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Dental Public Health in Action

Dental Public Health In Action: Barriers to oral health-care provision for older people in residential and nursing care homes: A mixed method evaluation and strategy development in County Durham, North East England

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This paper presents a case study on the use of mixed methods in research into practice to inform policy. The study was undertaken as part of a review of oral healthcare for older people in residential and nursing care homes in County Durham, North East England. The findings highlighted challenges in the provision of good quality oral healthcare to older people in residential and nursing care homes and informed the county's oral health strategy (Durham County Council DCC, 2016). Key recommendations include the need to develop and implement a minimum set of best practice oral health standards within care home contracts and train care home staff in oral healthcare. The paper relates to two key dental public health competencies: (i) designing and using mixed method studies to address gaps in evidence and triangulating the findings from quantitative and qualitative methods; (ii) the development of evidence based policies. The research is relevant to: care home staff; commissioners in local authority adult and social care; public health practitioners; oral health improvement teams; domiciliary and special care dentists, dental commissioners, researchers and academics.

Key words: *Access, older people, mixed methods*

Abbreviations: *BDA: British Dental Association; DCC: Durham County Council; NICE: The National Institute for Health and Care Excellence; Office for National Statistics (ONS); PHE: Public Health England*

Initial impetus for action

In County Durham, in North East England (population of 519,695 in 2015), the 85 and over age group is expected to more than double in size by 2039 (increasing to 28,600 from 11,600 in 2014) (Durham County Council, 2016). While dementia prevalence is projected to decrease in future cohorts of people aged 65 years and older, it is likely to increase, in particular among those living in residential care settings, which now include a smaller proportion of the older population (Matthews *et al*, 2013).

According to the Office for National Statistics, about 291,000 people aged 65 and over were in residential and nursing care homes in England and Wales in 2011, representing 3.2% of the total population of this age (ONS, 2014). According to Matthews and colleagues (2013), the proportion of the over 65 year old population who had dementia and who lived in care was 29% (Matthews *et al*., 2013). An ageing population, especially the most vulnerable with dementia, residing in care homes poses significant challenges to oral health care provision.

Older residents of care homes are a particularly vulnerable group. There is evidence that they are more likely to have limited access to dental services and experience a higher prevalence of untreated dental caries than the household resident older population (Moore and Davies, 2016). Inadequate and suboptimal daily oral care provided by paid carers has been cited as a key factor for poor oral health among older people in residential and nursing care home settings (Jablonski *et al*, 2009). Other factors contributing to poor oral health are the multiple morbidities and medications of the frail elderly, many of which compromise oral health (e.g. antidepressants and Alzheimer disease medications) or have implications for complicating dental treatment (e.g. anticoagulant and antiplatelet medications) (Jablonski *et al*, 2009).

Evidence based strategies and programmes are needed to address oral healthcare needs for older people in residential and nursing care homes. However, there are only limited epidemiological data for this vulnerable group (e.g. from the Adult Dental Health Survey or regional surveys that drew on care homes in their sample) (Moore and Davies, 2016) to inform the development of oral health strategies.

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At the time of the study, the 'Mouth Care, We Care' Award and training of nursing staff in care homes had already been undertaken in fourteen residential care homes in County Durham (Northern Region Oral Health Promotion Group (NROHPG), 2011). Its aim was to recognise existing good practice, promote partnership working and support the implementation of good oral health practices.

The aim of this study was to identify barriers to provision of oral healthcare (i.e. daily oral hygiene and access to adequate dental care) for older people in care home settings in County Durham, in order to inform the development of an evidence-based oral healthcare strategy. This strategy was a component of a wider oral health strategy for County Durham.

Solutions suggested

The Public Health Department at Durham County Council (DCC) led the activity and convened a steering group in January 2015 to guide the study and strategy. The group comprised: an oral health improvement (OHI) lead from the local salaried dental services; an oral and maxillofacial surgeon; a commissioning manager in adult services at DCC; a consultant in public health; a consultant in dental public health; an academic from Newcastle University; a registrar in public health (i.e. the first author) and an administrator from the public health team at DCC.

A survey questionnaire was posted to managers of all residential and nursing care homes in County Durham (n=145) between February and March 2015. The questions were adapted from the North West Survey (2012-2013) of dependant older people in group residential settings (PHE, 2014). The questionnaire included closed and open ended questions under three headings: details about the care home (e.g. type of home and number of beds); oral health policy/plan (examples include questions on systems in place to ensure residents who need help with oral hygiene receive help or presence of arrangements for accessing urgent or routine oral health care for residents); and staff training in oral health care (e.g. whether staff are taught about giving residents assistance with oral hygiene or obtaining dental treatment for residents).

In addition to the postal questionnaire, in-depth interviews and focus group discussions with purposively selected stakeholders took place between April and July 2015 and were run by by BA. The aim of the qualitative study was to explore findings from the questionnaire as well as provide an 'explanation' of certain findings from the questionnaire survey. A topic guide was developed for each type of respondent. It included questions exploring the key barriers to provision of good quality oral health care in residential and nursing care homes, such as denture labelling and care and access to routine domiciliary dental care and the needs and challenges about staff training in oral health. Maximal variation sampling was used to ensure a wide range of professionals were included in the study and hence maximise the diversity of responses. Care home managers were primarily selected on whether or not their care home took part in oral health training and on the geographical location of the care home (rural/urban). The interview sample comprised:

- Dentists providing domiciliary treatment (n=2);
- Representatives from OHI teams in County Durham and the North East (10 representatives from 3 teams-2 focus groups and individual interviews);
- Care home managers and paid carers. Three care homes were selected; two that received the "Mouth Care, We Care" Award and training and one that did not (n=6).
- Commissioners in the local authority and NHS England (n=2).
- Special care dentists (n=3)
- Oral and maxillofacial surgeon (n=1);
- Academics in the dental school, Newcastle University (n=2);
- A provider of training in dementia in oral healthcare (n=1);
- Member of Directorate of Multi-Disciplinary Dental Education; Health Education North East (n=1).

Interviews and focus groups were digitally recorded, transcribed verbatim, anonymised and analysed thematically by BA. Ethical approval was not required as this was a service evaluation. Input from the steering group was important throughout the project, particularly with advising on questionnaire and topic guide content and facilitating access to care home managers.

Actual outcomes and challenges

Triangulation of the findings from the postal questionnaire survey (closed and open questions), focus groups and interviews provided insight into the barriers to good oral health care and highlighted areas of dissonance between the two sets of responders (Table 1). This knowledge informed the development of recommendations in the strategy.

The postal questionnaire survey response rate was 64 % (93/145 care homes). Findings from this survey showed a mostly positive picture of oral health care provision in residential and nursing care homes in County Durham. However, these were not always supported by findings from the interviews and focus groups. For example, findings from the questionnaire survey suggested the majority of respondent care homes had oral care policies in place but the qualitative findings showed large variation in how well these policies were devised and adhered to. The consensus from the qualitative findings suggested that residents' oral health care needs were not being adequately met (see Table 1).

Findings from the questionnaire and the interviews were complementary on themes such as access to routine dental care and lack of labelling of dentures. Qualitative findings suggested large variations in access to domiciliary dental services and difficulties in accessing routine dental care. At the time of the study there was only one provider that was commissioned by NHS England to provide domiciliary dental care for the whole county (size of county 2,226 km^2 and predominantly rural). However, many care home managers who responded to the open question in the survey mentioned accessing salaried or high street dentists in their own localities. One care home manager interviewed pointed to difficulties in access to domiciliary dentists: "*We had a couple of dentists who have come to the home a few times and then just drifted away*" (Care home manager A).

The qualitative findings provided considerable insights on accessing urgent oral health care for care home residents. In the questionnaire survey, 78.8% of care homes responded that there were arrangements for accessing urgent care. However, answers to the open ended question indicated that this was obtained in a range of ways as follows:

- ringing 111 for an emergency appointment,
- contacting local dental practices to accommodate residents' urgent oral health care,
- obtaining assistance from general practice for assessment and referral,
- obtaining a specialist dental appointment.

Interviews and focus groups highlighted lack of labelling of dentures and the implications of lost dentures, although this was not identified via the questionnaire survey. Interviews with both care home staff and focus groups with OHI professionals showed that lost dentures were a widespread problem. Domiciliary dentists pointed to huge challenges in providing new dentures, especially for older residents with dementia. Moreover, there was a consensus among domiciliary dental providers that there was a lack of knowledge among paid carers of the residents' medical history, medications and obligations for payment. This created a barrier to providing timely dental treatment to residents.

Interviews and focus groups with training providers identified a poor response from care homes to invitations for staff training on oral health care despite the training being provided free of charge. Challenges included: lack of motivation or interest of paid care staff; poorly equipped training venues; low numbers of staff turning up on the day and last minute cancellation of the training. Barriers cited by care home managers included: cost to the care homes associated with releasing staff during their shifts to attend training.

Future implications

This study provides much needed empirical evidence on the barriers for the provision of good quality oral healthcare to older people in care homes in County Durham, North East England. The findings were similar to those found in the West Midlands Care Home Dental Survey to care home managers in 2011 (Watson *et al*., 2015). The particular strength of the current study was the use of a variety of research approaches, which revealed a number of observations that otherwise would not have been elicited from using one method of data collection alone. The findings from this study concur with evidence that demonstrates that mixed method studies enhance the credibility and quality of the evidence base (Moffatt *et al*., 2006) through triangulation of findings from the different methods.

One of the key limitations of this study is that neither method examined the views of older residents and their families. However, this was not possible within the existing resources and time constraints imposed by ethics procedures. Including the views of older people in dental public health research is an important area for future research.

The findings from this study concur with others indicating that barriers to good quality oral health care in residential care homes include lack of access to timely and responsive oral health treatment services, need for training of paid care home staff (PHE, 2014) and difficulties in providing good quality oral health care to residents (day to day oral health and access to clinical oral health care), particularly those suffering from dementia (BDA, 2012(a)). To date, the Care Quality Commission has not taken into account provision of adequate oral hygiene and care in its inspections of care homes, but if this were to be incorporated, considerable improvements to oral health and quality of life are likely to follow. The failure to have quality standards of oral hygiene and care in residential care homes is detrimental to quality of care and negatively impacts on this vulnerable population.

The findings were incorporated into the recommendations of the oral health strategy for County Durham. Recommendations include the need to develop and implement a minimum set of best practice standards for oral healthcare within care home contracts and for relevant quality metrics to be developed and monitored for compliance. Recommendations to NHS dental commissioners were made to agree care pathways in order to address variations found in access to urgent dental care and routine domiciliary dental care

Political will is needed to prioritise oral healthcare training in care homes and improve OH standards. This was endorsed in the 2016 NICE guidance on oral health in care homes which recommended that Health and Wellbeing Boards in local authorities identify gaps in provision of local oral health services and ensure these address identified needs of residents in care homes (NICE, 2016).

Table 1. An extract of findings from the survey, interviews and focus groups

Findings from the survey	*Relevant themes and quotes from the qualitative findings showing contradictory findings to those from the survey*
• 66% of care homes reported having an oral health policy in place • 92% of care homes reported doing a formal assessment of residents' oral care needs on admission • 81% care homes reported an assessment of the presence or absence of dentures on admission to the home • 70% of care homes answered yes to staff being trained in taking care of resident's dentures • 75% of care homes reported training staff to give residents assistance with oral hygiene • 74 % of care homes answered yes to staff being trained in giving residents assistance with oral hygiene	• Widespread poor care, neglect and poor standards of oral hygiene • Dental care providers highlighted poor attitudes towards oral hygiene by paid carers who mostly consider oral care tasks unpleasant • Observation of poor denture care to the level of persistent negligence of paid care staff in some care homes • Difficulties in delivery of training – last minute cancellation, few members of staff attending

Learning points

The triangulation of findings from a mixed method research study can inform the development of an evidence-based strategy on oral health care for older people in residential and nursing care homes and inform recommendations to service commissioners.

- Demonstrate the importance of incorporating best practice oral healthcare standards into care home contracts and making oral health an integral part of residents' overall care plans.
- Consider making the labelling of dentures mandatory.
- Prioritise oral healthcare training in care homes, especially for paid carers residents with dementia.
- Evaluate existing programmes of oral healthcare training in care homes and learn from successful oral health promotion programmes elsewhere.

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References

British Dental Association (2012a): *Dentistry in Care Homes Research-UK*. London: BDA. https://www.bda.org/dentists/policy-campaigns/research/patient-care/Documents/dentistry_in_care_homes.pdf

British Dental Association (2012b): *Oral Healthcare for Older People 2020 Vision*. Check-up January 2012. London: BDA. https:// www.bda.org/dentists/policy-campaigns/research/patient-care/Documents/older_adults_2012_checkup.pdf

Durham County Council (2016): *County Durham Joint Strategic Needs Assessment. Key Messages 2016*. Durham: Durham County Council. http://www.durham.gov.uk/media/17430/JSNA-2016-Key-Messages/pdf/CountyDurhamJSNAKeyMessages2016.pdf

Durham County Council (2016): *Oral Health Strategy County Durham 2016-2019 (draft)*. Durham: Durham County Council. http://www.durham. gov.uk/media/9761/Draft-Oral-Health-Strategy-County-Durham-2016-2019/pdf/CountyDurhamOralHealthStrategy.pdf

Jablonski, R.A., Munro, C.L., Grap, M.J., Schubert, C.M., Ligon, M. and Spigelmyer, P. (2009): Mouth Care in Nursing Homes: Knowledge, Beliefs, and Practices of Nursing Assistants. *Geriatric Nursing Journal* **30**, 99–107.

Matthews, F.E., Arthur, A., Barnes, L.E., Bond, J., Jagger, C., Robinson, L. and Brayne, C., on behalf of the Medical Research Council Cognitive Function and Ageing Collaboration (2013). A two-decade comparison of prevalence of dementia in individuals aged 65 years and older from three geographical areas of England: Results of the Cognitive Function and Ageing Study I and II. *Lancet*; **382**, 1405–12

Moffatt, S., White, M., Mackintosh, J. and Howel, D. (2006): Using quantitative and qualitative data in health services research – what happens when mixed method findings conflict? *BMC Health Services Research* **6**, 28.

Moore, D. and Davies, G.M. (2016): A summary of knowledge about the oral health of older people in England and Wales. *Community Dental Health* **33**, 262–266.

The National Institute for Health and Care Excellence (NICE) (2016). *Oral health for adults in care homes*; guideline [NG48]. https://www.nice.org.uk/guidance/ng48

Northern Region Oral Health Promotion Group (NROHPG) (2011): *Quality Assurance Award Scheme for Care Home Settings for Older People; Mouth Care We Care Award scheme; Information for OHP Teams*, *CQC, Commissioners and Care Providers*.

Office for National Statistics (2014): *POPPI (Projecting Older People Population Information)*. London: ONS. http://www.poppi.org.uk/.

Office for National Statistics (2014): *Changes in the Older Resident Care Home Population between 2001 and 2011*. London: ONS. https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/ageing/articles/changesintheolderresidentcarehomepopulationbetween2001and2011/2014-08-01

Public Health England (2014): *Dental public health intelligence programme. North West oral health survey of services for dependant older people, 2012 to 2013. Report 2: adult residential care, nursing homes and hospices.* London: PHE. http://www.nwph.net/dentalhealth/Adult%20residential%20care,%20nursing%20homes%20and%20hospices%20report%202013.pdf

Watson, F., Tomson, M., Morris, A.J., Taylor-Weetman, K. and Wilson, K.I. (2015): West Midlands Care Home Dental Survey 2011: Part 1. Results of questionnaire to care home managers. *British Dental Journal* **219**, 343-346