

Managing older people with diabetes in care homes

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This paper discusses some of key issues that need to be considered when caring for older people with diabetes living in care homes. It refers to but does not reproduce diabetes management information available in diabetes clinical guidelines such as Sinclair *et al.* [Diabetes mellitus in older people position statement on behalf of the International Association of Gerontology and Geriatrics (IAGG) and the European Diabetes Working Party for Older People (EDWOP) and the International Task force Experts in Diabetes. *J Am Med Dir Assoc.* 2012;13:497–502], International Diabetes Federation (IDF) [Global guideline for managing older people with type 2 diabetes. 2013. Available from www.idf.org] and Dunning *et al.* [2013. Available from http://www.adma.org.au/clearinghouse/doc_details/133-the-mckellar-guidelines-for-managing-older-people-with-diabetes-in-residential-and-other-care-settings_9dec2013.html] guidelines. It does address care issues such as sexual health and wellbeing and companion animals that are rarely, if ever, described in clinical guidelines, yet they are essential to the quality of life and psychological wellbeing of many older people with and those without diabetes.

Keywords: Diabetes, Older people, Care homes, Personalised care, Sexual health, Companion animals

Introduction

Nearly two billion people over age 60 will live in the world by 2050.¹ Many of these people live in care homes. Care homes are important care options for older people when they can no longer self-care and supported community-based care is not available. Increasing age and prevalence of diabetes means more older people with diabetes require supportive care in the community and in care homes. Some care homes also provide short-term rehabilitation, respite care and end of life care. Significantly, diabetes is an independent risk factor for admission to a care home.²

Between 20 and 25% of older people living in care homes have diabetes^{3,4} and a further 20% are at risk of diabetes but are undiagnosed. Therefore, it is important to identify older people's diabetes risk status on admission to a care home (and hospital) to identify diabetes early and enable dysglycaemia and dyslipidaemia to be managed as soon as possible.

The prevalence of dementia is also increasing.⁵ Dementia affects individual's self-care capability and increases carer burden for families and care home staff, and is a common reason for admission to a care home.⁶ Likewise, 30% of hospital beds in acute care are occupied by older people older than 70 years and 70% of these are transferred to a care home for rehabilitation or permanently.⁷ Thus, managing older people with diabetes is challenging because of the multimorbidity, episodic deterioration and changing functional status. Thus, comprehensive geriatric assessments can provide important information and care advice.

Care home organisation and staffing

Essentially, care homes represent community living, which has psychosocial advantages for social interaction and connectedness, but can also represent lack of privacy and reduced autonomy. Care home staff's knowledge and competence to care for older people with diabetes varies, and is often deficient in key areas such as basic glucose homeostasis and insulin action,⁸ which compromises the quality of care and resident safety. Quality of care also depends on the relevance and usability of care guidelines as well as whether they are accessible and staff actually use them.

The organisation and staffing of care homes affects the type and quality of care provided; consequently the health and wellbeing of the residents. Older people in care homes often have unmet needs partly because care homes are often understaffed and/or staffed by workers with limited training, besides attending to personal hygiene.⁹

Heavy workloads, especially at night, and competing demands raise ethical dilemmas for care home staff who are expected to respond to multiple competing expectations to meet residents' needs. These dilemmas are compounded by workforce constraints, inadequate information about individual resident's care needs and the unpredictability of the work.¹⁰ Organisational issues and ageist attitudes also compromise the individual's autonomy and right to self-determination.¹¹

Measuring the quality care provided in care homes is important. Quality indicators to measure the standard and quality of care and regulatory frameworks exist in

many countries. A key tenet of most standards is the imperative to personalise care and consider the factors that matter to the resident. The IDF¹² included quality indicators in the guideline for managing older people with T2DM that can be a starting point for countries and organisation that do not already have such standards.

Evidence-based care of older people with diabetes

Older people with diabetes, their families and health professionals expect care to be evidence-based, and rightly so. However, there is limited randomised control trial evidence for many guideline recommendations because older people in care homes do not meet the inclusion criteria for randomised control trials.¹³ There is a great deal of qualitative evidence about older people's experiences and beliefs about care facilities. For example, a survey of Australian baby boomers showed older people believed existing care homes do not meet their needs but realised they may eventually require such care.¹⁴

There are differences between guideline recommendations and what doctors feel should be done/accepted practice.¹⁵ For example, isolated hyperglycaemia is often treated using stat/top-up/sliding scale doses of insulin in care facilities, despite the fact the practice has been contraindicated since the 1960s.^{16,17}

There is agreement that chronological age is not a good indicator of an individual's care needs and that care must be tailored to the individual's health status, risk profile and life expectancy.^{2,12,18}

Functional status

Independent living becomes increasingly difficult for many older people with chronic illnesses, including diabetes. Older people in care homes are older and frailer than community dwelling older people. Those living in care homes usually have accumulated deficits in a range of physiological systems that lead to frailty and make them vulnerable to adverse events such as medicine errors, interactions and polypharmacy, hypoglycaemia, depression, unrecognised pain, pressure ulcers, malnutrition and falls.¹⁹ Most older people, 65–80%, have an average of three comorbidities.²⁰

Frailty represents inability to cope with stressors and is associated with longer recovery time from stressors that is associated with worsening health status and increasing dependence²¹ and more admissions to hospital.²² The more parameters the individual scores on a 'frailty index', the greater the likelihood the person will experience an adverse event, independent of the type of deficit.²¹

Older people with diabetes in care home are often transferred to emergency departments and admitted to hospital from care homes for severe hypoglycaemia, hyperglycaemic emergencies, infections and following a fall. Such admissions are not planned; some hospital admissions might be unnecessary if the individual has a documented palliative and end of life care plan. Ideally palliative and end of life plans are documented before

the older person is admitted to a care home, or as soon as possible after they are admitted.

In hospital, the individual is at risk of falling, preventable medicine errors and adverse events including hypoglycaemia and hospital acquired infections²³ and confusion and delirium, which might be related to infection.²⁴ Delirium is an independent risk factor for cognitive impairment in septic people discharged from ICU.²⁵ Other consequences of being hospitalised for older people with diabetes are shown in Table 1.

Recognising deterioration

Older people often arrive in hospital sick and some meet Medical Emergency Team (MET) call criteria before they are discharged.²⁸ MET teams provide a rapid assessment and advice about managing deteriorating patients. Criteria for initiating a MET call include respiratory distress, low oxygen saturation, low or high pulse rate and blood pressure, unexplained confusion and seizures, but, MET teams are not usually available in care homes. Likewise, criteria for identifying acute deterioration are often not implemented in care homes. Programmes such as Acute Conditions for Escalation (PACE) have been developed to help relatives share their concerns about deterioration with staff but most

Table 1 Consequences of being in hospital for older people with diabetes.^{26,27}

- Diet changes and changed eating patterns that can lead to under- and malnutrition
- Sleep deprivation
- Care omissions and unnecessary care
- Overhearing and being confused by discussions about their care, and other people's care, in shared rooms
- Loss of muscle strength, especially in leg muscles and functional decline that can be temporary or permanent
- Confusion, delirium
- Pain
- Falls
- Pressure ulcers including during surgery
- Medicine-related adverse events and errors including to-up insulin doses and prescribing cascade
- Glucose variability
- Hypoglycaemia — 10% of people with T2DM
- Hyperglycaemia
- Myocardial infarction
- Deterioration that can lead to admission to ICU and/or death

Table 2 Recommended HbA1c ranges for older people according to functional status, safety and life expectancy.^{2,12,18}

Functional status	HbA1c range: the range must be individualised
Independent	7–7.5%
Functionally dependent	Up to 8.5%
End of life	Up to 8.5%

Table 3. Outline of common diabetes management issues in care homes.

	Issues	Contributing factors
Nutrition	Weight loss and nutritional deficiencies especially of protein and essential nutrients compromise essential physiological functions, strength and increase sarcopaenia, frailty and falls risk Anaemia can be associated with metformin	Sensory changes in taste and smell Changes in appetite and anorexia of ageing Oral problems Food preferences and availability Depression
Hyperglycaemia	Hyperglycaemia is not a benign condition. It can contribute to urinary incontinence, electrolyte changes, dehydration and ketoacidosis (T1DM) and hyperosmolar states (T2DM) It can affect cognition including executive functions and lead to delirium and hospital admissions Top up doses of insulin should not be used to treat isolated hyperglycaemia	Some health professional attitudes 'Hyperglycaemia does not matter in older people', which is a form of clinical inertia and an ageist attitude Not monitoring blood glucose frequently enough to detect hyperglycaemia Not testing for ketones when blood glucose is high especially in older people with Type 1 diabetes
Hypoglycaemia	Hypoglycaemia is common in resident using insulin and sulphonylureas. Neuroglycopenic symptoms are more common than autonomic symptoms because of cognitive changes and changes to the counter-regulatory response to hypoglycaemia. Hypoglycaemia affects cognitive function in the short term and is associated with dementia in the long term. It is also associated with changes in myocardial function and myocardial infarction which may present atypically Staff in care homes need to consider the possibility of nocturnal hypoglycaemia and know how to recognise it	Not monitoring blood glucose frequently enough to detect hypoglycaemia Not identifying residents at risk of hypoglycaemia and planning care to reduce their risk Only documenting severe hypoglycaemia, which means many hypoglycaemic episodes are not detected and or documented Severe hypoglycaemia often leads to transfer to hospital for treatment It can trigger cardiac arrhythmias and sudden MI.
Managing medicines	Polypharmacy is common See the paper concerning managing medicines in this issue of IDN	Mild and severe hypoglycaemia compromise cognitive function in the short term and affect problem-solving and decision making and behaviour in people with dementia Medicines should be reviewed at each change of status and after admission to hospital to ensure medicine reconciliation occurs and unnecessary medicines are stopped and to detect actual and potential medicine interaction and side effects
Infections	Common infections include urinary and respiratory tract infections foot infections, and diarrhoea and vomiting See section on hyperglycaemia in this table	Infection control processes are usually well described in care homes but do not necessarily prevent infections. Older people generally have lower immunity and are at risk of infections Hyperglycaemia increases the risk There might be a role for probiotics if antibiotics are needed
Incontinence	Urinary and faecal incontinence are common. Urinary incontinence may be secondary to hyperglycaemia or due to urinary tract infections that cause hyperglycaemia	Older people do not like the indignity of being incontinent and would rather fall going to the toilet than soil themselves
Pressure ulcers	Frail older people are at risk of pressure areas. Foot ulcers are a particular concern in older people with diabetes, especially if they have peripheral neuropathy	Foot care policies must be in place Foot care can be part of routine hygiene care Both feet need to be examined as well as footwear
Pain	Older people are at risk of pain for many reasons and it is often unrecognised and un or under treated	Most care homes have pain management policies in place Staff need to be aware that pain in older people can be atypical due to peripheral neuropathy (foot) and autonomic neuropathy (myocardial infarction)
Cognitive changes	Many factors can affect cognition including hypo and hyperglycaemia and medicines and hypothyroidism. Dementia is a common reason for admission to a care home	Vitamin B ₁₂ deficiency leads to dementia and can be due to nutritional deficiency, Metformin or malabsorption.
Depression	Depression is not a single event; it occurs from multiple stressors	Admission to a care home can contribute to depression and it can arise from untreated pain. It can occur in people with dementia
Recognising and managing deterioration	Individuals might need specific criteria based on their risk An end of life care plan might be part of an individual's deterioration management plan and avoid unnecessary transfer to hospital and intensive care	Care homes may need specific criteria to help staff detect early signs of deterioration and decide whether to organise transfer to hospital or initiate their end of life care plan Atypical presentations are common in older people and can make diagnosis challenging e.g. stroke mistaken for hypoglycaemia, unrecognised hypoglycaemia or hyperglycaemia presenting as delirium and myocardial infarction presenting as indigestion
Sexual health and well being	Older people in care homes are sexual beings and appreciate companionship and acknowledgement of their needs	Spouses and partners of aged care residents often find the lack of opportunity for privacy and intimacy profoundly upsetting and frustrating Beauty care is part of sexual identity for many older people and needs to be part of an holistic care plan
Communication	Can be affected by sensory deficits, environmental factors and staff skill and understanding of the factors that affect communication with older people Language such as baby talk and elder speak, which are discriminatory and demeaning	Inappropriate language and ageist attitudes can lead to unrecognised distress, pain and misdiagnoses. It is associated with lower resident self-esteem, feeling humiliated and dependent
Workforce issues	Missed care Adverse events Elder abuse, which might be from staff, visitors and other residents	Staff mix Resident to staff ration and resident complexity

do not identify signs and symptoms that could help relatives make decisions about contacting staff.

Significantly, 25% of hospitalised people are discharged on the same day as they have a MET call²⁹ and 33% aged 70 and 50% aged 80 and older leave hospital more disabled than when they were admitted²⁷ and are often readmitted within 24 hours. Older people are particularly at risk of problems during care transitions. Care homes need policies in place to ensure potential problems are identified and communicated during effective handover processes when an older person is transferred to hospital and vice versa.

The imperative to personalise care

These factors highlight the importance of developing personalised care plans *with* individual residents where possible. Family can also provide important information. Personalising care in care homes can be challenging when staff perceive resident's preferences as risky and if acceded to, could lead to allegations of negligence and sanctions being placed on the care home.¹¹ Thus, the emphasis on safety needs to be weighed against the resident's right to self-determination and the factors that truly reflect the best interests of the resident.

Likewise, guideline recommendations must be considered according to the person's actual capabilities and level of vulnerability/risk. Risk generally refers to known circumstances that are likely to lead to adverse events. Risk for individuals is not necessarily static and the level of vulnerability/risk may be higher in hospital than in the care home. Therefore, risk and level of vulnerability must be regularly reassessed, including when health status changes, following an illness and admission to hospital. Importantly, the individual's functional status and care trajectory need to be considered when deciding metabolic goals see Table 2. However, routine monitoring such as blood pressure and vaccinations may be suboptimal.³⁰

The average length of stay in a care home may vary among countries but is generally 2–3 years. Factors associated with death within 12–18 months of admission to a care home include diabetes, dementia, cancer, heart failure, renal failure, chronic pulmonary disease and susceptibility to infections.³¹

Sexual health and well being

The term sexuality encompasses physical, social and psychological aspects and underpins the individual's self-concept and is important throughout life.³² Sexual activity generally declines with age for many reasons but many older people engage in sexual activity until their 80s and 90s. Thus, sexual, health and wellbeing must be part of the individual's care plan. Diabetes can affect sexual wellbeing via its impact on sexual activity such as erectile dysfunction in men, vaginal dryness in women, and urinary incontinence in both genders. However, these physical effects do not necessarily

change the individual's need for physical closeness and companionship (Table 3).

Staff of care facilities need to be educated about the sexual health needs of older people and avoid stereotypical and ageist attitudes about sexuality and older people.³³ It is important that staff encourage residents to discuss sexual issues in a non-judgemental way. It is also important the residents are protected from sexual and other abuse, which can involve staff, other residents and visitors. One in five residents are abused by other residents.³⁴

Pets and companion animals

Companion animals, often dogs and cats, play a significant role in the lives of many older people including vision impaired older people with diabetes. In some communities volunteer and support programmes have been developed to help older people care for their pets, when they can no longer manage alone (IFA undated). Likewise, visiting animals, play a significant role in care homes and policies have been developed to ensure hygiene and safety standards are met to protect the care home staff and residents and the animals.

The benefits of contact with animals include:

- Slower deteriorating in the ability to perform activities of daily living.
- A sense of structure and purpose in their lives.
- Reduction in agitation and aggression and a positive effect on social engagement and behaviours in people with dementia.³⁵
- Reduced loneliness,³⁶ increased self-esteem and life satisfaction.³⁷
- Consoling older people through the bereavement process after a spouse/partner dies (IFA undated).

Concern about their pet's welfare is one reason older people do not want to be admitted to a care home because they fear their pet will be put down or have to be handed to somebody else.³⁸

Summary

Older people with and without diabetes living in aged care facilities are generally vulnerable and have complex care need, some of which are discussed in this paper. Each older person is an individual and their care goals should be developed with them where possible taking account of their values and preferences. A focus on quality of life and safety should guide care rather than stringent metabolic targets, which can cause significant, catastrophic harm.

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