Joint Strategic Needs Assessment

Oral Health (Briefing Paper)

Last updated: November 2017

Summary

Children

The percentage of 5 year olds free from obvious tooth decay on the Isle of Wight (73.6%) is on par with the England average (75.2%).

67.7% of children accessed a dentist in the 24 months on par with the England (68.0%) and Wessex (67.1%) average.

Access to dentists for 3 to 5 year olds and 13 to 17 year olds is on par with the England average. However, dental access for 0 to 2 and 6 to 12 year olds is lower than the England average.

Adults

The Isle of Wight has a lower age-standardised rate of oral cancer than the England average. Access to NHS dentists is above England average for ages 18 to 54 year old but below the England average for 55+ years accessing dentists.

Adults experience higher levels of urgent treatment than the England benchmark.

Public Health Foreword

"Oral health is an important part of general health and wellbeing. There have been welcomed improvements in oral health over the last 40 years[1] but significant inequalities remain.

Oral diseases are largely preventable sharing common lifestyle risk factors such as smoking, alcohol misuse and poor diet. There is a need to develop interventions to achieve sustained and long-term improvements in oral health and reduce inequalities.

The Council's role is to undertake oral health surveillance to inform the targeting of oral health improvement programmes and inform NHS England's dental service commissioning.

Partnership action is required to address the wider determinants to create healthier environments and the adoption of healthier behaviours by individuals in the population."

Lauren Stott - Senior Public Health Practitioner

What is oral health?

WHO definition[2]

Oral health is a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the oral cavity.

The main diseases affecting oral health are:

- Dental caries (tooth decay) are caused when oral bacteria produce acids that gradually soften the enamel leading to cavities in the teeth[3].
- Periodontal (gum) disease is the inflammation of the gum around the tooth or teeth caused by bacteria left on the teeth. Untreated gum disease can eventually spread to supporting bone causing loose teeth and tooth loss[4].
- Oral cancer is primarily due to smoking and excessive alcohol consumption. The cancer is life-threatening and survival rates improve the earlier it is treated[5].
- Dental erosion can result from enamel being worn away through high consumption of acidic food and drinks, particularly carbonated soft drinks.

Risk Factors

The risk factors for poor oral health include[6]:

- Poor Diet
- Smoking
- Poor oral hygiene including not using fluoride toothpaste
- Trauma
- Substance misuse

Poor oral health and access to dental services are affected by economic, social, environmental and lifestyle factors.

Vulnerable groups more likely to suffer from poor oral health and barriers to access dental services include residents who[3]:

- are homeless or frequently move, such as traveller communities
- are socially isolated or excluded
- are older and frail
- have physical or mental disabilities
- are from a lower socioeconomic group
- live in a disadvantaged area
- smoke or misuse substances (including alcohol)
- have a poor diet
- are from some black, Asian and minority ethnic groups
- are, or have been, in care

Prevention

Prevention of dental disease needs to start early in life to lay the foundation for a lifetime of good oral habits and health. Evidence indicates that to achieve good dental health, the following are needed[3]:

- Tooth brushing with fluoride toothpaste twice a day as soon as the first tooth erupts.
- Healthy diet, particularly eating more fruit and vegetables and reducing acidic and sugary foods and drinks such as carbonated soft drinks and fruit juices
- Visiting a dentist regularly for preventive care and advice, starting from when the first tooth erupts.

Cost of dental care

Dental treatment is a significant cost to the health economy, with the NHS in England spending £3.4 billion per year on dental care (with an estimated additional £2.3 billion on private dental care)[7].

Children's Oral Health

Tooth decay is the most common oral disease affecting children and young people in England. Tooth decay was the most common reason for hospital admissions in children aged five to nine years old in 2012-13[8]. However, it is estimated that 90% of dental caries are preventable[9].

Children's primary (baby) teeth are more susceptible to decay than permanent (adult) teeth owing to differences in their chemical and physical composition[10]. For example, primary teeth have thinner and often less resilient enamel that does not provide as much protection from bacteria[11]. Infants and toddlers can be affected by an aggressive form of decay called Early Childhood Caries which is associated with the frequent consumption of sugary drinks in baby bottles or sipping cups. It occurs in the upper front teeth and spreads rapidly to other teeth[12].

While children's oral health has improved over the past 20 years, almost a quarter (24.7%) of five-year-olds still had tooth decay in 2015[13]. Gum (periodontal) disease, traumatic dental injuries and acid erosion are oral diseases that also contribute to poor oral health in children and young people.

Poor oral health can affect children and young people's ability to sleep, eat, speak, play and socialise with other children[14]. Other impacts include pain, infections, poor diet, impaired nutrition and growth.

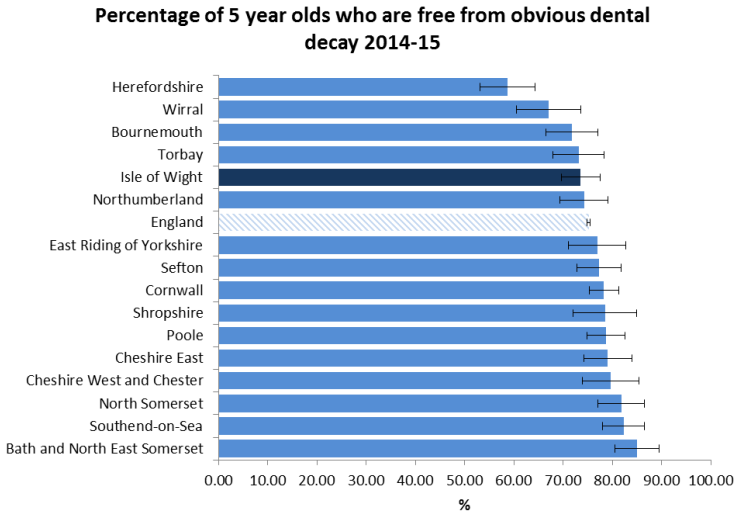
Need

National Dental Epidemiology Survey: 5 year olds[13]

This national Survey is a biennial event which aims to record the dental health of children across England. The Survey findings for 2014/15 show that 73.6% of Isle of Wight 5 year olds who were examined were free from obvious dental decay. This was lower than the England average of 75.2% (but not statistically significantly ~~different~~). Figure 1 compares the Isle of Wight with the England average and local authority comparators.

It should be noted that the Survey requires parents to give positive consent (opt in) for their child to be included in the survey. Lower levels of participation in the survey threaten the validity of the data and make it difficult to determine the true picture of the oral health of Isle of Wight children. In 2014/15, under positive consent, 75.4% of the sample identified were examined on the Isle of Wight compared to an England average of 63.1%. In 2005/6, the last survey which operated with negative consent, over 90% of all Year 1 Isle of Wight children were examined.

Figure 1

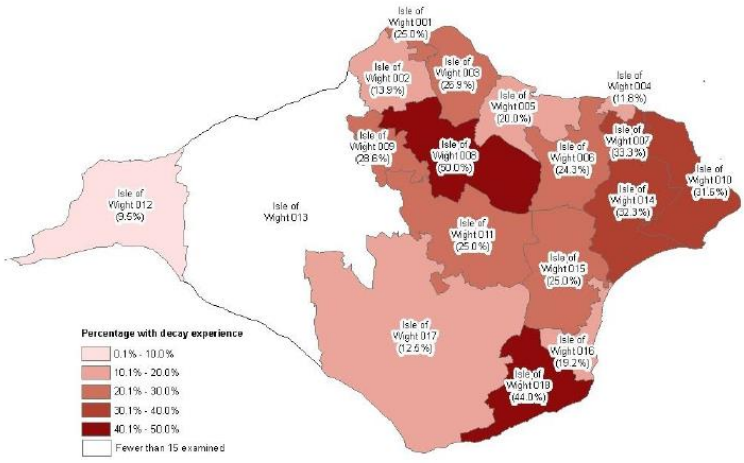


Source: PHE, Public Health Outcomes Framework (PHOF), 2016

A range of measures of oral health among five-year-olds on the Isle of Wight were captured as part of the dental survey of 5-year olds including the percentage of children with high levels of plaque on upper front teeth, which is indicative of a non-brusher[15]. On the Isle of Wight 8.1% of 5-year olds surveyed presented with high levels of plaque present on upper front teeth compared to 1.7% in England. Another indicator recorded was the percentage of 5-year olds surveyed who had experience of extraction (experience of extraction of one or more teeth on one or more occasions). On the Isle of Wight 3.1% of 5-year olds surveyed had experience of extraction compared to 2.5% in England.

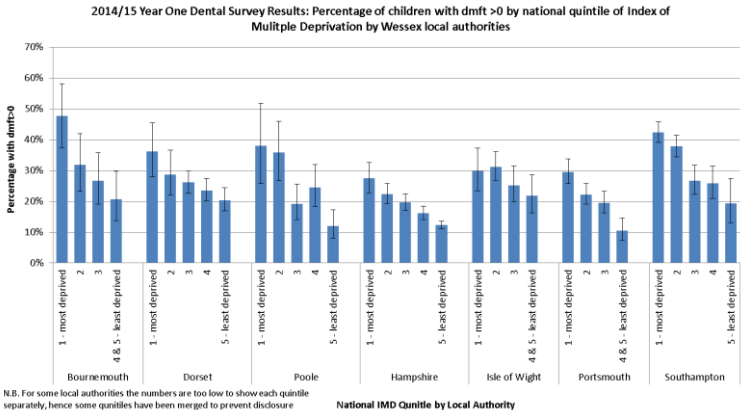
Figure 2a shows the decay prevalence by middle super output area (MSOA) on the Isle of Wight. Areas with higher decay prevalence include Newport and Ventnor / Wroxall / St Lawrence.

Figure 2a: Map showing decay prevalence by middle super output area on the Isle of Wight[15]



Children from more deprived backgrounds are known to be at greater risk of dental decay. The proportion of children with dental decay by deprivation from the National Dental Epidemiology survey (2014-15) is shown in Figure 2b. However, on the Isle of Wight there is no statistically significant difference in the proportion of children with dental decay across deprivation quintiles unlike other areas in Wessex[16].

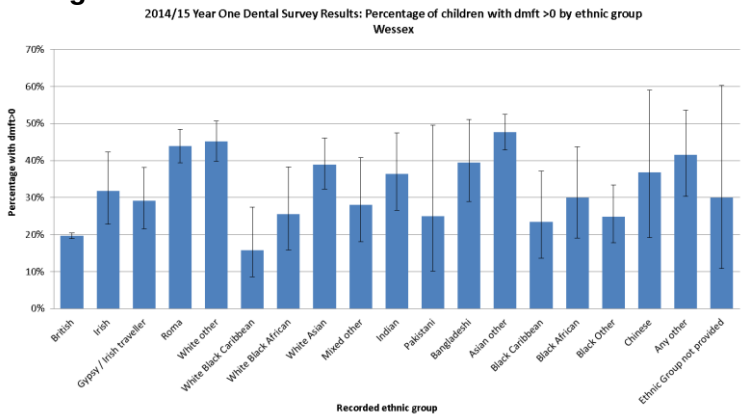
Figure 2b



Source: PHE, 2017

Another risk factor for tooth decay is ethnicity. Figure 3 shows the percentage of children with decayed, missing or filled teeth by ethnic group across Wessex. There are significant differences in some ethnic groups when compared with White British for example white Asian, Indian, Bangladesh, White Other and Roma although some of this may be due to the confounding effect of deprivation.

Figure 3



Source: PHE, 2017

Tooth Extraction by General Anaesthetic

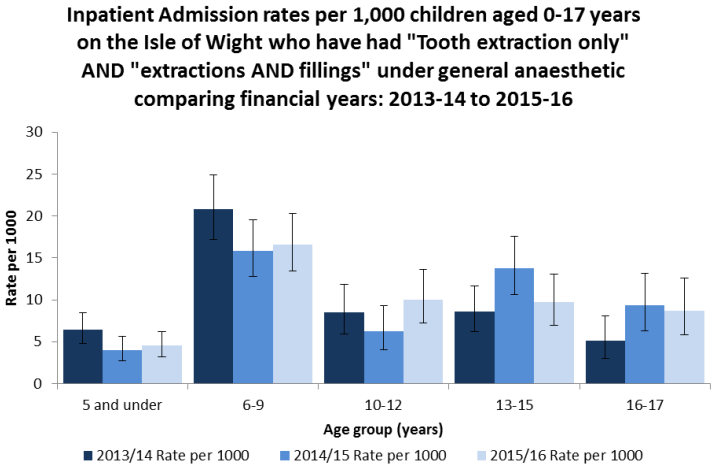
If dental decay is not diagnosed early and treated appropriately by primary care dentists, children may be referred to hospital for specialist care[17]. For some, this will involve tooth extractions under general anaesthesia (GA). Young children are often unable to cooperate under local anaesthesia,

particularly where multiple tooth extractions are necessary.

There are some caveats with using these GA data. Changes in rates may be due to service change, rather than changes in dental decay levels and changes in dental decay levels may not be reflected in the data if services are at capacity. In the latter case, waiting times may increase instead. There may also be different thresholds for GA referrals in different areas making it difficult to benchmark the data accurately. Work is ongoing in NHS England to improve the accuracy of these data.

Figure 4 shows the Isle of Wight rate per 1,000 children aged 0-17 years who had tooth extraction under GA. In 2015-16 the GA rate was 9.8 per 1,000 children aged 0-17 years. There are no significant variances over time.

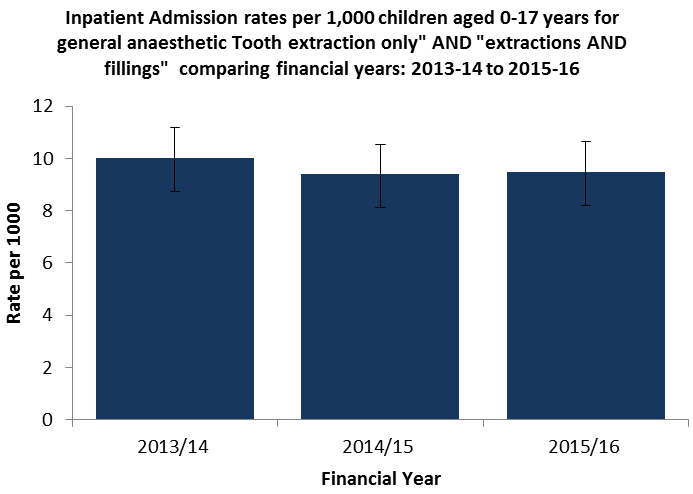
Figure 4



Source: Isle of Wight NHS

There has been no significant change in the rate of tooth extraction by GA over the last three financial years (Figure 5a).

Figure 5a

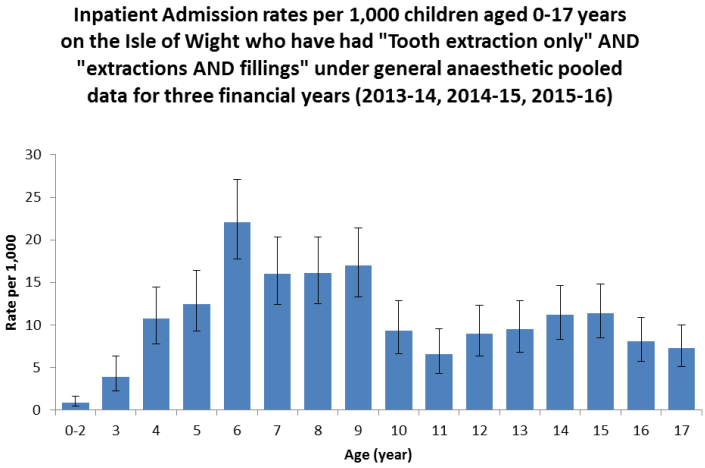


Source: Isle of Wight NHS

Using the cost of £424 for a GA tooth extraction procedure, the cost of this service in 2015-16 was £105,152 per year[18]. This does not include the economic cost of parents or carers taking time off work to manage appointments and care for their children, or the impact on other children in the household.

The highest rate of extractions was in children aged 6 years (figure 5b). This was (statistically) significantly worse than in children aged under 6 and 10 years and over.

Figure 5b



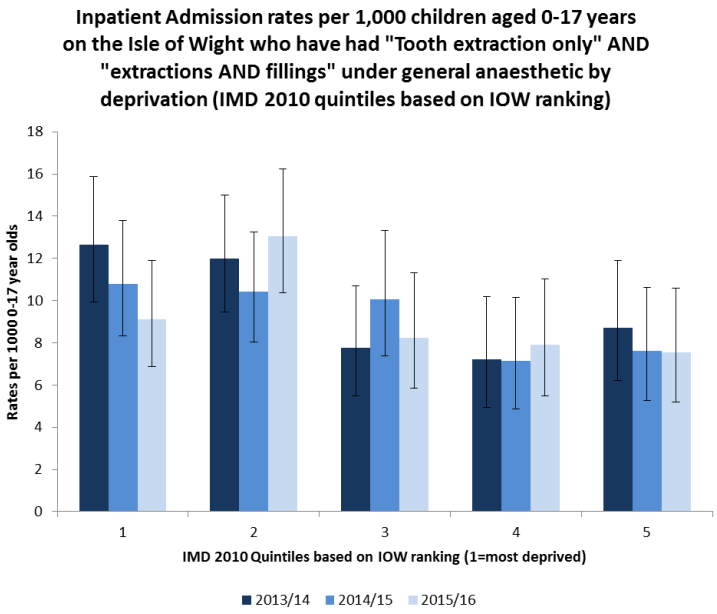
Source: Isle of Wight NHS

Recent research[19] estimates for school-aged children (6-17 years) that GA tooth extraction equates to five missed schooldays (a day for the initial dental visit, a day for the GA pre-assessment clinic, a day for the GA tooth extraction, a day for recovery on the following day and a day for the post-GA tooth extraction assessment visit). In reality there may be more schooldays missed for toothache and recovery.

Using this estimate tooth extraction under GA accounted for around 1,055 missed schooldays in 2015-16.

There are no significant differences on the Isle of Wight by deprivation quintile (figure 6).

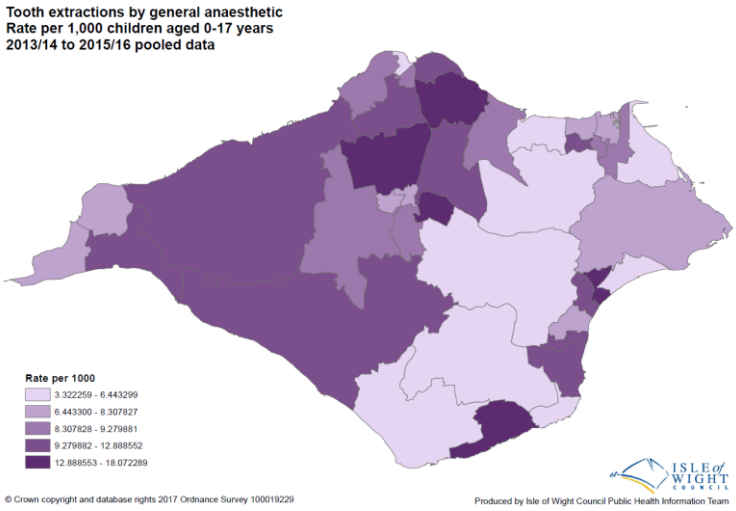
Figure 6



Source: Isle of Wight NHS

Figure 7 shows the rates between wards on the Isle of Wight. Pooled data over three financial years identified that Whippingham and Osborne ward had the highest rate of 18.1 per 1,000 children aged (0-17 years) having tooth extraction under GA whilst Cowes North had the lowest rate of 3.3.

Figure 7



Children's survey

The Isle of Wight, Local Safeguarding Children's Board (LSCB) Strategic Partnership commissioned a children and young people's survey in 2014-15. The questionnaire asked students in years 6, 8 and 10 about their experiences of life at home, at school and in their neighbourhoods. The survey achieved a 40% uptake of respondents.

Visiting the dentist

67% of Year 6 respondents visited the dentist in the last 6 months, compared to 72% of Year 8 and 75% of Year 10. Small numbers (3%, 40) had not been to the dentist within the year, with a further 17% not being able to remember when they last visited the dentist. Of the 3% who had not visited the dentist within the last year 45% brushed their teeth either once or not at all the day before the survey.

Tooth brushing behaviour

To the question 'How many times did you clean your teeth yesterday?' 75% of Year 6 responded 'twice' along with 78% of Year 8 and 74% of Year 10. There was no statistically significant difference between gender or age group.

Further analysis has been undertaken to compare tooth brushing behaviour and other factors:

Vulnerable Groups

Children with learning disabilities

The 2014 National Dental Epidemiology Survey[20] surveyed 5 year old and 12 year old children attending special support schools.

Overall, of the 5 year old children in England whose parents gave consent for their participation in this survey and were examined (65.8% of children attending special support schools), 22% had experienced dental decay. On average these children had 3.90 primary teeth that were obviously decayed, missing or filled (d3mft). The average number of decayed, missing or filled teeth in the whole sample (including the 78% who were free of obvious decay) was 0.88. For this age group, overall severity and prevalence were slightly lower than for children attending mainstream schools, but those who have experience of decay have more teeth affected on average. This age group were twice as likely to have had one or more teeth extracted than their mainstream-educated peers. The proportion of 5 year olds attending special schools who have had one or more teeth extracted was 6%, significantly higher than the 2.5%of 5 year olds in mainstream schools.

Of the 12 year old children surveyed in England 29% of those in special schools had experienced dental decay. On average, these children had 2.37 permanent teeth that were obviously decayed, missing or filled. The average number of decayed, missing or filled teeth in the whole sample (including the 71% who were free of obvious decay) was 0.74.

For 12-year-old children, again, overall severity and prevalence was lower than for children attending mainstream schools but those who had decay had it more severely with more teeth being affected on average.

Looked after children

As of the 31st March 2016 there were 81 children looked after per 10,000 children aged under 18[21]. This is compared to 60 for England.

All looked after children are required to have dental checks as part of their annual health plan. On the Isle of Wight as of March 2016 78.5% of children who had been in care for 12 months+ at that specified date had a dental check during the year ending on the 31st March 2016[22].

While it is known that looked after children are more likely to experience physical, mental and sexual health problems than other children, there is little evidence about their dental health. Tower Hamlets Council[23] undertook short dental survey check-ups of looked after children in their foster homes by a specially trained dentist using the UK 2013 Children National Dental Health Survey protocol.

Key findings:

1. 27% of 12 to 15 year-olds had had a permanent tooth extracted because of decay
2. 46% of 12 to 15 year-olds had a definite need for orthodontic treatment based on dental health and aesthetic reasons – a higher rate than for [all] 12 year-olds in Tower Hamlets, London and England in 2008/9
3. 32% of 12 to 15 year-olds felt that a dental problem had affected their daily lives in the preceding three months.

Demand

Access to Dentists[24]

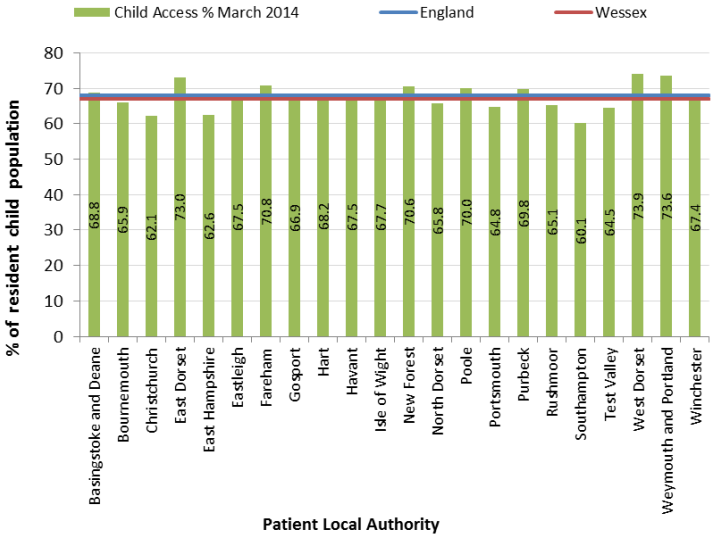
Access rates can be affected and influenced by many features including the amount of dental provision in an area, the oral health needs of population, the deprivation or indeed prosperity of the resident population and so on. A low access rate therefore may not solely be due to a lack of provision; elements such as patient choice for example opting for private treatment can impact on the rate.

Access is a measure which describes the number of patients seen in the previous 24 months. The measure provides a count of the number of distinct patient identities scheduled during a 24 month period. This metric is an indication of the number of unique patients that are considered NHS patients. It is used due to NICE guidelines which recommended that the longest interval between oral reviews (for an adult) should be 24 months. Therefore dental attendance is now measured by the number and proportion of patients who have attended a dentist within the previous 24 months. Access Rates are expressed as a percentage of the area population and are calculated using 24 months of scheduled data.

Children are defined as patients under 18 on the last day of the 24 month period.

Figure 8 shows that 67.7% of children accessed a dentist in 24 months on par with the England (68.0%) and Wessex (67.1%) average.

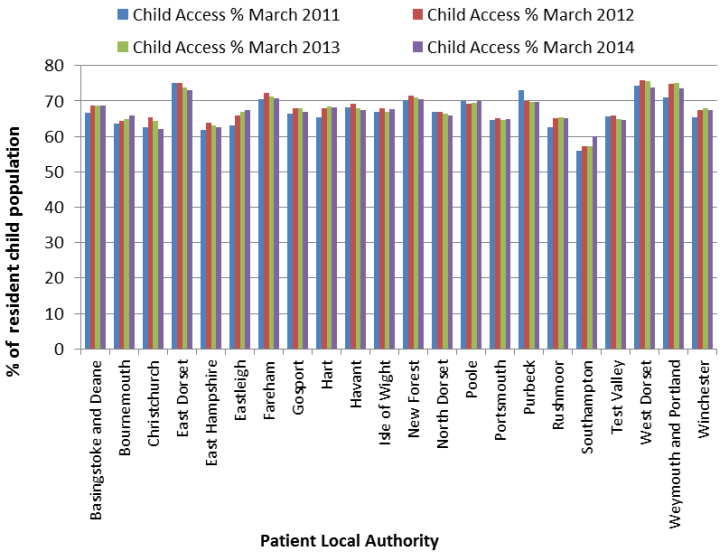
Figure 8: Child Access March 2013 by Local Authority in Wessex



Source: NHS Business Services Authority

The Isle of Wight access rate trends between 2011 and 2014 have remained consistent (figure 9).

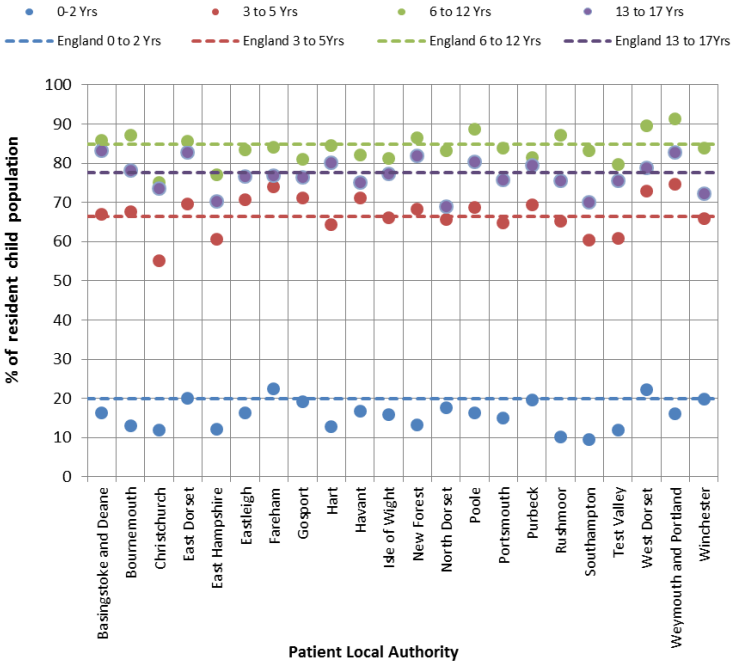
Figure 9: Child Access Rates Trend by Local Authority in Wessex



Source: NHS Business Services Authority

Figure 10 shows Wessex local authority access compared with the England average by age bands in 2014. The Isle of Wight was on par with the England average for 3 to 5 year olds and 13 to 17 year olds but dentist access was lower on the Isle of Wight than the England average for 0 to 2 and 6 to 12 year olds.

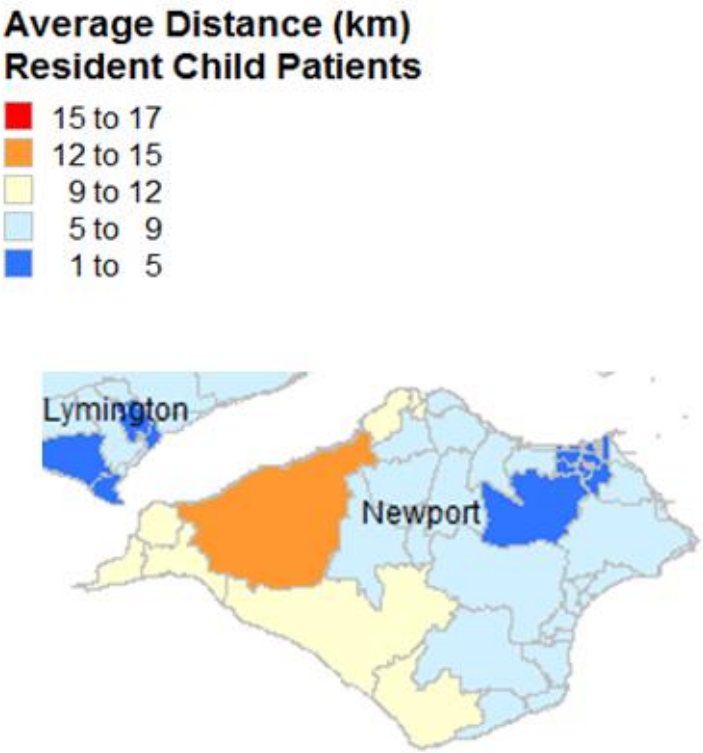
Figure 10: Wessex Local Authority Child Access by Age bands latest period (March 2014)



Source: NHS Business Services Authority

The longest distance travelled by child patients on the Isle of Wight is 12 to 15km in the West Wight ward (figure 11).

Figure 11: Average Distance travelled by child patients on the Isle of Wight (24 months to March 2014)



Source: NHS Business Services Authority

Treatment: Patient charge bands of FP17s on child patients

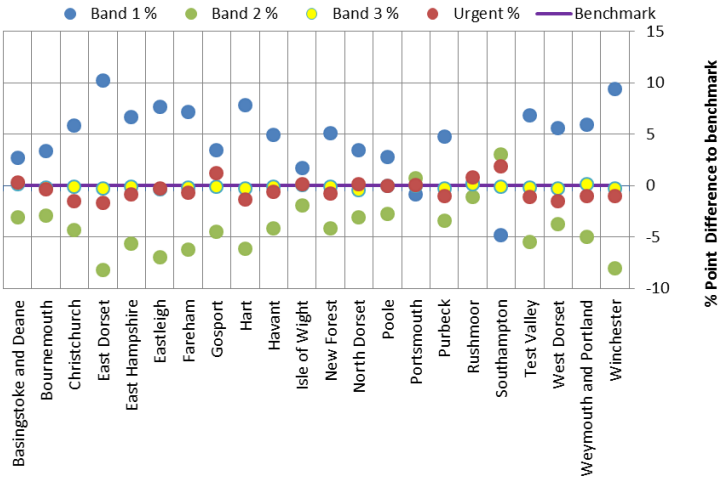
NHS dental treatment is divided into Patient Charge Bands depending on the level and complexity of treatment provided. There are three standard charge bands for all NHS dental treatments:

- Band 1 course of treatment: covers an examination, diagnosis (including X-rays), advice on how to prevent future problems, a scale and polish if needed, and application of fluoride varnish or fissure sealant.
- Band 2 course of treatment: covers everything listed in Band 1 above, plus any further treatment such as fillings, root canal work or removal of teeth.
- Band 3 course of treatment: covers everything listed in Bands 1 and 2 above, plus crowns, dentures and bridges.
- Urgent care

Analysis of the numbers and proportions of charge bands can provide some insight into the type of treatment being provided in an area, oral health needs (i.e. are there higher levels of complex treatments) and patient attendance behaviour (i.e. are there high levels of urgent treatments).

Figure 12 shows the percentage point difference by area compared to national levels. The national level has been labelled as the benchmark and the area percentage compared to this, for example if the national level is 70% and an area has a proportion of 60% then the area will be shown as -10. The Isle of Wight sees proportionately more band 1s and less band 2s than the England benchmark. The Isle of Wight profile of treatment therefore does not infer higher levels of complex need and delayed access to dentists than England as band 3 and 4 treatment is the same as the England benchmark. However, there is an opportunity to improve band 1 provision.

Figure 12: Charge Band % point difference to England (benchmark) Level 2013/14



Source: NHS Business Services Authority

Adult Oral Health

Adult Oral Health

The most recent national Adult Dental Health Survey in 2009[25] indicated that 94% of the combined populations of England, Wales and Northern Ireland were dentate (that is they had at least one natural tooth). The proportion of adults in England who were edentate (no natural teeth) has fallen from 28% in 1978 to 6% in 2009. The overall mean number of teeth amongst dentate adults was 25.7, with the majority of dentate adults (60%) having between 27 and 32 teeth. Dentate adults had an average of 17.9 sound and untreated teeth but this varied by age. The prevalence of decay (using the natural tooth crowns as the measure) in England has fallen from 46% (1998) to 28% (2009) and this reduction is reflective in all age groups.

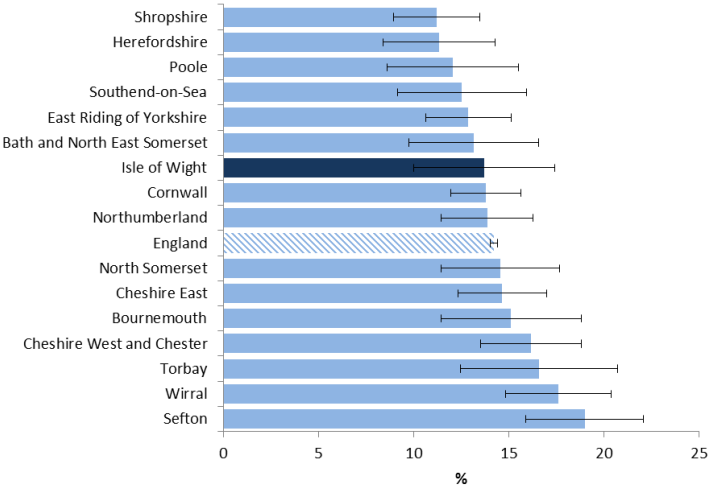
Oral Cancer Incidence[26]

Oral cancer has the highest incidence of head and neck cancers. Five year survival rates are 56%.

Most oral cancers are triggered by tobacco and alcohol, which together account for 75% of cases. Cigarette smoking is associated with an increased risk of the more common forms of oral cancer. The risk among cigarette smokers is estimated to be 10 times that for non-smokers. More intense use of tobacco increases the risk, while ceasing to smoke for 10 years or more reduces it to almost the same as that of non-smokers.

The Isle of Wight in 2012-14 had an age-standardised rate of 13.7 per 100,000 populations (all years) oral cancer which is lower than the England average of 14.24 but is not statistically significant (figure 13).

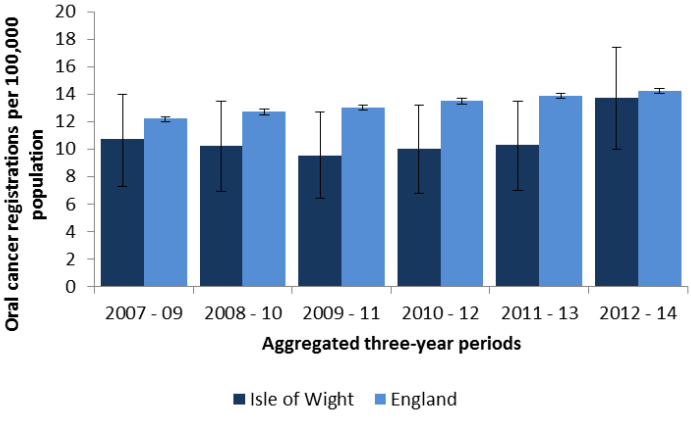
Figure 13: Age-standardised rate for oral cancer registrations per 100,000 populations – 2012-2014



Source: Public Health England

Aggregated three-year data between 2007 and 2014 shows oral cancer registrations on the Isle of Wight have increased but this increase is not statistically significant (figure 14).

Figure 14: Oral cancer registrations per 100,000 population trend (2007 to 2014) Isle of Wight compared to England



Source: Public Health England

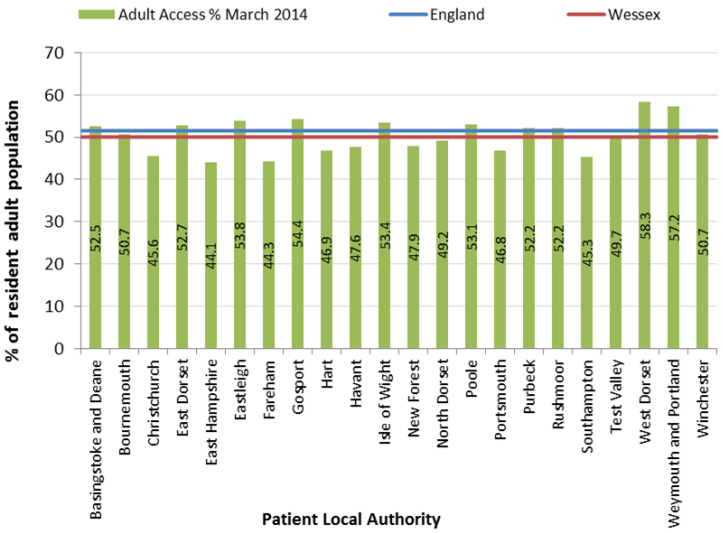
Demand for Dentist Provision

Access to dentists[27]

Access is a measure which describes the number of patients seen in the previous 24 months. The measure provides a count of the number of distinct patient identities scheduled during a 24 month period. This metric is an indication of the number of unique patients that are considered NHS patients. It is used due to NICE guidelines which recommended that the longest interval between oral reviews (for an adult) should be 24 months. Therefore dental attendance is now measured by the number and proportion of patients who have attended a dentist within the previous 24 months. Access Rates are expressed as a % of the area population and are calculated using 24 months of scheduled data.

Figure 15 shows that 53.4% of adults accessed a dentist in 24 months above the England (51.4%) and Wessex (50.0%) average.

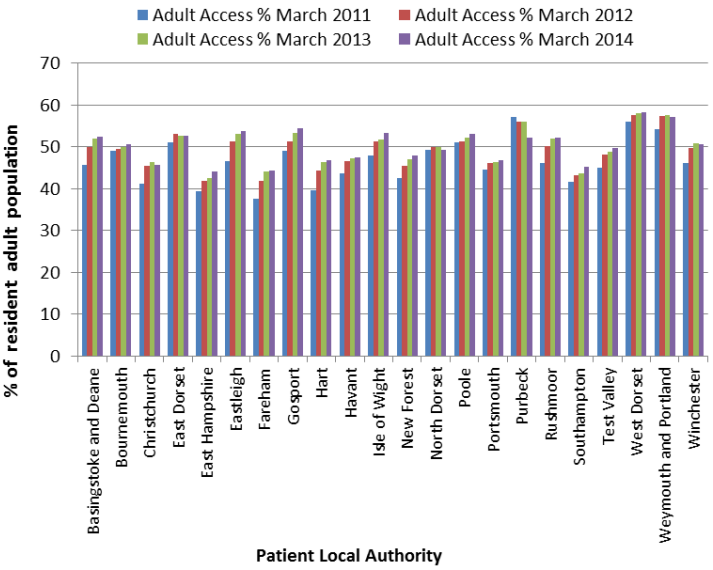
Figure 15: Adult Access March 2013 by Local Authority in Wessex



Source: NHS Business Services Authority

The Isle of Wight access rate trends between 2011 and 2014 have increased year-on-year (figure 16).

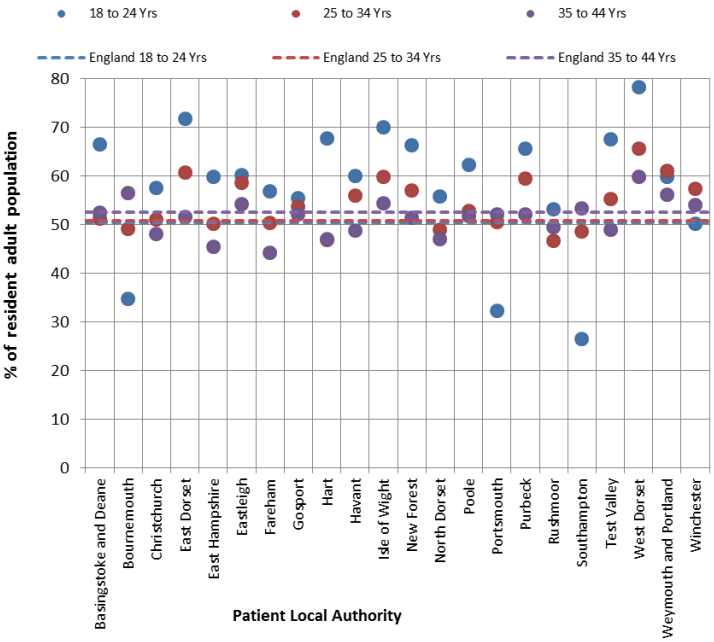
Figure 16: Adult Access Rates Trend by Local Authority in Wessex



Source: NHS Business Services Authority

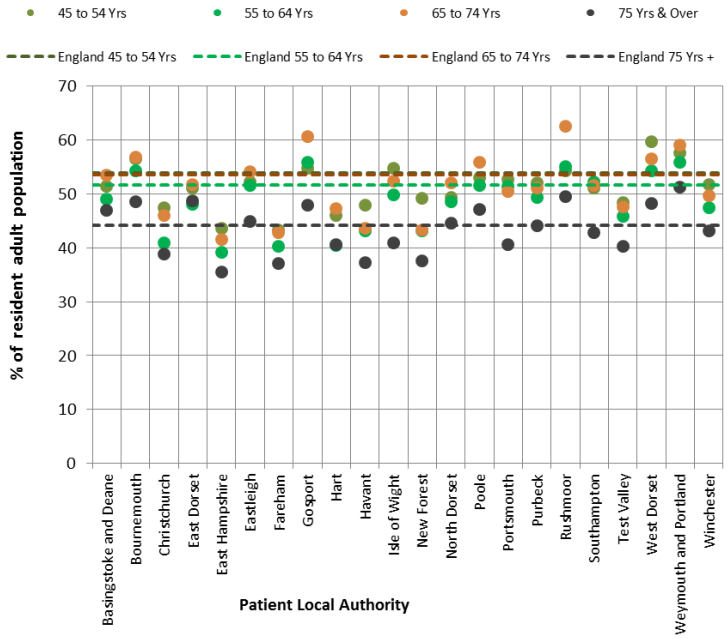
Figures 17 and 18 shows Wessex local authority access compared with the England average by age bands in 2014. The Isle of Wight adult access to NHS dentists is above England average for ages 18 to 54 year old but below the England average for 55+ years accessing dentists.

Figure 17: Adult Access March 2013 by Age bands in Wessex



Source: NHS Business Services Authority

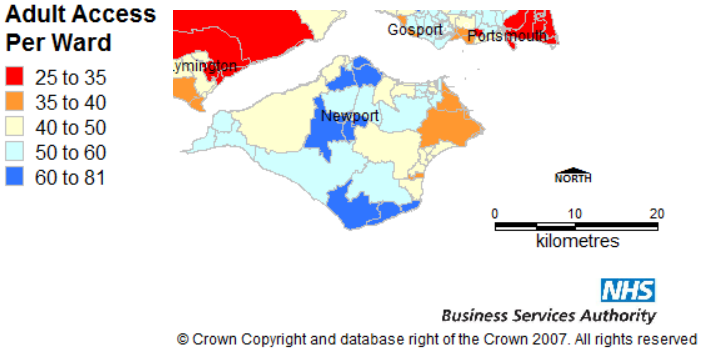
Figure 18: Adult Access March 2013 by Age bands in Wessex



Source: NHS Business Services Authority

Figure 19 shows adult access rates by ward level. Those wards shaded red have the lowest rates, those shaded blue the highest, with main towns added as a geographic reference.

Figure 19: Access Rate Resident Adult Patients on the Isle of Wight (24 Months to March 2014)



Source: NHS Business Services Authority

Supply

Rate

There are a total of 64 dentists on the Isle of Wight[28]. This equates to 46 per 100,000 residents which is above the England rate of 44[28].

Access rate is lowest in the following wards:

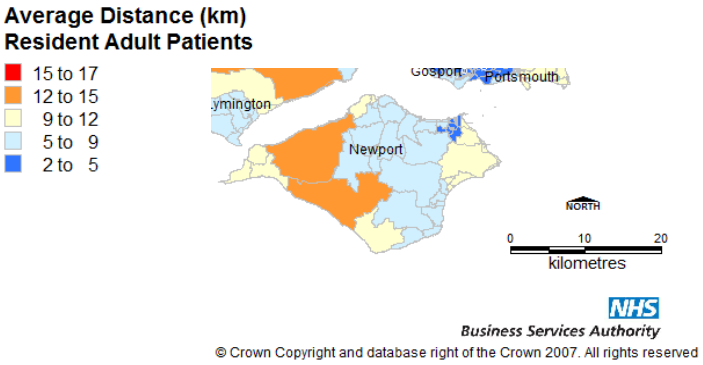
- Brading, St Helens and Bembridge
- Nettlestone and Seaview
- Shanklin Central.

Adult access is highest in the following wards:

- Chale, Niton and Whitwell
- Carisbrooke
- Newport South
- Newport East
- Cowes South & Northwood
- East Cowes
- Whippingham and Osborne
- Ventnor West
- Ventnor East.

The longest distance travelled by adult patients on the Isle of Wight is 12 to 15km in the West Wight and Central Wight wards (figure 20).

Figure 20: Map: The average distance travelled (km) of adult patients resident in each ward on the Isle of Wight over a 24 month (2013/14)



Source: NHS Business Services Authority

Availability

As of the 9th January 2017, 9 dental practices are currently accepting patients aged between 0-18 years; 8 dental practices are accepting new adult patients that pay for their care; there was no data available for 3 dental practices.

Treatment

NHS dental treatment is divided into Patient Charge Bands depending on the level and complexity of treatment provided. There are three standard charge bands for all NHS dental treatments:

- Band 1 course of treatment: covers an examination, diagnosis (including X-rays), advice on how to prevent future problems, a scale and polish if needed, and application of fluoride varnish or fissure sealant.
- Band 2 course of treatment: covers everything listed in Band 1 above, plus any further treatment such as fillings, root canal work or removal of teeth.

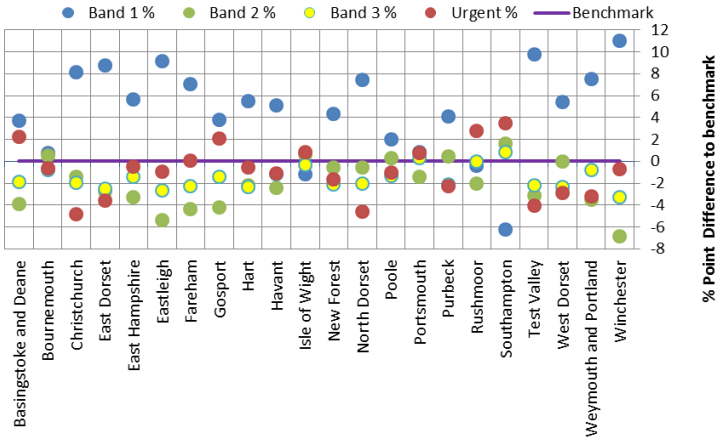
- Band 3 course of treatment: covers everything listed in Bands 1 and 2 above, plus crowns, dentures and bridges.
- Urgent care

Analysis of the numbers and proportions of charge bands can provide some insight into the type of treatment being provided in an area, oral health needs (i.e. are there higher levels of complex treatments) and patient attendance behaviour (i.e. are there high levels of urgent treatments). Patient Charge Band is stated in the Treatment Category of an FP17 form.

Figure 21 shows the percentage point difference by area to national levels. The national level has been labelled as the benchmark and the area percentage compared to this, for example if the national level is 70% and an area has a proportion of 60% then the area will be shown as -10.

According to Figure 21 the Isle of Wight experiences higher urgent treatment than the England benchmark.

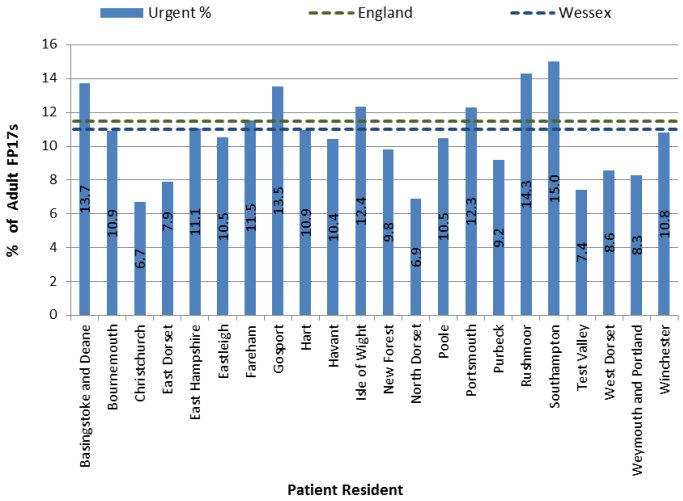
Figure 21: Charge Band % point difference to England Level 2013/14



Source: NHS Business Services Authority

The levels of urgent care can indicate an issue with the quality of diagnosis or treatment planning, patients not able to access urgent treatment, patients not being able to access routine dentistry or patient choice. Analysis shows the proportion of FP17s related to Adult patients that were recorded as band 1 urgent on the Isle of Wight (12.4%) is higher than the England and Wessex average (figure 22).

Figure 22: % of FP17s for Band 1 Urgent Courses (2013/14)

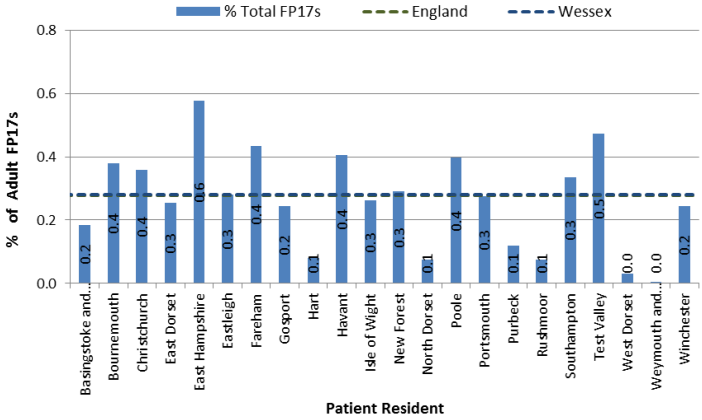


Source: NHS Business Services Authority

Domiciliary dental care is dental treatment that is provided in the patient's home. Patients who have severe mobility problems that make it very difficult for them to leave their home for treatment would benefit from domiciliary dental care where a dentist visits their home and provides dental treatment.

Figure 23 shows the proportion of FP17s related to Adult patients on the Isle of Wight where a domiciliary visit was indicated and is below regional and national levels.

Figure 23: % of Adult FP17s by Local Authority with a domiciliary visit for patients resident in Wessex 2013/14



Dental Results from the GP Patient Survey[29]

Dental questions were originally added to the GP Patient Survey in 2010 (January to March), as the Department of Health wanted information on NHS dental access and demand for services based on people's reported experience.

The GP Patient Survey was chosen to capture this information as a way of accessing the proportion

of the population who do not use (or have not recently used) NHS dental services in addition to those that do, to give a fuller picture of people's dental behaviour and experience.

Between January and March 2016 1,895 adults on the Isle of Wight were contacted to take part in the GP Patient Survey, 980 forms were received, a response rate of 52%. Of all the respondents asked, 62% tried to get an NHS dental appointment in the last two years (compared to 59% in England). 20% (24% in England) of respondents have never tried to get an NHS dental appointment.

Of the group of respondents who had tried to get an appointment in the last two years

- 90% (93% in England) were successful in getting an NHS dental appointment.
- 87% (86% in England) have been to the dental practice before for NHS dental care and 2% could not remember.
- 79% (85% in England) rated the overall experience of NHS dental services as very good to fairly good.

Of those who have not tried to get an NHS dental appointment 14% said they haven't needed to visit a dentist (22% in England) and 26% said they prefer to go to a private dentist (23% in England). 19% didn't think they could get an NHS dentist (12% in England).

Healthwatch Report[30]

National polling undertaken through Healthwatch corroborates the GP Patient Survey data that patients are able to make an NHS dental appointment when they need to, and are satisfied with their experience of NHS dentistry.

However, Healthwatch evidence suggests that three particular patient groups are at risk of missing out when it comes to accessing NHS dental care:

- People in particular groups (e.g. care home residents)
- People who don't currently go to the dentist at all, or who attend only when they are having problems
- People living in areas where commissioning of NHS treatment has not kept up with changes in demand

Vulnerable Groups

Homeless People

There are many factors contributing to the poor oral health of people who are homeless or living in temporary accommodation; chaotic lifestyles leading to a poor eating habits, and personal hygiene routines; low disposable income; a lack of awareness about dental and oral health issues. The high prevalence of mental health (including depression, anxiety, self-harm and schizophrenia) and substance misuse problems amongst homeless people mean they are also at greater risk of dental trauma[31].

A study[32] of oral health and homelessness in East London in 2012 found that 99% of people who accessed dental care between April 2009 and September 2011 needed treatment and of the nine people with no decay, three were edentulous. Of those 61% completed treatments (between 1 and 18 appointments) but only 28% attended with no failed or cancelled appointments. The study highlighted the high oral health needs in this population and the need for flexible dental services. One option could be to embed dental services within other local health and social networks to encourage uptake of dental care.

There is no-known information available on the oral health needs of the homeless population on the Isle of Wight.

Adults with learning disabilities

Research[33] shows that compared to the general population, adults with learning disabilities are less likely to have functional dentition, have poorer oral hygiene, have greater prevalence and severity of gum disease, have consistently higher levels of untreated decay, are less likely to have contact with dental services, and are less likely to clean their teeth twice a day. Yet dental decay rates are similar to the general population and those with profound learning disabilities are likely to have poorer oral health than those with mild learning disabilities.

Older People[3435]

The 2009 Adult Dental Health survey shows rapid improvement in the number of dentate adults; in the ten years to 2009 the number of dentate adults rose from 83% to 94%. Fifty-three per cent of those in the 85 or over age group had some of their natural teeth, while just over a quarter retained a functional dentition of 21 or more natural teeth.

While the increase in older people retaining their own teeth is promising, the recent reductions in dental caries and restorations will not show up in the older generations for another 25 years. This means that the current and next generations of older people will typically have numerous restorations in their remaining natural teeth. With a reasonable restoration lifespan of 10-20 years this generation of older people are likely to require more maintenance of their restorations, as well as the additional care for unrestored teeth that will be required as people age.

Poor oral health in older people has wide ranging health implications, including the impacts of pain and discomfort in the mouth and jaw, to the follow-on effects that difficulties chewing have on nutrition and general health[36].

Older People in Residential Homes

Age UK estimates that there are 5,153 nursing homes and 12,525 residential homes in the UK[37]. According to the latest Laing and Buisson survey, there are 426,000 elderly and disabled people in residential care (including nursing), approximately 405,000 of whom are aged 65 years and over[38]. 93% of nursing home residents and 99% of people in residential homes are aged 65 years and over[39]. The median period from admission to the care home to death is 493 days (15 months)[40].

A 2012 British Dental Association survey found there to be inconsistent delivery of oral health care in care homes, high levels of unmet oral health need amongst residents, reluctance of staff to meet oral health need, and a lack of staff training. Existing poor oral health, together with treatments for chronic medical conditions (including dementia) decreasing salivary flow, add extra layers of complexity in meeting oral health needs of adults living in care homes.

An oral health survey in the North East of England in 2012-13 of managers of “care in your home” services for elderly people (aged 65 years and over) identified:

- Variation of initial assessments of oral care and hygiene needs. 37% of care providers were identified as not undertaking assessments.
- Gaps in the services in relation to policy, training and knowledge.
- Difficulties accessing suitable services (travelling, climbing stairs), particularly domiciliary services.

The National Institute for Health and Care Excellence (NICE) have developed guidelines (NG48)[41] that covers oral health, including dental health and daily mouth care, for adults in care homes. The aim is to maintain and improve oral health and ensure timely access to dental treatment.

NICE recommend:

- Care home policies on oral health and providing residents with support to access dental services
- Oral health assessment and mouth care plans
- Daily mouth care
- Care staff knowledge and skills
- Availability of local oral health services
- Oral health promotion services
- General dental practices and community dental services

No data is currently collected centrally on the oral health of older people in residential care on the Isle of Wight.

Wider Determinants

Oral health diseases are affected by common risk factors such as poor diet, smoking, stress and alcohol that are shared by common chronic non-communicable diseases[42]. Targeting the reduction of these risk factors at a population level and key vulnerable groups would simultaneously reduce the incidence of conditions such as cardio-vascular disease, diabetes, mental illness and oral diseases. The Common Risk Factor Approach[35] emphasises the need to tackle these common risk factors for example, policies to reduce smoking and alcohol use will improve population oral health.

Excess Weight and Nutrition

Nutrition affects the teeth during development and malnutrition may exacerbate periodontal and oral infectious diseases[43]. The most significant effect of nutrition, however, is the local action in the mouth of the development of dental caries and enamel erosion[43]. Sugar in particular is an important dietary factor on dental caries. Sugar intake causes demineralisation of tooth surfaces and the subsequent drop in pH that takes place in the mouth as bacteria converts sugar to acid[44]. Saliva has a “buffering” effect to demineralisation when there is spacing of sugar intake[44]. The Scientific Advisory Committee on Nutrition (SACN)[45] recommended that the average population intake of sugar should not exceed 5% of dietary energy each day. That’s about 30g a day for anyone aged 11 and older. Current estimates of UK sugar intake from the National Diet and Nutrition Survey programme (NDNS)[46] show that mean intakes are three times higher than the 5% maximum recommended level in school-aged children and

teenaged (14.7% to 15.6% of energy intake) and around twice the maximum recommended level in adults (12.1% of energy intake).

Substance Misuse and Alcohol

Evidence shows that drinking alcohol above recommended levels adversely affects general and oral health with the most significant oral health impact being the increased risk of oral cancer[47].

Smoking

Tobacco use, both smoking and chewing tobacco seriously affects general and oral health. Smoking increases the risk of periodontal disease, reduces benefits of treatment and increases the chance of losing teeth, oral cancers and pre-cancers[48].

Mental Health

There are limited studies looking at oral health needs of people with serious mental illness. The existing national evidence shows that people with serious mental illness have a greater risk of experiencing oral disease, higher rates of tooth loss gum disease and dental decay, poor mouth hygiene and have greater oral treatment needs than the general population.

Deprivation

Risk factors for severe dental caries in the UK include living in a deprived area[49].

The Isle of Wight Joint Strategic Needs Assessment (JSNA) factsheets with local data relating to all of the above subjects can be found at www.iwight.com/factsandfigures.

Oral health prevention initiatives

NICE Public Health guidelines (PH55) for Oral Health outline recommendations to promote and protect people's oral health by improving their diet and oral hygiene, by encouraging them to visit the dentist regularly. They can be found at https://www.nice.org.uk/guidance/ph55.

The approach on the Isle of Wight is to embed oral health prevention initiatives within wider health and social interventions.

0-19 Service

Health Visitors and Schools Nurses lead and deliver the Department of Health's Healthy Child Programme[50] (an early intervention and prevention public health programme) for all children aged 0-19. The programme includes universal promotion of health and wellbeing and support with behaviour change including dental health. Advice is delivered around brushing twice daily, healthy eating/weaning advice and that all medicines given should be sugar-free. Health Visitors also lead on the UNICEF Baby Friendly Initiative (BFI) for the Isle of Wight – a global accreditation programme to support breastfeeding and parent infant relationships by working with public services to improve standards of care.

Schools

Public Health are working in partnership with schools and the main school food provider to embed a holistic evidence-based health programme into the core food catering provision with the aim of improving healthy eating and so improve weight management and oral health in children. School food catering is an effective way of contributing towards reducing obesity and associated poor outcomes[51]. Evidence shows school meals are more nutritious than packed lunches and that most children are consuming too much sugar. In 2014 Public Health commissioned the Eat Right, Stay Bright programme delivered by Chartwells to pilot test the integration of Public Health outcomes within a school food catering contract. The programme to date has: contributed to increases in school meal uptake; improved school punctuality; offered learning about nutrition and oral health to pupils, school staff and families; and contributed to improving the lunch time experience and food culture in schools.

Public Health are developing a "whole school" offer bringing together key stakeholders to co-produce and develop an approach working alongside schools to develop the "whole child" through our local education pathways. The Whole School offer is in initial development stages and looks at introducing an award scheme across Island Schools.

The 'Whole School' offer will focus on four domains:

- PSHE
- Emotional Health and Wellbeing
- Healthy Eating
- Physical Activity

Through evidence based interventions, targeted learning and sharing of best practice the 'Whole School' Offer aims to positively contribute to improving the health and wellbeing, attainment and lifelong behaviours of our local children and young people.

Early Help

The Early Help offer provides support to all children, young people and families. There are a number of universal services available from birth to 19 year olds and specialist support for children with additional needs. Early Help is provided by Barnardo's across nine settings. Barnardo's are required as part of their performance metrics to provide information to parents about oral and dental health.

Wellbeing Service

The Wellbeing Service provides free support to Isle of Wight residents aged 18 and over to make sustainable lifestyle behaviour change. The Wellbeing Service is the only public funded smoking cessation and weight management programme. Referrals are made through health professionals and are triaged according to their level of motivation. As part of the triage, clients are asked if they have access to a dentist and advice provided to those who do not.

Sugar Smart Isle of Wight

Sugar Smart Isle of Wight is a resident-informed initiative to look at how we can tackle the issue of sugar as a community. Sugar Smart Isle of Wight is in the early stages of shaping the parameters of the initiative using feedback received through an Island-wide survey cascaded in October 2016. Work is underway with representatives from the Isle of Wight NHS Trust, schools, primary care and Chamber of Commerce to drive the feedback forward.

Making Every Contact Count (MECC)

MECC is an approach to behaviour change that utilises the day-to-day interactions that organisations and people have with others. The approach encourages changes in behaviour that have a positive effect on the health and wellbeing of individuals, communities and populations. Making changes such as stopping smoking, improving diet and reducing alcohol consumption can help people reduce their risk of poor health significantly. The NHS Five Year Forward View[52] offers opportunities for better health through increased prevention and supported self-care. The Hampshire and the Isle of Wight Sustainability and Transformation Plan outlines the local delivery of the Five Year Forward View. Within the plan all NHS organisations will have a MECC plan.

Recommendations

1. Ensure oral health is a key health and wellbeing priority identified in the Joint Strategic Needs Assessment (JSNA).
   - There is a requirement to understand future surveillance data streams for the Isle of Wight including from NHS dental access and treatment data and from Adult Social Care
   - Address the data gaps for targeted population groups who are at increased risk of poor oral health outcomes.
   - Work with the PHE Dental Public Health Consultant and NHS England to develop ways of using routine data to identify areas of poor oral health and monitor impact of oral health improvement.
2. Work in partnership with NHSE, CCG and PHE to embed oral health in wider Isle of Wight health strategies:
   - Tackle the social determinants of oral disease
   - Implement a common risk factor approach focusing on the wider determinants, integrating oral health into wider interventions/contracts for example Family Centres, Alcohol and Drug services, Wellbeing Service
   - Target population groups who are at high risk of poor oral health outcomes
   - Ensure interventions are aligned to NICE guidance and national policy
   - Consider the financial approaches that could maximise the value of the investment and the evidence of the return on investment.
   - Work with local partners to promote the implementation of Delivering Better Oral Health on the Isle of Wight

References

[1] NHS England (2014), Improving Dental Care and Oral Health – A Call to Action, https://www.england.nhs.uk/2014/02/improve-dental-cta/

[2] WHO (2017) Oral Health http://www.who.int/topics/oral_health/en/

[3] The Royal College of Surgeons of England (2015) The state of children's oral health in England https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/report-childrens-oral-health/

[4] NHS Choices (2016), Gum Disease http://www.nhs.uk/conditions/Gum-disease/Pages/Introduction.aspx

[5] Cancer Research UK (2017) Oral cancer statitstics http://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/oral-cancer

[6] NICE (2014) Oral health: local authorities and partners https://www.nice.org.uk/guidance/PH55/chapter/1-Recommendations

[7] NHS England (2014), Improving Dental Care and Oral Health – A Call to Action, https://www.england.nhs.uk/2014/02/improve-dental-cta/

[8] Health and Social Care Information Centre (2003) Monthly topic of interest: children in hospital episode statistics – July 2012 to June 2013

[9] RCS Faculty of Dental Surgery (2015) The state of children's oral health in England

[10] The Royal College of Surgeons of England (2015) The state of children's oral health in England https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/report-childrens-oral-health/

[11] The Royal College of Surgeons of England (2015) The state of children's oral health in England https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/report-childrens-oral-health/

[12] The Royal College of Surgeons of England (2015) The state of children's oral health in England https://www.rcseng.ac.uk/library-and-publications/rcs-publications/docs/report-childrens-oral-health/

[13] Public Health England (2014) National Dental Epidemiology Programme for England: oral health survey of five-year-old children 2015 http://www.nwph.net/dentalhealth/survey-results%205(14_15).aspx

[14] Nuttall, N. & Harker, R. (2004) Impact of Oral Health: Children's Dental Health in the United Kingdom, 2003.

[15] Public Health England (2017) Isle of Wight: Dental health of five-year-old children http://www.nwph.net/dentalhealth/5yearoldprofiles/South%20East/2015/Isle%20of%20Wight%20LA%20Dental%20Profile%205yr%202015.pdf

[16] John, J, Wall, J (2017) Report on the Wessex Year 1 Dental epidemiology survey 2014-15

[17] The Royal College of Surgeons of England (2015) The state of children's oral health in England https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/report-childrens-oral-health/

[18] NHS England. 2015-16 National Tariff Payment System. Annex 5a-National Prices.

[19] A. Mortimore, R. Wilkinson and J. H. John. Exploring the potential value of using data on dental extractions under general anaesthesia (DGA) to monitor the impact of dental decay in children. Br Dent J 2017; 222: 778-781

[20] Public Health England (2015) Survey of five and twelve-year-old children attending special support schools 2014 http://www.nwph.net/dentalhealth/2013_14specsurvey.aspx

[21] Department for Education (2016) Local Authority Interactive Tool – LAIT https://www.gov.uk/government/publications/local-authority-interactive-tool-lait

[22] Isle of Wight Council, Children's Services (2017)

[23] Local Government Association *Health futures* Supporting and promoting the health needs of looked after children http://www.local.gov.uk/documents/10180/7632544/1.30+Health+needs+for+looked+after+children_04.pdf/f2a89e64-76b7-4026-a10e-150a22f46b56

[24] NHS Business Service Authority (2015) Dental Public Health Report: Wessex

[25] Health and Social Care Information Centre. Adult Dental Health Survey 2009 - Summary Report and Thematic Series [NS]. Available at http://www.hscic.gov.uk/pubs/dentalsurveyfullreport09

[26] Public Health England (2017) Public Health Profiles - Age-standardised rate for oral cancer registrations per 100,000 populations http://fingertips.phe.org.uk/

[27] NHS Business Service Authority (2015) Dental Public Health Report: Wessex

[28] NHS Digital (2017) NHS Dental Statistics: 2016-17 Annex 2- Geographical breakdown of dental data http://digital.nhs.uk/catalogue/PUB30069

[29] NHS England (2016) GP Patient Survey Dental Statistics January to March 2016, England

[30] Healthwatch (2016) Access to NHS Dental Services: What people told local healthwatch http://www.healthwatch.co.uk/sites/healthwatch.co.uk/files/access_to_nhs_dental_services_-_what_people_told_local_healthwatch.pdf

[31] Department of Health (2005) Homelessness and Health information Sheet Number 3: Dental Services

British Dental Association (2003) Dental Care for Homeless People: BDA policy discussion paper December 2003.

[32] Simons, Pearson and Movasaghi (2012) Developing dental services for homeless people in East London. In British Dental Journal 213, E11

[33] Chang et al., (2013) Disparities in oral cancer survival among mentally ill patients PLoS ONE [Electronic Resource], 2013, vol./is. 8/8(e70883), 1932-6203;1932-6203

Dickerson et al (2003) Somatic healthcare utilization among adults with serious mental illness who are receiving community psychiatric services. Med Care, 41, 560-70.

Wieland et al. (2010) Partnership evaluation: public mental health and dental services. *Australasian Psychiatry* vol./is. 18/6(506-11), 1039-8562;1440-1665

[34] British Dental Association (2012) Dentistry in care homes research – UK https://www.bda.org/dentists/policy-campaigns/research/patient-care/Documents/dentistry_in_care_homes.pdf

[35] The Health and Social Care Information Centre (2011) Oral health and function – a report from the Adult Dental Health Survey 2009

[36] Walls, Steele, Sheiham, Marcenes, & Moynihan (2000) Oral health and nutrition in older people *Journal of Public Health Dentistry*

[37] Age UK estimate calculated from *Care of Elderly People Market Survey 2013/14*, Laing and Buisson, 2014

[38] *Care of Elderly People Market Survey 2013/14*, Laing and Buisson, 2014

[39] Age UK estimate calculated from *Care of Elderly People Market Survey 2013/14*, Laing and Buisson, 2014

[40] Forder,J Fernandez,J-L (2011) *Length of stay in care homes*. PSSRU Discussion Paper 2769

[41] NICE (2016) Oral health for adults in care homes https://www.nice.org.uk/guidance/ng48/chapter/Recommendations

[42] Sheiham, A, Watt R (2000) The common risk factor approach: a rational basis for promoting oral health *Community Dental Oral Epidemiology*, Dec; 28(6): 399-406

[43] Moynihan, P, Petersen, P (2004) Diet, Nutrition and the Prevention of Dental Diseases, Public Health Nutrition, 7(1A), 201-226

[44] Public Health England (2017) Delivering better oral health: an evidence-based toolkit for prevention https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/605266/Delivering_better_oral_health.pdf

[45] The Scientific Advisory Committee on Nutrition. (2015) Carbohydrates and Health. https://www.gov.uk/government/groups/scientific-advisory-committee-on-nutrition

[46] Bates B LA, Prentice A, Bates C, Page P, Nicholson S, Swan G. (Eds). (2014) National Diet and Nutrition Survey: Headline results from Years 1 to 4 (combined) of the rolling programme from 2008 and 2009 to 2011 and 2012. https://www.gov.uk/government/statistics/national-diet-and-nutrition-survey-results-from-years-1-to-4-

combined-of-the-rolling-programme-for-2008-and-2009-to-2011-and-2012

[47] Public Health England (2014) Delivering better oral health: an evidence-based toolkit for prevention – summary suidance tables

[48] Public Health England (2014) Delivering better oral health: an evidence-based toolkit for prevention – summary guidance tables

[49] NICE (2014) Oral Health: Local Authorities and Partners
https://www.nice.org.uk/guidance/ph55/chapter/3-Context

[50] Public Health England (2016) Best start in life and beyond: Improving public health outcomes for children, young people and families
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/554499/Service_specification_0-19_commissioning_guide_1.pdf

[51] The Independent School Food Plan (2014)
http://www.schoolfoodplan.com/

HM Government (2016) Childhood Obesity – A Plan for Action
https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action

Public Health England (2016) Childhood obesity plan: PHE's role in implementation – Policy paper
https://www.gov.uk/government/publications/childhood-obesity-plan-phes-role-in-implementation/childhood-obesity-plan-phes-role-in-implementation

[52] NHS (2014) Five Year Forward View
https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf