual review and ongoing reviews, and care plans are in place for each resident with diabetes.

These additional focused roles of the DSN will be difficult to achieve unless there is recognition of the special problems of those residents with diabetes in care homes and the provision of additional resources at the point of delivery of diabetes care.

## Role of the practice nurse

Practice nurses with an interest and commitment to diabetes care can play an important role in ensuring that residents in care homes have their special needs assessed by primary and community care teams. Effective delivery of diabetes care in these settings requires close liaison of the practice nurse with the DSN and community dietitian. It is recognised that practice nurses may take on a greater or lesser diabetes care role depending on the workload and interests of the GP. Their specific roles may include:

- an information source for diabetes care to care home staff and families of residents with diabetes
- assisting the GP in ensuring that all residents with diabetes within care homes have been identified, added to the GP diabetes register and are involved in the annual review process
- coordinating visits of the GP to each resident with diabetes, or where residents are mobile ensuring residents are included in the practice diabetes programme. This requires effective communication with care home staff and with the community healthcare professionals where joint assessment visits are planned. In some areas, practice nurses may visit residents in care homes, although in many areas this does not occur due to time commitments and/or issues related to personal safety
- keeping an accurate and detailed documentation and medical records of each resident with diabetes and to ensure that all relevant investigations are available for review.

It is recognised that while many practice nurses involved in diabetes care have received training, there are a number who have not, and of those who have received training they may not have received specific training in the management issues of frail institutionalised subjects with diabetes, although DSNs will be able to provide some additional training and support.



# Community nurse (district nurse) provision of diabetes care within care homes

District nurses (DNs), known as community nurses, in some areas play an immense supporting role in community diabetes care. Education to this staff group in relation to management of older people with diabetes, remains variable. However, with more primary care based/community DSNs in recent years, community nurses have increased access to diabetes education and training. Their major remit in relation to diabetes care within care homes is in the provision of nursing support to residents with diabetes and advice to care staff in residential homes. Nursing homes infrequently require community nurse support for specific diabetes care. It is important to recognise that diabetes is one of several chronic conditions that require community nurse support in care homes and an integral part of their role is to promote a high standard and quality of overall care within these settings.

Community nurses and DSNs may have overlapping professional roles in community diabetes care and to utilise available human resources effectively, an agreed programme of diabetes care activity between all relevant parties in each locality is necessary. This requires close working relationships coordination.

Current roles within residential settings includes:

- Blood glucose monitoring: Ad hoc blood glucose monitoring is of little benefit. Delegation of blood glucose monitoring to care staff in residential homes by community nurses may provide more useful information to enable effective altering of oral medications for diabetes and/or insulin. Community nurses' phlebotomy skills, should be employed by the GP and incorporated in the review process for residents with diabetes.
- Insulin administration (in some cases up to twice daily) to residents with diabetes, who are unable to self-administer insulin because of physical or cognitive disability or behavioural disturbance. In some instances, this may be delegated to senior care staff in residential homes following substantial education and training in accordance with:
  - local protocols and documentation
  - review of residents with diabetes during their visits, and alerting other healthcare professionals, to issues identified
  - encouraging care home staff to take-up opportunities for education and training.

While these roles are important, additional responsibilities may be undertaken by community nurses to improve the overall diabetes care given to residents. These include:

- along with the GP, local DSN and community dietitian, directly participating in developing care plans for each resident with diabetes within residential homes. In many cases, their special knowledge of particular residents and the homes will be an advantage in delivering effective diabetes care
- taking an important role in ensuring that each care home has received advice and nutritional information from a community dietitian. Most care homes have a community dietitian they can liaise with directly and residents are assessed using the nutrition risk assessment tool
- close liaison with the DSN, community dietitian and podiatry department to identify those homes where further diabetes education and training are required either because of a previous lack of this activity, the presence of poor diabetes management practice, or high staff turnover
- community nurses may be responsible for delegating specific diabetes care tasks to named staff within the care home. These duties require close monitoring by the community nurses and remain their professional responsibility for providing adequate training for the care staff member.

In order to fulfil these roles and additional responsibilities, community nurses will require further training and educational opportunities, support from additional community nurses and other healthcare professionals, and encouragement to become involved in diabetes care from care home staff as well as medical and other nursing colleagues, particularly the DSN.

### **Emerging roles in primary and community care**

Since the publication of the original document in 1999, a number of new roles have developed, to include the community matron and case manager:

**Community matrons** are likely to have a caseload of approximately 50 people who have more than one long-term condition and are very high intensity users of acute hospital services. **Case managers** may be qualified nurses, social workers or Allied Health Professionals and will work with individuals who have a complex single condition and considered vulnerable in terms of health or social care needs.

The role of **diabetes care technician** (HCA/support worker) has been developed in some areas of the United Kingdom. The main focus of this role is the invaluable support they can give to the DSN and community diabetes teams. The scope of this role varies from one area to another and determined by the individual's level of knowledge, training and competence.

Each of these roles are fairly well established in some areas and in others are embryonic. When new roles are developed, it is essential that people are not working in silos, and when involved with individuals with diabetes in care homes are working in an integrated and agreed way with the resident, GP, DSN and other members of the multidisciplinary team.

# Foot care and provision of podiatry services for residents with diabetes in care homes

## Key messages

- Diabetic foot disease is a preventable, disabling condition associated with reduced life expectancy, lowered quality of life, and increased healthcare expenditure.
- Residents with diabetes are at increased risk of the diabetic foot because of multiple predisposing factors, presence of frailty, and lack of access to specialist care in certain circumstances.
- All residents with diabetes should be screened annually for risk of foot ulceration.
- Identification of 'at-risk' feet is a prerequisite to planning effective foot care.
- Care home managers should ensure that podiatry input is available regularly even if resident transport is required to access the service.

Previous reports testify to the high prevalence of diabetic foot disease in residents of care homes<sup>21,13</sup>. The risk for foot ulceration is increased in those with advancing age, presence of neuropathy and/or peripheral vascular disease, immobility, and other chronic dependent states.

Many care homes have ready access to a state registered podiatrist offering routine foot care advice and toe nail cutting for all residents with and without diabetes. However, although not all<sup>11</sup> residents with diabetes may be seen, there is some evidence that this may be improving, with more than 90 per cent of residents reviewed in the previous 12 months in one recent study<sup>6</sup>. Podiatry can be provided directly in the care homes, or in day care centres, health centres, outpatient clinics or other clinic settings. Referral may be made by the general practitioner, a hospital medical team or increasingly through community podiatric services linked to diabetes registers. For patients with diabetes, podiatrists have an important role in assessment of the foot at risk and prevention of adverse outcomes. Podiatry within care home settings should be integrated as part of multidisciplinary care.

## Primary roles of the podiatrist in the management of residents with diabetes

- To assess pre existing foot pathologies: physical deformity, callus formation, infection, ulceration, vascular status, toe nail pathologies, and suitability of current footwear.
- To actively treat diabetic foot disease.

- To educate residents, carers, and care staff in the prevention of diabetic complications involving the feet, correct toe nail cutting, heel protection and use of the most appropriate footwear and/or orthotics.

### **Barriers to current provision of podiatry care**

- Lack of knowledge about foot care and the importance of preventative action by care staff, nursing and medical staff, and residents themselves leads to delay in referral for podiatry treatment.
- Lack of healthcare professional appreciation of the role of podiatry in the prevention and treatment of diabetic foot disease.
- Care home staff attending clinics may lack detailed knowledge of the resident and may not feel empowered to implement advice when back in the care home.
- Lack of treatment facilities/accommodation at each care home preventing the most effective treatment being delivered.
- Some homes employ private podiatrists for which residents may have to pay extra fees.

### **Action likely to increase the benefits of podiatry care**

- Provision of a treatment area with adequate lighting, hand washing facilities and clinical waste disposal.
- Identification of 'at risk' feet by the podiatrist through regular screening and arranging appropriate follow up, management and footwear protocol.
- Improved communication between care homes and podiatry departments ensuring early and direct referrals and annual review.
- Establishing educational programmes for staff and residents on preventative foot care. This should include advice about daily foot inspection, corn cures and avoiding extremes of heat.
- Identifying a 'named' member of care staff for each diabetic resident at each home to liaise with podiatrist to review foot care protocol.
- the presence of a 'fast tracking' system which allows rapid referrals of residents with early foot ulceration to hospital diabetes departments for specialist evaluation.

# Access to ophthalmological services for residents in care homes

## Key messages

- Visual loss due to uncorrected refractive error or diabetic retinopathy is a common cause of disability and reduced quality of life in older people with diabetes. Residents of care homes may be particularly vulnerable.
- All residents with diabetes should have access to annual retinal eye screening.
- With the support of the local community diabetes team, a care home manager may be able to negotiate a contractual arrangement with a community-based optometrist to deliver eye care services within the care home.

The objective of diabetic eye screening is to reduce the risk of sight loss among people with diabetes by the early detection (and treatment if needed) of diabetic retinopathy<sup>64</sup>.

Ophthalmic problems in older people with diabetes may include macular disease, cataract and refractive error<sup>65</sup>, none of which is best detected using retinal camera screening. However, specialist eye care and regular ophthalmology review of residents with diabetes is variable across British residential and nursing homes<sup>10, 11, 26</sup>.

As retinal eye screening is a standard for all, care home residents should be included in screening programmes. However, exclusion from screening is variable. For some residents it may be because they receive on-going care through ophthalmic services; for others it may be because they are believed unable to consent or comply with treatment, if offered. These facts emphasise the need for care home residents to be included in a structured ophthalmic service, which may be best offered in many cases through community optometrists.

## Barriers to providing an ideal ophthalmic service for residents in care homes

- Some residents with diabetes are not included in retinopathy screening programmes because:
  - they may be undiagnosed
  - they may not be on a diabetes register
  - they may be identified as exclusions from screening
  - there may be no link to community optometric care services
  - there may be no locally agreed protocol of eye screening for exclusions

- there may be no contract between the optometry service (or individual optometrists) and the local commissioners.
- A full optometric assessment can only be done in proper facilities and only residents who are able to travel to the optometric practice may have access. For many care home residents this will not be possible for logistical reasons.
- Domiciliary optometric services to care homes require organisation and funding. A general ophthalmic service (GOS) examination is time consuming, requiring examination, a refraction check, and the issuing of a prescription, so many optometrists are reluctant to provide such a service as the fee provided for a domiciliary visit does not cover costs.
- Visits to a care home by an optometrist for monitoring or assessment of residents with diabetic eye disease can only attract a domiciliary fee if a prescription for glasses is undertaken or the visit is funded specifically by the local commissioners.

### **Community based optometrists who have received training in the assessment of diabetic eye disease and other important visual disorders**

- They screen for diabetic eye disease.
- They are responsible for:
  - measurement of visual acuity and evaluation of uncorrected refractive error
  - examination to assess for cataract formation and diabetic retinopathy
  - measurement of intra ocular pressure to screen for the presence of glaucoma
  - issuing a new prescription for glasses where appropriate
  - referral for specialist ophthalmological input to secondary care clinics, where necessary.

This system works reasonably well for mobile residents in care homes but is extremely difficult to arrange for immobile residents, especially those from nursing homes.

### **Optometric assessment services for residents of care homes may be substantially improved with the following changes**

- Where optometric assessment for care homes is adequately funded by contractual arrangements with the commissioning authority:
  - incorporation of community optometric services for those excluded from retinal screening
  - visual screening by the optometrist of new admissions with diabetes to care homes – this is probably best achieved as part of a district diabetes screening service.

- Wherever possible, improved accommodation/facilities at each care home to allow 'on site' full optometric assessment to be carried out.
- Education of care staff about the importance of maintaining visual health in residents with diabetes. This may require identifying a member of care staff who would take some responsibility for organising visits by optometrists.
- Where local optometric services do not offer screening, visual acuity measurements and fundal examination through dilated pupils at an annual review by GP.

# Assessment and treatment of pain in residential settings

It is likely that more than half of older patients with diabetes have a history of chronic pain<sup>66</sup> and in residential settings, pain is likely to be under-reported, undetected and undertreated. This can be seen by some to be an example of elder abuse. Common causes of pain in residents with diabetes in these settings include peripheral neuropathy (generally small fibre pain characterised by burning, allodynia, and hyperalgaesia), Charcot foot, foot ulceration, peripheral arterial disease, and other general causes such as musculo-skeletal pain, osteoarthritis and undiagnosed back pain. There is often an associated disability and mobility restriction in some cases, related to a decline in strength and balance. This is often worse if residents have had a previous history of a stroke. In one study<sup>67</sup>, older women with diabetes had an increased risk of falling and the excess risk was greater among women with chronic musculoskeletal pain. Chronic pain can also be a cause of a change in mood status, even depressive illness, and prompt effective treatment of depression may improve outcomes and assist the resident to cope better. Quality of life is impaired when pain remains untreated.

A **four-step approach** may help to focus the attention of care home staff and the local diabetes team in improving the detection of pain and ensuring that pain is adequately treated:

**Step 1:** care home staff should ask residents about pain even if they don't complain about this symptom.

**Step 2:** an assessment of pain should take place regularly (at least at monthly intervals) and can be conducted by a trained healthcare assistant or a nurse.

**Step 3:** information about pain should be given to the GP or diabetes specialist nursing service and a further assessment of pain will be required looking for causes and other inter-related factors.

**Step 4:** adequate analgesia to remove pain completely should be employed and treatment reviewed by the prescribing practitioner.

## Assessment of pain

It is accepted that the recognition of pain in older patients within care home settings can be challenging in the face of a previous stroke, other communication difficulties, language and cultural barriers, and the presence of dementia. The impact of pain in terms of disability, altered sleep patterns, levels of anxiety, etc must always be part of the assessment process. A recent collaboration between the Royal College of Physicians, British Geriatrics Society and the British Pain Society has produced guidelines on pain assessment in older people which can be adapted to residents of care homes<sup>68</sup>.



**For residents with no communication or cognitive difficulty,** verbal self-report can alert staff to the presence of pain. This can be followed by asking residents to complete a numeric graphic rating scale (a vertically orientated visual analogue where residents indicate how much pain they have on the day of assessment) or Brief Pain Inventory (a 15-item scale assessing severity, impact on ADL and mood, and enjoyment of life). Staff may wish to compile a pain map to graphically illustrate where pain is located.

**For residents with communication and/or cognitive problems,** options for pain assessment include the numeric rating scale described above, the use of a Pain Thermometer (a thermometer-like drawing that indicates levels – ‘temperature’ of pain from no pain to pain as bad as it can be), or the use of the Abbey Pain Scale (a scale that should ideally be completed by a member of staff when the resident undertakes movement and records items such as facial expression, behaviour change, physiological changes, eg temperature or pulse, and body language, all which may be affected by pain).

## Treatment of pain

In diabetes-related painful states, gradual control of glycaemia (rapid glucose control can trigger painful neuritis), vascular risk assessment and surgical intervention, specialist diabetes foot care, and treatment of depression, may all be relevant and appropriate. The threshold for imaging (eg MRI) in chronic low back pain states should be low so as not to miss spinal canal stenosis and corda aquina lesions.

The use of tailored pharmacotherapy for pain relief is essential. **Non-neuropathic pain** may respond to non-opioid analgesics such as paracetamol, and topical or oral non-steroidal anti-inflammatory agents (NSAIDs). Where opioid analgesics are required (eg pain caused by malignancy), codeine, oxycodone or morphine may be required, and tramadol may also be valuable in moderately severe pain. Some slow-release preparations such as the buprenorphine matrix patch do not necessarily require dose adjustment in older people with renal impairment and can be used for longer-term use.

When **neuropathic pain** is present, certain antidepressants may be tried such as amitriptyline (unlicensed indication) but gabapentin and pregabalin are often tried initially. Duloxetine has also been recommended in certain cases of diabetes-related neuropathic pain. All these medications have side effects and experience in their use is necessary.

Pain management should be by a multidisciplinary team approach and it should be remembered that other healthcare professionals such as physiotherapists may play a role in pain management (eg in painful states relating to a previous stroke) and in cases of severe pain which cannot be managed in the community, referral to a hospital-based pain clinic is essential. Pain management strategies need to be improved within care homes and this will be under-pinned by recognition of the need to enhance the education of both healthcare and care home staff in the area of attitudes to pain in ageing individuals. Persistent pain in care home residents must be regarded as an indicator of quality of care and regulatory bodies such as the Care Quality Commission (CQC) must take a lead in the mandatory education of care home staff about the recognition and detection of pain and care home managers must include pain management as part of their home diabetes policy.

# Care planning: residents with diabetes in care homes

## Key messages

- A key requirement for effective diabetes care is a documented individualised care plan for each resident with diabetes.
- The care plan should identify key roles and responsibilities, targets and outcome measures, annual review procedures, and what arrangements are in place for specialist review.
- A priority list of outcome measures should be agreed and processes put in place to collect relevant data.

Each resident with diabetes should have an individual care plan agreed between the patient (or family/carer), general practitioner and home care staff (see Appendix 4).

This should include the following:

- identification of a designated member of care staff for overseeing diabetes care for each resident, whose knowledge has been assessed by a diabetes nurse specialist (DSN) or district nurse (DN) trained in diabetes care
- identification of a designated doctor (usually the GP) who will accept overall medical responsibility for diabetes care of the resident and ensure that diabetes care follow up takes place
- identification of a designated person to contact if a resident is unwell and advice is needed quickly (eg a DSN)
- information on the specific symptoms/signs of hypoglycaemia that resident tends to experience and information on how to treat hypoglycaemia if it occurs (or information on generic treatment protocols for hypoglycaemia)
- a specific dietary plan (including a weight assessment) for each resident designed by a community dietitian with an interest in diabetes. This should follow discussion and agreement with the resident and relevant kitchen staff
- a detailed list of diabetes related complications, other co-morbidities, and current on going problems in medical and social care. This will also include a basic initial assessment of physical and mental function, a full list of medications including antidiabetic treatment and provide dosage and frequency information
- a rehabilitation programme designed to maximise existing physical and cognitive function which should be delivered within each care home where possible. This will require inputs from both a physiotherapist and an occupational therapist

- a procedure which arranges an annual review for each resident with diabetes (and standardised document on which to record this and send to GP)
- arrangements within each care home to screen regularly for diabetes related complications, eg diabetic foot ulcers outside the procedure for annual reviews
- arrangements for eye screening if the resident is unable to participate in a local version of national eye screening programme
- an agreed set of metabolic targets (eg blood pressure, glycaemic control) for each resident. This is to be accompanied by an agreement on the level and intensity of blood glucose monitoring required and who will take responsibility for reviewing blood glucose readings and altering treatment accordingly
- a structured internal and external quality control system for capillary blood glucose meters
- a series of simple but appropriate outcome measures which reflect the adequacy of diabetes care and the impact on the resident with diabetes on health and social services support. This may include the frequency of hypoglycaemia, number of hospital admissions for metabolic decompensation or acute illness related to diabetes care, and level of wellbeing experienced by the resident with diabetes.

In order for care plans to be operable and of benefit, care staff will need to be aware of management strategies during 'sick days' of the resident with diabetes ([www.diabetes.org.uk/illness](http://www.diabetes.org.uk/illness)), who to contact for advice and also how to manage effectively the occurrence of hypoglycaemia. These can sometimes be incorporated into protocols of care available within each care home.

# Diabetes annual review arrangements

Annual review arrangements for older adults with diabetes have previously been published<sup>52</sup>, and have been updated<sup>69</sup>. The components of these can be broadly implemented for residents in care homes with some additional items.

## **The basic plan for an annual review should include:**

- full clinical examination which includes a basic assessment of physical and mental function, pain assessment, and assessment of bladder function, and mobility
- measurement of a Barthel ADL score (global disability – measures activities of daily living), MMSE (MiniMental State Examination) score – a screen for cognitive impairment or use of the Mini-Cog (see page 34) assessment tool (being piloted by the Department of Health and IDOP, 2010), and GDS (Geriatric Depression Score) – an assessment of mood or by use of ‘two simple questions’<sup>45</sup>
- height/weight in order to calculate body mass index (BMI)
- a nutritional risk assessment (the MUST score – see page 29)
- both lying and standing blood pressure (where feasible)
- urinalysis for protein
- glycosylated haemoglobin (HbA1c)
- urea and creatinine estimation, and eGFR
- visual acuity measurement with and without pinhole
- fundoscopy through dilated pupils – every effort should be made to include residents with diabetes on a district-wide diabetes register and ensure that retinal photography is offered where appropriate
- examination of feet and lower limbs for deformity, infection, and ulceration. This will include identifying those residents with ‘at risk’ feet, eg those with sensory neuropathy or poor vascular supply.

## **Residents of care homes will also require a review of the following:**

- medication list which includes a review of dosage and possible side effects, eg frequency of hypoglycaemia for those on sulphonylureas or insulin
- dietary plan
- appropriateness of current aims of care in the light of any major functional change in the resident during the preceding year.

As part of the annual review process, the need for continued specialist follow up can also be assessed. This review process can incorporate an element of clinical audit by recording outcome measure data.

# Use of robust outcome measures to assess the efficacy and efficiency of diabetes care within care homes

Outcome measurement of hospital based and acute inpatient and outpatient services is fairly well developed<sup>70</sup> but the use of outcome measures by community teams and general practice requires further development. Although outcome measures for older adults with diabetes have previously been published<sup>52,69</sup>, they have not been tested in care home settings. Outcomes chosen require to be sensitive to an intervention but care delivered within care homes consists of multiple interventions making the correct choice of suitable outcomes complex and difficult. In addition, resident centred outcomes which require self assessment forms to be completed will not be appropriate for many frail residents of care homes.

## **The primary purposes of outcome measurement of diabetes care within care homes may be summarised:**

- to assess the quality of care delivered to each resident with diabetes
- to assess the benefits or not of new intervention strategies
- to assess the impact of diabetes on each resident in terms of personal wellbeing, functional ability and rate of diabetes related complications
- to determine the impact of use of care home resources for residents with diabetes in terms of use of care staff time, dietary planning, monitoring equipment, and educational initiatives
- to plan future services with a view to enhancing diabetes care.

## **Specific outcome data may include any of the following:**

- percentage achieving agreed metabolic target parameters: glycosylated haemoglobin (HbA1c) within target range of 7–8% (53-64mmol/mol), blood pressure level and weight during previous 12 months
- improvements in appetite, food choices, and eating habits based on health promotional strategies and maintenance of nutritional wellbeing within care homes
- the number of successful and appropriate cases of insulin initiation in each care home each year
- frequency and severity of hypoglycaemic episodes during previous 12 months
- frequency of hospital admissions for diabetes related problems including number of episodes of metabolic acidosis in previous 12 months

- complication rate of visual loss, foot ulceration, neuropathy, renal impairment, angina, peripheral vascular disease
- change in level of dependency/physical and mental function, eg use of Barthel ADL or Extended ADL measures during previous 12 months, and use of cognitive and mood assessment tools
- Improvements in nutritional risk scores using the MUST tool over a 12 month period (see page 29)
- quality of life and wellbeing of each resident with diabetes, eg use of ADDQOL Senior, or other measures of health status: changes from admission to point of survey, or changes within previous 12 months
- percentage of patients with completed diabetes care plans
- percentage of residents receiving annual review in previous 12 months
- adequacy of data recording and documentation: frequency of staff completing the data form, legibility, report actions, etc
- number of care staff who have received education on diabetes care.

Who collects the data will be determined by the nature of the measures. For example, data relating to hospital admissions, annual review rate and completion of care plans can be collected by care staff, whereas objective data on physical function and quality of life may require a qualified nurse or doctor to be involved. The care plan can list the agreed outcomes which must represent common objectives of diabetes care for all parties.

# Education and training requirements for staff within care homes

## Key messages

- Care home staff have traditionally poor access and limited opportunity to educational and training resources.
- Current regulatory moves to ensure high quality standards of healthcare in care homes requires a new approach to educational provision within these settings and will involve a funding element.
- Closer involvement with the local community diabetes team by the care home will increase the likelihood of 'in-service' training and educational sessions on diabetes care to be organised for care home staff.
- Diabetes UK provides several educational resources and there is increasing evidence of training courses in diabetes being developed within the UK to assist care home staff.

These guidelines have indicated that a lack of structured diabetes-related experience and knowledge exists among various categories of care home staff, and that well-designed training and educational programmes are essential. A compilation of currently available resources is given in Appendix 3.

Diabetes is one of many areas where care home staff need training and education. Several difficulties in providing training have been encountered and these include:

- care homes with little or no diabetes information available
- delayed mealtimes as a result of a training session
- managers may have no budget to pay for training and rely on free advice/information
- some care staff display little obvious commitment to learn
- the staff turnover rate in care homes is often high
- many care home staff encounter difficulty in being released for education and training.

Although managers of care homes demonstrate an interest in providing improved diabetes care for their residents, many have little experience themselves in training and have a basic knowledge of diabetes care. They are not usually able to make an informed decision on when to call for the assistance of a community nurse or doctor for residents with diabetes, or when to call an ambulance.

Care staff within some homes are often young and unskilled, and other older members of staff may be part-time and unqualified. Nursing staff within homes may work a constant

rotating shift system, which leads to lack of continuity of care and often fail to keep updated in terms of advances in nursing and diabetes care. A regular turnover of staff within care homes takes place and often staff morale may be low due to poor pay and conditions, which inevitably leads to staff sickness and temporary cover. During busy periods, diabetes may not be a priority for their time. Care staff within care homes do not appear to have equal access to education and training as their colleagues in the NHS and this may be an important barrier to effective learning.

The following categories of care home staff will require information about diabetes care and in some cases, an appropriate training and educational package: home managers/owners (some may hold professional nursing or medical qualifications); healthcare professionals (eg nurses, occupational physiotherapists); activity coordinators, catering staff within the home, care assistants. Community nursing staff may also require an opportunity to be involved in an educational initiative.

The format of the proposed courses would vary according to the educational and training needs of the care home staff member. Elements of such a course might include a discussion with practice examples where appropriate of the following:

- what is diabetes?
- types of diabetes
- treatments for diabetes
- healthy eating for diabetes and nutritional advice
- blood glucose monitoring
- hypoglycaemia – signs, symptoms/unrecognised hypoglycaemia and treatment
- management of ‘sick days’ and hyperglycaemia
- complications and screening for these – to include the purpose of the annual review
- role of care home staff in developing care plans for residents with diabetes and scope of their roles in care delivery.
- listening to people with diabetes
- the role of Diabetes UK.

A number of methods to deliver training and education exist, but factors which will influence their adoption in a particular region/area or care home setting include:

- costs of training and providing replacement care home staff
- geographical location of homes and ease of accessibility to the chosen method of delivery
- motivation and commitment of each care home staff member since many are employed part-time and may feel no real urge to participate in additional study.



The major formats include:

- lectures at pre-determined times provided locally to enable access to staff within a geographical area
- a distance learning course provided by an official educational establishment with tutor support
- one-off study days and/or workshops run in specific locations within the UK
- provision of a 'training package' used by the care homes themselves ('in-service training') or with the assistance of a recognised trainer - this might include 'core material' for all staff and specific components/modules for different grades of staff/roles.

Several of these formats would be suitable to aim for accreditation and provision of a recognised qualification.

# Ethical considerations in providing diabetes care to residents in care homes

The major emphasis in the management of residents in care homes should be to encourage as much autonomy as is consistent with a resident's mental and physical abilities, their age and their safety. Respect for the individuality of each person demands that each is encouraged to live to the fullest extent of their capability. In these circumstances, a level of optimum satisfaction can be achieved in what is, however homely in character, a setting which is vastly different in nature and familiarity from their previous home which they had known for a greater part of their life.

Ensuring respect for autonomy of each resident usually requires an active commitment to care which extends beyond the common perception that institutions such as residential homes are merely protective environments rather than places which allow the maximum independence for each resident even though this may be limited by some degree of physical or mental disability. In this regard, residents who are capable (this is usually least relevant to those in nursing homes) should administer their own medication as this represents a practical example of self care, even though this may be partial in nature. Older residents with diabetes who have been recently admitted to residential homes may well have gained sufficient previous experience to self administer medication (including insulin) and to deny them this would represent an assault on their self worth.

The care of residents with diabetes requires the sharing of responsibility between residents and staff, although for many, a considerable degree of supervision by care staff may be required. All residents must be given the support and opportunity to feel that they can still contribute to their own wellbeing despite their problems and loss of abilities that they may experience.

# End of life care (EoLC) for residents with diabetes in care homes

Each year about 500,000 people die in England and Wales with the vast majority aged 60 years and over. Of these 17 per cent die in care homes and in view of the high prevalence of diabetes in residential settings, an appreciable number of deaths will be in residents with diabetes.

Both care home staff and the local diabetes team will need to be proactive in recognising the onset of a patient's terminal decline in health and liaising with the appropriate EoLC services<sup>71</sup>. Services will be based around high quality EoLC, symptom management, and the provision of psychosocial support. There will be an agreed set of criteria to identify those who require urgent palliative care support worker responses in different situations, eg unresolved pain, rapid discharge from hospital, or severe unresponsive infection or pneumonia. Diabetes may also arise in de novo in steroid-treated palliative care patients.

A number of principles of diabetes care in EoLC situations which have been adapted from the Association of British Clinical Diabetologists (ABCD) Position Statement<sup>71</sup> should be adhered to:

- unnecessary investigations such as blood glucose testing and complex insulin regimes are burdensome and are to be avoided
- towards the end of life, maintenance of strict euglycaemia may be detrimental to quality of life and avoidance of long-term complications an inappropriate goal
- a glycaemic range of 7–10 mmol/l (fasting) and 9–12 (post-prandial) may enhance comfort by preventing hypoglycaemia and by preventing hyperglycaemia-induced thirst, dehydration, confusion and drowsiness
- appreciate that glucose control may worsen by the presence of certain malignant tumours, the use of steroids for symptomatic relief or co-existent infection
- hypoglycaemia risk may be increased by associated weight loss due to malignancy and anorexia, hepatic and renal failure (lowered insulin requirement) and slower clearance/metabolism of oral hypoglycaemic agents
- pre-existing neuropathic pain can be exacerbated during a terminal illness, eg pain due to bone secondaries or pleural involvement
- gastro-intestinal disorders can be worsened in terminal illness (eg constipation – combination of autonomic neuropathy and opiate-induced effects).

Practical clinical recommendations include strict attention to pain management, provision of nutrients and calories that maintain weight as long as possible, the consideration of discontinuing insulin in residents with asymptomatic hyperglycaemia and use of an alternative agent such as oral liquid metformin or glimepiride (easy to swallow tablets and straightforward dose adjustments), and discontinuing blood glucose monitoring unless glucose control has been oscillatory and/or recurrent hypoglycaemia has been an issue.

In July 2008, the Department of Health published its end of life care strategy which included consideration of patients with diabetes and promotes high quality care for all adults in England at the end of life<sup>72</sup>. It stressed the importance of effective care planning arrangements, coordinated palliative care services, implementing gold standard approaches such as the Liverpool Care Pathway, a single point of care to access services in the community, and that PCTs must provide an infrastructure that is properly funded. It is important that local diabetes teams and care homes work in close liaison with palliative care services to ensure optimum care at this critical period.

# Primary recommendations which sustain effective diabetes care within care homes

A summary of preliminary recommendations relating to the diabetes care of older residents within institutional settings was previously published<sup>10</sup>, and the European Working Party for Older People with Diabetes has also published recommendations<sup>69</sup>.

This current set of good clinical practice guidelines provides an up-to-date, evidence-based series of recommendations which are designed to enable a measurable improvement in diabetes care within care homes to be achieved. They should be interpreted by healthcare professionals as national guidance in organising diabetes care locally within care homes. No major distinctions have been made in relation to residential or nursing homes in applying these recommendations although it is accepted that nursing care will be available on site routinely in nursing homes and may therefore be able to participate in delivering an agreed protocol of diabetes care more easily than care staff within residential homes. In addition, residents of nursing homes are likely to have greater dependency levels and be less able contribute in a system of diabetes self care.

Recommendations have been categorised into the following:

## Relating to residents of care homes

### Key messages

- Each care home resident with diabetes should expect to receive the same quality of diabetes care as someone living independently in the community.
- A case for higher quality care may even be made based on the likely presence of multiple co-morbidities, the already compromised quality of life status, and the inability of many residents to be self-empowered.
- A well-designed, individualised, and implementable care plan forms the basis of recommendations in this area.

### Each resident with diabetes in a care home should expect to receive:

- a full assessment of their diabetes and other medical co-morbidities at the time of admission to a care home
- a diagnosis of their illness (diabetes) as soon as possible after admission to a care home (and certainly within three months of admission) if not previously known to have diabetes
- an opportunity to be empowered and play an active role in diabetes self care according to their overall level of independence and functional status

- an individualised diabetes care plan; each resident or their family/carer should have played a part in establishing the agreed objectives summarised in the care plan which should include a series of metabolic targets
- an individualised dietary and nutritional plan as part of the overall care plan
- an annual review assessment involving their general practitioner and other essential members of the community healthcare team and care home staff
- support and assistance in diabetes care from a named member of staff who will be involved in metabolic monitoring with the resident
- access to specialist diabetes nurses within their local community for advice, support and educational material
- access to community healthcare professionals including a community dietitian, podiatrist and an optometrist
- access to consultant specialist care by direct referral from the general practitioner or by an agreed community healthcare professional; this may involve the resident being seen in a hospital outpatients department (clinic) or receiving a 'domiciliary' assessment
- written information about Diabetes UK and its roles ([www.diabetes.org.uk](http://www.diabetes.org.uk)).

## Relating to care home institutions

### Key messages

- Every care home should have in place documented evidence of a diabetes care policy.
- All care home staff engaged in diabetes care should have the opportunity to access training and educational material including internet-based resources.
- Care homes should actively participate in diabetes audit and ensure availability of other key healthcare professionals including access to specialist secondary care where appropriate.

### Each care home should expect to have:

- one or more members of care staff who have received training and education in the basic management of residents with diabetes within care home settings. Areas of diabetes knowledge and training deemed important include avoidance and management of hypoglycaemia, importance of good glycaemic control, foot and eye care, ensuring that nutritional assessment, guidance and dietary reviews are in place, and 'sick day' rules ([www.diabetes.org.uk/illness](http://www.diabetes.org.uk/illness))
- facilities to carry out glucose monitoring of capillary samples from residents with diabetes. The use of reflectance meter devices is encouraged and those members of staff involved in monitoring should have received the appropriate level of training required

- provision of a suitable room with adequate lighting to act as a basic treatment and assessment area in order for annual reviews to be conducted effectively and where specialist treatment, eg podiatry for diabetic foot disease, can be accommodated
- a member of the catering or kitchen staff familiar with the key principles of dietary planning for residents with diabetes who is able to provide meals in accordance with these
- an agreed policy of diabetes care, which has been designed by care staff, community nursing and dietetic staff, and their local general practitioner. The protocol should cover all the main areas of diabetes outlined in the earlier sections on care plans and annual review assessments. This will include an agreed policy of referral of residents to their general practitioner for any diabetes related problem that requires prompt assessment
- a method available to collect routine diabetes-related health and resource indicators as part of clinical diabetes audit information. The amount and nature of the outcome data collected must be appropriate to the care home setting (residential or nursing home) and members of care staff employed to collect such data must have received training in documentation
- one or more members of staff trained in the administration of insulin therapy for residents with diabetes; this may require positive training approaches for care staff within residential homes where few trained nursing staff are available
- an easily available source of useful and educational information on diabetes for both residents and family/carer
- access to transport facilities to enable residents with diabetes to receive specialist treatment outside the care home setting
- an admission policy for new residents which highlights those with known diabetes and provides a protocol to screen for the presence of diabetes. This will require agreement between the care home staff and the GP and is likely to involve measurement of both random and fasting venous plasma glucose, and random HbA1c. Where a decision has been taken to admit to a care home, screening for diabetes may be undertaken prior to admission in some cases
- a policy to screen for diabetes in other residents of both residential and nursing homes at two yearly intervals
- each care home facility requires to agree a series of outcome determinants to assist in assessing the quality of diabetes care delivered and the impact of this care on the residents and on the use of care home and healthcare service related resources.

Individualised outcome measures will be an important component of utilising effectively any diabetes care plan developed within care homes. In order for outcome data to be collected efficiently and analysed in an appropriate way, care home staff will require training and experience as well as education to interpret the significance of the data collected. Outcome data form an important component of clinical audit work and provides a measure of the quality of diabetes care delivered.

## Relating to organisation of diabetes care

### Key messages

- The coordination and delivery of diabetes care to care homes should be an important priority for a PCT.
- Formulating an effective and workable scheme requires a commitment by all stakeholders to put the resident with diabetes at the centre of care.
- Enforcing new regulatory controls within care homes should assist in attaining higher standards of diabetes care.

In order for the above recommendations to be effective and monitored, district diabetes care services must encompass the special needs of residents with diabetes in care homes and provide support and guidance for care homes who wish to take an active part in providing good diabetes care practices for their residents.

### **The following broad recommendations are designed to see an improvement in diabetes care in each district**

- Adequate funding for delivering high quality diabetes care within care homes should be provided. This will require active negotiation between PCTs, social services and representatives of healthcare professionals involved in diabetes care, and care home managers. This process may be assisted in some areas where effective diabetes networks operate.
- Optometric services should be organised and to provide both on site and clinic ophthalmic consultations for residents with diabetes in care homes. This will involve agreeing funded contracts between the community optometric services or individual optometrists and health authorities.
- Podiatry services should be comprehensive enough and provided with adequate resources to include special provision for residents with diabetes in care homes. This will require closer liaison between the community healthcare team and hospital departments of podiatry. Development of educational initiatives to promote a greater understanding of preventative foot care among care home staff is needed.
- Criteria for referral of residents with diabetes to secondary care specialist clinics must be agreed between all relevant parties including the general practitioner and secondary care specialist staff. These criteria should allow for newly admitted residents to care homes to continue to receive follow up specialist care if appropriate.
- The appointment of at least one DSN for older adults in each district whose remit and responsibilities will encompass the requirements of residents within care home settings. This individual will play a prominent role in the effective organisation of diabetes care for care homes within each district and provide momentum for developing local diabetes educational initiatives in care homes. Another important role will be to liaise closely



with other members of local community nursing and Care Quality Commission (CQC) inspection units to assist in ensuring that the majority of homes provide high quality diabetes care to their residents.

- There should be at least one community dietitian available in each district whose primary responsibility is the provision of dietary and nutritional support for residents within care homes.
- All residents with diabetes should have their names and residence location clearly identified on the district diabetes register (if available) to ensure that care home residents with diabetes are involved in local diabetes clinical audit projects. In those districts without a register and where available, this data should be documented in primary care general practice diabetes registers.
- Diabetes educational and training programmes for care home staff need to be established in each district jointly funded through the health and social care budget. Where this is not feasible, a regional or national training course should be available to serve this purpose. Topics for study and review would include screening for and prevention of complications of diabetes, principles of treatment including management of hypoglycaemia, care of ill residents with diabetes, foot and eye care, and importance and use of glucose monitoring, and use of outcome data in the management of diabetes.

# Conclusions

## Key messages

- The complexity of illness of residents, the need to balance metabolic control with quality of life issues, and the virtual isolation in a care home from accessing specialist care easily, can pose considerable challenges to even the most experienced healthcare professional or care home manager.
- The recommendations in this guidance document should be seen as a set of national standards of diabetes care within care homes.
- Diabetes UK, along with the other key representatives of this Task and Finish Group, are committed to the highest level of diabetes care within residential settings that is commensurate with improving outcomes and patient safety.

These good clinical practice guidelines represent a comprehensive review of diabetes care within institutional settings and have replaced the original 1999 British Diabetic Association report. They provide a detailed synopsis of the important healthcare issues and care home service shortfalls, which are present in residential and nursing homes for residents with diabetes. Most of the original aims of the project have been addressed but in some areas where accurate information is lacking (eg age breakdown of residents), further research and investigation is required. The recommendations are now to be seen as national standards of diabetes care within care homes and we hope will be more widely recognised and implemented throughout the care home network.

Institutional diabetes care should begin to attract further scientific clinical enquiry and during the last decade several key studies have emerged that shed light on the special plight of residents with diabetes in care homes. We still know little about the quality of diabetes care delivered within care homes or the outcomes of care. The use of assessment tools to quantify outcome of diabetes care interventions within care homes need standardisation, and it is hoped that the diabetes audit tool in development will address this specific requirement. The special problem of residents from varying ethnic backgrounds residing within care settings has also not been studied to any degree. All these are important topics for future clinical research.

The tremendous morbidity and disability of residents with diabetes within care homes poses many complex and challenging problems for all healthcare professionals involved in delivering care. These guidelines represent the continuing commitment of Diabetes UK to enhance diabetes care within these settings and comply with the momentum provided by the Department of Health in tackling the challenge of diabetes in the 21st century in the UK.

## Appendix 1: References

1. Tsuji J, Whalen S, Finucane TE (1995). Predictors of nursing home placement in community-based long-term care. *JAGS* 43; 761-766
2. Sinclair AJ, Gadsby R, Penfold S et al (2001). Prevalence of diabetes in care home residents. *Diabetes Care* 24 (6); 1066-1068
3. Ferrucci L, Guralnik JM, Pahor Met al (1997). Hospital diagnoses, Medicare charges, and nursing home admissions in the year when older persons become severely disabled. *JAMA* 277 (9); 728-34
4. Berlowitz DR, Young GJ, Hickey EC et al (2001). Clinical practice guidelines in the nursing home. *Am J Med Qual*. Nov-Dec; 16 (6); 189-95
5. Duffy RE, Mattson BJ, Zack M (2005). Co-morbidities among Ohio's nursing home residents with diabetes. *J Am Med Dir Assoc* 6 (6); 383-389
6. Aspray TJ, Nesbit K, Cassidy TP et al (2006). Rapid assessment methods used for health-equity audit: diabetes mellitus among frail British care-home residents. *Public Health* 120 (11); 1042-1051
7. Hirsch D. *Paying for Long-Term Care: Moving Forward*. (The Joseph Roundtree Foundation, 2006)
8. Grobin W (1970). Diabetes in the aged: underdiagnosis and overtreatment. *CMA Journal* 103 (9); 915-923
9. Cantelon JFD (1972). Diabetic residents of homes for the aged: Observations for an eleven year period. *JAGS* 20 (1); 17-21
10. Sinclair AJ, Turnbull CJ, Croxson SCM (1997). Document of diabetes care for residential and nursing homes. *Postgrad Med J* 73 (864); 611-612
11. Benbow SJ, Walsh A, Gill G. (1997). Diabetes in institutionalised elderly people: a forgotten population? *BMJ* 314 (7098); 1868-9
12. Van Nostrand J. (1985). *Nursing Home Care for Diabetics*. In *Diabetes in America: Diabetes Data Compiled 1984*. National Diabetes Data Group, Washington, DC, U.S. Govt. Printing Office, p XVII 1-XVII 13 (NIH publ. no. 85-1468)
13. Mooradian AD, Osterweil D, Petrusek D (1988). Diabetes mellitus in elderly nursing home patients. A survey of clinical characteristics and management. *JAGS* 36 (5); 391-396
14. National Center for Health Statistics: *The National Nursing Home Survey, 1977. Summary for the United States*. Hyattsville, MD, US Gov't Printing Office, 1979. *Vital and Health Statistics, Series 3*, no. 143
15. Zimmer JG, Franklin Williams (1978). Spectrum of severity and control of diabetes mellitus in skilled nursing facilities. *JAGS* 26 (10); 443-452

16. Hamman RF, Michael SL, Keefer SM et al (1984). Impact of policy and procedure changes on hospital days among diabetic nursing home residents Colorado. *MMWR* 33: 621-9
17. Coulston AM, Mandelbaum D, Reaven GM (1990). Dietary management of nursing home residents with non insulin dependent diabetes mellitus. *Am J Clin Nutr*; 51 (1); 67-71
18. Wolffenbuttel BHR, van Vliet S, Knols AJF et al (1991). Clinical characteristics and management of diabetic patients residing in a nursing home. *Diabetes Res Clin Pract* 13; 199-206
19. Funnel MM, Herman WH (1995). Diabetes care policies and practices in Michigan nursing homes, 1991. *Diabetes Care* 18 (6); 862-866
20. Clinical practice recommendations: American Diabetes Association (1995). *Diabetes Care* 18 (Suppl. 1); 1-96
21. Sinclair AJ, Allard I, Bayer AJ (1997). Observations of diabetes care in long-term institutional settings with measures of cognitive function and dependency. *Diabetes Care* 20 (5); 778-784
22. Benbow SJ, Hoyte R, Gill G (2001). Institutional dietary provision for diabetic patients. *QJM* 94 (1); 27-30
23. Hauner H, Kurnaz AA, Haastert B et al (2001). Undiagnosed diabetes mellitus and metabolic control assessed by HbA(1c) among residents of nursing homes. *Exp Clin Endocrinol Diabetes* 109 (6); 326-329
24. Travis SS, Buchanan RJ, Wang S et al (2004). Analyses of nursing home residents with diabetes at admission. *J Am Med Dir Assoc* 5 (5); 320-327
25. Gill EA, Corwin PA, Mangin DA et al (2006). Diabetes care in rest homes in Christchurch, New Zealand. *Diabetic Medicine* 23(11); 1252-1256
26. Aspray TJ, Nesbit K, Cassidy TP et al (2006). Diabetes in British nursing and residential homes: a pragmatic screening study. *Diabetes Care* 29 (3); 707-708
27. Holt RM, Schwartz FL, Shubrook JH (2007). Diabetes care in extended-care facilities. *Diabetes Care* 30 (6); 1454-1458
28. Centre for Policy of Ageing (1996). *A Better Home Life – A Code of Good Practice for Residential and Nursing Home Care*
29. Wilson JMG, Jungner G (1968). Principles and Practice of Screening for Disease. *WHO Chronicle* 22(11); 473
30. Skyler JS, Bergenstal R, Bonow RO et al (2009). Intensive glycemic control and the prevention of cardiovascular events: implications of the ACCORD, ADVANCE, and VA diabetes trials. *Circulation* 119 (2); 351-7
31. DECODE Study Group, the European Diabetes Epidemiology Group (2001). Glucose tolerance and cardiovascular mortality: comparison of fasting and 2-hour diagnostic criteria. *Arch Intern Med* 161(3); 397-405

32. Home PD (2008). HbA(1c): the case for using estimated average glucose (eAG). *Diabetic Medicine* 25 (8); 895-8
33. Department of Health (1992). *The Nutrition of Elderly People*. Report of the Working Group on the Nutrition of Elderly People of the Committee on Medical Aspects of Food Policy. Report on Health and Social Subjects 43. London: HMSO
34. Department of Health (1991). *Dietary Reference Values for Food Energy and Nutrients for the UK*. Report of the Working Group of the Committee on Medical Aspects of Food Policy. Report on Health and Social Subjects 41
35. Caroline Walker Trust Expert Working Party (1995). *Eating Well for Older People*
36. Department of Health. *Care Homes for Older People – National Minimum Standards*. (The Stationery Office. London 2001)
37. Diabetes UK The Nutrition Subcommittee of the Diabetes Care Advisory Committee (2003). The implementation of nutritional advice for people with diabetes. *Diabetic Medicine* 20 (10); 786 – 807
38. American Diabetes Association (2008). Nutrition recommendations and interventions for diabetes. *Diabetes Care* 31; S61 – S78
39. Meijers JM, Halfens RJ, van Bokhorst-de van der Schueren MA et al (2009). Malnutrition in Dutch health care: Prevalence, prevention, treatment, and quality indicators. *Nutrition*. Jan 8
40. National Institute of Clinical Excellence (2006). *CG 32: Nutrition Support in Adults*
41. Scott A (2008). Screening for malnutrition in the community: the MUST tool. *Br J Community Nurs* 13 (9); 410-412
42. Tsai C, Hayes C, Taylor GW (2002). Glycaemic control of Type 2 diabetes and severe periodontal disease in the US adult population. *Community Dental Oral Epidemiology* 30; 182–192
43. Dening T, Bains J (2004). Mental health services for residents of care homes. *Age Ageing* 33 (1); 1-2
44. Social Care Institute of Excellence (2006). *Guide 3: Assessing the Mental Health Needs of Older People*
45. National Institute of Health and Clinical Excellence (2009). *Clinical Guidelines 90/91, Depression*
46. Dunning T, Robins M. mental health, depression, dementia and diabetes. In: Dunning T (ed), *Nursing Care of Older People with Diabetes* (Blackwell Publishing, Oxford 2005)
47. Borson S, Scanlan J, Brush M et al (2000). The Mini-Cog a cognitive ‘vital signs’ measure for dementia screening in multi-lingual elderly. *Int J Geriatr Psychiatry*; 15L1021-7
48. Mold F, Fitzpatrick JM, Roberts JD (2005) Minority ethnic elders in care homes: a review of the literature. *Age Ageing* 34(2); 107-113

49. Randhawa G. Minor ethnic populations. In: Sinclair AJ (ed), *Diabetes in Old Age*, Third Edition (John Wiley & Sons, Chichester 2009) 344-346
50. Chang AM, Halter JB (2003). Aging and insulin secretion. *Am J Endocrinol Metabol* 284 (1); E7–E12
51. Drucker DJ, Nauck MA (2006). The incretin system: glucagon-like peptide-1 receptor agonists and dipeptidyl peptidase-4 inhibitors in Type 2 diabetes. *The Lancet* 368 (9548); 1696-705
52. Sinclair AJ, Turnbull CJ, Croxson SCM (1996). Document of care for older people with diabetes. Clinical guidelines. *Postgrad Med J* 72 (848); 334 338
53. Nathan DM, Buse JB, Davidson MB et al (2006). Management of hyperglycaemia in Type 2 diabetes: a consensus algorithm for the initiation and adjustment of therapy: A consensus statement from the American Diabetes Association and the European Association for the Study of Diabetes. *Diabetes Care* 29 (8); 1963-1972
54. Horvath K, Jeitler K, Berghold A et al (2007). Long-acting insulin analogues versus NPH insulin (human isophane insulin) for Type 2 diabetes mellitus. *Cochrane database of systematic reviews* (online)
55. Diabetes UK (2007). *Position Statement: Safe Disposal of Needle and Lancets* (Sharps)
56. Burge MR, Schmitz-Fiorentino K, Fischette C et al (1998). A prospective trial of risk factors for sulphonylurea-induced hypoglycaemia in Type 2 diabetes mellitus. *JAMA* 279 (2); 137-43
57. Abdelhafiz AH, Sinclair AJ (2009). Hypoglycaemia in care homes. *Br J Gen Pract*; 59; 49-50
58. Chelliah A, Burge MR (2004). Hypoglycaemia in elderly patients with diabetes mellitus: causes and strategies for prevention. *Drugs & Ageing* 21 (8); 511-30
59. Bertoni AG, Krop JS, Anderson GF et al (2002). Diabetes-related morbidity and mortality in a national sample of US elders. *Diabetes Care* 25; 471-5
60. McAulay V, Frier BM. Hypoglycaemia. In: Sinclair AJ (ed), *Diabetes in Old Age*, Third Edition. (John Wiley & Sons, Chichester 2009) 287-305
61. Campbell S, Reeves D, Kontopantelis E et al (2007). Quality of Primary Care in England with the Introduction of Pay for Performance. *N Eng J Med* 357(2); 181-190
62. Department of Health London Gateway reference 7304 (2006). Diabetes commissioning toolkit
63. Norman A, French M, Hyam V et al (1998). Development and audit of a home clinic service. *J Diabetes Nursing* 2 (2); 51 54
64. National Health Trust (2008). *Diabetic Retinopathy Programme, Annual Report 1 April 2007–31 March 2008*. [www.retinalscreening.nhs.org](http://www.retinalscreening.nhs.org)

65. Sinclair AJ, Bayer AJ (1998). *All Wales Research into Elderly (AWARE) Diabetes Study*. Department of Health report no. 121 3040
66. Krein SL, Heisler M, Piette JD et al (2005). The effect of chronic pain on diabetes patients' self-management. *Diabetes Care* 28 (1); 65-70
67. Volpato S, Blaum C, Resnick H et al (2002). Co-morbidities and impairments explaining the association between diabetes and lower extremity disability: the Women's Health and Ageing Study. *Diabetes Care* 25(4); 678-683
68. Royal College of Physicians, British Geriatrics Society, and The British Pain Society (1997). *Guidance Document: Concise Guidance to Good Practice. No 8: The assessment of pain in older people. National Guidelines*
69. The European Diabetes Working Party for Older People (2004) *Clinical Guidelines for Type 2 Diabetes Mellitus*. [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)
70. Higginson I. Clinical teams, general practice, audit, and outcomes. In: Delamothe T (ed): *Outcomes into Clinical Practice*. (BMJ Publishing Group, London 1984) 28-39
71. Rowles S. (2009). *ABCD Position Statement: Diabetes and End of Life Care*. [www.diabetologists-abcd.org.uk](http://www.diabetologists-abcd.org.uk)
72. Department of Health (2008). *End of Life Care Strategy – Promoting High Quality Care for Adults at the End of Life*

# Appendix 2: An insulin delegation scheme for care homes

## Contents

1.0 Background and purpose of policy	81
1.1 Policy statement	81
2.0 Scope and implementation of this policy	82
3.0 Indications for delegation of insulin injections	82
3.1 Procedure to be adopted	83
4.0 Key documentation and record keeping points	84
5.0 Senior review of competency and safety	84
6.0 Follow-up recommendations	84
7.0 Use of audit to evaluate the policy	85
8.0 Assessment processes of insulin administration and blood glucose monitoring	85
Key references supporting this policy	85
Acknowledgments	86
Forms	87



## 1.0 Background and purpose of policy

Older residents with diabetes residing with care homes pose many difficulties in terms of diabetes treatment. Their frailty or high levels of co-morbidity often combined with other concerns such as vulnerability to hypoglycaemia, inconsistent dietary intake, and multiple medications, can make choosing insulin as the next step a major treatment decision. Once made, it is imperative that insulin is given by the resident (if applicable) or competent staff at the right dose, right frequency, right timing in relation to meals, by the right method, and the regime tailored to the resident. Safety and efficacy go hand in hand.

The purpose of this policy is to reduce inequity in access to diabetes insulin treatment in adults with diabetes who live in care homes. Insulin should only be delivered by those who have been trained to do so and who have demonstrated competencies in this task as set down in this policy (see Form C at the end of this index). Training of healthcare assistants will allow people who live in care homes to receive the same high quality diabetes care that is received by other members of the diabetes population.

Currently people who live in care homes are generally started on insulin once a day and even though this may provide initial benefits, it is important for this regime to be reviewed regularly in the light of metabolic targets achieved and the wellbeing of the resident with diabetes. Some care homes have tried to address this by making insulin delivery part of the healthcare assistant role, but these workers have received no training and may not be aware of the potential impact of what they do.

This policy aims to ensure informed competent practice following education and training to improve the quality of care being received by people who have diabetes and reside in care homes and is in line with our national guidance on the management of diabetes in care homes.

### 1.1 Policy statement

Supervision or administration of insulin injections may be delegated to unqualified staff by the district nurse or DSN responsible for the patient's care, providing the delegate has undertaken appropriate training and supervised practice and has successfully completed both the theory and practical competency assessments. This guideline should be used in conjunction with [insert the name of a local Guideline or authority]

**Note: The district nurse remains accountable for the care delegated.**

## 2.0 Scope and implementation of this policy

The aim of this policy is to provide a framework for community nursing teams and residential care staff in both nursing and residential care homes in the delivery of insulin to people with diabetes residing in care homes. This may need to be adapted for different care homes depending on organisational structure, qualifications and experience of staff, and any local regulations which might apply. This policy is suitable for circulation to community nursing teams within a local NHS provider unit.

**Note:** This is not a policy for insulin initiation which must remain the role of nurses or a general practitioner trained to initiate insulin in this setting.

**Note:** This is not a policy for changing insulin doses - this is the role of the district nurse, community DSN or general practitioner as applies in the relevant local area.

## 3.0 Indications for delegation of insulin injections

- There is an identified need for delegation of insulin administration based on agreed an care plan and the availability of a suitable staff member.
- The district nursing sister considers the staff member ready to extend their skills and is aware of this policy and how it is applied locally.
- The patient must provide consent for the staff member to give the injection. This must be documented in both the care home file for the resident but also in the community nursing notes.

**Note:** All healthcare professionals should follow a code of practice accompanying the Mental Capacity Act 2005 (summary available [www.publicguidance.gov.uk](http://www.publicguidance.gov.uk)).

- There must also be documented agreement by the patient's GP and the care home manager, where the patient is living in a residential home.
- The staff member must be prepared to take on the extended role.
- The best interest of the patient must be taken into account.

### Clinical safety practice points

- Patients who are being considered for delegation of insulin administration should be discussed with the community district nurse as there are certain categories of patients for whom this should not be delegated.
- If at any time, the patient becomes ill or unstable, the insulin regime will need to be reviewed daily, and any adjustments to doses signed and dated. Insulin administration should be by a registered nurse in these circumstances, and any new changes documented in the patient's care plan.

### 3.1 Procedure to be adopted

- A suitable staff member is identified by the district nurse. It is desirable that the staff member will have been employed by the home for a minimum of three months.
- The manager must also be involved in the decision-making process. This agreement must be documented.
- The staff member must be competent in blood glucose monitoring and have attended suitable training session(s) to include basic information on diabetes, with a focus on issues surrounding insulin administration, prior to undertaking their period of supervised practice. The community DSN will be able to advise on the appropriateness of training, and provide the training sessions as required.
- Following the training session(s), the community DSN should complete a patient assessment. An individual patient care-plan should be developed, which will be used as a protocol for the staff member to follow.
- The staff member to be supervised by the community DSN, until both feel the staff member to be competent. It should be documented how many successful and continuous reviews have taken place.
- Periodic refresher training/supervision should be undertaken.

Supervision should be documented – see formative assessment section below.

District nurse to perform a viva and observed practice assessment – see summative assessment section below.

- All key practice skills indicated by the supervising nurse should be completed competently for the staff member to undertake the practice unsupervised. The staff member is then classed as competent to undertake insulin administration in line with the diabetes care plan.
- If the staff member fails the skill assessment, further training by a community DSN will be undertaken and the assessment repeated. It should be accepted that in a minority of individuals they may not reach competency standards.
- Assessment forms should be completed for each patient for whom insulin administration will be delegated. An insulin care plan must be developed for each resident.
- Staff members may not automatically administer insulin to all patients. The community DSN must assess each resident individually, to identify if it is suitable for their insulin administration to be delegated to unregistered staff.
- Staff coming into contact with bodily fluids/blood, are advised to have Hepatitis B immunisation.

#### **4.0 Key documentation and record keeping points**

A copy of the resident's agreed **insulin delegation care plan** should be held in both the care home file and a copy should also be held in the community nursing team office (a sample plan is given as **Form A**, at the end of this appendix).

If on review, there are alterations please ensure up-to-date copies are present and file any previous documentation to avoid error. Copies of formative (supervision) and summative assessment forms should be held within the community nursing team office and a copy sent to the DSN and the line manager for the community diabetes nursing team.

It is recommended that staff record each insulin injection immediately after administration in the resident's care plan. Each entry should be signed clearly and name printed.

#### **5.0 Senior review of competency and safety**

The resident's insulin care plan and notes should be reviewed weekly by the community nurse for a period of one to two months after competency has been achieved and the recorded entries should be counter-signed. Thereafter the district nurse must review patient notes periodically (at least monthly) and counter sign the recorded entries.

#### **6.0 Follow-up recommendations**

When countersigning patient notes, the community nurse should review the patient's condition and contact the community DSN when assistance or advice is required. The community DSN should review the resident's care plan at least every six months. Community DSN involvement/review should be requested when necessary by the community nursing team.

Summative assessments should be revisited annually and copies to be held as per initial assessment of competency. Regular updates (at least twice yearly) with the community DSN is recommended. This may be done in conjunction with the delegating registered nurse. This can be delivered in the care home setting for residential home staff.

## 7.0 Use of audit to evaluate the policy

Audits of the effectiveness of the insulin delegation policy will, as a minimum, conform to the following standards:

- All people with diabetes in care homes who require insulin therapy will be given their insulin when they are not able to self-administer by a care assistant/nurse who has been trained and achieved the competencies required as demonstrated in the policy.

### Standard required 100%

- All people trained to deliver insulin as per policy will be reviewed every four months

### Standard required 100%

- Training and measurements of competencies will be by the DSN and district nurse

### Standard required 100%

## 8.0 Assessment processes of insulin administration and blood glucose monitoring

A **formative assessment** schedule can be agreed/developed locally. This may be a form kept in the staff record and a copy kept by the district nursing office within the local NHS provider unit. **Form B** is an example which is at the end of this appendix. It is recommended that the delegate shows proficiency with at least six residents before the summative assessment takes place.

A **summative assessment** of insulin injection will be carried out by the delegating community nurse. A sample assessment form is given as **Form C** at the end of this appendix. We suggest a two-part assessment – an oral test (viva) and a test based on observed practice.

### Key references supporting this policy (but not cited in text)

- Deakin TA, Littley MD (2001) Diabetes care in residential homes: staff training makes a difference *Journal of Human Nutrition and Dietetics: the Official Journal of the British Dietetic Association* 14(6):443–7
- Department of Health. *The National Service Framework for Older People*. Department of Health (London 2001)
- Department of Health (2003) *The National Service Framework for Diabetes: Delivery Strategy* (Department of Health, London 2001)
- Department of Health (2005) *Mental Capacity Act*. Department of Health
- Nursing and Midwifery Council. *Guidelines for Records and Record Keeping*. NMC, London. [www.nmc-uk.org](http://www.nmc-uk.org)
- Sinclair AJ (ed). *Diabetes in Old Age*, 3rd Edition, John Wiley & Sons, Chichester 2009

## Acknowledgments

The Task and Finish Group acknowledges the following key resources in the preparation of this policy:

- Bradford and Airedale. *Teaching NHS Primary Care Trust: Individual Patient Diabetes Care* (December 2008)
- Cambridgeshire NHS Primary Care Trust. *Individual Patient/Insulin Injections Delegation to Health Care Assistant or Residential Home Carer by District Nurses* (March 2008)
- South Staffordshire NHS Primary Care Trust. *Policy and Guideline for Preparation & Assessment of Non Nursing Staff to Undertake Insulin Delivery. Version 5: Policy and Consistency Group.* (November 2009)

### Form A - Resident's care plan and agreement for insulin administration by delegation (to be completed for each resident)

Resident's name		Date of birth	
Name and address of care home			
GP details			
Details of lead contact – community nursing team			
Name of staff member to administer insulin			
Times for blood glucose monitoring		Name of insulin	
Insulin dose		Time of injection	
Site for injection		Size of injecting needles	
Angle of injection		Pinch-up	Yes <input type="checkbox"/> No <input type="checkbox"/>

**Please note:** Date and time of insulin administration should be documented immediately in the patient's records.

In case of illness or any untoward events please contact \_\_\_\_\_ for advice and support.

#### Consent procedure

##### EITHER

I, \_\_\_\_\_ (patient name) agree that \_\_\_\_\_ (staff member's name) may administer my insulin injection(s) as per this care plan.

Signature \_\_\_\_\_ Date \_\_\_\_\_

##### OR

I, \_\_\_\_\_ in my capacity as \_\_\_\_\_ (role/position/responsibility) give approval for \_\_\_\_\_ (patient name) to receive insulin according to their care plan via the insulin delegation scheme described to me by \_\_\_\_\_ (name of healthcare professional).

Signature \_\_\_\_\_ Date \_\_\_\_\_

As the **healthcare professional** responsible, I confirm that I have provided all the essential information to enable \_\_\_\_\_ to make an informed decision to accept the insulin delegation plan.

Signature \_\_\_\_\_ Date \_\_\_\_\_

As the **manager** for the \_\_\_\_\_ Care Home, I acknowledge the decision by \_\_\_\_\_ to accept the insulin delegation plan.

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Form B – Formative assessment of insulin injection**

Staff member's name (trainee)	
Supervisor's name (delegating nurse)	
Resident's name	
Resident's date of birth	
Name and address of care home	

**Supervised insulin administrations**

Time of day	Insulin type	Dose	Site
Before breakfast			
Before lunch			
Before tea			
Before supper			
Pen device		Needle length	

Date	Details of injection given	Comments
Time	Staff member's signature	Community nurse's signature
Date	Details of injection given	Comments
Time	Staff member's signature	Community nurse's signature
Date	Details of injection given	Comments
Time	Staff member's signature	Community nurse's signature
Date	Details of injection given	Comments
Time	Staff member's signature	Community nurse's signature



## Form C – Summative assessment of insulin injection

To be completed by the delegating community nurse for each resident assessed.

Administration of insulin by injection should not be devolved to the delegate unless the summative assessment is complete and all questions have been answered satisfactorily

<b>Staff member's name</b>	
<b>Name of assessor</b>	
<b>Designation</b>	
<b>Resident's name</b>	
<b>Address of care home</b>	
<b>Date</b>	

<b>Insulin administration</b>	
<b>Section A (oral test)</b>	
Staff member able to name and identify specific insulin preparation	
Staff member aware of how and who to contact in the case of queries or untoward events	
Staff member able to identify three potential problems with injection site and their likely causes	
Staff member aware of two potential side effects of insulin	
Delegate aware of three factors that increase insulin absorbency	
<b>Section B (observation)</b>	
Insulin preparation and dosage checked against patient's prescription	
Expiry date on insulin preparation checked that it is in date (if expired - discarded)	
Insulin not in use stored in the fridge	
Insulin in use stored at room temperature	
Appearance of insulin checked; if lumpy or discoloured discarded	
If insulin cloudy, preparation gently rotated - until thoroughly mixed - using 20 rotations	
Air shot performed, if using pen injecting device	
Correct insulin dosage dialled/drawn up	
Dosage dialled and rechecked against patient's prescription prior to administration	
Patient made aware/informed of need for insulin injection. Patients consent obtained either by gesture or verbally (unless incapable)	

<b>Section B (observation, continued)</b>	
Site observed for lumps/inflammation/bruising prior to injection. Insulin not injected into area with any of above problems	
Appropriate injection site identified (as detailed in patient's tailored guideline)	
Insulin injected using correct injection technique (as detailed in patient's tailored guideline)	
Needle left in skin for approximately 10 seconds following injection	
Following injection, site observed again for insulin leakage	
Record of insulin administration made in accordance with local guidelines. Injection dose and site recorded in notes, together with any untoward events such as leakage, lumps, bruising	
Used pen needle/syringe disposed of safely. (Sharps bin and use of needle remover if using pen device)	
Identified that patient will have something to eat within an appropriate time	

Any questions answered incorrectly should be commented upon. All questions must be answered satisfactorily if the care assistant is to undertake these skills unsupervised.

**Outcome (please sign against appropriate outcome)**

**a) To be completed by assessor:** The delegate is competent in terms of clinical ability, knowledge and understanding of the patient's condition, to undertake administration of insulin safely.

Signature..... Designation.....  
 Date..... Date reassessment due.....

**To be completed by delegate:** I have the required level of knowledge and skill to undertake insulin administration.

Signature..... Designation.....  
 Date.....

**b) To be completed by assessor:** The delegate was unable to demonstrate competency in all areas and therefore is to undergo further training prior to reassessment.

Signature..... Designation.....  
 Date..... Proposed reassessment date.....

**Additional comments**

Please keep a copy of this assessment in the resident's care plan and send a copy of completed assessment form to the community DSN team and the care home manager

## Appendix 3: List of educational and training resources

These represent a summary of resources that are available for access by care home staff for the purpose of enhancing knowledge, acquiring new skills in diabetes care, and working with management and local community diabetes teams in developing their own diabetes care policy.

### Structured diabetes education for people with Type 2 diabetes

Care home residents with Type 2 diabetes who are generally well and able to go out may benefit from one of the two national structured diabetes education programmes:

- **DESMOND** (Diabetes Education and Self-Management for Ongoing and Newly Diagnosed) DESMOND Newly Diagnosed is a six hour programme for people with newly diagnosed Type 2 diabetes or DESMOND Foundation for those who have established diabetes, which is held over one day or two half days.
- **X-PERT** is a six week structured diabetes education programme for people with established Type 2 diabetes. Each session lasts two hours.

More details are available by enquiring to the general practice or diabetes specialist staff. Further details on both programmes can be found at:

[www.xperthealth.org.uk](http://www.xperthealth.org.uk)

[www.desmond-project.org.uk](http://www.desmond-project.org.uk)

Alternatively there may be a locally-developed structured diabetes education programme available. Details can usually be found by contacting the resident's general practice or diabetes specialist staff.

### Education and training for staff within care homes

Below are examples of local practice. Enquiries or requests for education and training support can be made to the local diabetes specialists in acute, community or primary care.

There are many courses/units on diabetes care held at local and UK universities providing qualification at MSc/Diploma/Certificate levels with a course duration of up to six years. Examples of courses are:

- **Queen Margaret University**, Edinburgh: by contact days and/or distance learning; full-time and part-time modular course; contact Dr Tom Carline at [tcarline@qmu.ac.uk](mailto:tcarline@qmu.ac.uk)
- **Postgraduate Medical School**, University of Bedfordshire: part-time modular course by contact days and/or distance learning; specific topics on diabetes in older people and care home diabetes; contact Linda Ellingham at [linda.ellingham@beds.ac.uk](mailto:linda.ellingham@beds.ac.uk)

- **University of Brighton:** part-time and full-time course; contact Bevan Scott at [b.scott@Brighton.ac.uk](mailto:b.scott@Brighton.ac.uk)
- **University of Ulster:** Diabetes short course; contact Moyra Campbell at [M.Campbell3@ulster.ac.uk](mailto:M.Campbell3@ulster.ac.uk)

The **Open University** has a Level 1 introductory diabetes course – Diabetes Care (SK120). It is available to anyone with an interest in diabetes. [www.open.ac.uk](http://www.open.ac.uk)

**Online study** is available at [www.successfuldiabetes.com](http://www.successfuldiabetes.com)

These short courses on various aspects of diabetes will be available for both people with diabetes and those that work with people with diabetes.

### **Books and information leaflets**

Are available from online shops at [www.diabetes.org.uk/OnlineShop](http://www.diabetes.org.uk/OnlineShop) and [www.successfuldiabetes.com](http://www.successfuldiabetes.com)

## Examples of diabetes educational practice for staff in residential care homes

Course/Resource description	Lead practitioner's contact details
<ul style="list-style-type: none"> <li>• 1 day course for care home staff</li> <li>• Content: aspects of diabetes care of residents in a care home setting</li> <li>• Provides study days for cooks and managers by request</li> </ul>	<p><b>Claire Rowell</b>, Education Lead/ Community DSN King Edward VII Hospital St Leonard's Road Windsor SL4 3DP claire.rowell@berkshire.nhs.uk</p>
<ul style="list-style-type: none"> <li>• A study day format</li> <li>• Content: diabetes care in a residential setting</li> <li>• Focus: residents with learning or mental health needs</li> </ul>	<p><b>Kerry Parsons</b>, DSN West Sussex PCT kerry.parsons@westsussexpct.nhs.uk</p>
<ul style="list-style-type: none"> <li>• A study half-day format for care home staff and home carers</li> <li>• Frequency: monthly – last Wednesday of the month</li> <li>• Delivered by a member of Diabetes Specialist Nursing Team</li> <li>• Content: what is diabetes?; treatment, diet and diabetes complications, focusing mainly on hypoglycaemia and hyperglycaemia</li> <li>• Use of the X-PERT equipment to assist learning</li> </ul>	<p><b>Rhian Allen</b>, DSN Co-ordinator Community Services Bury 5/12 Princes Court Silver Street Ramsbottom Bury BL0 9BJ rhian.allen@burypct.nhs.uk</p>
<ul style="list-style-type: none"> <li>• A 'postcard' initiative for care homes</li> <li>• Timing: sent out every three months</li> <li>• Range: all adult care homes in Lothian</li> <li>• Content: (1) diabetes presentation and diagnosis (2) diet and metformin (3) foot care (4) eyes.</li> <li>• Feedback: by questionnaire to all care homes</li> </ul>	<p><b>Mary Scott</b>, Diabetes MCN Manager Metabolic Unit Western General Hospital Edinburgh EH4 2XU Mary.M.Scott@luht.scot.nhs.uk</p>
<ul style="list-style-type: none"> <li>• A study day format</li> <li>• Use of locally produced diabetes guidelines and care plans</li> <li>• Who for: nurses and care assistants</li> <li>• Tasks: All those attending complete a learning portfolio to demonstrate that they have met the learning outcomes</li> </ul>	<p><b>Stephanie Frost</b>, Honorary Lecturer School of Medicine University of Southampton S.E.Frost@soton.ac.uk</p>

Course/Resource description	Lead practitioner's contact details
<ul style="list-style-type: none"> <li>• Distribution of a nutrition care pack</li> <li>• For: all local nursing and care homes</li> <li>• Combined with on the spot training and education by dietetic team</li> </ul>	<p><b>Emma Hammond</b>, Diabetes Specialist Dietitian</p> <p>Sutton and Merton Community Services Emma.Hammond@esth.nhs.uk</p>
<ul style="list-style-type: none"> <li>• Two-part programme: Part 1 (1 day) and part 2 (half-day)</li> <li>• Who for: nursing staff including district nursing and residential/nursing home nurses</li> <li>• Content: individual sessions by a podiatrist, dietitian, nurse and consultant physician</li> </ul>	<p><b>Nicki Grant</b>, Diabetes Specialist Dietitian</p> <p>Community Diabetes Team Knockbreda Centre Saintfield Road Belfast BT8 6GR nicola.grant@belfasttrust.hscni.net</p>
<ul style="list-style-type: none"> <li>• Training pack for care homes (which includes diabetes care): organised by Barnet PCT dietetic team</li> <li>• Care home education pack (which includes diabetes care): organised by The Caroline Walker Trust</li> </ul>	<p><b>Karen Hyland</b>, Specialist Dietitian</p> <p>Barnet PCT Karen.Hyland@barnet.nhs.uk</p>
<ul style="list-style-type: none"> <li>• Two 2hr workshops</li> <li>• For whom: healthcare professionals and non-trained staff in nursing and residential homes</li> <li>• Content: diabetes in the elderly</li> <li>• Outcome: developing a work book for the participants</li> <li>• Method: use of the DESMOND style of discussion and learning</li> </ul>	<p><b>Gail Nixon</b></p> <p>Peterborough Gail.Nixon@peterboroughpct.nhs.uk</p>
<ul style="list-style-type: none"> <li>• Development of a care home resource pack</li> <li>• For whom: local care homes</li> </ul>	<p><b>Lindsay Oliver</b></p> <p>Northumbria Healthcare Lindsay.Oliver@northumbria-healthcare.nhs.uk</p>
<ul style="list-style-type: none"> <li>• Direct clinical advice by direct visit and telephone support</li> <li>• For whom: residents with diabetes in care homes</li> <li>• By whom: diabetes link nurses in most of the nursing homes. DSNs for all care homes</li> <li>• Services: educational requirements of staff, advice on patient care</li> </ul>	<p><b>Leads: Janette Newell, Sally Griffin, Paula Connell</b></p> <p>Contact: Janette Newell Newry &amp; Mourne Area Southern Trust Northern Ireland Janette.Newell@southerntrust.hscni.net</p>

Course/Resource description	Lead practitioner's contact details
<ul style="list-style-type: none"> <li>• Study mornings/days</li> <li>• For: residential care home staff</li> <li>• Separate sessions for managers, nurses, carers and cooks</li> <li>• Content: practical aspects of diabetes management</li> <li>• Locally produced guidelines</li> </ul>	<p><b>Viv Handy</b>            Peninsula Medical School            Barrack Road            Exeter EX2 5DO  <a href="http://www.pms.ac.uk/ppdiabe">www.pms.ac.uk/ppdiabe</a></p>
<ul style="list-style-type: none"> <li>• Half-day structured education programme</li> <li>• For: registered and non-registered staff</li> <li>• Content: what is diabetes? treatment including healthy eating &amp; medical treatment; monitoring, hypos, illness; complications, foot care; annual review; roles and responsibilities of care home staff</li> <li>• Where non-registered staff undertake blood monitoring and/or insulin administration as a delegated task, additional training is available from community diabetes team in conjunction with community nursing team(s)</li> </ul>	<p><b>Roisin Wright</b>, Clinical Lead Diabetes Education            NHS Cambridgeshire            Lockton House            Clarendon Road            Cambridge CB2 8FH            Tel: 01223 725479  <a href="mailto:Roisin.wright@cambridgeshire.nhs.net">Roisin.wright@cambridgeshire.nhs.net</a></p>
<ul style="list-style-type: none"> <li>• 1 day course - RCN accredited</li> <li>• For: registered and non-registered staff</li> <li>• Content: what is diabetes? treatment including healthy eating &amp; medical treatment; monitoring, hypos, illness; complications, foot care; annual review; roles and responsibilities of care home staff</li> <li>• Supports a number of competencies to obtain a National Vocational Qualification (NVQ)</li> </ul>	<p><b>Diabetes UK</b>            Macleod House            10 Parkway            London            NW1 7AA            Tel: 020 7424 1000  <a href="mailto:diabetesuktraining@diabetes.org.uk">diabetesuktraining@diabetes.org.uk</a></p>

## Appendix 4:

# Resident's diabetes passport

## Care plan & annual review summary

**Note:** A copy of this document should go with me to any hospital appointments, or if I am admitted to hospital.

Key information relating to my diabetes care		Date	
Name		Date of birth	
Address		Tel no	
<b>The person at my care home who makes sure that my diabetes is reviewed is</b>			
Name		Tel no	
<b>The GP from my surgery responsible for my diabetes care is</b>			
Name		Tel no	
<b>The nurse from my surgery responsible for my diabetes care is</b>			
Name		Tel no	
<b>My hospital consultant for diabetes is</b>			
Name		Tel no	
<b>My DSN at the hospital is</b>			
Name		Tel no	
<b>Other consultants I see and their specialities are</b>			
Name(s)		Speciality/ies	

Important dates			Date
<b>My next scheduled reviews will be</b>	Day	Date	Time
Diabetes blood test			
Diabetes review			
Hospital appointment			
Hospital appointment with (name & title)			
Other			



My diabetes targets/goals		Date	
/ /			
<b>My diet</b>			
The goals for my personal diet are			
<b>The community dietitian who can be contacted about my diet is</b>			
Name		Tel no	
<b>My feet</b>			
The goals for my footcare are			
<b>The podiatrist who can be contacted about my diet is</b>			
Name		Tel no	
<b>My diabetes targets</b>			
Target weight	kg	HbA1c	%
BMI target		Cholesterol	mmol/l
BP target	mmHg		
eGFR		<b>Fingerprick blood glucose level</b>	
Creatine	umol/l	Before meals	mmol/l
Albumin/creatinine ratio		2hrs after meals	mmol/l

Review of my diabetes treatment and health		Date	
/ /			
Name of reviewer		Title/role	
Date			
Allergies	None <input type="checkbox"/>		
<b>My medications.</b> These should be reviewed each time I see my GP or a DSN			
For blood pressure			
For cholesterol			
For diabetes			
Other medication			
Aspirin	Contraindicated?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Medication changes made today	None <input type="checkbox"/>		
Episodes of hypoglycaemia			
My medication was reviewed with myself and a carer?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>My eyes</b>			
I had digital retinal screening on		Result	
I went to the hospital eye clinic on		Outcome	

<b>For patients on insulin</b>		<b>Date</b> <input type="text"/> / <input type="text"/> / <input type="text"/>	
<b>The person to contact for advice about my insulin, and before making changes to my treatment</b>			
Name		Tel no	
Type of insulin		Dose and frequency	
Device used		Injection site	
Who gives insulin?		Any hypos?	
Preferred actions		Advice after this review	
<b>Immunisations</b>			
I had a pneumonia jab (pneumovax)	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Date <input type="text"/>
I had my yearly flu jab	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Date <input type="text"/>
<b>Smoking</b>	<input type="checkbox"/> No	<input type="checkbox"/> Yes	
Cessation advice given?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A

<b>Physical activity</b>		<b>Date</b> <input type="text"/> / <input type="text"/> / <input type="text"/>	
<b>Walking ability</b>			
Walking unaided <input type="checkbox"/>	Use of walking aid <input type="checkbox"/>	Chair bound <input type="checkbox"/>	Bed bound <input type="checkbox"/>
<b>Balance</b>			
Sitting, standing and turning without assistance <input type="checkbox"/>		Prevent a fall <input type="checkbox"/>	
<b>Bathing and dressing</b>			
Require assistance of one carer only for bathing <input type="checkbox"/>		Dress unaided <input type="checkbox"/>	
<b>Meals and nutrition</b>			
Eat without assistance <input type="checkbox"/>	Require some assistance <input type="checkbox"/>	Cannot feed self <input type="checkbox"/>	
<b>MUST score</b>			
<b>My wellbeing:</b> things that would improve my health and wellbeing.			
Activity		Comment	
Hobbies			
Leisure activities			
Family visits			

My measurements		Date	
Assessment of my memory	Score: _____ Use of Mini-Cog? Yes <input type="checkbox"/> No <input type="checkbox"/> Other _____		
Assessment of my mood	Score: _____ Use of depression screening? Yes <input type="checkbox"/> No <input type="checkbox"/> Other _____		
My weight today	_____ kg	BMI (body mass index)	_____
Blood pressure today			
My eyes	Left	Right	
Visual acuity			Test done wearing glasses? Yes <input type="checkbox"/> No <input type="checkbox"/>
Retinal screening			Tick if not undertaken <input type="checkbox"/>
Issues with my eyes			
My feet	Left	Right	Notes
Pulses			
DP			
PT			
Capillary circulation			
Monofilament/10			
Tuning fork			
Condition of skin			
Altered sensations			
Issues with my feet?			
<b>My lab tests</b>			
HbA1c (measures control)	_____ %	Creatinine (kidney function)	_____
Lipid screen		eGFR	_____
Albumin – creatinine ratio			_____

Forward planning		Date	
Need for insulin?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Outpatient review?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Assessment for rehabilitation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	End of life care?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Other needs?			

For more information about diabetes contact		
NHS Direct: 0845 4647	Diabetes UK Careline: 0845 120 2960	
Internet resources		
<a href="http://www.diabetes.org.uk">www.diabetes.org.uk</a>	<a href="http://www.patient.co.uk">www.patient.co.uk</a>	<a href="http://www.instituteofdiabetes.org">www.instituteofdiabetes.org</a>

# Appendix 5: A diabetes care policy for UK care homes – a template

## Key messages

- Diabetes mellitus is one of several chronic disabling disorders such as dementia which are increasing in prevalence and are likely to require greater provision for formal care.
- The ultimate wellbeing and quality of life sustained by residents with diabetes will be enhanced by well-planned, comprehensive care which is delivered by an appropriately skilled and competent workforce.
- Maintenance of health status and functional performance, avoiding adverse drug medication errors, and increasing patient safety are fundamental prerequisites for key goals of care.
- The quality of diabetes care within care homes and other assisted-living facilities needs to improve and this requires a sustained commitment to staff education and training, the implementation of evidence-based practice and policy enforcement.

## Introduction and regulatory aspects

- Improving diabetes care in residential and nursing homes is one of a number of priorities by the government to enhance diabetes care of older people. This requires a major commitment by all healthcare professionals involved in this care supported by social services, NHS and independent care home staff.
- The Care Quality Commission (CQC) is the new regulator for care quality in health, mental health and social care services and assumed powers on 1 April 2009 replacing the Commission for Social Care Inspection, Health Care Commission and the Mental Health Act Commission. The CQC's vision is of a high quality health and social care programme within care homes enabling people to live healthy and independent lives where possible.
- The Diabetes UK guidance document highlights areas of special need for residents with diabetes in care homes and provides detailed approaches to effective implementation of its recommendations.

## References and sources of further information

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

Care Quality Commission. Review of 'meeting the healthcare needs of people in care homes' 2009/10. [www.cqc.org.uk](http://www.cqc.org.uk)

### **Purpose and main aims of policy**

- The main purpose is to support care homes in developing their own diabetes care policy which meets the needs of their residents. This is to ensure that they receive a level of comprehensive diabetes care commensurate with patients in other healthcare settings.
- This template provides each care home with a platform to document how they will develop their procedures, including staff training, in order to implement the Diabetes UK guidance for effective diabetes care.

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### **Clinical practice guidelines**

- There is an increasing evidence base to support clinical decision-making in the management of diabetes in older people.
- The majority of new studies, however, are cross-sectional evaluations and the emphasis in the future must be to carry out specific interventional studies in care home settings.
- Several age-related clinical guidelines on diabetes have been published.
- Further information available at Diabetes UK website ([www.diabetes.org.uk](http://www.diabetes.org.uk)) and at The Institute of Diabetes for Older People ([instituteofdiabetes.org](http://instituteofdiabetes.org))

### **References and sources of further information**

Sinclair AJ et al. Document of Care for Older People with Diabetes. *Postgrad Med J* 1996; 72: 334-8

Brown AF et al. Guidelines for Improving the Care of the Older Person with Diabetes, *JAGS* 2003; 51 (5 Guidelines): S265-80

The European Diabetes Working Party for Older People. *Clinical Guidelines for Type 2 Diabetes Mellitus*. (2004). [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)

### **Liaison with community diabetes care services**

- Liaison with the community diabetes team is important to review treatment goals, assess risk of hypoglycaemia, identify need for further specialist care, and ensure all residents are on diabetes register.
- Diabetes specialist nurses can provide advice and support, both direct and by telephone, for complex management issues in the care home.
- Other community-based healthcare professionals, eg dietitian, podiatrist, and pharmacist, can provide important contributions to optimising diabetes care.
- A list of names and contact details of the relevant PCT and Provider Unit departments should be available within each care home.

### **References**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### **Routine facilities to support diabetes care**

- Each care home that usually has residents with diabetes, should have the following items of equipment available:
  - a blood glucose monitoring machine which is regularly standardised; provision of suitable blood glucose reagent strips; and a 'sharps' disposal box
  - weighing scales and a height measure to calculate BMI
  - a validated and regularly serviced blood pressure machine.
- A separate assessment room to allow assessment by community-based healthcare professionals, annual reviews, and for screening for diabetes.
- A member of catering staff familiar with dietary planning for residents with diabetes.

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### **Supporting staff to deliver effective diabetes care**

- The care home management must make diabetes care an important priority within the care home.
- Daily access to internet-based information to support education and training.
- The provision of a regularly updated diabetes care policy.
- Opportunities for staff to attend diabetes educational events in the local community following liaison with the community diabetes team.
- Agreement with local community diabetes team on collection of routine diabetes audit data.
- Access to other educational and training resources such as DVDs, clinical guidelines, etc.

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### **A screening for diabetes programme**

- There is a high prevalence (>25%) of diabetes in British care homes and it is likely that many cases are missed at the time of admission to the care home.
- There is no universal consensus on what diagnostic procedure is the most valid for older frail subjects living in residential care.

- At entry it is recommended that screening for diabetes should involve one of the following two methods: Screening Test 1: A capillary HbA1c combined with an isolated 2h-post meal load, or Screening Test 2: A fasting capillary glucose estimation and an isolated 2h-post meal load. Details are provided in the Diabetes UK document listed in the reference section.

#### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010))

## **Diabetes care – main clinical areas:**

### **Dietary and nutritional policy**

- The presence of co-existing disease leading to physical and cognitive impairment in a resident with diabetes can make activities such as eating difficult or impossible, and place the resident at nutritional risk.
- Care home staff may have little specific knowledge of dietary standards and how the presence of diabetes affects nutritional status.
- Several Diabetes UK publications are available to guide care homes and supplement nutritional knowledge of care home staff.
- NICE have recommended that all residents at entry to a care home are screened for malnutrition. The MUST tool can be recommended for this purpose (see page 38).
- In malnourished residents, where nutritional supplement drinks are needed or where special diets are required, for example, in diabetic renal disease, a community dietitian or doctor (general practitioner or hospital specialist) should be involved in providing advice to the care home.

#### **References and sources of further information**

Diabetes UK's Store Tour – a guide to shopping and menu planning.  
[www.diabetes.org.uk/Storetour](http://www.diabetes.org.uk/Storetour)

Nutrition Advisory Group for the Elderly (NAGE), a sub-group of the British Dietetic Association, publishes *Eating Well and Keeping Well with Diabetes*.

National Institute of Clinical Excellence, February 2006; CG 32: Nutrition Support in Adults

Scott A. Screening for malnutrition in the community: the MUST tool. *Br J Community Nurs* 2008; 13 (9): 410-412

### **Use of a minimum data set (MDS)**

- To ensure that essential data are collected, in order to inform decision-making, it is recommended that a minimum data set (MDS) for diabetes be employed.
- The MDS should be agreed with all interested parties, and is likely to contain measures of glucose control, blood pressure values, eye and feet information, waist circumference or BMI, ADL function, a measure of pain, hypoglycaemia rate, hospital admission rate, and other diabetes-specific items.
- The MDS can be used by care home staff as a means of conducting a diabetes audit.

#### **References and sources of further information**

The European Diabetes Working Party for Older People. *Clinical Guidelines for Type 2 Diabetes Mellitus*. (2004). [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)

Sinclair AJ. Towards a Minimum Data Set for Intervention Studies in Type 2 Diabetes in Older People, *J Nutr Health & Aging* 2007; 11: 289-93

### **Resident's care plan**

- Each resident should have an individualised diabetes care plan.
- The agreed objectives summarised in the care plan should include a series of metabolic targets, annual review arrangements, a dietary plan, and the need for regular medication review.
- A suitable care plan has been developed by Diabetes UK and is available to download.

#### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### **Annual review arrangements**

- Each resident with diabetes requires documented evidence of an annual review.
- This review should also include measures of walking ability, balance, mood assessment, and cognitive function.
- Easy to use assessment measures are available.
- Details of annual review items are available in a Diabetes UK Care Plan which can be downloaded.

#### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

Assessment measures can be found at: The European Diabetes Working Party for Older People. *Clinical Guidelines for Type 2 Diabetes Mellitus*. (2004). [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)



### Foot care services

- All residents with diabetes should be screened annually for risk of foot ulceration.
- A delay in referral for podiatry treatment may result from a lack of knowledge about foot care and the importance of preventative action by care staff, nursing and medical staff, and residents themselves.
- Involvement of community-based podiatrists into the care homes should be actively encouraged.
- The presence of a 'fast tracking' system which allows rapid referrals of residents with early foot ulceration to hospital diabetes departments for specialist evaluation is recommended.

#### References and sources of further information

Boulton AJM et al. Comprehensive foot examination and risk assessment: A report of the Task Force of the American Diabetes Association, with endorsement by the American Association of Clinical Endocrinologists. *Diabetes Care* 2008; 31: 1679-85

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### Eye care services

- Residents with diabetes are likely to have a high incidence of eye disease including visual loss and diabetes-related foot disease.
- Ophthalmic problems in older people with diabetes may include macular disease, cataract and refractive error.
- All care home residents should be considered for retinal eye screening as part of a service linked to the community diabetes team.
- For very frail residents unable to access transport, every effort should be made to provide domiciliary optometric services.

#### References and sources of further information

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### Treatment goal setting

- Appropriate metabolic and treatment goals should enhance clinical outcome and improve quality of life.
- Both over-treatment and under-treatment have potentially serious consequences for residences with diabetes.
- All goals and targets must be tailored to the resident with his or her agreement and must reflect the likelihood of being achieved, minimising the risk of hypoglycaemia, and maximising any vascular benefit.
- These can be documented as part of a care plan which is available from Diabetes UK.

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### **Blood glucose monitoring**

- In view of the high frequency of acute illness and repeated infections, an increasing number of residents on insulin therapy, and the high, often unrecognised incidence of hypoglycaemia makes the provision of blood glucose monitoring within care homes essential.
- All staff engaged in blood glucose monitoring, require training in the use of the equipment and knowledge on how to interpret the readings or when to seek advice.
- It is recommended that staff working within care homes should use either a disposable single use lancing device, which are discarded after use, or a non-disposable lancing device that has been specifically designed for use on multiple patients.
- Recording glucose measures accurately requires appropriate documentation, which should be standardised on a local basis.

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

### **Administration of treatments including insulin**

- Drug prescribing errors, including the dispensing, administration, and monitoring of medicines in care homes are of concern and require improvement.
- Regular review of medication using a care plan is recommended to ensure that treatment is tailored to the resident and is associated with maximal health gain and minimal adverse effects.
- The use of insulin by residents with diabetes is increasing and staff involved in diabetes care should be encouraged to participate in an insulin delegation scheme.
- Both a care plan and an insulin delegation policy are available from Diabetes UK.

### **References and sources of further information**

Ridge K and Behan D. Department of Health: *Use of Medication in Care Homes* (January 2010)

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

## Management of infections

- Older people with diabetes residing in care homes are at increased risk of a range of infections including skin, respiratory, oropharyngeal, and urinary tract.
- Signs of an infection such as fever may not be present, and residents may present with a change in mobility, increased confusional state, or worsening lethargy.
- Prompt treatment with antibiotics is usually advised.
- Hospital admission may be indicated if a resident fails to adequately respond within 48 hours of antibiotic treatment.
- Each care home should have an up-to-date infection control (IC) policy which includes a specific policy for the use of antibiotics in the treatment of infection..

## References and sources of further information

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

Rajagopalan S. Serious infections in elderly patients with diabetes mellitus. *Clin Infect Dis* 2005; 40: 990-6

Care Quality Commission (2009). Working together to prevent and control infections. [www.cqc.org.uk](http://www.cqc.org.uk)

## Patient safety issues

- All staff within care homes should have a basic standard of knowledge on patient safety.
- Residents with diabetes are at special risk of a number of adverse events which pose patient safety issues: these include medication errors, hypoglycaemia, undetected infection, and delay in referral to hospital.
- Education and training on patient safety should be available to key staff.
- The National Patient Safety Agency (NPSA) publishes helpful advice to health and social care professionals in this area.

## References and sources of further information

National Patient Safety Agency (NPSA). Resources for Staff and Managers in Care Homes

Care Quality Commission. Review of 'meeting the healthcare needs of people in care homes' 2009/10. [www.cqc.org.uk](http://www.cqc.org.uk)

## **Vaccination programme**

- Residents with diabetes in care homes are a high-risk group for influenza and other serious infections.
- Influenza vaccination in older people (>65 years of age) is cost-effective and is especially worthwhile in those with other co-morbidities such as respiratory, cardiovascular, and renal disease.
- Residents with diabetes should receive timely vaccinations to reduce risk of serious infections. These should include pneumococcal and influenza vaccinations.
- A resident's vaccination schedule should be included in their individual care plan.
- All care homes should have documented evidence of a vaccination policy.

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

## **Management of hypoglycaemia**

- Residents with diabetes taking sulphonylureas and/or insulin are at an increased risk of hypoglycaemia (symptoms usually beginning when a blood glucose level is <3.0 mmol/l and these may be unrecognised).
- Predisposing factors for hypoglycaemia include: over-treatment with tablets and/or insulin, poor nutrition, renal disease, treatment with multiple drugs, advanced age (>80 years), etc.
- Hypoglycaemia represent an important risk factor for frequent admission to hospital and all staff should receive basic training in how to recognise and treat hypoglycaemia.
- The risk of hypoglycaemia for any resident with diabetes should be highlighted in the resident's diabetes care plan.
- Each care home should have in place a 'hypoglycaemia preventative programme' which might include information on how to identify those residents at special risk, eg those on insulin or sulphonylureas, or who have other predisposing factors.

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

McAulay V, Frier BM. Hypoglycaemia. In: Sinclair AJ (ed), *Diabetes in Old Age*, Third Edition. (John Wiley & Sons, Chichester 2009)

## Referral to hospital

- Care home residency is an independent risk factor for admission to hospital and diabetes increases this risk further.
- Common reasons for referral include serious infections including pneumonia and urinary tract infection, uncontrolled diabetes and hypoglycaemia, stroke or confusional state.
- The resulting morbidity and mortality of those admitted is disproportionately high.
- Each care home should have guidance available to promote safe and effective referral and transfer to hospital of residents with acute illness.
- The hospital referral process should be developed in consultation with the local community diabetes team. It should include the provision of information on treatment, history of diabetes complications, glucose monitoring, results, and the presence of other medical co-morbidities.
- Liaison with the hospital team prior to subsequent discharge of a resident with diabetes is essential.

### References and sources of further information

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

NHS Diabetes. [www.diabetes.nhs.uk/our\\_work\\_areas/older\\_people](http://www.diabetes.nhs.uk/our_work_areas/older_people)

## Quality of care indicators

- All care homes should have in place a quality outcomes framework in order to meet the regulatory requirements determined by the Care Quality Commission (CQC).
- The quality of diabetes care can be assessed using a range of outcome procedures. These include: clinical audit, use of a minimum data set, frequency and completion of care plan review, and implementation of a diabetes care policy.
- Suitable outcome indicators include: hospital admission rate, hypoglycaemia rate, frequency of infection, pain control, metabolic control measures including HbA1c, and attainment of high completion rates for annual review.

### References and sources of further information

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

The European Diabetes Working Party for Older People. *Clinical Guidelines for Type 2 Diabetes Mellitus*. (2004). [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)

### **Audit within the home**

- All care homes should participate actively in audits of medical care.
- Education and training of staff to conduct and participate in audit should be available.
- Effective diabetes audit should be developed in close collaboration with the local community diabetes team.
- Topics for care home diabetes audit include: infection rates, medication errors, hospitalisation, hypoglycaemia, nutritional plans, and mood/cognitive assessment rates.
- A care home diabetes audit tool is being developed by Diabetes UK (available June 2010) in collaboration with the Department of Health and Institute of Diabetes for Older People (IDOP)

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

The Institute of Diabetes for Older People (IDOP). [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)

### **Key educational resources**

- All staff within care homes who are expected to be involved in diabetes care should have ready and easy access to a range of educational resources including those that are internet-based.
- Diabetes UK has produced a descriptive package of training and educational resources that can be downloaded.
- The Department of Health has key information relating to diabetes in older people which can be obtained by NHS Diabetes.
- A number of key papers, books, and guidelines on diabetes and older people can be readily accessed.

### **References and sources of further information**

Diabetes UK. *Good Clinical Practice Guidelines for Care Home Residents with Diabetes* (Diabetes UK, London 2010)

NHS Diabetes. [www.diabetes.nhs.uk/our\\_work\\_areas/older\\_people](http://www.diabetes.nhs.uk/our_work_areas/older_people)

The Institute of Diabetes for Older People (IDOP). [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)

Sinclair AJ. *Diabetes in Old Age*, Third edition. (John Wiley & Sons, Chichester 2009)

The European Diabetes Working Party for Older People. *Clinical Guidelines for Type 2 Diabetes Mellitus*. (2004). [www.instituteofdiabetes.org](http://www.instituteofdiabetes.org)

**Books and information leaflets** are available from online shops at [www.diabetes.org.uk/OnlineShop](http://www.diabetes.org.uk/OnlineShop) and [www.successfuldiabetes.com](http://www.successfuldiabetes.com)

## Appendix 6: A diabetes audit tool for care homes

A diabetes audit tool for care homes is expected in June 2010.

A pilot phase to test the draft tool is currently in progress (November 2009 – March 2010).



**The charity for people with diabetes**

Macleod House, 10 Parkway, London NW1 7AA

**Telephone** 020 7424 1000 **Fax** 020 7424 1001

**Email** [info@diabetes.org.uk](mailto:info@diabetes.org.uk) **Website** [www.diabetes.org.uk](http://www.diabetes.org.uk)

A charity registered in England and Wales (no. 215199)  
and in Scotland (no. SC039136). © Diabetes UK 2010