

The care of people with diabetes in care homes within a primary care trust

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A postal questionnaire was sent to managers of care homes within the geographical area covered by East Elmbridge and Mid Surrey Primary Care Trust to assess the prevalence of diabetes among residents and to gain information on care provided. The overall prevalence of diabetes was found to be 9.6%, ranging from 5.9% within learning disability homes to 11.2% in nursing homes. While only 21.3% of homes used an assessment tool for new residents, 94% of current residents with diabetes had had an annual diabetes review and 45.7% were assessed as being able to access digital retinal screening.

The prevalence of diabetes mellitus increases with age, particularly in people over 65 years old (Department of Health [DoH], 2003a; the prevalence for women rises from 0.9% for 16–24 year-olds to 8.9% for the >75 year-olds; the prevalence rises similarly for men, 0.3% for 25–34 year-olds to 11.9% for the 65–74 year-olds). Older people who have diabetes and live in residential and nursing homes are a frequently neglected group (Benbow et al, 1997). Their needs are greater than younger adults with diabetes because of comorbid cognitive impairment, associated conditions and age-related changes affecting their mobility and senses (Sinclair et al, 1997a; Sinclair et al, 1997b).

A recent report from the Commission for Social Care Inspection (CSCI; 2006) stated that:

'...nearly half of all nursing and care homes

fail to meet national minimum standards for how they give people medication prescribed by their doctors to treat serious and other illnesses.'

The National Service Framework (NSF) for diabetes (DoH, 2001; 2003b) set out a 10-year vision for diabetes care in terms of 12 standards and a delivery strategy. East Elmbridge and Mid Surrey Primary Care Trust (PCT) formed a local implementation team to plan the implementation of the NSF for diabetes locally. The team used the DiabetesE PCT questionnaire (British Telecom, London; DiabetesE is supported by the DoH and is a self-assessment tool to help PCTs and individual practices to systematically examine whether appropriate mechanisms are in place to plan, deliver and monitor a whole system of diabetes care) to identify the top five local priorities. These included assessing the needs of all sections of the population.

Article points

1. The overall prevalence of diabetes in care homes within East Elmbridge and Mid Surrey Primary Care Trust was 9.6%.
2. Only 21.3% of care homes used a diabetes-related assessment tool.
3. The 2006 health service reconfiguration may be an opportunity to introduce a standardised diabetes assessment tool across Surrey for use in care homes.

Key words

- Care homes
- Diabetes assessment

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Page points

1. The survey described in this article was undertaken to provide information on the prevalence of diabetes within the many care homes within East Elmbridge and Mid Surrey, and to describe the current diabetes care provided to this vulnerable group of people.
2. The questionnaire included questions on how the home learnt of the diabetes status of new residents, whether any assessment tool was used for new residents with diabetes and who monitored the diabetes care of residents.
3. As a Surrey-wide diabetic retinopathy service was being planned at this time, care managers were also asked whether these residents would be able to attend for retinal screening.

East Elmbridge and Mid Surrey PCT

East Elmbridge and Mid Surrey PCT is in south-east England and has a resident population of approximately 261 000 (East Elmbridge and Mid Surrey PCT, 2004). It has a smaller ethnic minority population than England as a whole (94.5% are of white ethnic origin compared with 90.9% nationally), but a larger older population (17.55% are aged 65 years and over, compared with 15.89% nationally; East Elmbridge and Mid Surrey PCT, 2004). There is also an above-average number of people with learning disabilities living in the community in the PCT, as several long-stay hospitals for people with learning disabilities have been closed over recent years (East Elmbridge and Mid Surrey PCT, 2004).

The survey described in this article was undertaken to provide information on the prevalence of diabetes within the many care homes in East Elmbridge and Mid Surrey PCT geographical area, and to describe the current diabetes care provided to this vulnerable group of people.

Method

Enquiries by one of the authors to social services and the Nursing Homes Inspectorate in 2004 failed to produce an electronic database of all the care homes within East Elmbridge and Mid Surrey PCT. A database was therefore developed from hard copy information available from social services, and verification of completeness was made by discussions with colleagues within the PCT district nursing workforce and learning disability team.

A literature search was undertaken and a questionnaire for care home managers was adapted from one used by Taylor and Hendra (2000). The questionnaire sought general information on the type of home, the number of beds, current occupancy and the number and type of staff. It included questions on how the home learnt of the diabetes status of new residents, whether any assessment tool was used for new residents with diabetes and who monitored the diabetes care of residents. It also asked whether optometry and podiatry monitoring are available to residents with diabetes, and who supplied these services.

Anonymised information was requested

on individual current residents with diabetes, including gender, ethnic group, age group, type of treatment and whether annual diabetes review occurred (a short description of what this typically included was provided). As a Surrey-wide diabetic retinopathy service was being planned at this time, care managers were also asked whether these residents would be able to attend for retinal screening (a short description of what this would entail was also provided).

The study and the questionnaire were discussed in detail with the Surrey research governance manager, who confirmed that ethical committee approval was not required. The questionnaire was piloted in three homes and subsequently refined. The final questionnaire was sent out to all the identified care homes, with a covering letter requesting return by 30 April 2005. Non-responders were followed up with a further letter and questionnaire 4 weeks later, followed by a telephone call.

The information obtained was analysed using Microsoft Excel (Microsoft Corporation, Redmond, Washington) software. As further follow-up was not feasible, an analysis for bias because of incomplete response was carried out by comparing the results from early responders (response by 30 April) with the results from late responders.

During the interval between the questionnaire being sent out and the final analysis, a national database of care homes produced by the CSCI became available online. This made it possible to check the completeness of the database constructed for the survey against the national one.

Results

A total of 123 questionnaires were originally sent out. Several were returned stating that there had been a change in use of the building. We eventually found that 106 of the care homes within our database were listed in the CSCI database, and that another 17 care homes had not been identified. No returns were obtained from addresses that did not appear in the CSCI database. Our survey had therefore unintentionally excluded 17 care homes.

Of the 106 care homes identified, 25 (24%) were nursing homes, 45 (42%) were residential

Page points

1. The survey had a 58% response rate and of these responses, 26% were from nursing homes, 34% were from residential homes, 8% were from dual-registered homes and 31% were from homes for people with learning difficulties.
2. Forty-seven (77%) of the homes currently had residents with diabetes.
3. The question concerning use of a diabetes-related assessment tool was answered by all care managers, whether or not they currently had residents with diabetes, and revealed that only 13 care homes (21.3%) used such a tool.

homes, 5 (5%) were dual-registered (both nursing and residential) homes and 31 (29%) were homes for people with learning difficulties (see *Table 1* for more details of the care homes). Responses were received from a total of 61 care homes (58% response rate). Of those who responded, 16 (26%) were nursing homes, 21 (34%) were residential homes, 5 (8%) were dual-registered homes and 19 (31%) were homes for people with learning difficulties. The response rate varied from 100% for the small number of homes that were dually registered, to 47% for the residential homes.

The total number of beds within the care homes that responded was 1639, with the dual-registered homes having a much larger mean number of beds than the homes for people with learning difficulties. Forty-seven (77%) of the respondent homes had residents with diabetes. Of the 14 homes that did not have residents with diabetes, 12 were homes for people with learning difficulties and two were residential homes.

Care managers were informed about the diabetes status of residents from a variety of sources, including the residents themselves, medical notes and the residents' GP or district nurse.

The question concerning use of a diabetes-related assessment tool was answered by all care managers, whether or not they currently had residents with diabetes, and revealed that only 13 care homes (21.3%) used such a tool (*Table 2*).

Care home staff were involved with monitoring residents' diabetes in all but four homes, where monitoring was provided by district nurses (in three homes) and a practice nurse (in one home). In 40 (85.1%) of the homes with residents with diabetes the care manager knew which hospital consultant or GP was responsible for the diabetes management of the residents, and in 33 (70.2%) the next appointment date was also known.

Forty (85.1%) care managers reported that residents with diabetes had an annual optometric review, and 36 (76.6%) reported that residents

Table 1. Information on care homes, by care home type.

	Nursing homes	Residential homes	Dual homes	Homes for people with learning difficulties	All
Care homes identified	25 (24%)	45 (42%)	5 (5%)	31 (29%)	106
Response per type of care home	16 (64%)	21 (47%)	5 (100%)	19 (61%)	61(58%)
Care homes with residents					
with diabetes	16 (100%)	19 (90%)	5 (100%)	7 (37%)	47 (77%)
Number of beds	593 (36%)	621 (38%)	285 (17%)	140 (9%)	1639
Mean number of beds	37	30	57	7	27
Total number of nursing staff	162	14	47	35	258
Total number of care staff	341	328	139	118	926

Table 2. Diabetes monitoring within care homes, by care home type.

	Homes responding 'yes'					Homes responding 'no'	Total number of responses
	Nursing homes	Residential homes	Dual homes	Homes for people with learning difficulties	All		
Use of assessment tool	6 (9.8%)	6 (9.8%)	0 (0%)	1 (1.6%)	13 (21.3%)	48 (78.7%)	61
Awareness of both clinician and next appointment date	12 (25.5%)	11 (23.4%)	4 (8.5%)	6 (12.8%)	33 (70.2%)	14 (29.8%)	47
Annual review by optometrist available	14 (29.8%)	18 (38.3%)	2 (4.3%)	6 (12.8%)	40 (85.1%)	7 (14.9%)	47
Annual foot assessment by trained professional available	10 (21.3%)	15 (31.9%)	3 (6.4%)	8 (17.0%)	36 (76.6%)	11 (23.4%)	47

Page points

1. Within the largely elderly care home population in this study the authors found an identified prevalence of diabetes of 9.6%.

with diabetes received an annual foot assessment. However, only 10 (21.3%) of the care homes had the full range of services, including use of an assessment tool.

Within the care homes there were 1486 residents, of whom 142 (9.6%) were known to be people with diabetes (Table 3). The prevalence of diabetes was much higher in nursing homes than in homes for people with learning difficulties (11.2% compared with 5.9%); this may be explained by the higher proportion of younger population in the latter (Figure 1). Overall, 88.0% of the residents with diabetes were over 75 years of age, 73.2% were women and 98.6% were Caucasian. Of 138 residents with responses on treatment, 46 (33.3%) were treated with diet alone, 63 (45.7%) were treated with diet plus oral medication and 29 (21.0%) were treated with insulin (Figure 2).

The analysis for bias revealed that those

managers who replied before the deadline of 30 April 2005 had homes with a higher prevalence of residents with diabetes than those managers who responded post-deadline. The lower prevalence of diabetes in the late returns would suggest that homes with no residents with diabetes may have been in the preponderance for non-responders, whereas homes with residents with diabetes may be predominant in those responding to the questionnaire. If this were the case, some bias in the prevalence estimates in this study would have arisen.

Of the residents with diabetes, 134 (94.4%) were reported to have had an annual review (Table 4) and 65 (45.8%) were positively assessed as being able to take advantage of retinal screening, although there were 35 residents (24.6%) for whom this question was not completed.

Discussion

When the NSF for diabetes was published in 2001 it estimated that there were around 1.3 million people diagnosed with diabetes (2–3% of the population), with up to 1 million undiagnosed cases of diabetes. Prevalence is increasing as a result of increasing levels of obesity and the aging population (DoH, 2003b).

Within the largely elderly care home population in our study we found an identified prevalence of diabetes of 9.6%. This is similar to the 9.9%

Table 3. Prevalence of diabetes within the care home residents.

	Nursing homes	Residential homes	Dual homes	Homes for people with learning difficulties	All
Number of residents	537	567	263	119	1486
Total number of residents with diabetes	60	52	23	7	142
Prevalence (%)	11.2	9.2	8.7	5.9	9.6

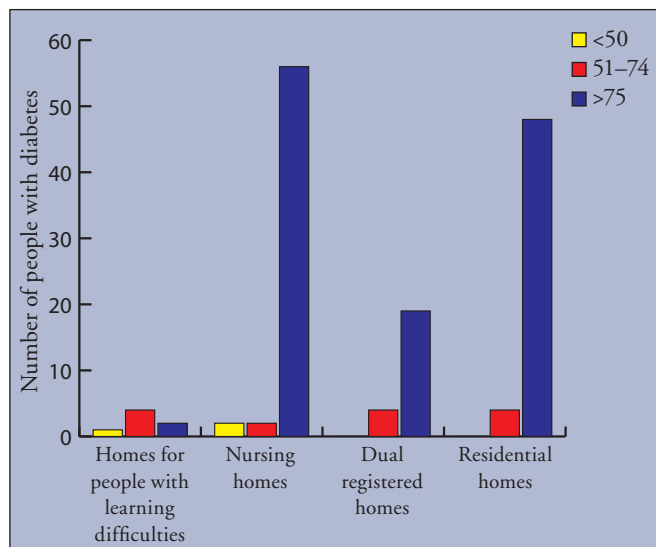


Figure 1. Age distribution of residents with diabetes, by care home type.

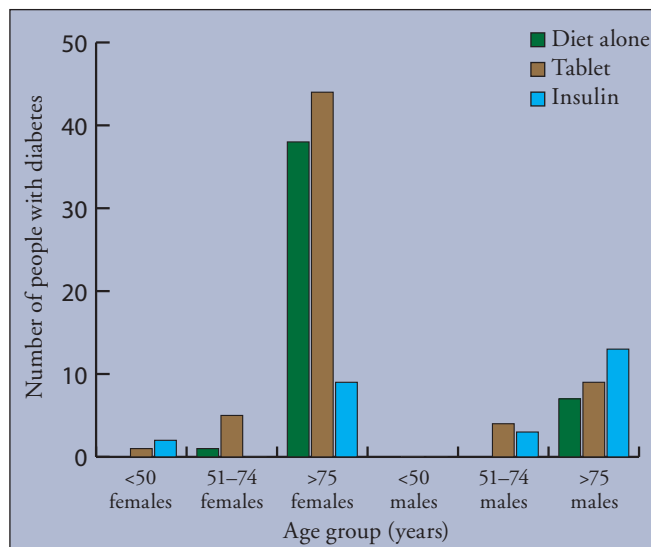


Figure 2. Residents with diabetes by age group, sex and treatment.

Table 4. Residents with diabetes' access to annual reviews and assessed ability to access retinal photographic screening.

	Residents responding 'yes'				
	Nursing homes	Residential homes	Dual homes	Homes for people with learning difficulties	All
Residents with diabetes having an annual GP review	52	52	23	7	134
Number of residents with diabetes within home type who would attend an annual retinal screening	20	28	14	3	65
% of residents with diabetes within home type who would attend an annual retinal screening	38.5	53.8	60.9	42.9	48.5

prevalence of diabetes found in Liverpool by Benbow et al (1997). Sinclair et al (1997a) and Taylor and Hendra (2000) found lower prevalences of diabetes in South Wales and Sheffield respectively, while Sinclair et al (2001) found a reported prevalence of diabetes of 12%, rising to an estimated 26.7% when willing residents were screened. Currently there is no national policy concerning screening of individuals at high risk of diabetes.

Data from an internal clinical audit carried out by East Elmbridge and Mid Surrey PCT in 2003 on the 37 local primary care practices identified 6747 people of all ages as having diabetes (a prevalence of 2.4%). Quality and Outcomes Framework (QOF) data, which includes people with diabetes who are 17 years and over, showed 7900 people on diabetes registers across the PCT in March 2005 (prevalence of 2.83%; The Information Centre, 2005), and 8315 in March 2006 (prevalence of 2.96%; The Information Centre, 2006).

Although our small sensitivity analysis suggests that possibly non-responders may not have many or any cases of diabetes within their homes, our identified prevalence figure is probably an underestimate, as it is likely that within East Elmbridge and Mid Surrey care homes there are many people with undiagnosed diabetes. The PHO-Brent-SchHARR Diabetes Population Prevalence Model-2 (Yorkshire and Humber Public Health Observatory, 2005) is a model for types 1 and 2 diabetes including diagnosed and undiagnosed; it applies age, sex and ethnic-group specific estimates of diabetes prevalence, derived

from epidemiological population studies, to resident populations based on the 2001 census and estimated 9712 (a prevalence of 3.72%) diagnosed and undiagnosed people with diabetes within the East Elmbridge and Mid Surrey population in 2001.

We found that 76.6% of care homes reported that residents with diabetes were receiving an annual foot assessment from a healthcare professional, and in 85.1% of care homes residents with diabetes were seen annually by an optometrist. We were encouraged to find that 94.4% of the residents with diabetes had annual reviews and that homes reported good access to optometrists and foot assessment by a trained professional. The annual review was described as typically including a blood test taken by the nurse or GP, blood pressure monitoring, review of medication and a care plan.

Our study was undertaken after the first year of the new GP contract when the QOF was introduced (HSCIC, 2005), and it is likely that this was in no small part responsible for the high percentage of annual reviews. However, we were concerned that only 21.3% of the care homes made use of a diabetes-related assessment tool that might help to identify any immediate problems on admission.

District nurses within the East Elmbridge and Mid Surrey PCT routinely screen all new clients referred to them for diabetes by testing capillary blood. They also have a role in client and carer education for those clients they visit within residential homes (but not nursing homes). Nurses working in nursing homes and homes for people

Page points

1. The authors found that 76.6% of care homes reported that residents with diabetes were receiving an annual foot assessment from a healthcare professional, and in 85.1% of care homes residents with diabetes were seen annually by an optometrist.
2. The vast majority of residents with diabetes (94.4%) had annual reviews.
3. The annual review was described as typically including a blood test taken by the nurse or GP, blood pressure monitoring, review of medication and a care plan.
4. Of the care homes that responded to the questionnaire, 21.3% made use of a diabetes-related assessment tool that might help to identify any immediate problems on admission.

Page points

1. The authors' finding that only 45.8% of residents with diabetes within their local care homes were judged able or willing to access retinal screening is lower than expected.
2. This study has enabled the authors to quantify the number of individuals within care homes who require structured diabetes care and to identify areas where improvements in care are needed, such as addressing the lack of a standardised diabetes assessment tool.
3. Health service reconfiguration in 2006 means that there will be a Surrey-wide PCT coterminous with social services; this may be an opportunity to introduce a standardised diabetes assessment tool across Surrey for use in all care homes.

with learning difficulties are responsible for their own professional development, and diabetes nurse specialists have a role in training all staff who work with patients with diabetes.

Our finding that only 45.8% of residents with diabetes within our local care homes were judged able or willing to access retinal screening is lower than expected, but care managers seemed to have found this difficult to assess because for 24.6% of residents this answer was not completed. We do not know whether the responses to this question were discussed with residents, but it was reported that seven residents would have refused this service. This finding will be made available to those involved in the implementation of the Surrey-wide retinopathy screening programme, and may be useful in the light of advice that was recently issued by the National Screening Committee (2006).

Diabetes UK produced guidelines of practice for people with diabetes in care homes in 1999 (Diabetes UK [formerly the British Diabetic Association], 1999). Among the recommendations were:

- an individualised care plan for each resident
- the development of a protocol of diabetes care within each care home
- a policy of screening for diabetes at admission and at 2-yearly intervals
- the appointment of a community diabetes specialist nurse whose remit and responsibilities include the requirements of residents within long-term care
- diabetes educational and training programmes for care home staff.

In areas where staff education has been provided it has been found to be effective in both residential homes (Deakin and Littley, 2001; Diabetes UK, 2005) and nursing homes (Diabetes UK, 2006).

Conclusion

This study has enabled us to quantify the number of individuals within care homes who require structured diabetes care and to identify areas where improvements in care are needed, such as addressing the lack of a standardised diabetes assessment tool. Health service reconfiguration in 2006 means that there will be a Surrey-wide PCT coterminous with social services; this may be an opportunity to introduce a standardised diabetes

assessment tool across Surrey for use in all care homes. ■

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