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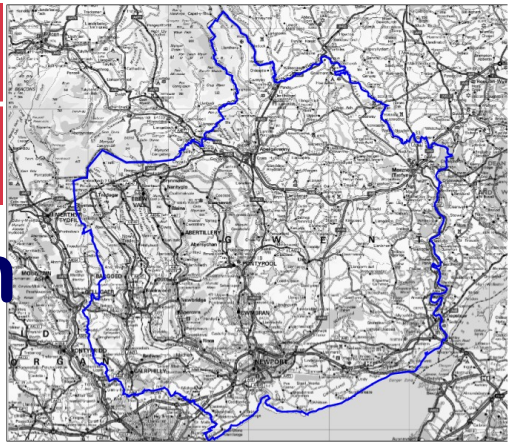

# Aneurin Bevan Health Board

March 2012

## Key messages

- Dental decay is preventable
- 55% of five and 50% of twelve year olds living in Aneurin Bevan have experience of dental decay.
- There are wide inequalities in oral health experience associated with pockets of deprivation.
- Designed to Smile is working to address poor oral health in children from deprived areas within the LHB.
- Plans need to be made to meet the oral health needs of people living in Aneurin Bevan more effectively.

## Contents



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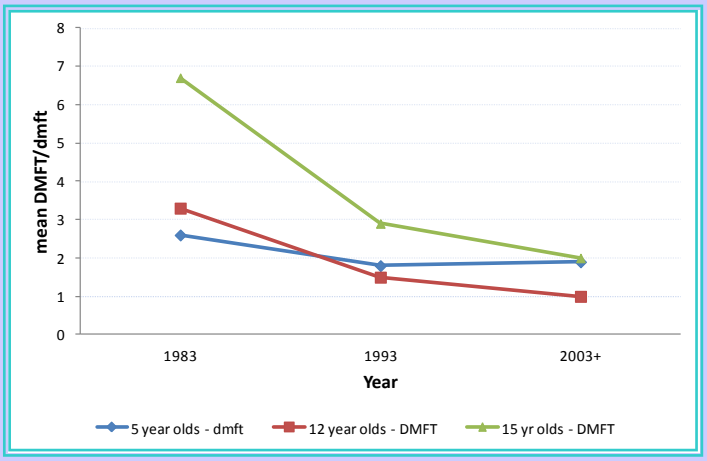
## Introduction

Oral health was defined by the Department of Health in 1994 as the 'standard of health of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment and which contributes to general well-being'.

Oral health is integral to general health and should not be considered in isolation. Oral disease has detrimental effects on an individual's physical and psychological well-being and reduces quality of life. A range of conditions are classified as oral diseases. The main oral disease of childhood is dental caries (or tooth decay). Among adults other important conditions are periodontal (gum) disease and oral cancers.

**Figure 1** Changes in mean decayed, missing and filled permanent or primary teeth (DMFT or dmft) for children in Wales, 1983-2003




## Trends in oral disease

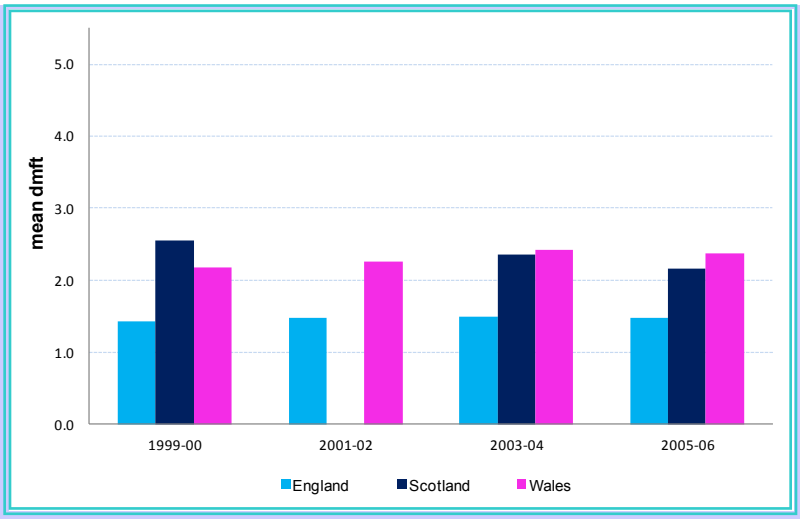
The main surveys that provide information on trends in oral disease are the national decennial Adult Dental Health Survey and Children's Dental Health Survey, and the local surveys that are coordinated by the British Association for the Study of Community Dentistry (BASCD).

### Caries trends in children

The UK Child Dental Health surveys have reported improvements in Welsh children's caries experience during the years previous to 1993 (Figure1); this is thought to be mainly due to the widespread use of fluoride toothpaste. Since 1993 the oral health of Welsh 5 year olds has worsened and the rate of improvement in the dental health of 12 and 15 year olds has decreased.

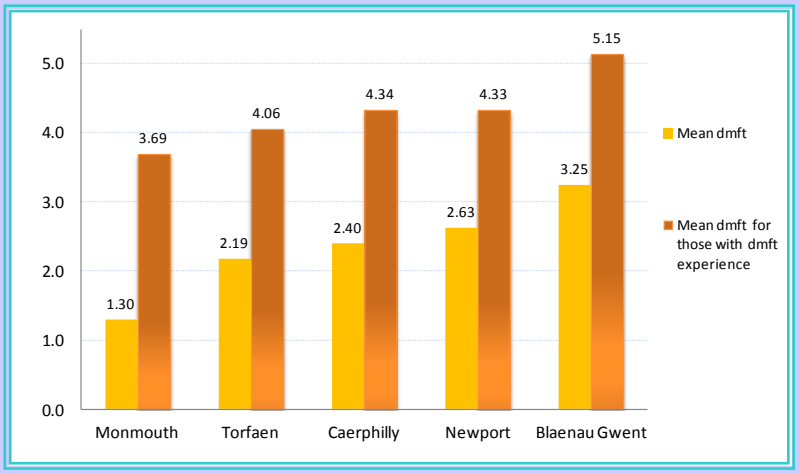
## Figure 2

Average dmft for 5 year olds, 1999-2006, Wales compared with England and Scotland



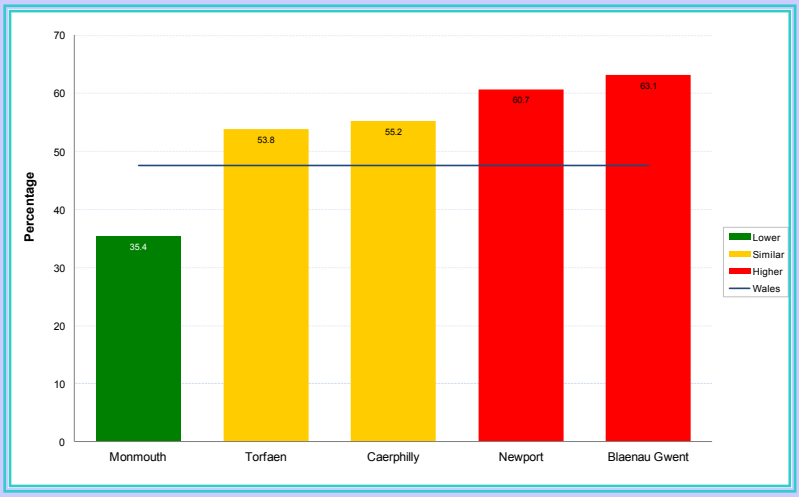

## Figure 3

Mean decayed, missing and filled primary teeth (dmft) of five year olds in unitary authorities within Aneurin Bevan Health Board, 2007-8



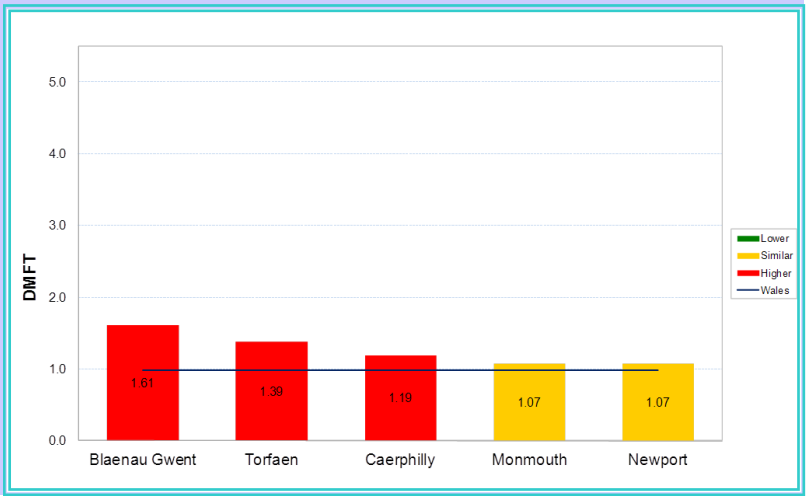

## Figure 4

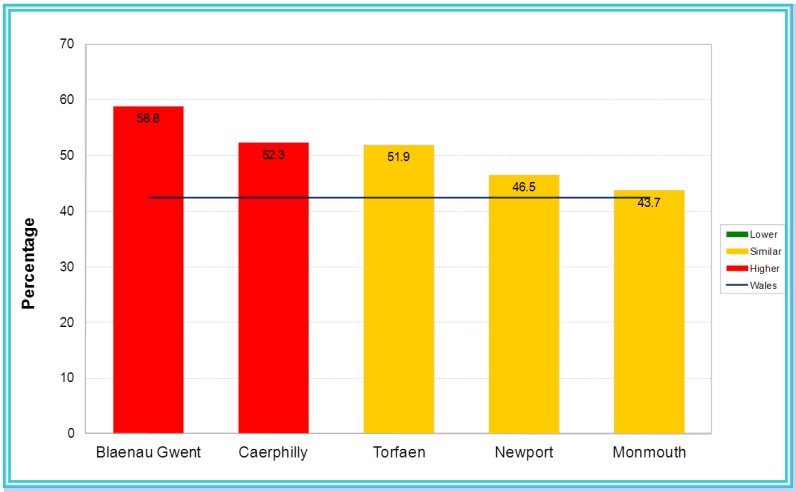
Percentage of 5 year olds with caries experience (%dmft>0) in unitary authorities within Aneurin Bevan Health Board, 2007-8




## Figure 5

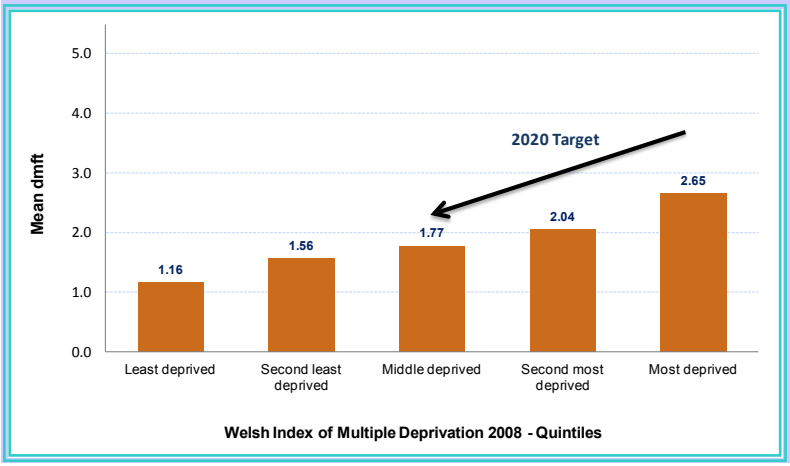
Mean decayed, missing and filled permanent teeth (DMFT) of 12 year olds in unitary authorities within Aneurin Bevan Health Board, 2008-9






## Figure 6

Percentage of 12 year olds who have caries experience in their permanent teeth (%DMFT>0) in unitary authorities within Aneurin Bevan Health Board, 2008




## Figure 7

Average dmft for 5 year olds 2007-8, presented by quintiles of the Welsh Index of Multiple Deprivation *(2020 target dmft most deprived = 1.77)*

### *FIVE YEAR OLDS*

The decennial Child Dental Health surveys showed that there was a small improvement in the decay experience of Welsh 5 year olds between 1983 and 1993, but caries experience seems to have worsened since then (Figure 1).

### *GB country comparison*

Local data on this age group are more regularly collected via the NHS Dental Epidemiology programme. Wales is now ranked third when average dmft, collected via these local surveys, is compared across the countries of Great Britain (Figure 2). In 2005-6, for the first time since these local surveys began in the mid 1980s, the average dmft for 5 year olds in Wales was significantly higher than in Scotland.

### *Most recent local survey, 2007-8 Health Board data*

In Aneurin Bevan the average dmft for all children aged 5, surveyed in 2007-8 was 2.38 and the average dmft for those with experience of caries was 4.35. The former value was significantly higher than the Welsh average (1.98) but the latter figure did not differ significantly from the Welsh average (4.16).

Over half (54.8%) of five year olds living in the LHB have at least one decayed, missing (due to caries) or filled tooth; this is significantly higher than the figure for Wales, 47.6%.

### *Unitary Authority data*

Dental caries is a preventable disease, Blaenau Gwent 5 year olds, for example, have on average three and a quarter teeth affected by dental caries and for those with the disease an average of 5.15 teeth are affected (Figure 3).

The percentages having at least one decayed, missing or filled tooth ranged from 35.4% in Monmouth to 63.1% in Blaenau Gwent (Figure 4).

### *Upper Super Output Area data*

The range in average dmft is more marked when considering USOA level data; with Monmouth U001 having an average dmft of 1.19 compared with 5.15 in Caerphilly U001 (Table 3).

For the percentage with caries experience, this ranged from 31.8% of 5 year olds in Monmouth U001 to 90% in Caerphilly U001 (Table 3).

### *TWELVE YEAR OLDS*

Decennial Child Dental Health surveys year olds has improved considerably.

The percentage of children in Wales with tooth decay has fallen from 83% in 1983 to 43% in 2003[1]. The average DMFT has also fallen for this age-group, from 3.3 in 1983 to 1.0 in 2003 (Figure 1). The oral health of Welsh 12 year olds is now among some of the best in Europe[2].

### *Most recent local survey, 2008-9 Health Board data*

The average DMFT for Aneurin Bevan (collected via the NHS Epidemiology programme) was 1.23 which was significantly higher than the Welsh average of 0.98.

### *Unitary Authority data*

Figure 5 shows average DMFT for 12 year olds, in Aneurin Bevan unitary authorities. This ranged from1.07 in Newport which was similar to the Welsh average to 1.61 for Blaenau Gwent, which was significantly higher than the Welsh average (0.98). The percentage with caries experience were within average range for Monmouth, Newport and Torfaen with Caerphilly and Blaenau Gwent having higher than average experience (Figure 6).

## Inequalities in children's oral health

Although children's oral health has improved on average, inequalities remain. Caries, like many other diseases increases with social deprivation.

### *Child poverty targets*

Recent Welsh Government policy aims to eradicate the wider effects of childhood poverty; to that end the Deputy Minister for Social Justice and Regeneration proposed targets on infant mortality, low birth weight, childhood injuries, teenage conceptions and dental caries.

These Welsh targets use data from the NHS surveys to help address the widening gap between the oral health of children from the least well off and the most well off families in Wales. There are Wales level targets for 5 and 12 year olds which focus on the average dmft and the percentage with caries. It is important to note that these targets are Welsh targets; to date there are no Health Board targets.

**Table 2: Indicators of caries prevalence in 5 year olds, 2007-08, for Upper Super Output Areas in Aneurin Bevan Health Board**

| Upper Super Output Area | average dmft | average dmft of those with dmft | %dmft>0 |
|---|---|---|---|
| Monmouthshire U001 | 1.19 | 3.72 | 31.9 |
| Caerphilly U005 | 1.24 | 2.95 | 42.0 |
| Newport U001 | 1.40 | 2.54 | 55.3 |
| Monmouthshire U002 | 1.54 | 3.83 | 40.3 |
| Torfaen U002 | 1.60 | 3.58 | 44.8 |
| Caerphilly U002 | 1.79 | 3.47 | 51.7 |
| Caerphilly U004 | 1.84 | 3.86 | 47.7 |
| Caerphilly U006 | 1.92 | 5.00 | 38.5 |
| Torfaen U003 | 1.95 | 3.79 | 51.4 |
| Caerphilly U003 | 2.23 | 4.46 | 50.0 |
| Newport U004 | 2.36 | 4.92 | 48.0 |
| Newport U003 | 2.56 | 4.60 | 55.6 |
| Torfaen U001 | 2.69 | 4.34 | 62.0 |
| Newport U002 | 2.78 | 4.11 | 67.5 |
| Blaenau Gwent U002 | 2.81 | 4.70 | 59.7 |
| Blaenau Gwent U001 | 3.30 | 5.43 | 60.7 |
| Caerphilly U001 | 5.15 | 5.72 | 90.0 |
| | | | |
| **Aneurin Bevan** | **2.38** | **4.35** | **54.8** |
| **Wales** | **1.98** | **4.16** | **47.6** |

**Table 1: Mean dmft & %dmft>0 for 5 year olds (2007-8) by quintiles of deprivation index, for Wales and Aneurin Bevan Health Board**

| | WALES | | Aneurin Bevan | |
|---|---|---|---|---|
| | mean dmft | %dmft>0 | mean dmft | %dmft>0 |
| Least deprived | 1.16 | 34.5 | 1.29 | 36.7 |
| Second least deprived | 1.56 | 41.3 | 1.86 | 43.8 |
| Middle deprived | 1.77 | 44.1 | 1.76 | 45.2 |
| second most deprived | 2.04 | 49.2 | 2.40 | 55.9 |
| Most deprived | 2.65 | 57.6 | 3.06 | 66.9 |
| | | | | |
| All within area | 1.98 | 47.6 | 2.38 | 54.8 |
| Ratio - most deprived:middle | 1.50 | 1.31 | 1.74 | 1.48 |

### *5 year old children*

The aim is to improve the average dmft and the percentage with caries for the most deprived fifth to match today's caries levels of the middle fifth by 2020 (Figure 7).

For the most deprived fifth of five year old children in Wales as categorised by the WIMD 2008, the average dmft was 2.65 in 2007-8. The national child poverty target for 2020 is to bring this average down to 1.77 reflecting the current level exhibited by the middle deprived group (Figure 7).

It is worth noting that the average dmft for 5 year olds for Aneurin Bevan as a whole was 2.38 and for the most deprived group it was 3.06 (Table 1), there is some way to go if the LHB wants to reflect national targets. Furthermore 12 of the 17 USOAs in Aneurin Bevan had an average dmft in excess of 1.77 in 2007-8 (Table 2).

### *12 year old children*

The Wales target for 2020, for the most deprived fifth of twelve year olds, is to bring the average DMFT down to 1.12 reflecting the current level exhibited by the middle deprived group. In 2004-5 the average DMFT for this group was 1.35. For Wales as a whole there has been some progress towards the target, the average DMFT of the most deprived group is now 1.31 (Table 3). But overall the improvements in caries levels in Welsh 12 year olds have taken place in the least deprived groups, as evidenced by the increase in ratios for the most deprived: middle deprived between 2004-5 (mean DMFT Wales ratio 1.21) and 2008-9 (mean DMFT Wales ratio 1.38, Table 3).

**Table 3: Mean DMFT & %DMFT>0 for 12 year olds by quintiles of deprivation index, Wales and Abertawe Bro Morgannwg UHB**

| | 12 year olds 2004-05 | | | | 12 year olds 2008-09 | | | |
|---|---|---|---|---|---|---|---|---|
| | WALES | | Aneurin Bevan | | WALES | | Aneurin Bevan | |
| | mean DMFT | %DMFT>0 | mean DMFT | %DMFT>0 | mean DMFT | %DMFT>0 | mean DMFT | %DMFT>0 |
| Least deprived | 0.78 | 35.5 | 0.75 | 38.9 | 0.58 | 30.5 | 0.73 | 35.1 |
| Second least deprived | 0.96 | 41.4 | 1.04 | 40.7 | 0.74 | 35 | 0.89 | 44.0 |
| Middle deprived | 1.12 | 45.5 | 1.34 | 55.1 | 0.95 | 42.1 | 1.18 | 53.0 |
| second most deprived | 1.18 | 48.5 | 1.27 | 54.7 | 1.11 | 45.5 | 1.36 | 51.9 |
| Most deprived | 1.35 | 53.8 | 1.75 | 61.4 | 1.31 | 52.4 | 1.63 | 60.5 |
| | | | | | | | | |
| All within area | 1.09 | 45.1 | | | 0.98 | 42.5 | 1.23 | 50.4 |
| Ratio - most deprived: middle deprived | 1.21 | 1.18 | 1.31 | 1.11 | 1.38 | 1.24 | 1.38 | 1.14 |

In 2008-9 the average DMFT for 12 year olds for Aneurin Bevan as a whole was 1.23 and for the most deprived group it was 1.63 (Table 3); again there is some way to go if the LHB wants to reflect National targets.

In 2008-9 11 of the 17 USOAs in Aneurin Bevan had an average DMFT in excess of 1.12. There is room for improvement in all these areas.

A map of USOAs can be found on the Welsh oral Health Information Unit website: http://www.cardiff.ac.uk/dentl/research/themes/appliedclinicalresearch/epidemiology/oralhealth/index.html

# Reducing inequalities in oral health — Designed to Smile

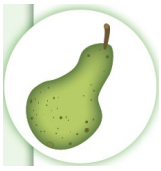
Designed to Smile is a national Oral Health Improvement programme to improve the dental health of children in Wales; its overall aim is to reduce inequalities in oral health. It is funded by the Welsh Government and was initially launched on the 30th January 2009 in both North and South Wales as a three year pilot.

Due to the successful implementation of the programme, Edwina Hart, Minister for Health and Social Services announced in October 2009 that it would be enhanced and expanded to cover the whole of Wales. Currently Designed to Smile takes place in 515 schools and nurseries throughout Wales with in excess of 30,000 children taking part.

## What does Designed to Smile involve?

Designed to Smile adopts a multi-agency approach using nursery and schools settings. Schools and nurseries that participate in Designed to Smile take part in preventive programmes such as twice yearly fluoride varnishing. Toothbrushing activities are also offered in addition to health promoting policies such as healthy food and drinks.

**Toothbrushing:** this includes supervised tooth brushing in school and nursery for young children and the promotion of good oral hygiene practices at home too.



**Healthy eating and drinking:** Advice emphasises that sugar consumption should be limited and kept to mealtimes only. Milk and water are the only safe drinks for children and snacks should be sugar free.

**Dental Screening:** annual dental checks help to highlight problems early. The dental check will also indicate whether children are suitable for fissure Sealants or fluoride varnish or supervised tooth

For more detailed information about Designed to Smile please go to: **www.designedtosmile.co.uk**

## Health Minister enjoys miles of smiles at a Cardiff Primary School

**The Minister for Health and Social Services Lesley Griffiths has seen how well a Welsh Government programme tackling tooth decay is working amongst primary school children.**

The Health Minister was met by Year 6 school ambassadors when she visited Ninian Park Primary in Cardiff, on the 18th January 2012, to watch a Designed to Smile (D2S) session in action.

The D2S programme is a National Oral Health Improvement scheme to improve the oral health of children in Wales. Funded by the Welsh Government and delivered by the Community Dental Service.

The targeted programme has been running in Wales since its pilot in 2008 and its wider roll-out to all children in areas of greatest need in 2009.

During her visit, the Minister was on hand to see a Dental Health Educator demonstrate the importance or oral hygiene through the use of puppets and mouth models.

After the puppet shows the children were encouraged to clean their teeth themselves, a habit promoted by all schools taking part in the D2S programme.

Health Minister Lesley Griffiths said:

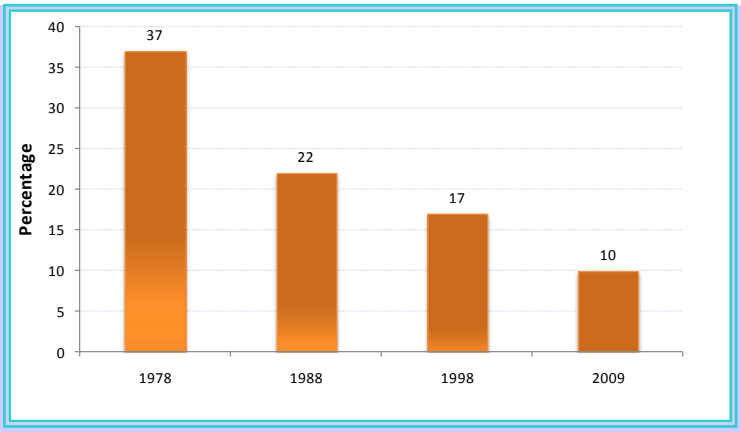
"The Welsh Government is determined to tackle oral health inequalities. Recent figures show over 50% of 5 year olds in Wales have experienced tooth decay. This is unacceptable when dental decay is avoidable simply by improving diet and nutrition and encouraging young children to develop the habit of brushing their teeth twice a day with fluoride toothpaste."

"The Designed to Smile Programme continues to expand with some 62,000 children participating in the scheme, delivered through 954 schools and nurseries, improving their oral health and preventing tooth decay."

"We have made significant progress across Wales with more children taking part in tooth brushing schemes, providing young people with the tools they need to develop and maintain good oral health from an early age."

## Figure 8

The proportion of adults with no natural teeth in Wales, 1978-2009




## Table 4 Total numbers of cases registered with oral cancers by Local Health Board in Wales 2001-2010

| Unitary Authority | Total | EASR | 95% Confidence Interval | Unitary Authority | Total | EASR | 95% Confidence Interval |
|---|---|---|---|---|---|---|---|
| Anglesey | 60 | 6.7 | (5.1, 9.0) | Neath & Port Talbot | 94 | 5.8 | (4.7, 7.3) |
| Gwynedd | 82 | 5.5 | (4.3, 7.0) | Bridgend | 94 | 5.9 | (4.7, 7.4) |
| Conwy | 101 | 5.6 | (4.5, 7.1) | The Vale of Glamorgan | 74 | 5.0 | (3.9, 6.4) |
| Denbighshire | 74 | 6.0 | (4.7, 7.9) | Cardiff | 181 | 5.7 | (4.9, 6.7) |
| Flintshire | 103 | 5.7 | (4.6, 7.0) | Rhondda Cynon Taff | 140 | 4.9 | (4.1, 5.9) |
| Wrexham | 83 | 5.2 | (4.1, 6.6) | Merthyr Tydfil | 31 | 5.0 | (3.4, 7.5) |
| Powys | 71 | 3.4 | (2.6, 4.5) | Caerphilly | 92 | 4.7 | (3.8, 5.8) |
| Ceredigion | 42 | 3.9 | (2.8, 5.9) | Blaenau Gwent | 35 | 4.3 | (3.0, 6.4) |
| Pembrokeshire | 69 | 4.3 | (3.4, 5.7) | Torfaen | 54 | 4.7 | (3.5, 6.4) |
| Carmarthenshire | 122 | 5.0 | (4.1, 6.1) | Monmouthshire | 44 | 3.5 | (2.6, 5.2) |
| Swansea | 165 | 6.1 | (5.2, 7.2) | Newport | 76 | 5.0 | (4.0, 6.4) |
| | | | | **WALES** | **1887** | **5.1** | **(4.9, 5.4)** |

*Source: Welsh Cancer Intelligence and Surveillance Unit*

# Oral health in adults

Decennial Adult Dental Health surveys have reported that the dental health of most adults has improved dramatically during the past 50 years. During the post war years, the nation's oral health was poor and dental disease was widespread. People did not expect their natural teeth to last a lifetime. This expectation has now changed nowadays more adults keep their teeth for life. In 1978 as many as 37% of adults in Wales had no natural teeth; by 2009 this figure had fallen to 10% (Figure 8). But, the number of adults with no teeth is still high when compared with England (where 6% had no teeth in 2009).

## Caries

Tooth decay still affects a large proportion of the population and a significant proportion of people over the age of 75 are still without any natural teeth. Although more middle aged people have their own teeth, many of these teeth have been filled and these fillings need maintenance and repeated repair. This changing pattern in the demand for dental services needs to be taken into account in future workforce planning.

## Periodontal condition

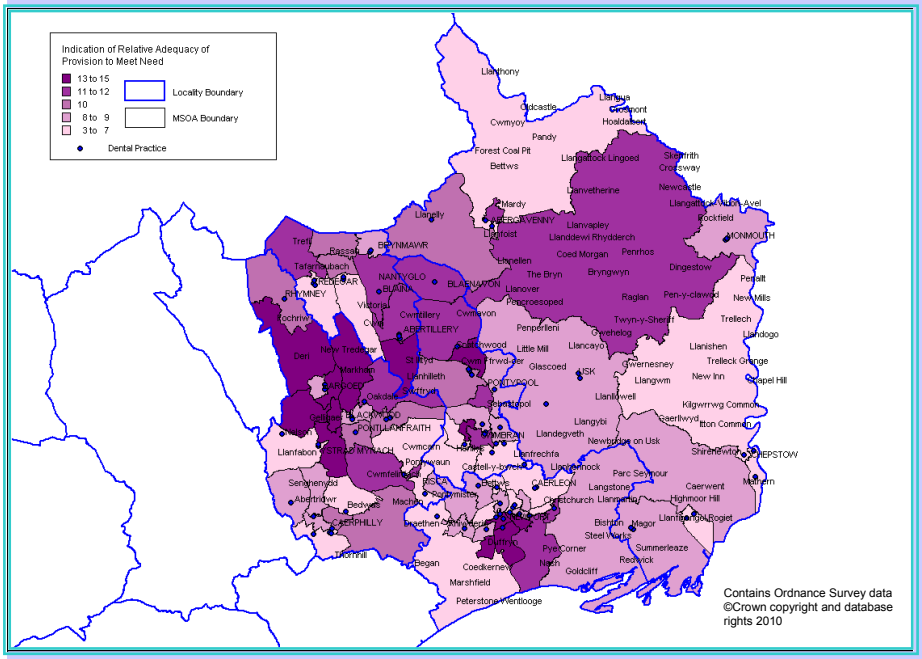
In 2009 56% of dentate adults (i.e those with teeth) in Wales had bleeding gums; 50 per cent had pocketing of 4mm or more; 8 per cent had pocketing of 6mm or more. 77% of dentate adults aged 55 years and over had loss of attachment (LOA) of 4mm or more; 33% had LOA of 6mm or more; and 3% had LOA of 9mm or more. Only 7% of dentate adults in Wales had excellent oral health that is they had 21 or more teeth, 18 or more sound and untreated teeth, no active decay at any site, no periodontal pocketing or loss of attachment above 4mm, and no plaque or calculus.

## Oral Cancer

Oral cancer is more common in people who are over 50 years old, and is twice as common in men as in women. However, the gender difference is becoming less pronounced and prevalence is also increasing in younger adults. Almost all oral cancers are thought to be preventable. An estimated 80% are caused by tobacco smoking, alcohol consumption or a combination of the two[3]. In Wales, data on oral cancer are collected via the Welsh Cancer Intelligence and Surveillance Unit. Table 4 shows the total number of cancers of the mouth, lip and oral cavity for the ten year period 2001-2010 for unitary authorities in Wales along with European Age Standardised Rates (EASR) per 100,000 population and 95% confidence intervals. The EASR takes into account the differing age structure in Wales compared with the European population. Only totals by persons are shown here due to the small number of cases by LHB for various head and neck cancers. The lowest EASR per 100,000 population of mouth, lip and oral cavity cancer is located in Powys with the highest EASR being in the Isle of Anglesey. It is also worth noting that the three unitary authorities within Abertawe Bro Morgannwg University health board all have EASRs which rank them in the worst fifth of Wales' unitary authorities.

## Care Home Residents

Older people now make up a larger proportion of the population and maintaining their dental health will be an increasing challenge. In 2007 a survey of Wales care home managers identified weaknesses in arrangements for ensuring that all residents have suitable assessments on admission; difficulty in accessing both routine and emergency dental care; training issues for staff who assist residents with oral hygiene, and assumptions made about the ability of residents to chew food which is affecting the range of food offered. Experience ranged across Wales, in Flintshire for example, the majority of care home residents had well established systems for accessing oral health care; this was associated with local Community Dental Service initiatives working with care homes in the area. A link to this report can be found on the Welsh Oral Health Information Unit website (see Websites, page 8). More recently in 2011, an oral health survey of care home residents was carried out , the results will be available by the end of 2012, and will be used to facilitate planning processes within Local Health Boards.




## Current service use in relation to need

**Map 1 Indication of Relative Adequacy of Provision to Meet Need by MSOA**
(The higher the score, the less well need is being met)

Researchers at Cardiff University have been carrying out a project Modelling NHS Primary Dental Care Provision in Wales. They have reported on the use of non-orthodontic GDS and PDS NHS dental services for the period April 2008 to March 2010[4].

The dental attendance rates (defined as the percentage of the population that made at least one visit to a dentist during the period) for Wales and Aneurin Bevan were 56.1% and 57.5% respectively. Within Aneurin Bevan this ranged from 55.2% in Monmouthshire to 59.7% in Newport. Middle Super Output Area-level, attendance rates varied from 43.7% to 72.7%, with 29 of the Health Board's MSOAs having an attendance rate above 60%. There was a negative relationship between area attendance rates and deprivation (as measured by the Income Domain of the Welsh Index of Multiple Deprivation 2008) – attendance rates were lower amongst the more deprived areas.

The Cardiff based researchers constructed an indicator of the relative adequacy of provision to meet need which highlighted the areas where need is being less well met; these are distributed across the Health Board (Map 1). When constructing the indicator the following definitions were used:

### *Need*

The Income Domain from the Welsh Index of Multiple Deprivation (2008) at Middle Super Output Area (MSOA) was used as a proxy for need.

### *Demand*

This was defined as the percentage of the population attending an NHS dentist at least once in the 24 month period 1st April 2008 to 31st March 2010. NICE guidelines[5] suggest that the maximum frequency between dental visits for adults should be 2 years. This maximum frequency only applies to individuals who are not considered to be at risk of oral disease. Many regular dental attenders will visit at more frequent intervals – traditionally every six months.

### *Provision*

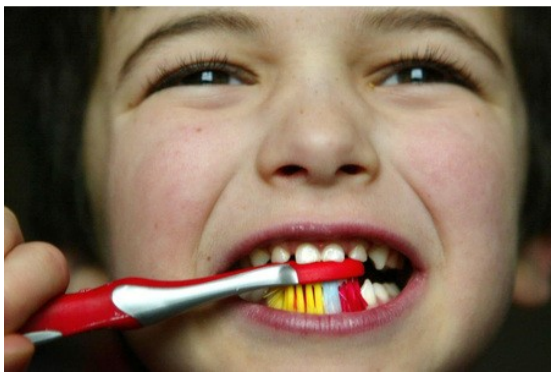
This was defined as the total number of Units of Dental Activity commissioned per 1,000 people per MSOA.

### *Summary indicator of relative adequacy to meet need*

Need, Demand and Provision were allocated a numerical score of 1 to 5 by placing the MSOAs into quintiles, where 1 corresponds to low need, high demand and high provision. Scores were summed to provide an overall indication of the adequacy of provision to meet need – the higher the score (the maximum being 15), the less well need is being met. The overall indicator is also mapped in Map 1 – the darker shading indicating where the less need is being met. The areas where need is being less well met are distributed across the Health Board, though there are relatively more areas in the northern half where need is being less well met than in the southern half of the Health Board.

# Challenges for the future

- Aneurin Bevan health board has levels of caries experience which are significantly higher than the Welsh average, these levels are also worse than those experienced in England and Scotland. Furthermore, there is wide range of caries experience at the small area level. The challenge for the health board is to address the problem of the disease burden amongst 5 year olds and the inequalities in oral health.
- The health board needs to follow through preventive action to stop caries from developing in the first place and to ensure that key services for priority groups, in particular children, are planned for and resourced.
- The health board should ensure that the oral health needs of care home residents are met using the recommendations from recent national surveys.
- The health board will need to meet the additional pressure on dental services as more adults retain more teeth for longer and require more complex restorative services.
- The health board has room for improvement in meeting the oral health needs of the local population (Map 1); the health board needs to ensure that access to affordable services are available and that their uptake is encouraged.



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## Useful websites

- **Welsh Oral Health Information Unit website**
- **PHW observatory**
- **British Association for the Study of Community Dentistry**
- **Designed to Smile**
- **Child Dental Health survey data**
- **Adult Dental Health survey data**
- **Health Maps Wales**
- **Welsh Cancer Intelligence and Surveillance Unit (WCISU)**