



# What is Known About the Oral Health of Older People in England and Wales

A review of oral health surveys of older people

## About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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Published December 2015

PHE publications gateway number: 2015540



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## **Executive summary**

#### Introduction

There are currently 11 million people in the UK over the age of 65, a figure that is set to increase to 14 million by 2032. The 'active ageing' policy framework proposed by the World Health Organization (WHO) states that structural barriers present within the health and social care, employment and education sectors should be removed to allow ageing to be a positive experience. It recognises the rights of older people to equality of opportunity and treatment in all aspects of life. Aligning health, workplace, education and social policies to support active ageing can address the social and economic challenges posed by an ageing population and broaden the opportunities for increasing participation and contribution.

Good oral health is an essential component of active ageing. Social participation, communication and dietary diversity are all impacted when oral health is impaired. Significant gains in oral health have been made in the last 30 years and the majority of older people now retain some natural teeth. However, as in other sectors, for the benefits of improved oral health to be fully realised, structural barriers built into the existing dental and social care systems need to be removed. The aim is to create an equitable and responsive system that can deliver prevention and treatment for all, in proportion to their need.

#### Methods

Data from existing national, regional and local surveys of oral health in older people have been collated and combined with social, demographic and health data to provide a summary of what we already know about the current and future oral health needs of older people in England and Wales. Wales was included because there is recent data available which helps to provide epidemiological comparisons.

#### Results

The majority of the information relates to the minority of older people who live in residential and nursing care homes. Little is known about the much larger and increasing proportion of older people who are living independently at home or being cared for by friends, family or formal carers.

Older people are more likely to have several factors that mean they are at increased risk of dental disease. Compounding this increased risk, they are more likely to have general health complications that make treatment planning more difficult and may require modification of services.

After collating several clinical and questionnaire-based regional surveys and one national survey, several statements can be made regarding the oral health of older people:

#### Normative need

- older adults living in residential and nursing care homes are more likely to be edentulous, and less likely to have a functional dentition
- untreated caries is higher in the household resident elderly population than in the general adult population and older adults living in care homes have higher caries prevalence still, where the majority of dentate residents have active caries
- signs of severe untreated caries appear to be more common in the oldest age groups across all settings and current pain also appears to be slightly higher than in the general adult population
- periodontal disease is most common in the age groups of 65 to 84, but due to differences in survey design it is not possible to say how this compares across settings

#### Felt need, access and quality of existing oral health care for older people

- older adults are less likely to rate their oral health as good, and appear to have poorer oral health related quality of life than the general adult population
- care home managers experience much more difficulty in accessing dental care for their residents than household resident older adults do
- for older adults living in care homes, dental services are patchy and often no regular or emergency dental care arrangements exist
- this is especially worrying considering that approximately half of residents in care homes would find it difficult or impossible to receive emergency treatment in a general dental practice due to medical or psychological complications
- little is known about access to services for the increasing numbers and proportions
  of older people receiving 'care in your home' services. This type of care is predicted
  to increase further as government policy aims to support people to live in their own
  homes for as long as possible
- oral health policies, oral health needs assessments, staff training on oral health care and a system to ensure oral hygiene support is received are all more common in residential and nursing care homes than in 'care in your home' services and hospitals with inpatient facilities
- oral health needs assessments and staff training focus mostly on presence of teeth and dentures, and oral hygiene or denture cleaning skills. What is less common and required, is training on the recognition of urgent problems in residents and how to access urgent or emergency dental care

#### Implications for commissioning services

In the past the majority of the conversation around the oral health of older people has focused on the necessity of providing domiciliary dental care to residents of care homes. While this is an essential service, several factors mean that this siloed approach is clearly not enough. Older people are already more likely to be receiving care and support in their own homes rather than in residential and nursing care homes. Government policy means that 'care in your home' services and informal care will become increasingly common in the future. As a result, the care home population will continue to become older and have higher care needs.

Household resident older people may not be able to easily access routine dental services due to functional limitations, transport difficulties and multiple long-term conditions. Coupled with this, as more people are keeping their teeth for longer the range of dental treatment required will be more complex than in the past and is more likely to demand the facilities of a dental surgery. This changing demographic picture makes identifying and accessing those who need preventive services and treatment more complex, and a whole-systems approach is required

The NHS's Five Year Forward View highlights the need to increase integration of the health and social care systems to improve population health. The creation of the Better Care Fund that links health and social care budgets, and the creation of health and wellbeing boards are beginning steps towards achieving this aim. Integration is particularly important for older people and those living with long-term conditions, and dental services must be part of this integration as it develops.

In order for future dental services to provide responsive and equitable care to older people, a variety of factors must be addressed:

- more information is required on the oral and general health of the household resident older population
- dental services for older people must be more integrated within the wider health and social care landscape. Developments in training, information sharing and referral pathways are necessary to achieve this
- in order to develop holistic patient-centred services, varying levels of prevention and care need to be available as part of the same care pathway. This may mean a service providing domiciliary care for routine prevention and simple treatments, plus access to mobile dental surgeries, transport and multi-specialist centres for more complex treatments
- increasing integration with general medical and social services for older adults would mean that patients with progressive long-term conditions could receive a dental assessment and treatment plan when their long-term condition is diagnosed. This would allow a proactive approach to ensure the patient is dentally healthy

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before their general health makes treatment provision difficult and would facilitate earlier access to dental staff with experience of providing dental care for older adults and knowledge of the complexities involved

## Background

#### Introduction

The rapid increase in life expectancy seen over the last 200 years has been one of the greatest achievements of humanity, with a third of babies now expected to celebrate their  $100^{th}$  birthday (Office for National Statistics, 2015). There are currently 11 million people aged over 65 in the UK (Office for National Statistics 2014b) and population projections point towards increasing numbers of older people in the next two decades as the large cohort of people currently aged 40-60 grow older (Duerden et al, 2013). From 2012 to 2032 the populations of 65-84 year olds, and the over 85s are set to increase by 39% and 106%, whereas 0-14 and 15-64 year olds are set to increase by 11% and 7% respectively (The King's Fund, 2015a). This will result in a projected 14 million people aged over 65 by 2032.

The "active ageing" policy framework set out by the World Health Organization (WHO) is a rights-based approach, which aims to foster greater participation and recognition of the valuable contribution that older people can and do make to society (World Health Organization, 2002). 14% of the over 65s population provide unpaid care, and 16% are economically active (Office for National Statistics, 2013). Older age is increasingly seen as an active phase of life where people are fully enabled to participate in social and family life, to work for longer, keep learning or volunteer, if they wish to. If the potential of older people is to be fully realised, structural barriers present in the organisation of transport, social and leisure facilities, workplaces, and health care must be removed (Boudiny, 2013).

#### Ageing and oral health

Good oral health is an essential part of active ageing (World Health Organization, 2002). Ensuring that people can participate in social life free from embarrassment or pain and continue to enjoy a balanced and nutritious diet, contributes hugely to quality of life and general health. Malnutrition is a particular problem among the elderly, with 1.3 million of the 3 million people affected in the UK over the age of 65 (AgeUK, 2015). Any restrictions placed on the variety of foods that an individual is able to eat, such as painful or loose teeth or dentures may contribute to deteriorating nutritional status.

Dental health has already improved greatly since national population level surveys began in 1978. The proportion of adults in England who had no remaining natural teeth, or who are "edentate" has fallen by 22 percentage points in the last 30 years from 28% in 1978 to 6% in 2009 (HSCIC, 2011b). This is a great achievement and should be celebrated. However, it does mean that dental care provision for older people in the future will become more complex than it has been in the past, when treatment mainly

consisted of provision of full acrylic dentures. In the future edentulousness will be increasingly concentrated among the oldest cohorts.

As well as increasing numbers of teeth being retained into older age, the teeth that have been retained are heavily restored, due to high levels of dental caries in the population before the widespread introduction of fluoridated toothpastes in the late 1970s. The younger generation of 1978 (16 to 34-year-olds) had high levels of decay and many fillings, mostly of dental amalgam. This wave of restorations can be traced through the cross-sectional surveys as the cohort ages, with that cohort now 45 to 54-year-olds in the 2009 Adult Dental Health Survey (as shown in Figure 1). This complex dental treatment requires regular maintenance that can be technically challenging to perform, especially if the capacity of the patient to attend the dental practice and cope with long appointments is reduced. As this generation ages, changing patterns of dental treatment required by older people need to be considered when planning dental services.

1970-2003 by age group (x axis) (writte et al, 2012)

12
10
8
6
6
4
1988
1998

2

0

16-24

25-34

2009 (adjusted)

Figure 1: Mean number of restored, otherwise sound, teeth (y axis) in England 1978-2009 by age group (x axis) (White et al, 2012)

#### Impact of general health considerations on oral health and care provision

45-54

55+

35-44

Although there is wide variation in functional ability and levels of health, as people age they tend to experience increasing health problems. Only 50% of over 65s rate their health as good compared to 88% of people under 65 (Office for National Statistics, 2013). This reflects that long-term (chronic) conditions are more prevalent in older people, with 58% of people over 60 affected, compared to 14% in those under 40 (The King's Fund, 2015b). A recent large cross-sectional study in Scotland found that most people over the age of 65 are multi-morbid, meaning that they have two or more long-

term conditions (Barnett et al, 2012). Increasing numbers of long-term conditions were evident with increasing age, as shown in Figure 2 below.

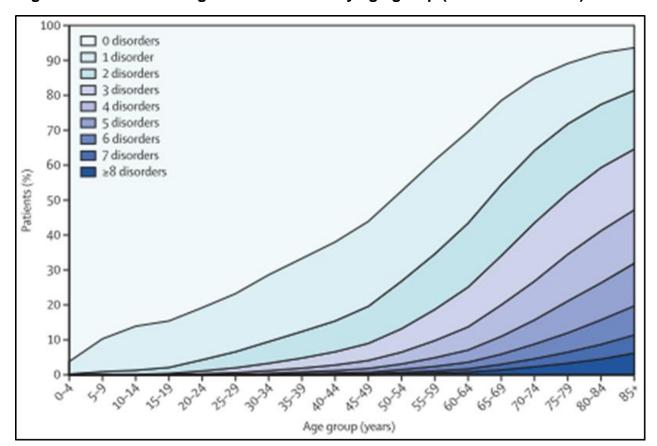


Figure 2: Number of long-term conditions by age group (Barnett et al 2012)

Although the numbers of people with one long-term conditions is expected to be relatively stable over the next ten years, the number of people with three or more long-term conditions is expected to have increased from 1.9 million in 2008, to 2.9 million in 2018 (The Department of Health, 2012). The increase seen in the numbers of people living with long-term conditions over time may be due to improved and earlier diagnosis, the effects of lifestyle factors and increasing levels of obesity, or improved treatments which prolong life but cannot eliminate the disease (The Department of Health, 2012).

Long-term conditions can limit older people's ability to carry out their usual daily activities, which may impact on their oral hygiene routine and diet. This can leave older people at higher risk of both dental caries and periodontal disease. The majority of adults aged over 75 are limited in their daily activities and the proportion who experience limitations has increased through the 1991, 2001 and 2011 censuses (National Audit Office, 2014). Manual dexterity and tooth-brushing ability may be compromised by arthritis, Parkinson's disease and dementia, which can exacerbate periodontal disease and lead to tooth loss. Diabetes is also known to increase the risk of periodontal disease and hasten its progression (Taylor and Borgnakke, 2008).

In 2001 one in five people over the age of 85 had diabetes, rising to one in four in those residing in care homes, and this figure is likely to have increased in the intervening years (Diabetes UK, 2010).

As people age they tend to experience greater exposure of the root surfaces of the teeth due to the accumulated effects of periodontal disease. These exposed root surfaces are more susceptible to caries than the crowns of the teeth because they are not covered by enamel. In the Adult Dental Health Survey (ADHS) 2009 more than 96% of those over age 65 had exposed root surfaces compared to 73% for the overall population (The Health and Social Care Information Centre, 2011). Wearing a partial prosthesis to replace some missing teeth can bring increased risk of both periodontal disease and dental caries because oral hygiene is made more difficult and food can become trapped around the denture and the remaining natural teeth and gums.

Additionally, increasing numbers of older people are taking multiple medications for long-term conditions. The most common side-effect of the 200 most-prescribed medications is dry mouth (Gueiros et al, 2009). Having a dry mouth increases the risk of dental caries as the natural anti-caries properties of saliva are reduced. In an attempt to moisten the oral mucosa or stimulate saliva production, people may consume more sugar containing liquids or sweets, which can have further detrimental effects. Some medications for long-term conditions may also contain sugar and would be a further source of increased caries risk.

Treatment planning for older people can be made more complex due to the additional risks associated with long-term conditions and the effects of poly-pharmacy, particularly if treatment is likely to involve invasive surgical procedures. Older people with functional limitations may not be able to attend a dental practice without transportation, or sit in a dental chair for long periods. Additionally dementia is very common, affecting one person in six over the age of 80, and 773,502 people aged 65 years or over in 2014 (AgeUK, 2015a). This has implications for examination and treatment of adults who lack the capacity to consent, who may not be able to cooperate with dental treatment, or are dependent upon hard-pressed carers to arrange dental appointments and provide oral hygiene measures.

It should also be remembered that both general and dental health varies between geographic locations and is affected by deprivation. People in the poorest social class have a 60% higher prevalence of multi-morbidity than those in the richest, and 30% worse severity of disease (The King's Fund, 2015b). Similarly, oral health is affected by socio-economic factors. The prevalence of the loss of all natural teeth in England, Wales and Northern Ireland combined is highest in routine and manual occupations (10%), followed by intermediate occupations (5%) and is lowest in the professional and managerial occupations (3%) (HSCIC, 2011b).

#### Capacity to give informed consent

If an adult lacks the capacity to consent to an examination or treatment due to dementia or learning impairment and has not appointed anyone with Lasting Power of Attorney for 'personal welfare' decisions, the clinician responsible for carrying out the treatment is the 'the decision-maker'. The decision-maker should act in the 'best interests' of the patient, as outlined in section 1(5) of the Mental Capacity Act (HM Government, 2005). Further guidance on interpreting the Mental Capacity Act can be found in the accompanying Code of Practice document (Department for Constitutional Affairs, 2007).

Capacity should be determined by assessing the ability of the patient to make that particular decision, at that particular time. If it is determined that the person lacks capacity to make the decision, the decision-maker should consider the person's past and present wishes and feelings, beliefs and values, and also the views of other people who are close to the person. Wherever possible, the person who lacks capacity to make a decision should still be included in the decision-making process. A record should be kept of the factors considered when making the decision. This record should include:

- what the reasons for reaching the decision were
- who was consulted to help work out best interests
- what particular factors were taken into account

Where there are disagreements about the decision, a 'best interest case conference' may be held. However, the responsibility for working out what is in the person's best interests still lies with the decision-maker. Determining what is in a person's best interests can involve consulting carers, family members, social workers, general medical practitioners, hospital specialists and dentists. Due to the range of people involved, this can further complicate or delay dental treatment planning for older people. It must be borne in mind that many epidemiological surveys of oral health status in older people have excluded the significant proportion of people who lack the capacity to consent, which will likely result in an underestimation of treatment need and complexity of care required.

In summary, in the coming years there will be increasing numbers of older people, a rising proportion of whom will be retaining their natural teeth. Older people are entitled to receive preventive oral health care and treatment, proportionate to their need and which does not exclude them on the basis of their functional limitations. To aid the future planning of epidemiological surveys, needs assessments and dental services, a section detailing the variety of living arrangements and support available to older people is included in appendix one. Where available, estimates of the numbers and proportions of older people receiving each type of support are included.

## Oral health in older people – what have we learned from epidemiological surveys?

Understanding how oral health in older people can best be supported in the coming years requires knowledge of the need and demand for services, combined with an understanding of where current personal care services and dental services may not be not adequately meeting those needs. There are several definitions of need (Bradshaw, 1972). Normative need is professionally defined and includes data on clinical indicators. Felt need is the need for treatment as perceived by individuals and expressed need is when felt need is translated into seeking treatment. It is worth noting that felt need is restricted by an individual's knowledge of the range of available services. Comparative need is defined by comparing services between individuals, communities and populations. The information supplied in this section attempts to contribute towards understanding normative, felt and comparative need for oral health care in older people, using a range of sources.

The summary statements for each indicator are based on the information derived from five regional surveys of oral health in older people carried out between 2007 and 2014. Wales was included alongside England because it has recent data which allows comparisons to the 2009 Adult Dental Health Survey (ADHS), thus allowing epidemiological comparisons to made. Data was compared against the 2009 ADHS survey for the general adult population and older age sub-groups where possible. The regions which carried out the surveys were; Wales (Morgan et al, 2010; Morgan et al, 2015; Welsh Oral Health Information Unit and Cardiff University School of Dentistry, 2008), West Midlands (West Midlands Dental Epidemiology Programme 2011a; West Midlands Dental Epidemiology Programme, 2011b), North West (Public Health England, 2013a; Public Health England, 2013b; Public Health England 2013c), East London and the City (Marcenes et al, 2011), and Bolton and Kirklees (Healthwatch Bolton & Healthwatch Kirklees, 2014).

The Wales and West Midlands surveys involved a clinical examination as well as a manager and resident questionnaire component and were conducted in care homes. The London survey involved a clinical examination and questionnaire component and was conducted with household resident older adults. The North West survey involved questionnaires completed by service managers of; care homes, 'care in your home' services and hospitals with in-patient facilities. The Bolton and Kirklees survey was carried out by Healthwatch in 2014 and was a questionnaire survey of care home mangers. Not all surveys covered the indicators listed below. Where a survey is not included in the discussion it is because they did not contribute any information to the statement. Further details of sample size, sampling frames and indicators included from each of the individual surveys can be located in the appendix tables.

### Normative need

#### **Function**

Even in the oldest age groups the majority of people are retaining some natural teeth and in the future complete tooth loss and the wearing of prosthetic teeth or full dentures is likely to become even rarer. However, significant inequalities exist in oral health across the country and between socioeconomic groups.

Oral health is affected by deprivation and in the more deprived areas of the country oral health is poorer and edentulousness is higher than in the more affluent areas. In England since 1978 the proportion of adults with no remaining natural teeth has fallen from 28% to 6% (HSCIC, 2011b) compared to Wales where 37% of all adults were edentate in 1978, falling to 10% in 2009. Therefore when comparing proportions between the English and Welsh surveys in this report, it should be noted that oral health is generally poorer in Wales compared to England, regardless of setting.

#### Edentulousness

 the proportion of people who are edentulous is higher in care home residents than in the household resident samples

A total of 30% of ADHS participants aged 75 to 85 were edentulous, compared with 43% in West Midlands care homes (mean age 80). In the ADHS, 47% of those aged over 85 were edentulous, compared with 58% in Wales care homes (mean age 86).

The household resident population sampled in London had much lower rates of edentulousness than the ADHS household resident population in the comparable age brackets of over 65 years, and both of the care home populations. In the London sample, only 2.8% of those examined were edentulous, compared to 31% of older adults in the ADHS.

This may be partly explained by the high proportion of residents living in the London survey area who were not born in the EU. In the 2011 census, the local authorities included in the London survey were ranked 1<sup>st</sup>, 6<sup>th</sup> 13<sup>th</sup> and 22<sup>nd</sup> (of 325 local authorities in England) for proportion of residents born in a non-EU country (Office for National Statistics, 2012). Country of birth may affect levels of tooth loss due to differences in factors such as diet, cultural views about treatment and health system factors.

#### Functional dentition

It is not common for adults to have a full set of 32 teeth, but the ideal is to retain a "functional dentition" throughout life. This is the term used for a dentition that contains enough pairs of natural teeth to allow the individual to eat comfortably and socialise without embarrassment, without the need for partial dentures. A threshold of 21 standing teeth is often used as the definition of a functional dentition (HSCIC, 2011a).

 adults living in care homes are less likely to have the 21 teeth necessary for a functional dentition than household resident elderly

In the ADHS sample, 86% of those in England, and 80% of those in Wales have 21 or more teeth. The older age groups however are less likely to have what is termed a "functional dentition" of 21 teeth. In the household resident dentate ADHS sample, 40% of 75-84 year olds had at least 21 teeth, which can be compared to 33.8% of dentate care home residents in the West Midlands sample (mean age 80).

As might be expected in the over 85 age group, retaining 21 or more teeth is less common again. In the household resident dentate ADHS sample, 26% of those over 85 years have 21 teeth, whereas in the Wales care home dentate sample (mean age 86 years), only 16% had 21 teeth. In contrast, in the London household resident sample of those over 65 years, 80% retain a functional dentition, which is comparable to the general ADHS dentate sample for England (86% of adults aged 16 to 85 years), even though the London sample also includes edentate participants.

#### **Prostheses**

Prosthetic teeth may replace all of the natural teeth (referred to as full, or complete dentures), or may fill spaces in between remaining natural teeth (a partial denture). Wearing a partial prosthesis can be a risk factor for the progression of dental caries and periodontal disease in existing teeth because they may make oral hygiene more difficult and can create food traps, especially if poorly designed or ill fitting.

 in those older than 75 years, wearing some kind of prosthesis is the norm in both care homes and household resident settings

In Wales care homes, 72% wear a prosthesis (mean age 86), compared to 51% in West Midlands (mean age 80). In London household resident adults, the figures are fairly similar, even though 80% of those over 65 years retain a functional dentition; 56% of those aged 75-84 and 63% in those over 80 years of age wear a prosthesis.

#### Active disease

#### Caries

 older adults experience higher caries prevalence than the general adult population, and in care homes the prevalence of active caries appears higher still

This is not surprising when we consider that older people and those in care homes are more likely to have additional risk factors for caries due to poorer general health and functional limitations, as discussed above.

In the ADHS total sample of dentate adults, 29% of those examined had active caries, rising to 40% among those aged 75 to 84 and 33% of those over 85<sup>i</sup>. From both of the care home surveys, the figures appear to be much higher; 73% of dentate care homes residents in Wales, and 56% in the West Midlands sample had active caries. In the London household resident over age 65 sample, caries prevalence in those aged 65 to 84 appeared to be similar to ADHS figures for London dentate adults, even though it also included those who were edentate in the estimate (so the true prevalence of caries in dentate only is likely to be higher). In the London survey, those over 85 had the highest caries prevalence compared to 65-74 and 75-84, at 35%.

#### Periodontal disease

 there was variability between measures of periodontal disease between the various surveys, therefore it is difficult to make any conclusions regarding setting, but it does appear that older adults between 65 and 84 have the highest prevalence of periodontal pocketing of all age groups

Periodontal disease was measured using pocket depths, loss of attachment, bleeding on probing, and tooth mobility across the surveys. In the ADHS general adult dentate population, 45% had at least one periodontal pocket greater 4mm or more. In the age ranges 65 to 84, this increases to approximately 60%. However, in those over 85, it is appears to drop again to 47%. The London household resident sample of older adults follows the same pattern. In those aged 65 to 84, approximately 60% have pockets 4mm or greater, but in those over 85 it drops to 48% (however, this percentage includes edentate people in the denominator, therefore the dentate proportion would be higher). The Wales care home survey also measured pocket depths and found that 40% of dentate residents had depths greater than 4mm (mean age 86).

Unreliable estimate, small sample

#### Pain and sepsis

#### Current pain

 around 10% of all adults in the Wales care home survey and the London household resident sample reported current pain, which includes edentate volunteers. This is comparable to figures for the general England dentate adult population

In the England dentate sample of household resident adults (16-85 years), 9% of participants reported current pain, which appears to decrease with age, from 6% of 65 to 74-year-olds, 4% of 75 to 84-year-olds, and 5% of those over 85. However, in Wales care homes, and the London household resident sample of older adults, 10% complained of current pain and as this percentage includes edentate volunteers, the comparable proportion in dentate only is likely to be higher than that found the ADHS general adult population. In the London sample the figure is much higher in those over 85 years, with 31% reporting pain. This may be due to the fact that the London sample retained many more teeth at older ages, which may translate to a higher unmet treatment need.

#### Prevalence of pulpal involvement, ulceration, fistula, or abscess (PUFA)

The PUFA measure is designed to record the consequences of severe untreated dental caries. A positive PUFA score is recorded in the presence of any one of the following observable signs: Visible pulpal involvement (P), ulceration caused by dislocated tooth fragments (U), fistula (F), and abscess (A) (HSCIC, 2011b; White et al, 2012). It has been suggested that pain and sepsis from severe untreated caries may directly contribute to low weight by causing reductions in food intake and increased metabolic demands (Psoter et al, 2005).

 prevalence of any PUFA signs is higher in the older age groups across settings and may be higher again in care homes

In the total ADHS dentate sample for England, 7% of those examined had one or more PUFA indicators, rising to 8% in those 75-84 and 10% in those over 85. The 8% ADHS figure for 75 to 84-year-olds can be compared with the 15% of dentate participants in the West Midlands care homes survey (mean age 80 years). In the London household resident sample, 10% of 75 to 84-year-olds and 16% of those over 85 experienced PUFA signs. This percentage includes edentate participants, so for dentate only it would be a higher proportion.

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ii Unreliable estimate, small sample

#### Summary of normative need

Older adults living in residential and nursing care homes are more likely to be edentulous and in those who do have some natural teeth, they are less likely to have a functional dentition. The majority of adults over 65 in all settings wear some type of prosthesis and this is even more common in care homes than it is in household resident elderly. The prevalence of untreated caries is higher in the household resident elderly population than in the general adult population. However, older adults living in care homes have the highest caries prevalence, where the majority of dentate residents had active caries. Signs associated with severe untreated caries appear to be more common in the oldest age groups across all settings and current pain also appears to be slightly higher than in the general adult population. Periodontal disease is most common in the age groups of 65 to 84, but due to differences in survey designs it is not possible to say how this compares across settings.

## Felt need

#### Individuals

This section uses questionnaire data from the West Midlands, Wales and London surveys, compared to the ADHS 2009.

#### Good or very good dental health

A question relating to self-reported dental health was asked in the 2009 ADHS and the Wales care home survey.

• adults over 75 are less likely to rate their dental health as "good" or "very good" than the general adult population regardless of setting

A total of 71% of all adults in the ADHS rated their dental health as good or very good, dropping to 59% for those aged 75 to 84 and 53% for those over 85 years. In the Wales care home survey the figure is again lower than the general adult population at 60% (mean age 80), but similar to the household resident ADHS population in the corresponding age bracket.

#### Quality of life

• it appears that older people have worse oral health related quality of life than the general population, but it was not possible to compare across settings

In the general adult population, 39% of all adults report experiencing at least one Oral Health Impact Profile-14 (OHIP-14) impact "occasionally or more often". In the London over 65 household resident sample the comparable figure was 53%. In the ADHS household resident oldest age group of over 85, 41% experience at least one OHIP impact occasionally or more often.

#### Care home managers

#### Homes with residents who need help with oral care

approximately 90% of care home managers reported that they have residents who
need help with oral care. No data was available on this measure for 'care in your
home' or hospital inpatient services

#### Main oral health issues raised by care home managers

The Bolton and Kirklees survey asked managers what they thought were the main oral health issues in their residents. The free-text comments in descending order of frequency were; missing, broken or ill-fitting dentures, residents resisting oral care routines, problems accessing dental services, broken teeth or decay, lack of preventive care and lack of routine appointments. Residents resisting oral care routines (especially those with dementia) was also noted as the most commonly reported problem in the BDA Dentistry in Care Homes Research (British Dental Association, 2012).

#### Access to care

#### Household resident adults

 older adults living in households are less likely to have tried to make an NHS dental appointment than the general population, but appear no less likely to be successful in doing so

58% of adults in the ADHS had tried to make an NHS dental appointment in the last three years, compared to 43% of those aged 75 to 84, and 34% in those aged over 85. Success in making an appointment if attempted is broadly similar for all age groups, at more than 93% in both the ADHS and the London household resident sample.

#### Care home residents

 care home managers experience much more difficulty in accessing routine and emergency dental care for residents than household resident elderly or the general adult population do in securing NHS appointments

In Wales care homes, 17% of managers surveyed experienced difficulties in accessing routine care for residents, and in West Midlands, 23% always and 16% occasionally experienced difficulties. In Bolton and Kirklees just under half of the care homes did not have a regular relationship with a dental provider of routine or emergency care. This meant that in 8% of care homes surveyed, the managers had previously taken a resident to a local accident and emergency department due to urgent dental problems. This can be compared to the ADHS figures above for access in household resident older adults – where if an attempt was made to make an NHS dental appointment, the individual was able to secure an appointment in 93% of cases.

#### Ability to attend a dental practice for treatment

 a large proportion of care home residents were assessed as requiring treatment on a domiciliary basis in the two care home surveys and some older household resident adults have experienced difficulties in getting to a dental practice which has prevented them from accessing care

In Wales, 62% of those examined were thought to require domiciliary care, and 40% of those in the West Midlands. In the London household resident population who had not attended the dentist in the previous two years, 12% had not done so specifically because it was "difficult to get to and from the dentist". In the West Midlands survey, 4% of residents were confined to bed, and 24% used a wheelchair. In the Bolton and Kirklees surveys, 40% of managers were never able to access home visit services for their residents.

#### Impact of general health status

adults in the older age groups are less likely to rate their general health as "good"

A total of 81% of the general ADHS sample rate their health as good, compared to 59% of those aged 75 to 84 and 53% of those over 85 years. In the Wales care home survey, again 53% rated their general health as good. Poorer general health means that treatment is more likely to be complicated by medical considerations.

#### Case complexity

Treatment in care homes is likely to be more complicated than in the general adult, or household resident elderly populations due to difficulties with communication, cooperation, medical considerations, issues related to consent and determining eligibility criteria for help with costs of NHS dental care.

 factors that make providing treatment more complex affected more than half of the residents in the two care homes surveys.

In the Wales care home survey, 68% of those examined had one or more additional case complexity issues. In the West Midlands care home surveys, only 51% of the sample could communicate freely with adequate understanding and 60% could cooperate fully with examination. This additional complexity means that treatment is likely to take longer and may require additional visits and skills.

In the Wales care home survey, the common additional complexity issues were (most common first, with the range provided relating to dentate-edentate); requiring extra visits or time (50-61% of patients), complications due to medical history (12-28%), high caries risk (dentate only, 22%), communication requiring special arrangements (16-20%), capacity or best interest issues (17-12%), cooperation issues requiring sedation or general anaesthesia (2-0%).

#### Quality of services

#### Oral health policy

Only the North West surveys asked about an oral health policy. 41% of North West residential care homes had one in place, compared to 21% of 'care in your home' services.

#### Oral health needs assessment

 residential and nursing care homes appear more likely to carry out an oral health needs assessment upon admission than 'care in your home' services and hospitals with in-patient facilities

In the Wales and North West care homes surveyed, some type of specific oral health needs assessment was included as part of the admissions process in 61% (West Midlands) and 90% (North West) of care homes. Oral health was part of the overall care in plan in 93% of West Midlands care homes, and 77% of North West care homes.

What is Known About the Oral Health of Older People in England and Wales: A review of oral health surveys of older people

In the North West hospitals, an oral health needs assessment was carried out in 83% of cases, and was part of the care plan in 31%. In the North West 'care in your home' services, an oral health needs assessment was carried out by 62% of services, and this was included as part of the care plan in 42% of services.

#### Components of oral health needs assessment

In the four surveys that asked (Wales care homes, North West care homes, North West 'care in your home' and North West hospitals), the most common items considered as part of the oral health needs assessment in all settings were, in descending order:

- presence of dentures
- presence of natural teeth and ability to chew
- ability to clean teeth

Care homes appeared more likely to enquire about any urgent dental problems (70% in Wales, and 81% in in the North-West) than 'care in your home's services (54%, North-West) or hospital services with inpatient facilities (60%, North-West).

#### System in place to ensure help with oral hygiene

The data for this statement comes from the North West surveys of service managers only.

• it appears that 'care in your home's services are the least likely to have a system to ensure that clients who need help with oral hygiene receive it, at 73% compared to 96% of care homes and 87% of hospitals with in-patient facilities

#### Staff training on oral health care

 the proportion of services providing staff training on any aspect of oral health is low across the board and care homes may be more likely to have staff training than 'care in your home' services

Some staff training on providing oral health care where residents require help with oral health care is carried out in 55% of the 88% of Welsh care homes and in 70% of North West care homes, compared to 53% of North West 'care in your home' services.

#### Type of oral health care training provided

 training on assisting with oral hygiene and denture care is more commonly provided across settings than for assessing the need for urgent care, or how to access it. The latter is less likely to happen in 'care in your home' services and hospitals with inpatient facilities

Training on carrying out oral hygiene was provided in more than 75% of cases for the West Midlands and North West care homes, and the North West hospitals. In the North West 'care in your home' services it was provided in 62% of services. Training on accessing urgent care was provided in approximately 70% of West Midlands and North West care homes, compared to 58% in 'care in your home' services and 51% of hospitals.

## Summary of felt need, access to care, complexity of care and quality of existing services

Older adults and the people that care for them feel that they have higher needs for dental treatment than the general population does. They also appear to have poorer oral health related quality of life than do the general adult population. Although, getting to and from a practice has been a barrier to regular care for some older household residents in London, the vast majority of older household resident volunteers in the most recent ADHS were able to access NHS dental services when they try to do so. This is in contrast with older adults living in care homes, for whom the services are patchy and often no regular or emergency dental care arrangements exist. This is especially worrying considering that approximately half of residents in care homes would be unable to receive emergency treatment in a general dental practice due to medical or psychological complications. Little is known specifically about access to services for the increasing numbers and proportions of older people receiving 'care in your home' services.

Although improvements could be made across all settings; oral health policies, oral health needs assessments, staff training on oral health care and a system to ensure oral hygiene support is received if required are all more common in residential and nursing care homes than in 'care in your home' services and hospitals with in-patient facilities. Oral health needs assessments and staff training focus mostly on presence of teeth and dentures, and on carrying out oral hygiene or denture cleaning. What is less common is recognising urgent problems in residents and how to access urgent or emergency dental care.

#### Qualitative data on preferences for treatment

Little is known about older people's preferences for dental treatment, but a qualitative study undertaken in Ireland provides some insight. In interviews with 22 patients ranging from 45 to 75 years of age, the study found that dental patients increasingly expect a more sophisticated approach to the management of missing teeth and to be fully involved in treatment planning. The authors also noted that the younger age groups (45 to 64 years) had higher expectations than the older age groups (Cronin et al, 2009).

## Suggested recommendations for commissioning services

In the past the majority of the conversation around the oral health of older people has focused on the necessity of providing domiciliary dental care to residents of care homes. While this is an essential service, several factors mean that this siloed approach is clearly not enough. The ageing population will bring challenges in the future as the number of those living with multiple long-term conditions increases. Complicated medical histories mean that fewer patients will be suitable for invasive dental treatment in a residential setting and special care dental services and multi-disciplinary teams are more likely to be necessary.

As more people are keeping their teeth for longer the range of dentistry required will be technically more complex than in the past and is more likely to demand the facilities of a dental surgery even without additional medical considerations. Additionally, more people are receiving extensive care and support in their own homes rather than in a residential establishment. This is likely to become even more common in the future as residential and nursing care is reserved for the oldest old and those with the highest care needs. This makes identifying and accessing those who need preventive and treatment services more complex and a whole-systems approach is required.

To inform proper planning and needs assessments, more information is required on the oral health of the household resident elderly population. The residential and nursing care population is already smaller than the numbers of people receiving 'care in your home' or supported living services, yet we know much less about their oral health, their levels of dependency, and the likely complexity of providing treatment for them.

The NHS's Five Year Forward View highlights the need to increase integration of the health and social care systems to improve population health (NHS England et al, 2014). The creation of the Better Care Fund linking health and social care budgets, and the Health and Wellbeing Boards created by the Health and Social Care Act 2012 are just the beginning steps towards achieving this aim (Alderwick et al, 2015). The Care Act 2014 also calls for more integration, partnership working and person-centred care. This integration is particularly important for older people and those living with long-term conditions.

Dental services for older people must therefore be more integrated within the wider health and social care landscape. Developments in training, information sharing and referral pathways are necessary to achieve this. Formal and informal carers across all settings require appropriate training and support in ensuring adequate oral hygiene, recognising urgent dental conditions, and when and where to seek both routine and emergency dental treatment. All 'Care in your home' services as well as nursing and residential care facilities should have appropriate policies and systems in place to ensure the oral health of their clients is optimised.

In order to develop holistic services that are tailored around the patient, a varying level of prevention and care need to be available as part of the same care pathway and where necessary this care may span a variety of settings. Securing Excellence in Dental Services made clear the commitment to develop dental services around a care pathway approach (NHS Commissioning Board, 2013) and this must be considered when developing services for older people. The care pathway for those who are unable to access high street dental services should be designed to allow a variety health and social care contacts, such as GPs, social workers, hospital specialists and third sector organisations to initiate it.

A responsive, integrated and person-centred approach to dental care for older people would involve a service that accepts timely referrals from a variety of health and social care professionals. This may mean that when a person is diagnosed with a progressive long-term condition such as dementia, a referral is made for a dental assessment. This would give time for treatment planning options to be discussed, and in some cases might allow any complex dental work to be carried out before treatment becomes difficult. Commissioning in partnership with local authorities would mean oral health improvement programs operating at a service level to deliver training for care homes and 'care in your home' services, but which can also link into prevention and treatment services for individuals where necessary.

A tailored prevention and treatment plan for an individual patient may call on a wide range of skills that need to be available as part of the same service or care pathway, although they might be delivered in different settings. For example, extended duty dental nurses and oral health promoters can provide routine preventive treatments in the community setting, but these outreach services must also be linked to access to treatment services of varying levels of complexity. Managing patients with multiple long-term conditions and poly-pharmacy who require maintenance of advanced restorative dental work or surgical procedures, requires a range of more advanced skills and experience in the treatment providers. General dental practitioners can provide some treatments, but any service will additionally require access to the skills of dentists with special interests, or specialists and consultants in special care dentistry.

Settings for simpler treatments may involve domiciliary care using mobile equipment, or may require mobile dental surgeries, transport services and access to a multi-specialist dental team. This team should have in place appropriate arrangements regarding; safeguarding for vulnerable adults and how to act on concerns, policies for obtaining informed consent in individuals who lack capacity and the triggers to, and procedures for arranging a best-interest meeting. Additionally, it is important that all staff are aware

of the eligibility criteria for free NHS dental treatment, and how to find out the necessary information when individuals lack capacity. Planning future dental services for older people around the provision of domiciliary services in residential and nursing care homes is no longer enough. Creative thinking is required to provide an equitable dental service for older people that is able to provide the full range of dental treatments necessary.

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## **Appendices**

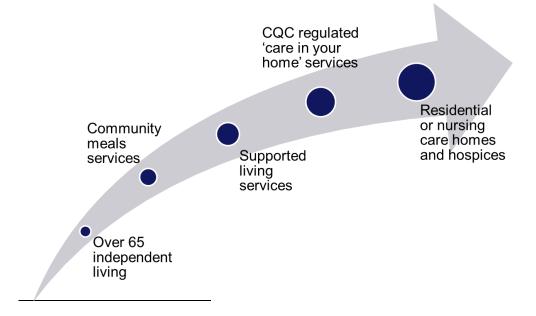
#### Appendix 1: Living arrangements and level of support available

There is wide variation in the level of functional limitation, dependency and support needed by older people. Figure 3 shows the trajectory of increasing levels of support available. Many older people will be able to maintain their own oral hygiene and access routine high-street dental services. Others would find this impossible and may need support with oral hygiene and require modified dental treatment services. Knowledge of the numbers and proportions of older people receiving each type of support and in which type of housing arrangement is helpful in order to plan both epidemiology and treatment services and some detail is provided below.

#### Place of residence

Older people live in a wide variety of settings, with varying levels of support. The most common arrangement is for people to be living in households, either as a married or cohabiting couple (54%), or alone (31%) (Office for National Statistics 2013). In 2011, of the 9.2 million usually resident population aged 65 and over, the majority (96% or 8.9 million) were living in households. Only a small proportion of older people live in "communal establishments" such as care homes or sheltered accommodation (3.7% or 337,000 people) (Office for National Statistics 2013). Of those living in communal establishments, over half are aged over 85, and just 5.3% are aged 65 to 69 (Office for National Statistics 2013).





<sup>&</sup>lt;sup>iii</sup> A Communal establishment is a managed residential accommodation, and includes sheltered accommodation units as well as residential and nursing care homes

#### Over 65 independent living

Although living independently, older people may have varying levels of morbidity and functional limitations, but no formal care arrangements in place. Data from the English longitudinal study of ageing shows that in people aged over 60 living in a private household in England, 14% were classified as frail, but even in the non-frail individuals, 58% had mobility difficulties (Gale et al, 2015; Steptoe et al, 2013). However, only 71% of frail, and 31% of non-frail individuals received any help from other people (Gale et al, 2015). This highlights that there may be significant numbers of older people living in their own homes who cannot easily access routine dental services, or perform daily oral hygiene tasks but who are not receiving any formal care or support.

#### Community meals services

'Community meals' refers to meals delivered at home ('meals on wheels') and luncheon clubs at day centres. There is wide variation in local authority provision of community meals, as provision is not a statutory requirement. A recent report has found that a third of all UK local authorities are no longer providing meals on wheels services (National Association of Care Caterers, 2014). In 2013-14 meals were provided to 30,000 individuals aged over 65, down from 56,000 in 2011-12 (The Health and Social Care Information Centre, 2014). Those local authorities that do provide meals have contracts with providers to provide (usually) frozen meals delivered to people in their own homes.

#### Supported living services

There is no statutory definition of supported living, and it may be referred to as floating support, visiting support, housing support or sheltered housing. Housing support refers to help for people who are still living in their own homes, rather than in sheltered housing accommodation (NHS Choices 2015). Staff may visit someone at home to provide motivation, shopping, housework, or administrative tasks such as bill payments.

In sheltered housing arrangements, there may be a community alarm service, or a warden on hand. These services are not providing "personal or social care", thus are not regulated by the Care Quality Commission (CQC). Local authorities coordinate (and provide some of) these services, and have contracts with other providers, who may include private companies, the NHS, and the not-for-profit sector. The most recent estimate suggests that in England there are 480,000 dwellings as part of 15,000 supported housing schemes with some type of on-site manager or warden service (Pannell and Blood 2012).

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iv Presence of three or more of: unintentional weight loss, weakness, self-reported exhaustion, slow walking speed and low physical activity

#### 'Care in your home' services

Care provided at home can include a wide range of support, from help with housework, cooking, preparing meals, personal care such as washing and dressing, to 24 hour nursing care. Providers must be registered with the CQC if providing "regulated activities" of personal or nursing care, as listed in Schedule 1 of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2010. Comparing the 2001 and 2011 censuses, more people are remaining in households rather than moving to residential or nursing care, and the proportion of people in households with a long-term health problem or disability has increased, while the 'communal establishment' and nursing and care home population has decreased (Office for National Statistics, 2013). There were more people receiving home care in 2012-13 than were recorded as living in all 'communal establishments' in the 2011 census (Office for National Statistics, 2013, The Health and Social Care Information Centre, 2014).

For the 372,000 adults over the age of 65 who received home care in 2012-13, 14.7 million contact hours were provided directly by local authorities (8%), while 171.2 million contact hours were provided by the independent sector (92%). The hours provided by the private sector may be funded either directly from the recipient of care, or may be commissioned by the local authority if the recipient is eligible for financial support. The contact hours provided directly by local authorities have fallen by 61% since 2008 to 2009, while the independent sector has provided 5% more in the same period (The Health and Social Care Information Centre, 2014). The average number of hours of home care provided per client per year is 395, or just over an hour per day, per client (The Health and Social Care Information Centre, 2014).

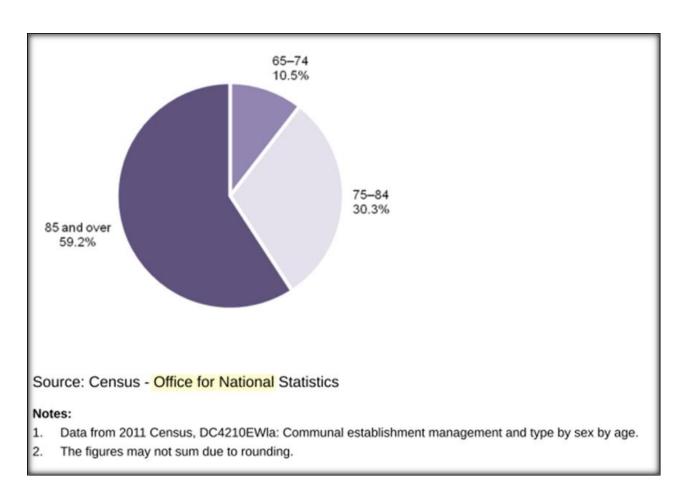
#### Residential and nursing care homes

Residential care homes provide accommodation, meals and personal care such as help with washing and eating and can help residents to take prescription medications. Nursing homes provide a similar service to residential care homes, but also have registered nurses, who can provide more complex medical care.

In the 2011 census, 291,000 people over 65 in England and Wales were living in nursing or residential care homes, just 3.2% of the total population of this age group (Office for National Statistics 2014a), compared to 372,000 people who live in residential or nursing care homes. In England in 2012 to 2013 the majority of places in care homes were residential (161,000) rather than nursing (77,000) (The Health and Social Care Information Centre 2014). Between 2001 and 2011, the care home population increased by 0.3%, compared to 11% for the general population of over 65s, therefore the proportion of older people who are residing in care homes has decreased. This is also accompanied by an increase in the proportion of care homes residents who are over 85 years (Office for National Statistics 2014a).

This reduction in the proportion of older people residing in care homes may be due to; improvements in the health of the population between 2001 and 2011, the provision of increasing amounts of informal care (there were an extra 600,000 unpaid carers in 2011 than there were in 2001), and the increasing provision of less expensive domiciliary care as increasing numbers of older people fund care themselves (Office for National Statistics 2014a). The result is that the mean age of those in the care home population is likely to become higher in the future and they are likely to have higher support needs. The current age distribution of the resident care home population is shown in Figure 4.

Figure 4: Proportions of the resident care home population aged 65 and over by age in England and Wales, 2011 (Office for National Statistics, 2014a)



## Appendix 2: Tables relating to individuals

Table 1: Normative need indicators from clinical examinations

	Survey					
Indicator	Wales care homes  2010-11 (N = 655)	West Midlands care homes 2011 (N = 813)	East London and the City household resident adults 65+ 2011 (N = 796)	ADHS household resident adults 65+ 2009 (N = 2,780)	ADHS general adult population (16-85+)  2009 (N =11,380)	
Age	Mean: 85.5 (Range 39-102)	Mean: 80 (Range 21-103)	65-74: 54% 75-84: 36% 85+: 10%	65-85+	16-85+	
Edentulous % (N)	58%	44%	3% 65-74: 2% 75-84: 3% 85+: 6% (523)	31% 65-74: 15% 75-84: 30% 85+: 47%	England: 6%	
Wearing prosthesis % (N)	72%	51%	47% 65-74: 39% 75-84: 56% 85+: 63% (764)	n/a	n/a	
Functional dentition % (21+ Teeth) : Total sample	7%	19%	80% 65-74: 83% 75-84: 82% 85+: 68%	n/a	n/a	

	Survey				
Indicator	Wales care homes  2010-11 (N = 655)	West Midlands care homes  2011 (N = 813)	East London and the City household resident adults 65+ 2011 (N = 796)	ADHS household resident adults 65+ 2009 (N = 2,780)	ADHS general adult population (16-85+)  2009 (N =11,380)
Functional dentition % (21+ Teeth) : Dentate only (N)	16%	34% (456)	n/a (523)	65-74: 61% 75-84: 40% 85+: 26% <sup>v</sup> (1,280)	England: 86% West Midlands: 82% London: 91% (6,470)
Current pain or discomfort %: Total sample	n/a	11%	10% 65-74: 9% 75-84: 6% 85+: 31%	n/a	n/a
Current pain or discomfort %: Dentate only (N)	n/a	n/a	n/a (509)	65-74: 6% 75-84: 4% 85+: 5% <sup>v</sup> (1,280)	England: 9% West Midlands: 9% London: 9% (6,470)
PUFA %: Total sample	n/a	9%	8% 65-74: 6% 75-84: 10% 85+: 16%	n/a	n/a
PUFA % : Dentate only (N)	n/a	15%	n/a	65-74: 6%	England: 7%

<sup>&</sup>lt;sup>v</sup> Unreliable estimate, small sample

	Survey				
Indicator	Wales care homes  2010-11 (N = 655)	West Midlands care homes 2011 (N = 813)	East London and the City household resident adults 65+ 2011 (N = 796)	ADHS household resident adults 65+  2009 (N = 2,780)	ADHS general adult population (16-85+)  2009 (N =11,380)
		(454)	(505)	75-84: 8% 85+: 10% <sup>vi</sup> (1,280)	West Midlands: 7% London: 7% (6,470)
Active caries % : Total sample	31%	39%	25% 65-74: 19% 75-84: 31% 85+: 34%	n/a	n/a
Active caries % : Dentate only (N)	73%	56% (453)	n/a (523)	65-74: 27% 75-84: 40% 85+: 33% <sup>vi</sup>	England: 30% Wales: 47% West Midlands: 39% London: 28% (6,470)
Pocket depths > 4mm % : Total sample	17%	n/a	58% 65-74: 60% 75-84: 58% 85+: 49%		

vi Unreliable estimate, small sample

	Survey				
Indicator	Wales care homes  2010-11 (N = 655)	West Midlands care homes 2011 (N = 813)	East London and the City household resident adults 65+ 2011 (N = 796)	ADHS household resident adults 65+ 2009 (N = 2,780)	ADHS general adult population (16-85+)  2009 (N =11,380)
Pocket depths > 4mm % : Dentate only (N)	40% (277)	n/a	n/a (523)	65-74: 60% 75-84: 61% 85+: 47% <sup>vii</sup>	Total: 45% England: 50% West Midlands: 59% London: 48% (6,470)
Bleeding on probing % : Total sample	n/a	n/a	48% 65-74: 47% 75-84: 52% 85+: 33%		
Bleeding on probing %: Dentate only (N)	n/a	n/a	n/a (523)	65-74: 49% 75-84: 51% 85+: 47% (1,260)	Total: 54% England: 54% West Midlands: 61% London: 49% (6,430)

vii Unreliable estimate, small sample

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Table 2: Individual felt need and quality of life

	Survey Survey									
Indicator	Wales care homes 2010-11 (N=655)	West Midlands care homes 2011 (N=813)	East London and the City household resident adults 65+ 2011 (N=796)	ADHS household resident adults 65+ 2009 (N=2,780)	ADHS general adult population (16-85+) 2009 (N=11,380)					
Self-rate "good" or "very good" dental health % : Total sample (N)	60%	n/a	n/a	65-74: 70% 75-84: 59% 85+: 53% (2,780)	71% (11,380)					
Self-rate "good" or "very good" dental health % : Dentate sample (N)	n/a (395)	n/a	n/a	65-74: 73% 75-84: 71% 85+: 59% (2,130)	England: 70% West Midlands: 75% London: 67% (10,570)					
Perceived need for treatment wiii %: Total sample (N)	n/a	(836)	49% 65-74: 46% 75-84: 52% 85+: 59.5% (757)	n/a	n/a					
At least 1 OHIP-14 impact "occasionally or more often" %: Total sample (N)	n/a	n/a	53% 65-74: 54% 75-84: 48% 85+: 67% (768)	37% 65-74: 37% 75-84: 34% 85+: 41% (2,780)	(11,380)					

<sup>-</sup>

viii Do you think you need to see a dentist? (West Midlands). If you visited the dentist tomorrow, do you think you would need treatment? (London)

		Surv	еу		
Indicator	Wales care homes 2010-11 (N=655)	West Midlands care homes 2011 (N=813)	East London and the City household resident adults 65+ 2011 (N=796)	ADHS household resident adults 65+ 2009 (N=2,780)	ADHS general adult population (16-85+) 2009 (N=11,380)
At least 1 OHIP-14 impact "occasionally or more often" %: Dentate sample (N)	n/a	n/a	n/a	39% 65-74: 36% 75-84: 34% 85+: 42% (2,130)	n/a
OHIP domains "occasionally or more often" % : Total sample (N) Functional limitation :					
Trouble pronouncing words	n/a	7%	13%	n/a	4%
Taste worsened	n/a	n/a	12%	n/a	3%
Physical pain :					
Painful aching	n/a	17%	30%	n/a	22%
Uncomfortable eating  Psychological discomfort:	n/a	13%	30%	n/a	22%
Self-conscious	n/a	18%	19%	n/a	17%
Tense	n/a	n/a	15%	n/a	9%
Physical disability :					
Unsatisfactory diet	n/a	n/a	13%	n/a	4%
Interrupt meals	n/a	12%	18%	n/a	6%
Psychological disability:					
Difficult to relax	n/a	n/a	12%	n/a	7%
Embarrassed	n/a	n/a	14%	n/a	10%

	Survey									
Indicator	Wales care homes 2010-11 (N=655)	West Midlands care homes 2011 (N=813)	East London and the City household resident adults 65+ 2011 (N=796)	ADHS household resident adults 65+ 2009 (N=2,780)	ADHS general adult population (16-85+) 2009 (N=11,380)					
OHIP domains "occasionally or more often" % : Total sample (N) Social disability : Irritable Difficulty doing jobs Handicap : Life less satisfying Unable to function	n/a n/a n/a n/a n/a	n/a n/a n/a n/a	9% 5% 12% 3%	n/a n/a n/a n/a	5% 2% 6% 1%					
		(836)	(768)		(11,380)					

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Table 3: Access relating to individuals

Survey Survey								
ndicator	West Midlands care homes 2011 (N=848)	East London and the City household resident adults 65+ 2011 (N=796)	ADHS household resident adults 65+ 2009 (N=2,780)	ADHS general adult population (16-85+) 2009 (N=11,380)				
Tried to make NHS dental appointment % (N): In last three years	n/a	62% 65-74: 68% 75-84: 57% 85+: 46%	65-74: 55% 75-84: 43% 85+: 34%	58%				
n last six months	26% (836)	n/a (734)	n/a (11,370)	n/a (11,370)				
Successful in making NHS dental appointment % (N): n last three years	n/a	96%	65-74: 96% 75-84: 95% 85+: 93%	93%				
	88%	n/a	n/a	n/a				
	(221)	(455)	(6,700)	(6,730)				

Table 4: Complexity of care issues

Survey Survey									
Indicator	Wales care homes  2010-11 (N=655)	West Midlands care homes  2011 (N=815)	East London and the City household resident adults 65+ 2011 (N=796)	ADHS household resident adults 65+  2009 (N=2,780)	ADHS general adult population (16-85+) 2009 (N=11,380)				
Age	Mean: 85.5 (Range 39-102)	Mean: 80 (Range 21-103)	65-74: 54% 75-84: 36% 85+: 10%	65-85+	16-85+				
Mobility %: Walk unaided Stick/zimmer frame Assistance from others Wheelchair Confined to bed	n/a	33% 34% 5% 24% 4%	n/a	n/a	n/a				
<b>Require domiciliary care % :</b> Yes No Don't know No answer	62%	39% 60% 0.6% 0.4%	n/a	n/a	n/a				
Good health %	53%	n/a	n/a	65-74: 70% 75-84: 59% 85+: 53%	81%				

Survey									
Indicator	Wales care homes  2010-11 (N=655)	West Midlands care homes 2011 (N=815)	East London and the City household resident adults 65+ 2011 (N=796)	ADHS household resident adults 65+ 2009 (N=2,780)	ADHS general adult population (16-85+) 2009 (N=11,380)				
Communication %: Free communication with adequate understanding Mild-moderate restriction Severe restriction	See below	51% 46% 3%	n/a	n/a	n/a				
Cooperation % (N): Cooperate fully Difficulty in cooperation Unable to cooperate	n/a	61% 38% 2% (815)	n/a	n/a	n/a				
Case complexity Issues for examination % (N): Communication requiring special arrangements  Cooperation issues requiring sedation or GA  Treatment plan complicated by medical history  High caries risk	Edentate: 20% Dentate: 16%  Edentate: 0% Dentate: 2%  Edentate: 12% Dentate: 28%  Dentate: 22%	n/a	n/a	n/a	n/a				

	Survey Survey										
Indicator	Wales care homes  2010-11 (N=655)	West Midlands care homes 2011 (N=815)	East London and the City household resident adults 65+ 2011 (N=796)	ADHS household resident adults 65+ 2009 (N=2,780)	ADHS general adult population (16-85+) 2009 (N=11,380)						
Case complexity Issues for examination % (N): Capacity to consent/best interest issues Extra visits/time	Edentate: 12% Dentate: 17%  Edentate: 50% Dentate: 61% (655)	n/a	n/a	n/a	n/a						
Presence of one or more additional case complexity % (N)	68% (655)	n/a	n/a	n/a	n/a						

## Appendix 3: Tables relating to services

**Table 5: Felt need managers** 

Survey Survey									
Indicator	West Midlands care home Survey 2011 (N=1174)	Wales care home managers survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West Hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)			
Characteristics of settings %: Nursing Residential only Mixed nursing & residential Hospice	26% 74%	9% 70% 19%	19% 19% 22% 10%	Agencies providing personal care at home for those 65+  Does not include "Supported living services" – ie warden.	One elderly care, one medical, and one surgical ward manager randomly selected from each hospital in North West				
Homes with residents who need help with oral care % (N): Yes No	90% 3% (1,079)	n/a	n/a	n/a	n/a				

	Survey								
Indicator	West Midlands care home Survey 2011 (N=1174)	Wales care home managers survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West Hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)			
Homes with residents who receive help with cleaning teeth or dentures % (N): Yes No Don't know No reply	n/a	88% 10% 0.5% 2% (957)	n/a	n/a	n/a				
Homes with residents who need to see a dentist % (N): Yes No Not answered	34% 31% 35% (1,170)	n/a	n/a	n/a	n/a				
Main oral health issues in residents?	n/a	n/a	n/a	n/a	n/a	Missing or ill-fitting dentures Residents resisting oral care Access to services/broken teeth or decay Lack of preventive care Lack of routine appointments			

Table 6: Access to care - managers

Survey Survey									
Indicator	West Midlands care home managers survey 2011 (N=1,174)	Wales care home managers survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)			
Difficulties experienced in accessing dental care for residents %: Yes No Not answered	17% 77% 6%	n/a	n/a	n/a	n/a	n/a			
Difficulties experienced in accessing routine dental care for residents %: Yes, always Yes, occasionally No Don't know	n/a	24% 16% 56% 4%	n/a	n/a	n/a	Main reasons for difficulties: Long waits/lack of home visits No dentists taking on patients No accessible surgery			
Difficulties experienced in accessing emergency dental care for residents %: Yes, always Yes, occasionally No Don't know	n/a	18% 12% 61% 9%	n/a	n/a	n/a				

			Survey			
Indicator	West Midlands care home managers survey 2011 (N=1,174)	Wales care home managers survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)
Do you have a dentist who looks after routine and emergency care? %: Yes No No answer	n/a	n/a	n/a	n/a	n/a	49% 46% 3%
Policy in place to ensure regular check-ups? %: Yes, as part of care plan Yes, verbally On request/symptoms No Don't know	n/a	41% 7% 34% 16% 2%	n/a	n/a	n/a	n/a
Are staff trained on how to obtain urgent dental treatment for clients? % (N): Yes No	71% 9%	n/a	74% 26% (205)	58% 41% (170)	52% 48% (93)	n/a

Survey							
West Midlands care home managers survey 2011 (N=1,174)	Wales care home managers survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)		
77% 15% 8%	n/a	n/a	n/a	n/a	n/a		
n/a	77% 2% 5% 2% 8% 6%	60% 9% 3%	n/a	28% 23% 6% 27% 17%	n/a		
	Midlands care home managers survey 2011 (N=1,174) 77% 15% 8%	Midlands care home managers survey 2011 (N=1,174) 2007 (N=957) n/a 77% 15% 8% 77% 2% 5% 2% 5% 2%	West Midlands care home managers survey 2011 (N=1,174) 2007 (N=957) 2012-13 (N=230) 7/8 15% 8% 6% 6% 6%	West Midlands care home managers survey 2011 (N=1,174) 2007 (N=957) 2012-13 (N=196) 77% 15% 8% 77% 2% 5% 5% 2% 5% 8% 8% 8% 8% 8% 8% 8% 8% 8% 8% 8% 8% 8%	West   Midlands   Care   Home   managers   survey   2011   (N=1,174)   (N=957)   (N=230)   (N=96)   (N=96)		

Survey						
Indicator	West Midlands care home managers survey 2011 (N=1,174)	Wales care home managers survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)
Have you ever sent a resident to accident and emergency for dental problems? %: Yes No No answer	n/a	n/a	n/a	n/a	n/a	8% 91% 2%
If residents access dental care, is it at the care home or the dental practice? % (N): Dentist visits care home Residents visit practice Both	30% 44% 24% (1,170)	n/a	n/a	n/a	n/a	n/a
Domiciliary care available? % : Yes No Sometimes No answer	n/a	n/a	n/a	n/a	n/a	38% 43% 9% 7%

Table 7: Quality of oral health care in managed services

			Survey			
Indicator	West Midlands care home Survey  2011 (N=1174)	Wales care home survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West Hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)
Characteristics of settings % (N): Nursing Residential only Mixed nursing & residential Hospice	26% 74% (1138)	9% 70% 19%	19% 19% 22% 10%	Agencies providing personal care at home for those 65+  Does not include "Supported living services" – ie warden.	One elderly care, one medical, and one surgical ward manager randomly selected from each hospital in North West	Residential care homes
Is there an oral health care policy in place? % (N): Yes No In some cases	n/a	n/a	41% 57% 2%	22% 75% 3% (174)	n/a	n/a

Survey							
Indicator	West Midlands care home Survey  2011 (N=1174)	Wales care home survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West Hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)	
Is an oral health needs assessment carried out at admission? % (N): Yes Yes, for care plan Yes, but not as part of care plan No Not answered	61% 32% 7%	n/a	77% 12% 20%	43% 20% 37% (175)	53% 31% 16%	n/a	
Oral health included in care plan? %: Yes No	93%					72% 23%	

Survey							
Indicator	West Midlands care home Survey  2011 (N=1174)	Wales care home survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West Hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)	
What areas are covered by any oral health needs assessment? % (N): Presence of any natural teeth Presence of dentures Ability to chew Ability to clean teeth Presence of urgent conditions Last check-up Have GDP Want dental appointment Any dental problems	n/a	94% 94% 63% 73% 63% 71%	94% 94% 95% 81%	84% 84% 86% 55%	90% 76% 78% 60%	n/a	
Is there a system in place to ensure that patients have the opportunity to clean their teeth twice a day? %: Yes No In some cases	n/a	n/a	84% 10% 6%	n/a	79% 14% 7.4%	n/a	

Survey							
Indicator	West Midlands care home Survey  2011 (N=1174)	Wales care home survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West Hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)	
Is there a system to ensure clients who need help with oral hygiene receive this? % (N) Yes No In some cases	n/a	n/a	6% 0.9% 3%	74% 13% 13% (175)	87% 8% 5%	n/a	
Is there a policy of marking dentures? % (N): Yes No Not answered	26% 61% 13% (1,170)	n/a	n/a	n/a	n/a	n/a	
Is staff training on providing oral health care provided? % (N): Yes No Don't know No reply	n/a	56% 42% 1% 1% (957)	71% 29%	54% 46% (175)	n/a	n/a	

Survey							
West Midlands care home Survey  2011 (N=1174)	Wales care home survey 2007 (N=957)	North West adult residential care, nursing homes and hospices 2012-13 (N=230)	North West 'care in your home' services 65+ 2012-13 (N=196)	North West Hospitals with in- patient facilities 2012-13 (N=96)	Healthwatch Bolton and Kirklees 2014 (N=65)		
n/a	n/a	n/a	n/a	n/a	26% 17% 3%		
76% 68% 58% 71% 9% 31%	56%	68% 76% 77% 12% 70% 74%	46% 62% 64% 41% 59%	72% 76% 82% 36% 52%	n/a		
	Midlands care home Survey  2011 (N=1174)  n/a  76%  68% 58%  71% 9%	Midlands care home survey  2011 (N=1174)  n/a  2007 (N=957)  n/a  56%  76%  68% 58%  71% 9%	West Midlands care home Survey         Wales care home survey         North West adult residential care, nursing homes and hospices 2012-13           2011 (N=1174)         2007 (N=957)         (N=230)           n/a         n/a         n/a           56%         68%           76%         76%           77%         12%           68%         70%           71%         9%           31%         70%	West   Midlands   care   home   survey     with test   care   nursing homes   and hospices   2012-13   with test   care   home's services   65+   2012-13   with test   care   in your   home's services   65+   2012-13   with test   care   home's services   care   home's services	West Midlands care home Survey         Wales care home survey         North West adult residential care, nursing homes and hospices 2012-13         North West 'care in your home' services 65+         North West Hospitals with inpatient facilities 2012-13 (N=96)           2011 (N=1174)         2007 (N=957)         (N=230)         (N=196)         n/a           n/a         n/a         n/a         n/a         n/a           76%         76% 76% 64% 64% 82%         76% 82%           58%         70% 74% 59% 59% 52%         41% 59% 52%		