

# **National Dental Inspection Programme (NDIP) 2017**

**Report of the 2017 Detailed National Dental Inspection Programme  
of Primary 7 Children and the Basic Inspection of Primary 1 and  
Primary 7 children**

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## Introduction

### The 2017 National Dental Inspection Programme (NDIP) in school year 2016/17

The National Dental Inspection Programme (NDIP) is carried out annually with the support and approval of the Scottish Dental Epidemiology Co-ordinating Committee. Its principal aims are to inform parents/carers of the dental health status of their children and, through appropriately anonymised, aggregated data, advise the Scottish Government, NHS Boards and other organisations concerned with children's health of dental disease prevalence at national and local levels. This ensures that reliable dental health information is available for planning initiatives directed towards health improvements.

Two school year groups are involved: i) at entry into Local Authority schools in primary one (P1) and ii) in primary seven (P7) before the move to secondary education. The Inspection Programme has two levels: a *Basic Inspection* (intended for all P1 and P7 children) and a *Detailed Inspection* (where a representative sample of either the P1 or the P7 age group is inspected in alternate years).

This year's report focuses on the results of the *Detailed Inspection* of P7 school children in school year 2016/17 (noted as 2017 throughout the report). Information relating to the *Basic Inspection* of both P1 and P7 children can be found in [Appendix A6](#) of this Report. An Executive Summary of the main findings can be found at <http://www.isdscotland.org/Health-Topics/Dental-Care/National-Dental-Inspection-Programme/>.

## Key Definitions

### Detailed Inspection

- A comprehensive assessment of the mouth of each inspected child using a light, mirror and ball-ended probe.
- It involves recording the status of each surface of each tooth in accordance with international dental epidemiological conventions.
- It measures obvious decay into dentine (see below) when seen under school (rather than dental surgery) conditions.
- More information on the different stages of dental decay can be found in [Appendix A1](#).
- Those undertaking the inspections attend (and pass) a training and calibration course prior to the annual inspection process. Details of the course and of the calibration results can be found in [Appendix A2](#).

### Obvious Decay (D<sub>3</sub>)

- This is when the disease process clinically appears to have penetrated dentine (i.e. the layer below the outer white enamel of the teeth) on a tooth surface.
- This is described internationally as decay at the D<sub>3</sub> level and includes *pulpal decay* (i.e. decay into the deeper dental pulp).
- The definition of decay used here is in accordance with the British Association for the Study of Community Dentistry (BASCD) guidelines and international epidemiological conventions, thus allowing comparisons to be made over time and with other countries in Europe and beyond.

- This is a different diagnostic level from that used by many dentists when examining patients in a dental surgery, i.e. for dental check-ups.
- Decay is also known as caries.

### Obvious Decay Experience (D<sub>3</sub>MFT)

- The sum of teeth which have decay into dentine (including teeth with fillings which require further treatment), filled teeth and teeth that are missing (extracted) due to decay. A hierarchy was used to ensure there was no double counting of teeth.
- Thus no obvious decay experience has D<sub>3</sub>MFT=0.

### Care Index

- The percentage of teeth with obvious decay experience in a population that have been treated restoratively (filled).
- This is calculated as follows:

$$\frac{\text{number of filled teeth}}{\text{number of obvious decayed, missing and filled teeth}} \times 100$$

Or simply

$$\frac{FT}{D_3MFT} \times 100.$$

### Scottish Index of Multiple Deprivation (SIMD)<sup>1</sup>

- A tool for measuring the extent of deprivation across Scotland.
- Uses several different aspects of deprivation, combining them into a single index.

### Slope Index of Inequality (SII)

- The absolute difference overall in obvious decay experience (D<sub>3</sub>MFT) score when moving across the socio-economic (SES) spectrum. It shows the total experience of individuals in the whole population and it is considered to be a consistent indicator with local populations.

### Relative Index of Inequality (RII)

- The relative difference in obvious decay experience (D<sub>3</sub>MFT) when moving across the socio-economic (SES) spectrum. This can be calculated by dividing the SII by the mean level of decay in the population.

### Significant Caries Index (SiC)

- Used to bring attention to the individuals with the highest caries values in each population under investigation. The Significant Caries Index is calculated as follows:
  - Individuals are sorted according to their D<sub>3</sub>MFT values.
  - The third of the population with the highest caries scores is selected.
  - The mean D<sub>3</sub>MFT for this subgroup is calculated. This value is the SiC Index.

### **Significant Caries Index 10 (SiC10)**

- This is calculated in the same way as SIC but instead of taking the third of the population with the highest mean  $D_3MFT$  scores, the top tenth is chosen and this tenth of the sample with the most teeth affected by obvious decay experience is calculated

### **Scottish Caries Inequality Metric (SCIM10)**

- The area under the curve in relation to the distribution of the tenths of the population by obvious decay experience ( $D_3MFT$ ).

## Specific Goals of the Detailed Inspection

- To determine current levels of obvious decay experience nationally and across the NHS Boards.
- To determine the influence of deprivation on the dental health of children in Scotland.

## How many children had a Detailed Inspection?

Each NHS Board is required to identify the number of Local Authority (LA) schools needed to obtain a representative sample of a given size from their P7 population. The sample sizes used provide adequate numbers to allow meaningful statistical comparisons between NHS Boards. Whole classes are randomly selected to simplify the process for schools while ensuring that results are representative of the P7 population in Scotland.

Between November 2016 and June 2017, 14,596 children (26.6% of the estimated P7 population) from across Scotland were included in the Detailed Inspection (Table 1). Across the NHS Boards, the percentage of P7 children inspected ranged from 12.5% to 95.3%.

NHS Boards can choose to increase the sample size above minimum requirements to aid local planning needs, and some less populated Boards need to include large proportions to achieve statistically meaningful results.

The average age of the children examined (both girls and boys) was 11.5 years. The range of ages across Scotland was 10.2 – 13.0 years.

**Table 1. Estimated Primary 7 population and the number and percentage who received a Detailed Inspection by NHS Board across Scotland in school year 2016/17<sup>1-4</sup>**

NHS Board	Estimated Primary 7 (P7) population	Number of P7 children receiving a Detailed Inspection	% of P7 population receiving a Detailed Inspection
Ayrshire & Arran	3,866	1,167	30.2
Borders	1,228	388	31.6
Dumfries & Galloway	1,480	343	23.2
Fife	3,884	504	13.0
Forth Valley	3,342	1,347	40.3
Grampian	5,696	2,608	45.8
Greater Glasgow & Clyde	11,282	3,334	29.6
Highland	3,420	538	15.7
Lanarkshire	7,409	924	12.5
Lothian	8,346	1,774	21.3
Orkney	211	201	95.3
Shetland	249	230	92.4
Tayside	4,148	1,001	24.1
Western Isles	303	237	78.2
<b>Scotland</b>	<b>54,864</b>	<b>14,596</b>	<b>26.6</b>

Source: ISD NDIP Database

1. Numbers are based on the postcode of the child and not the postcode of the school where the child was inspected.

2. Based on NHS Board boundaries as defined in 2014.

3. Primary 7 population is estimated using an aggregated population lookup file of children aged 11 (2015).

4. The estimated Primary 7 population of Orkney and Shetland was increased for analytical purposes.

### Main points

- Three quarters (77%) of P7 children had no obvious decay experience in their permanent teeth in 2017. This is a large improvement over the past decade (53% in 2005).
- The average number of P7 children's teeth affected by obvious decay experience in 2017 is 0.49. This is less than half of the average number of teeth affected in 2005 (1.29).
- Only 65.6% of P7 children had no obvious decay experience in the most deprived areas compared with 86.5% in the least deprived areas. (Note: no obvious decay experience means there are no obviously decayed, missing or filled teeth).
- The Care Index has fallen from 55% in 2015 to 51% in 2017.



## Results and Commentary

### Detailed Inspection Results

What are the obvious decay experience results for the teeth of P7 children in NHS Boards in Scotland?

Table 2 provides details of the results for all 14 NHS Boards across Scotland. In this 2017 survey, approximately 23% of P7 children in Scotland had obvious decay experience in their permanent teeth. For those children, the mean number of affected teeth was 2.16. This ranged across the Boards from 1.59 in children in NHS Borders to 2.43 in children in NHS Lanarkshire. The number of teeth affected in an individual child varied from one tooth to 12 teeth.

**Table 2. Obvious decay experience in permanent teeth of P7 children for each NHS Board and Scotland in 2017<sup>1-4</sup>**

NHS Board	% with no obvious decay experience in permanent teeth	Mean number of:					decayed, missing and filled teeth for those with obvious decay experience (D <sub>3</sub> MFT>0)
		decayed, missing and filled teeth (D <sub>3</sub> MFT)	decayed teeth (D <sub>3</sub> T)	missing teeth (MT)	filled teeth (FT)		
Ayrshire & Arran	78.8	0.46	0.17	0.05	0.24	2.17	
Borders	79.1	0.33	0.11	0.03	0.20	1.59	
Dumfries & Galloway	75.7	0.55	0.17	0.03	0.36	2.27	
Fife	75.3	0.49	0.24	0.06	0.19	2.05	
Forth Valley	77.6	0.45	0.15	0.05	0.24	2.00	
Grampian	78.8	0.45	0.14	0.05	0.25	2.19	
Greater Glasgow & Clyde	73.1	0.60	0.23	0.07	0.30	2.24	
Highland	78.9	0.40	0.10	0.08	0.22	1.89	
Lanarkshire	74.1	0.63	0.22	0.09	0.31	2.43	
Lothian	80.6	0.42	0.14	0.08	0.20	2.16	
Orkney	90.4	0.19	0.04	0.07	0.08	2.00	
Shetland	89.3	0.23	0.09	0.03	0.11	2.12	
Tayside	78.7	0.45	0.11	0.11	0.23	2.10	
Western Isles	85.8	0.33	0.15	0.03	0.15	2.29	
<b>Scotland</b>	<b>77.1</b>	<b>0.49</b>	<b>0.17</b>	<b>0.07</b>	<b>0.25</b>	<b>2.16</b>	

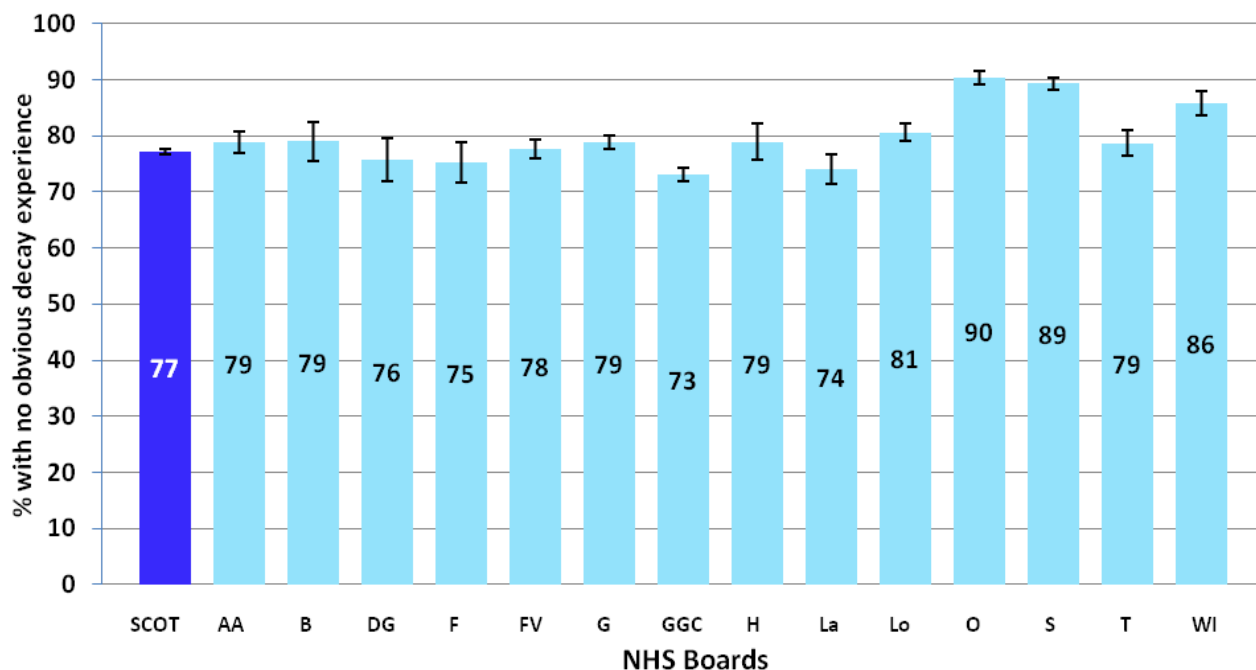
Source: ISD NDIP Database

1. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.
2. Based on NHS Board boundaries as defined in 2014.
3. There may be some rounding issues.
4. The definitions of D<sub>3</sub>MFT, DT, MT, FT and D<sub>3</sub>MFT>0 can be found in the [Glossary](#).

## What proportion of P7 children in Scotland had no obvious decay experience in 2017?

In Scotland, 77.1% of P7 children fell into this category, with a range of 73.1% in NHS Greater Glasgow and Clyde to 90.4% in NHS Orkney across the 14 NHS Boards (Figure 1).

**Figure 1. Percentage of P7 children in Scotland with no obvious decay experience in 2017; by NHS Board<sup>1-3</sup>**



<b>AA</b>	<b>B</b>	<b>DG</b>	<b>F</b>	<b>FV</b>	<b>G</b>	<b>GGC</b>
AYRSHIRE & ARRAN	BORDERS	DUMFRIES & GALLOWAY	FIFE	FORTH VALLEY	GRAMPIAN	GREATER GLASGOW & CLYDE
<b>H</b>	<b>LA</b>	<b>Lo</b>	<b>O</b>	<b>S</b>	<b>T</b>	<b>WI</b>
HIGHLAND	LANARKSHIRE	LOTHIAN	ORKNEY	SHETLAND	TAYSIDE	WESTERN ISLES

Source: ISD NDIP Database

1. No obvious decay experience is when D<sub>3</sub>MFT=0.

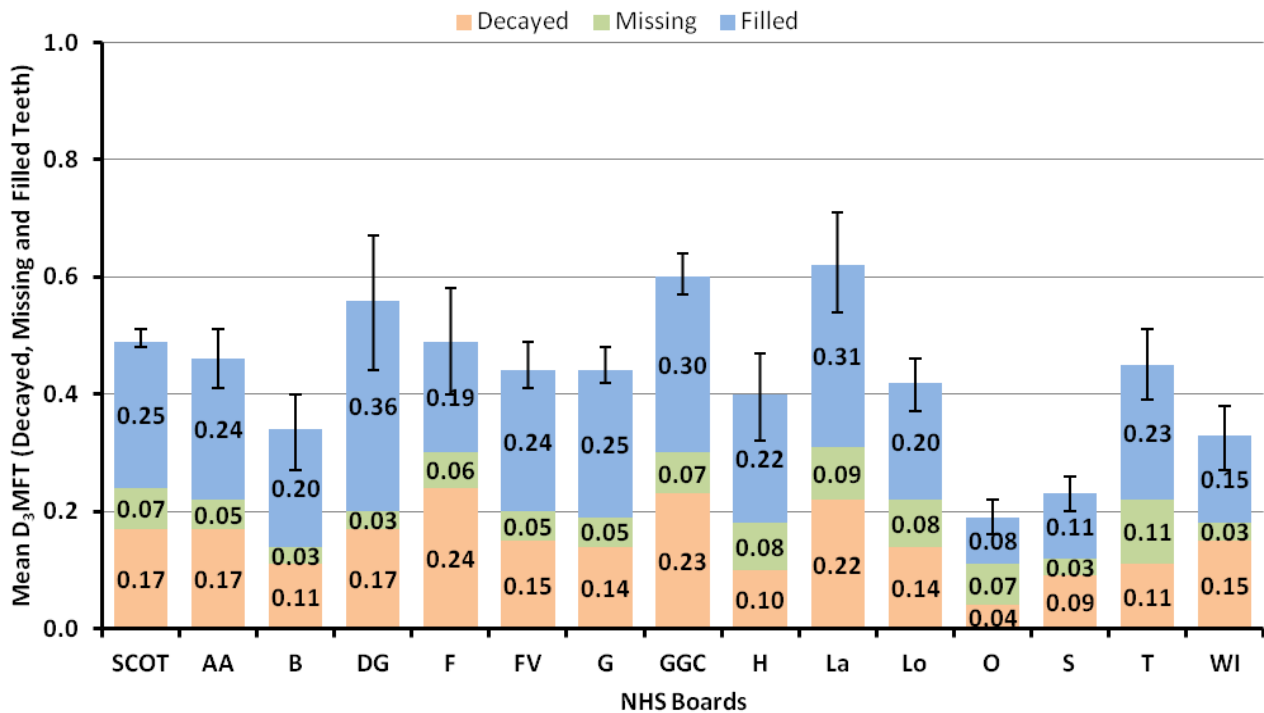
2. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.

3. Based on NHS Board boundaries as defined in 2014.

What levels of obvious decay experience were seen in P7 children in 2017?

The average number of obvious decayed, missing and filled teeth (D<sub>3</sub>MFT) across all P7 children inspected in Scotland was 0.49. This ranged from 0.19 in NHS Orkney to 0.63 in NHS Lanarkshire across the 14 NHS Boards in Scotland (Figure 2).

**Figure 2. Mean number of obvious decayed, missing and filled permanent teeth (D<sub>3</sub>MFT) of P7 children in 2017 in Scotland; by NHS Board<sup>1-3</sup>**



<b>AA</b>	<b>B</b>	<b>DG</b>	<b>F</b>	<b>FV</b>	<b>G</b>	<b>GGC</b>
AYRSHIRE & ARRAN	BORDERS	DUMFRIES & GALLOWAY	FIFE	FORTH VALLEY	GRAMPIAN	GREATER GLASGOW & CLYDE
<b>H</b>	<b>La</b>	<b>Lo</b>	<b>O</b>	<b>S</b>	<b>T</b>	<b>WI</b>
HIGHLAND	LANARKSHIRE	LOTHIAN	ORKNEY	SHETLAND	TAYSIDE	WESTERN ISLES

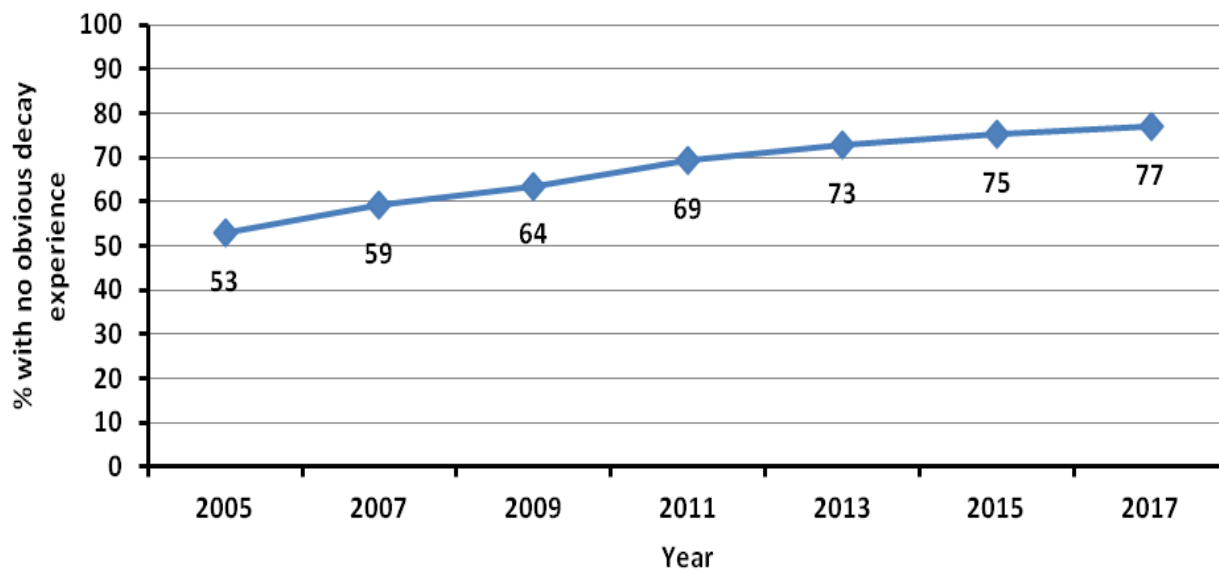
Source: ISD NDIP Database

1. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.
2. Based on NHS Board boundaries as defined in 2014.
3. There may be some rounding issues.

How has the dental health of P7 children in Scotland changed over time?

Figure 3 shows there has been a continued increase since 2015 in the percentage of P7 children with no obvious decay experience ( $D_3MFT=0$ ), and a large increase since 2005.

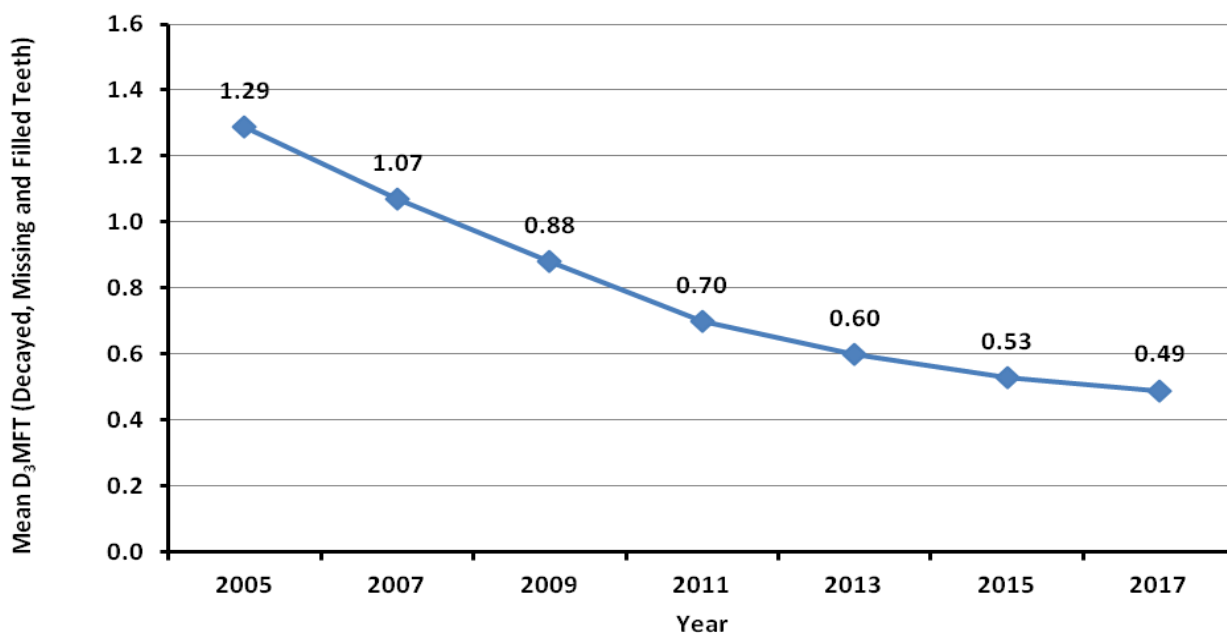
**Figure 3. Trends in the percentage of P7 children with no obvious decay experience in Scotland; 2005-2017**



Sources: ISD NDIP Database

Similarly, there has been a continuing decline (improvement) in the mean number of decayed, missing and filled permanent teeth for the P7 population as a whole (Figure 4).

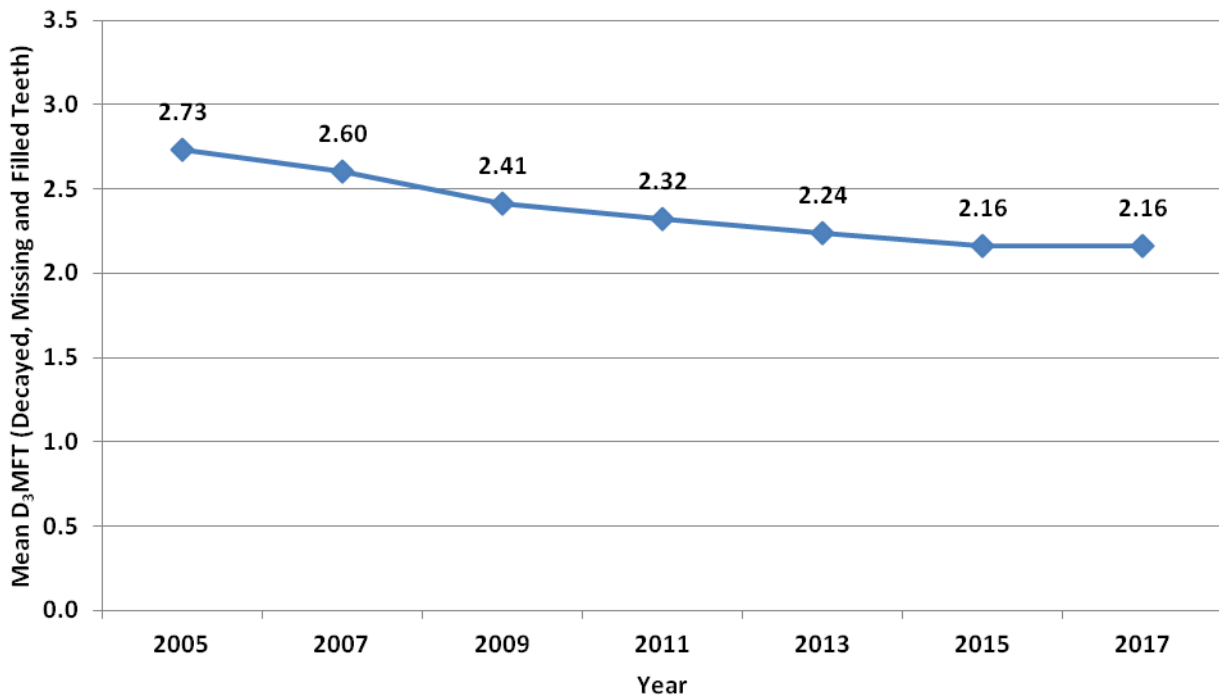
**Figure 4. Mean number of decayed, missing and filled permanent teeth ( $D_3MFT$ ) in the P7 population in Scotland; 2005-2017**



Sources: ISD NDIP Database.

For the subgroup of children with obvious decay experience, the mean number of decayed, missing and filled permanent teeth remains unchanged (2.16) (Figure 5).

**Figure 5. Mean number of decayed, missing and filled permanent teeth in P7 children with obvious decay experience (i.e. in those with  $D_3MFT > 0$ ) in Scotland; 2005-2017**

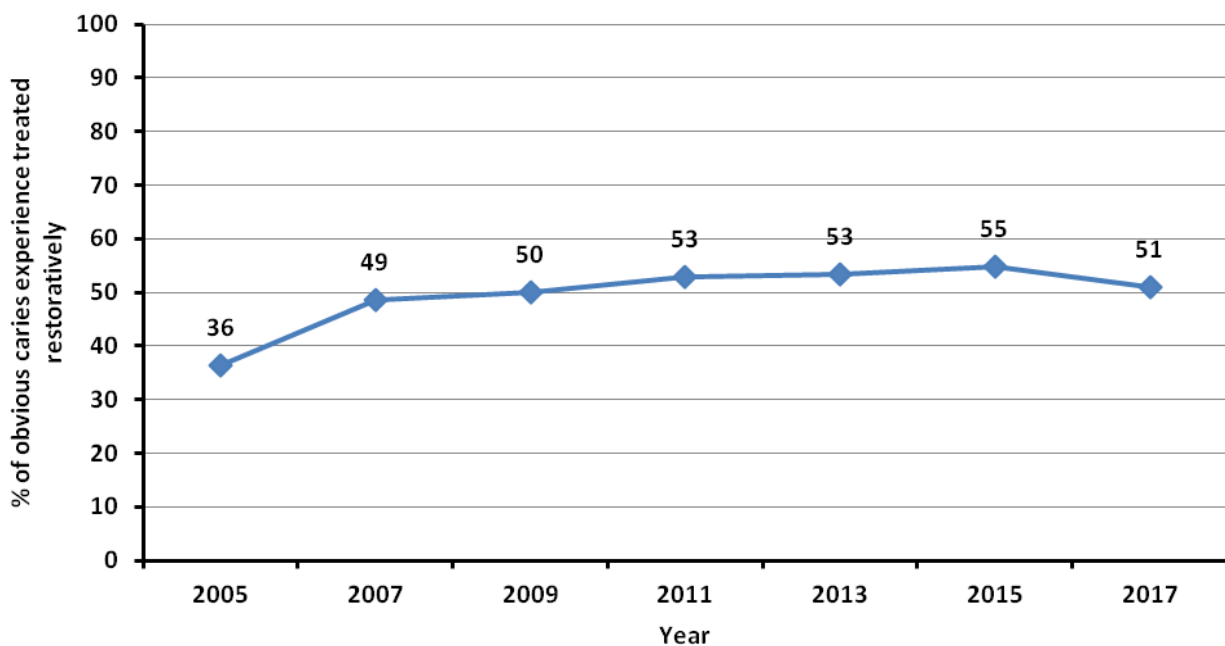


Sources: ISD NDIP Database

What proportion of obvious decay experience in P7 children was treated with fillings?

Figure 6 shows the Care Index for the last seven surveys. In the 2017 survey, 51.0% of teeth with obvious decay experience had been filled. There was variation across Scotland, with the Care Index ranging from 38.8% in NHS Fife to 65.5% in NHS Dumfries and Galloway. These results can be found in [Appendix A4](#) (Table A4.1).

**Figure 6. Care Index for P7 children in Scotland; 2005-2017<sup>1</sup>**



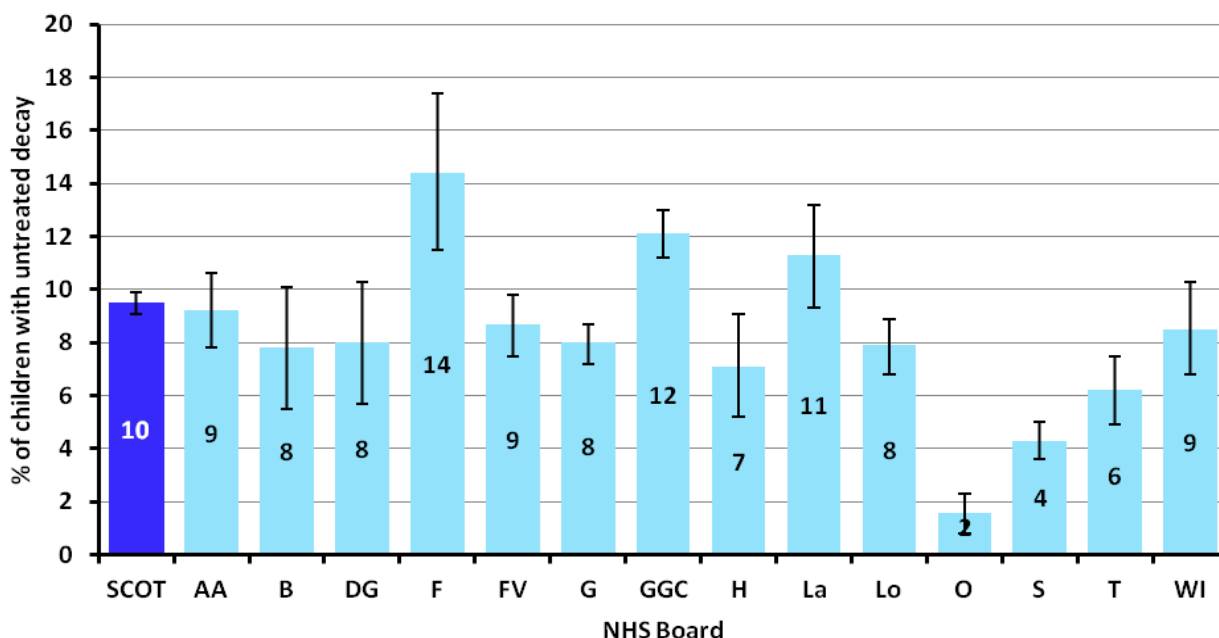
Sources: ISD NDIP Database

1. Care Index =  $\frac{\text{number of filled teeth}}{\text{number of teeth with obvious decay experience}} \times 100$

## What proportion of P7 children had untreated decay?

In Scotland, 9.5% of P7 children had untreated decay ( $D_3T>0$ ), with a range of 1.6% in NHS Orkney to 14.4% in NHS Fife across the 14 NHS Boards (Figure 7). Of the children with obvious decay experience, 41.5% had untreated decay.

**Figure 7. Percentage of P7 children in Scotland with untreated decay; by NHS Board in 2017<sup>1-3</sup>**



<b>AA</b>	<b>B</b>	<b>DG</b>	<b>F</b>	<b>FV</b>	<b>G</b>	<b>GGC</b>
AYRSHIRE & ARRAN	BORDERS	DUMFRIES & GALLOWAY	FIFE	FORTH VALLEY	GRAMPIAN	GREATER GLASGOW & CLYDE
<b>H</b>	<b>LA</b>	<b>Lo</b>	<b>O</b>	<b>S</b>	<b>T</b>	<b>WI</b>
HIGHLAND	LANARKSHIRE	LOTHIAN	ORKNEY	SHETLAND	TAYSIDE	WESTERN ISLES

Source: ISD NDIP Database

1. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.
2. Based on NHS Board boundaries as defined in 2014.
3. Current decay is when  $D_3T>0$  as per BASCD.

## Measures of Dental Health Inequalities

Health inequalities can be measured and reported using simple or complex methods.

- The simple methods compare only two groups on a socio-economic scale, usually the most and least disadvantaged.
- The complex methods look across the whole social gradient, rather than solely at the most and least disadvantaged groups (e.g. Slope Index of Inequality (SII)).

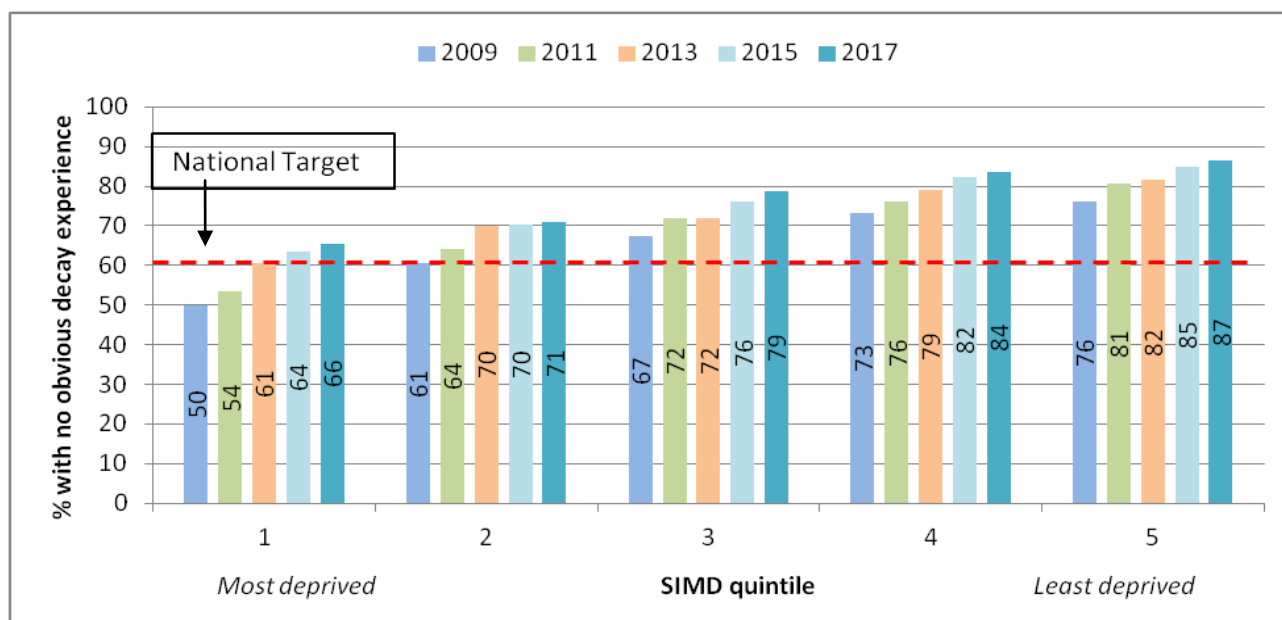
### Is there a continuing link between area-based socio-economic deprivation and poor dental health among P7 children in Scotland?

The main SIMD classification used here is based on quintiles of deprivation, where quintile SIMD1 is the most deprived and quintile SIMD5 is the least deprived.

There is clearly a difference in dental health among P7 children in the different SIMD quintiles. Only the second most deprived quintile (SIMD2) shows little sign of improvement since 2013 (Figure 8).

The absolute inequality between SIMD1 and SIMD5 in 2017 was 21 percentage points with 65.6% of P7 children in SIMD1 showing no obvious decay experience, compared with 86.5% of P7 children in SIMD5. The absolute inequality was also 21 percentage points in the 2013 and 2015 reports, but an improvement from 2009 and 2011 reports where the absolute inequality was 26 and 27 percentage points, respectively. In addition, the national target set in 2010 (60% of all P7 children to have no obvious decay experience) was met in SIMD1 in 2013 and has improved in 2017 to 66%.

**Figure 8. Change between 2009 and 2017 in the percentage of P7 children in Scotland with no obvious decay experience; by SIMD quintile<sup>1,2</sup>**



Source: ISD NDIP Database

1. No obvious decay experience is when D<sub>3</sub>MFT=0.

2. Scotland level SIMD has been used, subject to availability: 2009 - SIMD 2006; 2011 - SIMD 2009; 2013 & 2015 - SIMD 2012; 2017 - SIMD 2016.



Similarly, there is an inequality gap in the average number of teeth with obvious decay experience. This was 0.25 in the least deprived quintile (SIMD5) compared with 0.82 in the most deprived (SIMD1) in 2017; between these limits SIMD2 was 0.63, SIMD3 was 0.45 and SIMD4 was 0.33.

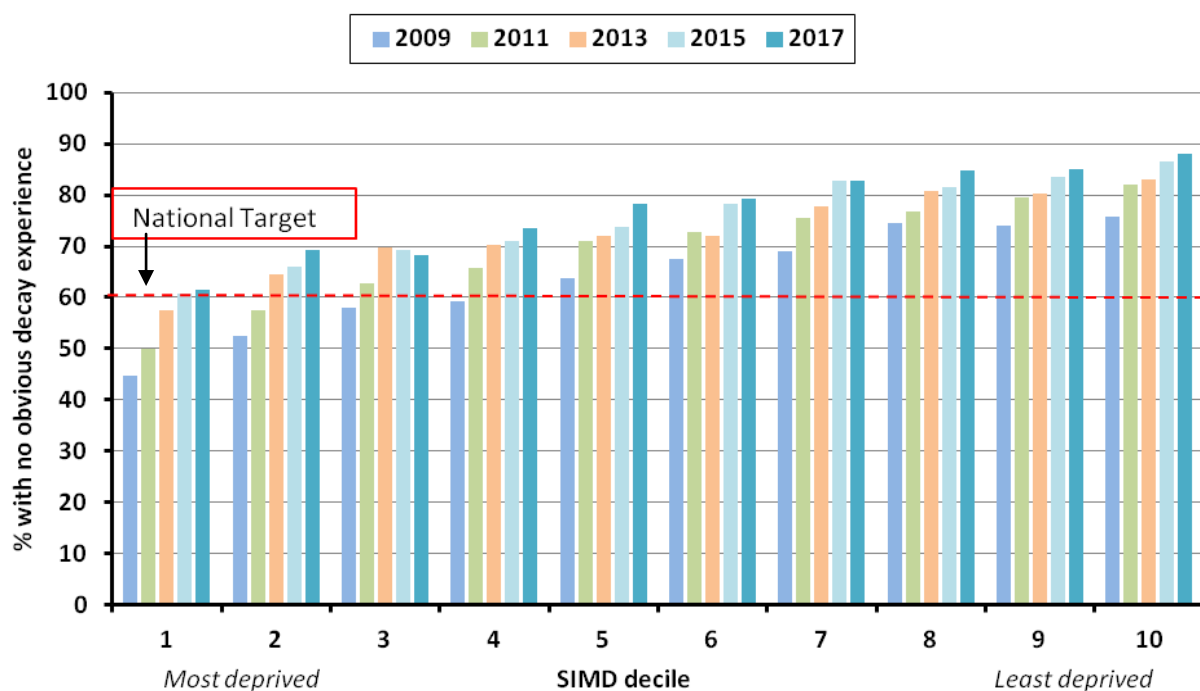
The SIMD decile classification has 10 divisions of deprivation from decile 1 (most deprived) to decile 10 (least deprived).

The national target set in 2010 (60% of all P7 children to have no obvious decay experience) was met in the most deprived decile for the first time in 2015 (60.8%) and continues to improve (61.5%).

However, as with SIMD quintiles, there is clearly a difference in dental health among P7 children in the different SIMD deciles.

The absolute inequality between the most and least deprived deciles remains at 26%, (61.5% in SIMD1 to 88.1% in SIMD10), i.e. no improvement since 2015, but a five percentage point decrease (improvement) since 2009.

**Figure 9. Change between 2009 and 2017 in the percentage of P7 children in Scotland with no obvious decay experience; by SIMD decile<sup>1,2</sup>**



Source: ISD NDIP Database

1. No obvious decay experience is when D<sub>3</sub>MFT=0.

2. Scotland level SIMD has been used, subject to availability: 2009 - SIMD 2006; 2011 - SIMD 2009; 2013 & 2015 - SIMD 2012; 2017 - SIMD 2016.

Distribution of obvious decay experience across the population of P7 children in Scotland.

The value for the Slope Index of Inequality (SII) in 2017 was 0.72, which continues the general downward trend from 2009 (Table 3). Similarly, the three non-SES-based measures of dental health inequalities shown in the table (SiC, SiC10, SCIM10) have also show improvements since 2009.

**Table 3. Inequality measures in teeth of P7 children in Scotland; 2009-2017**

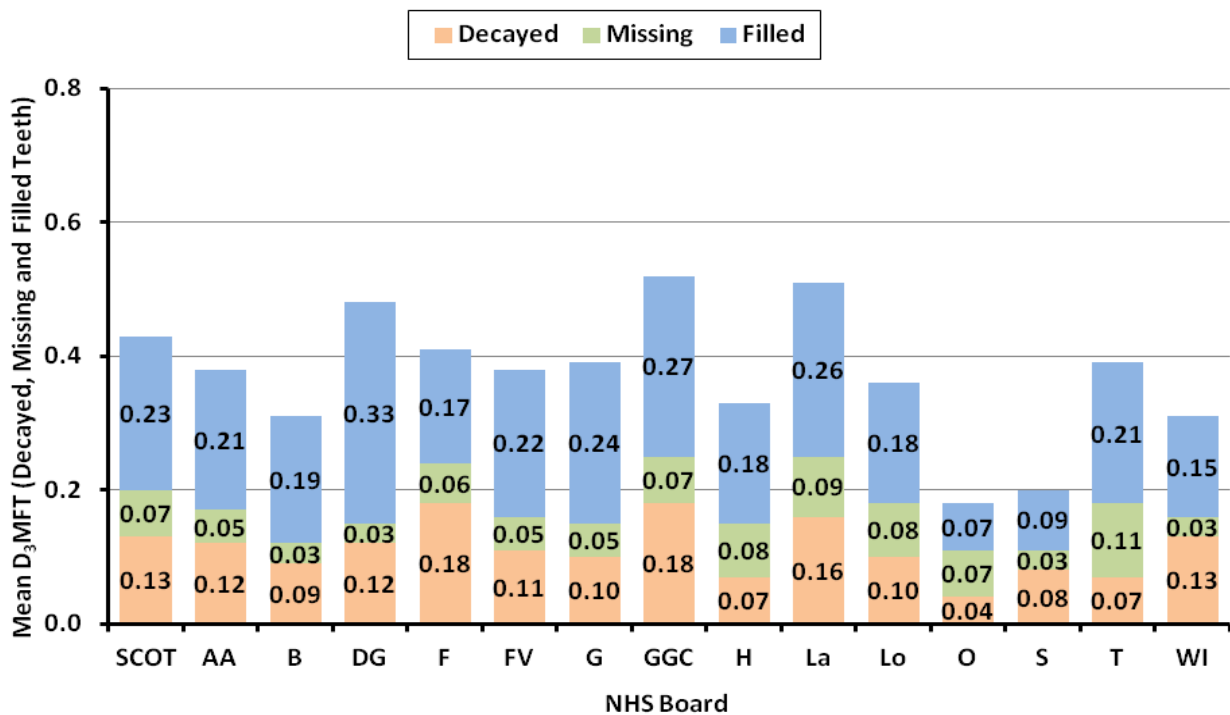
Year	Slope Index of Inequality (SII)	Significant Caries (SiC) Index	Significant Caries 10 (SiC10)	Scottish Caries Inequality Metric (SCIM10)	Relative Index of Inequality (RII)
2009	1.14	2.55	4.51	6.60	1.28
2011	0.95	2.24	4.06	5.42	1.27
2013	0.74	1.88	3.84	4.35	1.19
2015	0.75	1.60	3.45	3.60	1.41
2017	0.72	1.50	3.39	3.29	1.44

Source: ISD NDIP Database

## Dental health of the first permanent molar teeth

Across Scotland, 78.5% of P7 children had no obvious decay experience in their first permanent molars. Across the 14 NHS Boards, the range was from 74.2% in NHS Greater Glasgow and Clyde to 91.8% in NHS Orkney. Figure 10 shows the mean D<sub>3</sub>MFT for first permanent molars for Scotland and for each NHS Board.

**Figure 10: Mean number of obviously decayed, missing and filled first permanent molars in P7 children in 2017 in Scotland; by NHS Board<sup>1-2</sup>**



<b>AA</b>	<b>B</b>	<b>DG</b>	<b>F</b>	<b>FV</b>	<b>G</b>	<b>GGC</b>
AYRSHIRE & ARRAN	BORDERS	DUMFRIES & GALLOWAY	FIFE	FORTH VALLEY	GRAMPIAN	GREATER GLASGOW & CLYDE
<b>H</b>	<b>LA</b>	<b>Lo</b>	<b>O</b>	<b>S</b>	<b>T</b>	<b>WI</b>
HIGHLAND	LANARKSHIRE	LOTHIAN	ORKNEY	SHETLAND	TAYSIDE	WESTERN ISLES

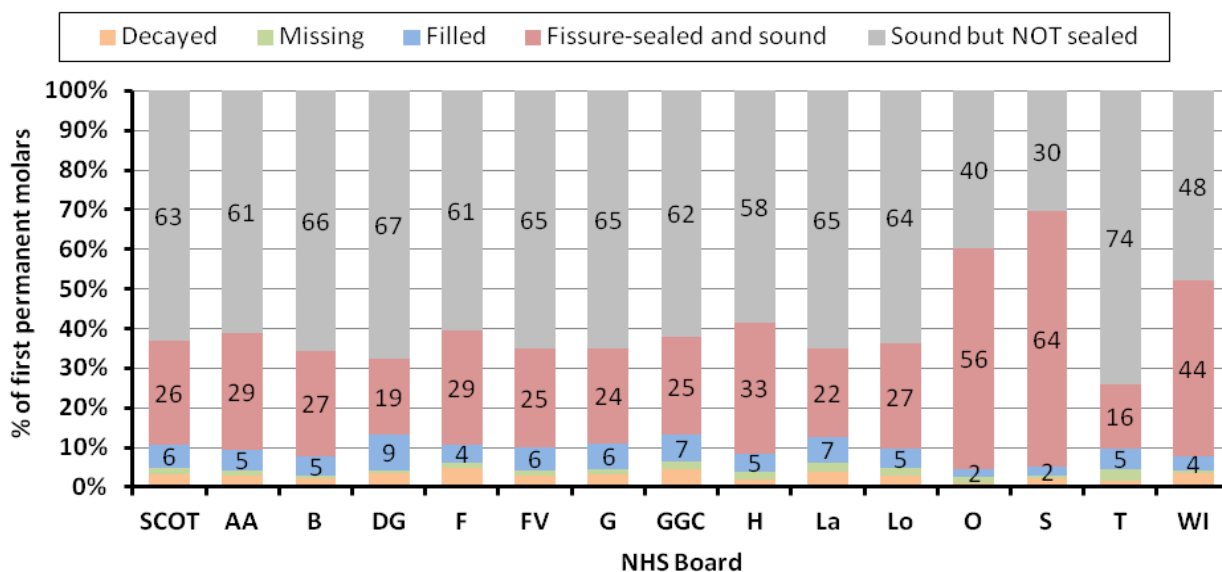
Source: ISD NDIP Database.

1. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.
2. Based on NHS Board boundaries as defined in 2014.

National guidance advises that fissure sealant should be applied to the occlusal surface of permanent molar teeth as early after eruption as possible to reduce the risk of decay<sup>4</sup>.

Figure 11 shows the percentage of decayed, missing and filled first permanent molar teeth and also the percentage that are apparently sound or sound and fissure-sealed. The percentage of first permanent molars fissure-sealed and sound varied across NHS Boards from 16.1% in NHS Tayside to 64.4% in NHS Shetland.

**Figure 11: Percentage of D<sub>3</sub>MFT, fissure-sealed and apparently sound, and apparently sound but NOT sealed first permanent molars in P7 children in 2017 in Scotland; by NHS board<sup>1-2</sup>**



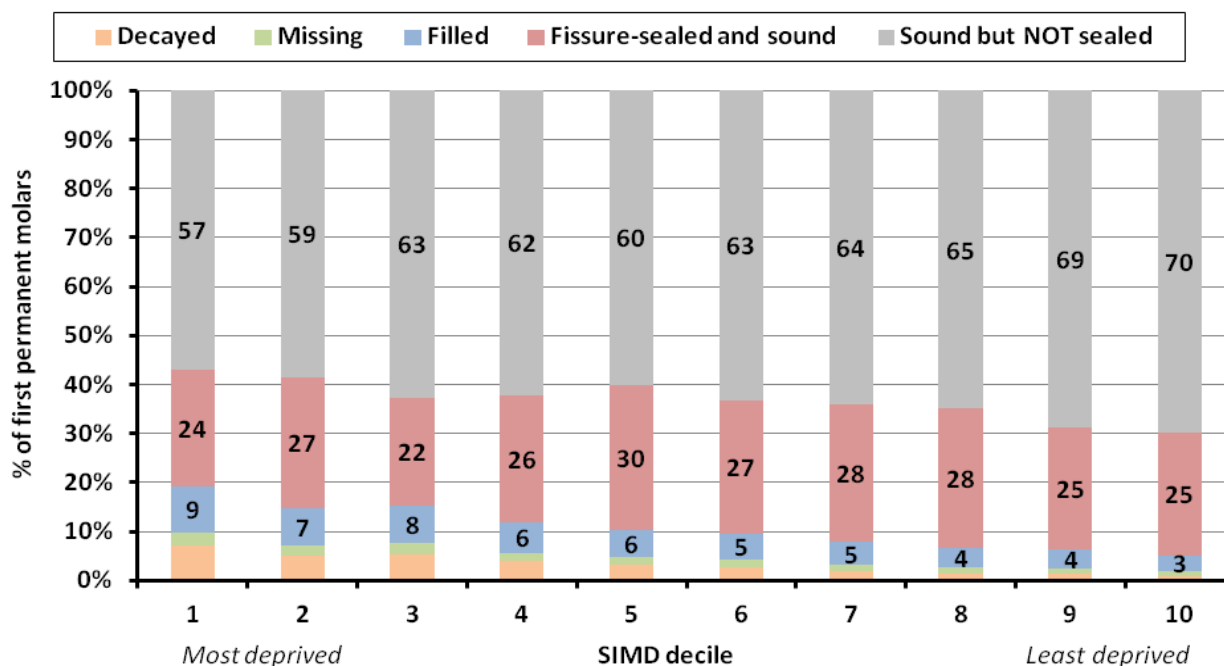
<b>AA</b>	<b>B</b>	<b>DG</b>	<b>F</b>	<b>FV</b>	<b>G</b>	<b>GGC</b>
AYRSHIRE & ARRAN	BORDERS	DUMFRIES & GALLOWAY	FIFE	FORTH VALLEY	GRAMPIAN	GREATER GLASGOW & CLYDE
<b>H</b>	<b>LA</b>	<b>Lo</b>	<b>O</b>	<b>S</b>	<b>T</b>	<b>WI</b>
HIGHLAND	LANARKSHIRE	LOTHIAN	ORKNEY	SHETLAND	TAYSIDE	WESTERN ISLES

Source: ISD NDIP Database.

1. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.
2. Based on NHS Board boundaries as defined in 2014.

A similar analysis is presented in Figure 12, but this time illustrating the status of first permanent molars by SIMD decile. The percentage of first permanent molars to be affected by dental disease increases as the level of deprivation increases. The percentage of teeth fissure-sealed and apparently sound is relatively similar across the socio-economic deciles. However, the tenth of the P7 population with the highest level of deprivation has one of the lowest values.

**Figure 12: Percentage of D<sub>3</sub>MFT, fissure-sealed and apparently sound, and apparently sound but NOT sealed first permanent molars in P7 children in 2017 by SIMD decile<sup>1</sup>**



Source: ISD NDIP Database.

1. Scotland level SIMD has been used, subject to availability:2017 – SIMD 2016

Table 4 shows that approximately 8% of the occlusal surfaces of the first permanent molar teeth inspected were affected by obvious decay experience, i.e. untreated decay or a restoration was present. Additionally, of the first permanent molars inspected with decay experience, in 58.7% of these teeth the decay or restoration was recorded as being restricted to only the occlusal surface. It is acknowledged that the inspection process will tend to under-report caries on mesial and distal surfaces. Nevertheless, these findings support greater use of fissure sealants.

**Table 4: Percentage of surfaces of P7 children’s first permanent molars present on inspection affected by decay experience in Scotland; in 2017**

Tooth		Occlusal (%)	Mesial (%)	Distal (%)	Buccal (%)	Lingual (%)
Upper	16 (right)	8.4	1.5	1.1	0.7	1.7
	26 (left)	8.2	1.6	1.1	0.7	1.7
Lower	36 (left)	8.4	1.2	1.0	2.3	1.0
	46 (right)	8.2	1.2	1.1	2.3	1.0

Source: ISD NDIP Database.

### Conclusions

- The dental health of P7 children in Scotland is slightly better than in 2015, and has considerably improved since the early 2000s when the P7 National Dental Inspection Programme started.
- It is anticipated this improved level of dental health will be maintained as the Childsmile Programme<sup>5</sup> continues to be refined and implemented at NHS Board level.
- Clear health inequalities remain, with only small improvements seen for both the socio-economic and non-socio-economic tests of dental health inequality over the time period.

Results from the Detailed Inspection for the Health and Social Care Partnerships are given in [Appendix A5](#) and results of the Basic Inspection for all P1 and P7 children are given in [Appendix A6](#).

## Glossary

BASCD	British Association for the Study of Community Dentistry.
Basic Inspection	Simple assessment of the mouth of the child using a light, mirror and ball-ended probe. The dental status of each child is assigned to one of three categories, depending on the level of dental health and treatment need observed. Refer to <a href="#">Appendix A6</a> for further information.
Buccal	Tooth surface next to cheek.
Care Index	Proportion of obvious decay experience that has been treated restoratively; expressed as number of filled teeth divided by number of obviously decayed, missing and filled teeth, multiplied by 100 [(FT/D <sub>3</sub> MFT)x100].
Childsmile	National oral health improvement programme for children in Scotland.
Deprivation decile	This SIMD classification is based on deciles of deprivation (and is often used for greater depth of geographical analysis): decile 1 is the most deprived and decile 10 is the least deprived.
Deprivation quintile	This SIMD classification is based on quintiles of deprivation: quintile 1 is the most deprived and quintile 5 is the least deprived.
Detailed Inspection	Comprehensive assessment of the mouth of the child using a light, mirror and ball-ended probe. The status of each surface of each tooth is recorded in accordance with international epidemiological conventions.
Distal	Tooth surface towards back of mouth.
D <sub>3</sub> MFT	Obvious decay experience in permanent teeth, as noted above, includes both missing teeth (extracted due to decay) and filled teeth.
D <sub>3</sub> MFT>0	(Any) amount of decay experience in permanent teeth.
D <sub>3</sub> MFTfpm	D <sub>3</sub> MFT for first permanent molar
D <sub>3</sub> T	Obviously decayed permanent teeth.
Fissure-sealed	Protected from decay via protective plastic coating applied to the biting (occlusal) surfaces of back teeth.
FT	Filled permanent teeth.
HSCIC	Health & Social Care Information Centre.
LA	Local authority.
Lingual	Tooth surface next to tongue.
Mesial	Situated toward the middle of the front of the jaw along the curve of the dental arch.
MT	Missing permanent teeth.

NHS Board abbreviations	AA: Ayrshire & Arran B: Borders DG: Dumfries & Galloway F: Fife FV: Forth Valley G: Grampian GGC: Greater Glasgow & Clyde H: Highland La: Lanarkshire Lo: Lothian O: Orkney S: Shetland T: Tayside WI: Western Isles. SCOT: Scotland
Obvious decay	Disease process that clinically appears to have penetrated dentine (the layer below the outer white enamel of the teeth). This is described internationally as decay at the D <sub>3</sub> level and includes <i>pulpal decay</i> (i.e. decay into the deeper pulp).
Occlusal	Chewing or grinding tooth surface.
ONS	Office for National Statistics.
Pulp	The dental pulp is the part in the centre of a tooth made up of living connective tissue and cells called odontoblasts. The dental pulp is a part of the dentin–pulp complex (endodontium).
SCIM10	Scottish Caries Inequality Metric. The area under the curve in relation to the distribution of the tenths of the population by obvious decay experience (D <sub>3</sub> MFT).
Sealed Teeth	Dental sealant is a thin, plastic coating painted on the chewing surfaces of teeth -- usually the back teeth (the premolars and molars) -- to prevent tooth decay.
SES	Socio-economic status.
SiC	Significant Caries Index. This is used in order to bring attention to the individuals with the highest caries values in each population under investigation.
SiC10	Significant Caries 10. The mean D <sub>3</sub> MFT for the tenth of the sample with the most teeth affected by caries experience.
SII	<a href="#">Slope Index of Inequality</a> . One of the recommended tests of complex inequality, as it reflects the entire SES distribution and weights for the population share in the respective groups. SII may be interpreted as the absolute difference overall in D <sub>3</sub> MFT score when moving across the SES spectrum and is indicative of the total experience of individuals in the whole population.
RII	<a href="#">Relative Index of Inequality</a> . This is one of the recommended tests of complex inequality, as it reflects the entire SES distribution and weights for the population share in the respective groups. RII can be interpreted as the relative difference overall in D <sub>3</sub> MFT when moving across the SES spectrum. It can be calculated by dividing the SII by the mean level of decay in the population.
SIMD	Scottish Index of Multiple Deprivation. Classification identifying small area concentrations of multiple deprivation presented at data zone level and based on postcode unit information. Seven domains (income, employment, education, housing, health, crime and



	<p>geographical access) are combined into an overall index to rank relative multiple deprivation in all geographical areas throughout Scotland.</p> <p>Several different versions of the SIMD are used across time. In 2009, the 2006 SIMD was used; in 2011, the 2009 SIMD was used; in 2013 &amp; 2015, the 2012 SIMD was used; in 2017, the SIMD2016 was used. For comparison all of the indices, have been mapped to show SIMD1 or decile 1 as the most deprived quintile (or decile) and SIMD5 or decile 10 as the least deprived quintile (or decile).</p>
<p>16: upper right 26: upper left 36: lower left 46: lower right</p>	<p>Numbering of first permanent molar teeth according to <a href="#">FDI World Dental Federation</a> tooth notation system.</p>

## References

1. Scottish Index of Multiple Deprivation 2016. Scottish Government, 2016.  
[scotland.gov.uk/topics/statistics/SIMD](http://scotland.gov.uk/topics/statistics/SIMD).
2. Bratthall D. Introducing the Significant Caries Index together with a proposal for a new global oral health goal for 12-year-olds. *International Dental Journal*, 2000; 50: 378-384.  
[onlinelibrary.wiley.com.proxy.knowledgeservices.org/doi/10.1111/j.1875-595X.2000.tb00572.x/abstract;jsessionid=A8DCF646BED86A990D2C9A1EF8F18861.f04t02](http://onlinelibrary.wiley.com.proxy.knowledgeservices.org/doi/10.1111/j.1875-595X.2000.tb00572.x/abstract;jsessionid=A8DCF646BED86A990D2C9A1EF8F18861.f04t02)
3. Blair YI, McMahon AD Macpherson LMD. Comparison and Relative Utility of Inequality Measurements: As Applied to Scotland's Child Dental Health *PLOSOne*, 2013,  
[plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0058593](http://plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0058593).
4. SIGN 138 – Clinical Guidelines. Dental interventions to prevent caries in children. Healthcare Improvement Scotland, 2014.  
[sign.ac.uk/assets/sign138.pdf](http://sign.ac.uk/assets/sign138.pdf).
5. Childsmile – The national child oral health improvement programme for Scotland.  
[child-smile.org.uk](http://child-smile.org.uk).
6. Mitropoulos C, Pitts NB, Deery C. BASCD Trainers pack for caries prevalence studies, 1992/93. Dundee: University of Dundee, 1992.
7. Landis JR, Koch GG. The measurement of observer agreement for categorical data. *Biometrics*, 1977; 33: 159-174.  
[dentalage.co.uk/wp-content/uploads/2014/09/landis\\_jr\\_koch\\_gg\\_1977\\_kappa\\_and\\_observer\\_agreement.pdf](http://dentalage.co.uk/wp-content/uploads/2014/09/landis_jr_koch_gg_1977_kappa_and_observer_agreement.pdf)
8. Petersen PE. The world oral health report 2003. Geneva: WHO Oral Health Programme, 2003.  
[who.int/oral\\_health/media/en/orh\\_report03\\_en.pdf](http://who.int/oral_health/media/en/orh_report03_en.pdf)
9. The WHO Global Oral Health Database and the WHO Oral Health Country/Area Profile Programme Malmö 2017.  
[mah.se/CAPP/](http://mah.se/CAPP/).
10. Scottish Public Health Observatory (ScotPHO). NHS National Services Scotland, 2017  
[scotpho.org.uk/](http://scotpho.org.uk/).

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- Scottish Association of Clinical Dental Directors.

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<a href="#">Figure 3</a>	Trends in the percentage of P7 children with no obvious decay experience in Scotland.	2005-2017	Excel [51KB]
<a href="#">Figure 4</a>	Mean number of decayed, missing and filled permanent teeth (D <sub>3</sub> MFT) in the P7 population in Scotland.	2005-2017	Excel [45KB]
<a href="#">Figure 5</a>	Mean number of decayed, missing and filled permanent teeth in P7 children with obvious decay experience (D <sub>3</sub> MFT>0) in Scotland.	2005-2017	Excel [46KB]
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<a href="#">Figure 7</a>	Percentage of P7 children in Scotland with current decay; by NHS Board.	School year 2016/17.	Excel [80KB]
<a href="#">Figure 8</a>	Change in the percentage of P7 children in Scotland with no obvious decay experience; by SIMD quintile.	2009-2017	Excel [80KB]
<a href="#">Figure 9</a>	Change in the percentage of P7 children in Scotland with no obvious decay experience; by SIMD decile.	2009-2017	Excel [80KB]
<a href="#">Figure 10</a>	Mean number of obviously decayed, missing and filled first permanent molars in P7 children in Scotland and in each NHS Board.	School year 2016/17	Excel [73KB]
<a href="#">Figure 11</a>	Percentage of D <sub>3</sub> MFT, fissure-sealed and apparently sound, and apparently sound but NOT sealed first permanent molars in P7 children by NHS Board and Scotland.	School year 2016/17	Excel [91KB]
<a href="#">Figure 12</a>	Percentage of D <sub>3</sub> MFT, fissure-sealed and apparently sound, and apparently sound but NOT sealed first permanent molars in P7 children by SIMD decile.	School year 2016/17	Excel [82KB]

Diagram.	Name	Time period	File & size
<a href="#">Diagram 1</a>	The various stages of tooth decay.	n/a	Excel [252KB]

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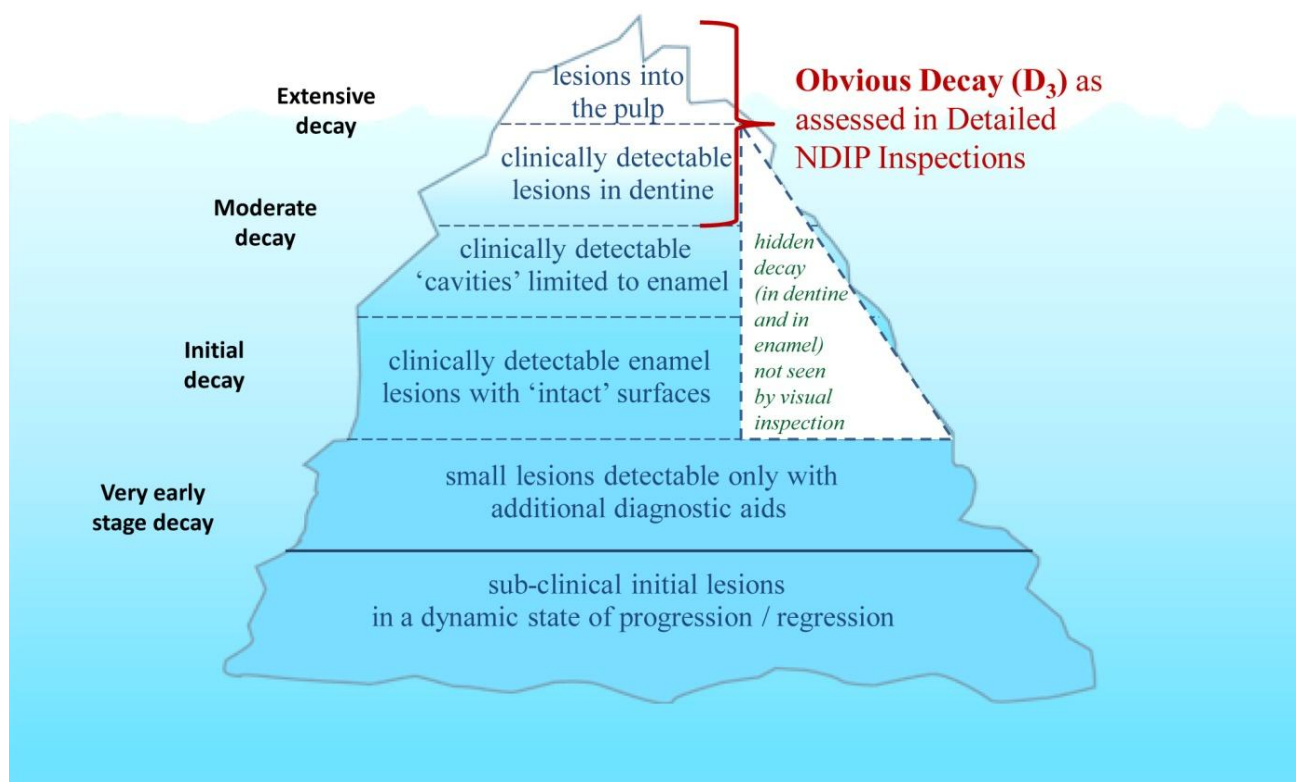
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## Appendices

### A1 – What are the stages of tooth decay?

Dentists use specific professional terms to identify the different stages of tooth decay. However, simpler terms are provided in Diagram 1 below to help illustrate the various stages of tooth decay. The early stages of decay occur at a sub-clinical level and cannot be detected by the naked eye. As decay progresses it can be detected visually, first on the outer surface of the tooth (enamel layer) and then, with further progression, the lesion is clinically detectable in the dentine layer under the enamel. It is decay which has reached this stage that is recorded by the dental inspectors undertaking the NDIP inspections.

**Diagram 1: The various stages of tooth decay**



### A2 – National training and calibration course

The training and calibration course for the Detailed NDIP survey of P7 children in Scotland was held in Edinburgh, Grangemouth, Perth, and Cumbernauld in 2016. The training course was organised by NHS Lothian, NHS Forth Valley, NHS Lanarkshire, and NHS Tayside.

Mandatory training and calibration were run over four separate courses to accommodate the 49 inspection teams (dentist and dental nurse) who attended from all 14 NHS Boards.

Training involved sessions on inspection procedures, tooth/surface codes and diagnostic criteria based on the British Association for the Study of Community Dentistry (BASCD) Trainers' Pack<sup>6</sup>. Clinical training sessions were then undertaken on schoolchildren, and were followed by the calibration sessions on a further group of P7 children. Calibration sessions involved each inspection team examining the same children. The number of children on each course ranged from 11 to 13.

Analyses were undertaken by the Community Oral Health research group, University of Glasgow Dental School, supported by colleagues in NHS Tayside, NHS Forth Valley, NHS Lanarkshire, NHS Lothian and NHS National Services Scotland's Information Services Division. Inter-examiner agreement was assessed using the percentage agreement and Kappa statistic assessed at the patient level on D<sub>3</sub>MFT and separately for D<sub>3</sub>T, MT, and FT components.

Cohen Kappa estimates agreement, which is considered<sup>7</sup>:

- *poor* if  $Kappa \leq 0.20$
- *fair* if  $0.21 \leq Kappa \leq 0.40$
- *moderate* if  $0.41 \leq Kappa \leq 0.60$
- *substantial* if  $0.61 \leq Kappa \leq 0.80$
- *good* if  $Kappa > 0.80$

Of the 49 inspection teams, 2 did not calibrate with disagreements on 4 children, failing to meet the 80% agreement threshold and moderate Kappa estimate. 47 calibrated with percentage agreement ranging from 82% to 100%, and the Kappa estimates for D<sub>3</sub>MFT scores at the patient level did not drop below moderate and there was disagreement on no more than 2 children in either direction (i.e. overscoring or underscoring).



### A3– Links/comparisons to other sources of dental health information

The sources below offer information related to dental services and dental health. Most of these sources are external to ISD and we cannot guarantee the content or accessibility of these external web sites.

[Childsmile](#) – The national child oral health improvement for Scotland.

#### Dental data in Scotland

ISD publishes information relating to the [general dental service workforce](#) in Scotland.

ISD publishes an annual [NHS Adult & Child Fees and Treatments](#) report providing information on GDS fees paid to dentists and on treatments provided to children and adults.

ISD publishes an annual [NHS Registration and Participation](#) report providing information on NHS General Dental Services (GDS) registrations and participation (contact with GDS).

The 2012 [Scottish Health Survey](#) covers dental health topics such as dental health problems and trends in prevalence of natural teeth.

#### Dental data in England, Wales and Northern Ireland

**Table A3.1: Is NDIP Comparable with other UK dental data?**

Country	Comparable to NDIP?	Available	Links
England, Northern Ireland, and Wales	No – consent affects participation rates of children with and without decay	Yes	<i>The Health &amp; Social Care Information Centre (HSCIC) commissioned the ONS to undertake the <a href="#">2013 Child Dental Health Survey</a>, England, Wales and Northern Ireland (published March 2015). The study provides information to underpin dental health care for children in England, Wales and Northern Ireland.  This has been carried out every every ten years since 1973.</i>

As stated, the results from the report are not directly comparable with the NDIP report.

Please note that if you want to compare deprivation levels in Scotland and England, the Scottish Index of Multiple Deprivation (SIMD) is not directly comparable with the Index of Multiple Deprivation used in England.

### International comparisons

According to the World Health Organisation (WHO), dental caries is still a major dental health problem in most high- and middle-income countries, affecting 60-90% of schoolchildren and the vast majority of adults<sup>8</sup>. The [WHO Global Oral Health Database](#) and the [WHO Oral Health Country/Area Profile Programme](#)<sup>9</sup> provide information on trends in dental caries, mainly among 12-year-old children, from 1937.

Recent figures show how dental caries prevalence compares across a large number of countries. However, as some results are from national surveys with representative samples and others relate only to small local surveys, caution is required in making simplistic international comparisons using the raw data. It is also necessary to understand the public health aims behind the WHO 'basic methods' diagnostic criteria employed by most datasets in the databank, and these surveys are only intended to provide an overview of caries prevalence.

International data comparing prevalence and trends in 12-year-olds are available on the Scottish Public Health Observatory (ScotPHO)<sup>10</sup>. [website](#).

## A4– Results of Care Index at NHS Board level; Detailed Inspection

Table A4.1 displays the Care Index from the 2017 survey for all 14 NHS Boards. This ranged from 39% in NHS Fife to 66% in NHS Dumfries & Galloway.

**Table A4.1: 2017 Care Index for P7 children in Scotland; by NHS Board<sup>1-3</sup>**

NHS Board	% of obvious caries experience treated restoratively
Ayrshire & Arran	52.2
Borders	60.6
Dumfries & Galloway	65.5
Fife	38.8
Forth Valley	53.3
Grampian	55.5
Greater Glasgow & Clyde	50.0
Highland	55.0
Lanarkshire	49.2
Lothian	47.6
Orkney	42.1
Shetland	47.8
Tayside	51.1
Western Isles	45.5
<b>Scotland</b>	<b>51.0</b>

Source: ISD NDIP Database

1. Care Index =  $\frac{\text{number of filled teeth}}{\text{number of obviously decayed, missing and filled teeth}} \times 100$

2. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.

3. Based on NHS Board boundaries as defined in 2014.

### **A5– Results at Health and Social Care Partnerships (HSCP); Detailed Inspection for Primary 7 children in 2017**

Tables A5.1- A5.8 show the 2017 Detailed NDIP results for Health and Social Care Partnerships for the eight NHS Boards which included the minimum target sample of 250 children in each HSCP (if the HSCP is within 10% of reaching the target, it was included).

The following variables are presented:

- Mean age
- Weighted % no obvious decay experience
- Weighted mean D<sub>3</sub>MFT
- Weighted mean D<sub>3</sub>MFT for first permanent molar (D<sub>3</sub>MFT<sub>1pm</sub>)
- Weighted mean D<sub>3</sub>T
- Weighted mean MT
- Weighted mean FT
- Weighted mean number of teeth decayed into the pulp
- Weighted mean number of sealed teeth
- Mean D<sub>3</sub>MFT for children with D<sub>3</sub>MFT>0

Results for the HSCPs are weighted by population deprivation categories specific to each NHS Board. This is only applicable to boards with more than one HSCP, and therefore boards with only one HSCP are not reported, namely NHS Borders, NHS Dumfries & Galloway, NHS Fife, NHS Orkney, NHS Shetland and NHS Western Isles. This is different to the deprivation categorisation used in the main report which is SIMD 2016 based on the whole of Scotland. As such the results for the HSCPs are not directly comparable with those in the main report.

Table A5.1: NHS Ayrshire & Arran: Health and Social Care Practice results

HSCP name	no. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
East Ayrshire	393	11.5	0.3	10.9	12.4
North Ayrshire	403	11.5	0.3	10.9	12.4
South Ayrshire	371	11.5	0.3	10.9	12.4

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
East Ayrshire	74.8	71.1	78.6
North Ayrshire	77.7	74.4	81.1
South Ayrshire	85.5	82.6	88.4

HSCP name	Weighted mean D <sub>3</sub> MFT		
	Mean D <sub>3</sub> MFT	Lower 95% CL	Upper 95% CL
East Ayrshire	0.5	0.4	0.6
North Ayrshire	0.5	0.4	0.6
South Ayrshire	0.3	0.2	0.4

HSCP name	Weighted mean D <sub>3</sub> MFT for first permanent molar		
	Mean D <sub>3</sub> MFTfpm	Lower 95% CL	Upper 95% CL
East Ayrshire	0.4	0.3	0.5
North Ayrshire	0.4	0.3	0.5
South Ayrshire	0.3	0.2	0.3

HSCP name	Weighted mean D <sub>3</sub> T		
	Mean D <sub>3</sub> T	Lower 95% CL	Upper 95% CL
East Ayrshire	0.3	0.2	0.3
North Ayrshire	0.2	0.1	0.2
South Ayrshire	0.1	0.0	0.1

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
East Ayrshire	0.0	0.0	0.0
North Ayrshire	0.0	0.0	0.1
South Ayrshire	0.1	0.0	0.1

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
East Ayrshire	0.2	0.2	0.3
North Ayrshire	0.3	0.2	0.4
South Ayrshire	0.2	0.1	0.2

HSCP name	Weighted mean number of teeth decayed into the pulp		
	Mean PT	Lower 95% CL	Upper 95% CL
East Ayrshire	0.0	0.0	0.0
North Ayrshire	0.0	0.0	0.0
South Ayrshire	0.0	0.0	0.0

HSCP name	Weighted mean number of sealed teeth		
	Mean ST	Lower 95% CL	Upper 95% CL
East Ayrshire	1.4	1.3	1.6
North Ayrshire	1.2	1.0	1.3
South Ayrshire	1.2	1.0	1.3

HSCP name	no. of children with obvious decay experience	Mean D <sub>3</sub> MFT for children with obvious decay experience (D <sub>3</sub> MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
East Ayrshire	96	2.0	1.7	2.3
North Ayrshire	94	2.4	2.1	2.7
South Ayrshire	56	2.1	1.8	2.4

Table A5.2: NHS Forth Valley: Health and Social Care Practice results

HSCP name	no. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
Clackmannanshire & Stirling	491	11.4	0.3	10.7	12.5
Falkirk	856	11.2	0.3	10.6	12.2

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	77.9	74.9	80.9
Falkirk	77.2	75.2	79.2

HSCP name	Weighted mean D <sub>3</sub> MFT		
	Mean D <sub>3</sub> MFT	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	0.4	0.4	0.5
Falkirk	0.5	0.4	0.5

HSCP name	Weighted mean D <sub>3</sub> MFT for first permanent molar		
	Mean D <sub>3</sub> MFTfpm	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	0.4	0.3	0.5
Falkirk	0.4	0.3	0.4

HSCP name	Weighted mean D <sub>3</sub> T		
	Mean D <sub>3</sub> T	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	0.2	0.1	0.2
Falkirk	0.1	0.1	0.2

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	0.1	0.0	0.1
Falkirk	0.0	0.0	0.1

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	0.2	0.2	0.3
Falkirk	0.3	0.2	0.3

HSCP name	Weighted mean number of teeth decayed into the pulp		
	Mean PT	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	0.0	0.0	0.0
Falkirk	0.0	0.0	0.0

HSCP name	Weighted mean number of sealed teeth		
	Mean ST	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	1.2	1.0	1.3
Falkirk	1.0	0.9	1.1

HSCP name	no. of children with obvious decay experience	Mean D <sub>3</sub> MFT for children with obvious decay experience (D <sub>3</sub> MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	111	2.0	1.8	2.2
Falkirk	195	2.0	1.8	2.2



Table A5.3: NHS Grampian: Health and Social Care Practice results

HSCP name	no. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
Aberdeen City	906	11.5	0.3	10.7	12.6
Aberdeenshire	1,154	11.6	0.3	10.9	13.0
Moray	548	11.6	0.3	10.7	12.6

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
Aberdeen City	77.9	75.9	79.8
Aberdeenshire	76.6	74.7	78.5
Moray	85.4	83.3	87.4

HSCP name	Weighted mean D <sub>3</sub> MFT		
	Mean D <sub>3</sub> MFT	Lower 95% CL	Upper 95% CL
Aberdeen City	0.5	0.4	0.5
Aberdeenshire	0.5	0.4	0.5
Moray	0.3	0.2	0.3

HSCP name	Weighted mean D <sub>3</sub> MFT for first permanent molar		
	Mean D <sub>3</sub> MFTfpm	Lower 95% CL	Upper 95% CL
Aberdeen City	0.4	0.4	0.5
Aberdeenshire	0.4	0.4	0.5
Moray	0.3	0.2	0.3

HSCP name	Weighted mean D <sub>3</sub> T		
	Mean D <sub>3</sub> T	Lower 95% CL	Upper 95% CL
Aberdeen City	0.2	0.2	0.2
Aberdeenshire	0.1	0.1	0.2
Moray	0.0	0.0	0.1

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
Aberdeen City	0.1	0.0	0.1
Aberdeenshire	0.1	0.0	0.1
Moray	0.0	0.0	0.0

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
Aberdeen City	0.2	0.2	0.3
Aberdeenshire	0.3	0.3	0.3
Moray	0.2	0.2	0.2

HSCP name	Weighted mean number of teeth decayed into the pulp		
	Mean PT	Lower 95% CL	Upper 95% CL
Aberdeen City	0.0	0.0	0.1
Aberdeenshire	0.0	0.0	0.0
Moray	0.0	0.0	0.0

HSCP name	Weighted mean number of sealed teeth		
	Mean ST	Lower 95% CL	Upper 95% CL
Aberdeen City	0.8	0.7	0.8
Aberdeenshire	1.1	1.0	1.2
Moray	1.4	1.2	1.5

HSCP name	no. of children with obvious decay experience	Mean D <sub>3</sub> MFT for children with obvious decay experience (D <sub>3</sub> MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
Aberdeen City	240	2.3	2.1	2.6
Aberdeenshire	580	2.1	2.0	2.3
Moray	82	1.9	1.7	2.1

Table A5.4: NHS Greater Glasgow & Clyde: Health and Social Care Practice results

HSCP name	no. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
East Dunbartonshire	415	11.5	0.3	10.7	12.8
East Renfrewshire	333	11.4	0.3	10.7	12.6
Glasgow City	1,287	11.4	0.3	10.7	12.5
Inverclyde	474	11.4	0.4	10.7	12.8
Renfrewshire	436	11.4	0.3	10.7	12.8
West Dunbartonshire	389	11.4	0.3	10.7	12.8

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
East Dunbartonshire	83.5	80.5	86.5
East Renfrewshire	82.6	79.2	86.0
Glasgow City	69.1	67.0	71.3
Inverclyde	69.0	66.2	71.7
Renfrewshire	76.8	73.3	80.3
West Dunbartonshire	70.1	66.3	73.8

HSCP name	Weighted mean D <sub>3</sub> MFT		
	Mean D <sub>3</sub> MFT	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.3	0.3	0.4
East Renfrewshire	0.4	0.3	0.5
Glasgow City	0.7	0.6	0.8
Inverclyde	0.7	0.6	0.8
Renfrewshire	0.5	0.4	0.6
West Dunbartonshire	0.6	0.5	0.7

HSCP name	Weighted mean D <sub>3</sub> MFT for first permanent molar		
	Mean D <sub>3</sub> MFT <sub>fp</sub> m	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.3	0.2	0.4
East Renfrewshire	0.3	0.2	0.4
Glasgow City	0.6	0.6	0.7
Inverclyde	0.6	0.5	0.7
Renfrewshire	0.5	0.4	0.6
West Dunbartonshire	0.5	0.5	0.6

HSCP name	Weighted mean D <sub>3</sub> T		
	Mean D <sub>3</sub> T	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.1	0.1	0.1
East Renfrewshire	0.1	0.0	0.1
Glasgow City	0.3	0.2	0.3
Inverclyde	0.3	0.2	0.3
Renfrewshire	0.3	0.2	0.3
West Dunbartonshire	0.3	0.2	0.4

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.0	0.0	0.1
East Renfrewshire	0.0	0.0	0.1
Glasgow City	0.1	0.1	0.1
Inverclyde	0.1	0.1	0.1
Renfrewshire	0.1	0.0	0.1
West Dunbartonshire	0.1	0.0	0.1

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.2	0.2	0.3
East Renfrewshire	0.3	0.2	0.3
Glasgow City	0.4	0.3	0.4
Inverclyde	0.3	0.3	0.4
Renfrewshire	0.2	0.1	0.2
West Dunbartonshire	0.3	0.2	0.3

HSCP name	Weighted mean number of teeth decayed into the pulp		
	Mean PT	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.0	0.0	0.0
East Renfrewshire	0.0	0.0	0.0
Glasgow City	0.0	0.0	0.0
Inverclyde	0.0	0.0	0.0
Renfrewshire	0.0	0.0	0.1
West Dunbartonshire	0.0	0.0	0.0

HSCP name	Weighted mean number of sealed teeth		
	Mean ST	Lower 95% CL	Upper 95% CL
East Dunbartonshire	1.1	1.0	1.3
East Renfrewshire	1.1	0.9	1.2
Glasgow City	1.1	1.0	1.2
Inverclyde	1.4	1.3	1.5
Renfrewshire	1.2	1.0	1.4
West Dunbartonshire	1.0	0.8	1.1

HSCP name	no. of children with obvious decay experience	Mean D <sub>3</sub> MFT for children with obvious decay experience (D <sub>3</sub> MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
East Dunbartonshire	70	2.1	1.8	2.4
East Renfrewshire	63	2.1	1.8	2.4
Glasgow City	403	2.3	2.1	2.4
Inverclyde	154	2.4	2.1	2.7
Renfrewshire	97	2.3	2.0	2.6
West Dunbartonshire	113	2.1	1.9	2.3

Table A5.5: NHS Highland: Health and Social Care Practice results

HSCP name	no. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
Argyll & Bute	237	11.5	0.3	10.8	12.3
Highland	301	11.6	0.3	10.8	12.5

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
Argyll & Bute	81.8	76.9	86.8
Highland	76.5	71.9	81.1

HSCP name	Weighted mean D <sub>3</sub> MFT		
	Mean D <sub>3</sub> MFT	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.3	0.2	0.4
Highland	0.5	0.4	0.6

HSCP name	Weighted mean D <sub>3</sub> MFT for first permanent molar		
	Mean D <sub>3</sub> MFTfpm	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.2	0.1	0.3
Highland	0.4	0.3	0.5

HSCP name	Weighted mean D <sub>3</sub> T		
	Mean D <sub>3</sub> T	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.1	0.0	0.2
Highland	0.1	0.1	0.2

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.1	0.0	0.1
Highland	0.1	0.0	0.1

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.1	0.1	0.2
Highland	0.3	0.2	0.3

HSCP name	Weighted mean number of teeth decayed into the pulp		
	Mean PT	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.0	0.0	0.0
Highland	0.0	0.0	0.0

HSCP name	Weighted mean number of sealed teeth		
	Mean ST	Lower 95% CL	Upper 95% CL
Argyll & Bute	1.6	1.3	1.8
Highland	1.4	1.3	1.6

HSCP name	no. of children with obvious decay experience	Mean D <sub>3</sub> MFT for children with obvious decay experience (D <sub>3</sub> MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
Argyll & Bute	41	1.6	1.2	1.9
Highland	76	2.1	1.8	2.4

Table A5.6: NHS Lanarkshire: Health and Social Care Practice results

HSCP name	no. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
North Lanarkshire	494	11.5	0.4	10.6	12.7
South Lanarkshire	430	11.5	0.3	10.8	12.6

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
North Lanarkshire	75.4	71.7	79.0
South Lanarkshire	72.4	68.4	76.5

HSCP name	Weighted mean D <sub>3</sub> MFT		
	Mean D <sub>3</sub> MFT	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.6	0.5	0.7
South Lanarkshire	0.7	0.5	0.8

HSCP name	Weighted mean D <sub>3</sub> MFT for first permanent molar		
	Mean D <sub>3</sub> MFTfpm	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.5	0.4	0.6
South Lanarkshire	0.6	0.4	0.7

HSCP name	Weighted mean D <sub>3</sub> T		
	Mean D <sub>3</sub> T	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.2	0.1	0.3
South Lanarkshire	0.2	0.2	0.3

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.1	0.1	0.2
South Lanarkshire	0.1	0.0	0.1



HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.3	0.2	0.4
South Lanarkshire	0.4	0.3	0.5

HSCP name	Weighted mean number of teeth decayed into the pulp		
	Mean PT	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.0	0.0	0.0
South Lanarkshire	0.0	0.0	0.0

HSCP name	Weighted mean number of sealed teeth		
	Mean ST	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.9	0.7	1.0
South Lanarkshire	1.1	0.9	1.2

HSCP name	no. of children with obvious decay experience	Mean D <sub>3</sub> MFT for children with obvious decay experience (D <sub>3</sub> MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
North Lanarkshire	115	2.5	2.2	2.8
South Lanarkshire	120	2.4	2.1	2.7

Table A5.7: NHS Lothian: Health and Social Care Practice results

HSCP name	no. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
East Lothian	317	11.6	0.3	10.9	12.7
Edinburgh	781	11.6	0.3	10.8	12.8
Midlothian	305	11.5	0.3	10.6	12.7
West Lothian	371	11.5	0.3	10.7	12.7

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
East Lothian	84.6	81.0	88.3
Edinburgh	82.4	80.1	84.7
Midlothian	76.5	72.2	80.7
West Lothian	76.6	72.7	80.5

HSCP name	Weighted mean D <sub>3</sub> MFT		
	Mean D <sub>3</sub> MFT	Lower 95% CL	Upper 95% CL
East Lothian	0.3	0.2	0.4
Edinburgh	0.4	0.3	0.4
Midlothian	0.5	0.4	0.6
West Lothian	0.5	0.4	0.7

HSCP name	Weighted mean D <sub>3</sub> MFT for first permanent molar		
	Mean D <sub>3</sub> MFTfpm	Lower 95% CL	Upper 95% CL
East Lothian	0.3	0.2	0.3
Edinburgh	0.3	0.3	0.4
Midlothian	0.4	0.3	0.5
West Lothian	0.5	0.4	0.6

HSCP name	Weighted mean D <sub>3</sub> T		
	Mean D <sub>3</sub> T	Lower 95% CL	Upper 95% CL
East Lothian	0.1	0.0	0.1
Edinburgh	0.1	0.1	0.2
Midlothian	0.1	0.1	0.2
West Lothian	0.2	0.2	0.3

Table A5.7: NHS Lothian: Health and Social Care Practice results continued

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
East Lothian	0.1	0.0	0.1
Edinburgh	0.1	0.0	0.1
Midlothian	0.1	0.1	0.2
West Lothian	0.1	0.0	0.1

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
East Lothian	0.1	0.1	0.2
Edinburgh	0.2	0.2	0.2
Midlothian	0.3	0.2	0.3
West Lothian	0.2	0.2	0.3

HSCP name	Weighted mean number of teeth decayed into the pulp		
	Mean PT	Lower 95% CL	Upper 95% CL
East Lothian	0.0	0.0	0.0
Edinburgh	0.0	0.0	0.0
Midlothian	0.0	0.0	0.0
West Lothian	0.0	0.0	0.0

HSCP name	Weighted mean number of sealed teeth		
	Mean ST	Lower 95% CL	Upper 95% CL
East Lothian	1.2	1.0	1.3
Edinburgh	1.3	1.2	1.4
Midlothian	0.9	0.8	1.1
West Lothian	1.0	0.9	1.1

HSCP name	no. of children with obvious decay experience	Mean D <sub>3</sub> MFT for children with obvious decay experience (D <sub>3</sub> MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
East Lothian	45	1.9	1.5	2.3
Edinburgh	150	2.2	1.9	2.4
Midlothian	74	2.2	1.8	2.5
West Lothian	95	2.3	2.0	2.6

Table A5.8: NHS Tayside: Health and Social Care Practice results

HSCP name	no. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
Angus	369	11.7	0.3	11.0	12.4
Dundee	338	11.7	0.3	10.9	12.6
Perth & Kinross	294	11.6	0.3	10.2	12.5

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
Angus	80.7	77.4	84.1
Dundee	73.8	69.7	77.9
Perth & Kinross	82.8	79.0	86.7

HSCP name	Weighted mean D <sub>3</sub> MFT		
	Mean D <sub>3</sub> MFT	Lower 95% CL	Upper 95% CL
Angus	0.4	0.3	0.5
Dundee	0.6	0.4	0.7
Perth & Kinross	0.3	0.3	0.4

HSCP name	Weighted mean D <sub>3</sub> MFT for first permanent molar		
	Mean D <sub>3</sub> MFTfpm	Lower 95% CL	Upper 95% CL
Angus	0.3	0.3	0.4
Dundee	0.5	0.4	0.6
Perth & Kinross	0.3	0.2	0.4

HSCP name	Weighted mean D <sub>3</sub> T		
	Mean D <sub>3</sub> T	Lower 95% CL	Upper 95% CL
Angus	0.1	0.0	0.1
Dundee	0.2	0.1	0.2
Perth & Kinross	0.1	0.1	0.2

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
Angus	0.1	0.0	0.1
Dundee	0.1	0.1	0.2
Perth & Kinross	0.1	0.0	0.1

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
Angus	0.2	0.2	0.3
Dundee	0.3	0.2	0.3
Perth & Kinross	0.2	0.1	0.2

HSCP name	Weighted mean number of teeth decayed into the pulp		
	Mean PT	Lower 95% CL	Upper 95% CL
Angus	0.0	0.0	0.0
Dundee	0.0	0.0	0.0
Perth & Kinross	0.0	0.0	0.0

HSCP name	Weighted mean number of sealed teeth		
	Mean ST	Lower 95% CL	Upper 95% CL
Angus	0.9	0.7	1.1
Dundee	0.6	0.5	0.8
Perth & Kinross	0.7	0.6	0.9

HSCP name	no. of children with obvious decay experience	Mean D <sub>3</sub> MFT for children with obvious decay experience (D <sub>3</sub> MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
Angus	72	2.1	1.8	2.5
Dundee	90	2.1	1.8	2.5
Perth & Kinross	53	2.0	1.7	2.3

The results are weighted by population SIMD 2016 categories, specific to each NHS Board. This is different to the SIMD 2016 used in the main report which used SIMD 2016 categories for Scotland as a whole. As such they are **not** directly comparable.

### A6 – Basic Inspection results

#### What does the NDIP Basic Inspection consist of?

The *Basic Inspection* involves a simple assessment of the mouth of the child using a light, mirror and ball-ended probe. The dental status of each child is then categorised into three groups, depending on the level of dental health and treatment need observed, and parents/carers are advised of this by letter. The information in the letter explains the state of dental health observed in the mouth of the child at the time of the inspection.

The letter types are as follows:

- Letter A - should arrange to see the dentist as soon as possible, if the child has not had a recent appointment, on account of severe decay or abscess.
- Letter B - should arrange to see the dentist in the near future, if the child has not had a recent appointment, on account of evidence of current or previous decay.
- Letter C - no obvious decay experience but should continue to see the family dentist on a regular basis.

The results of the *Basic Inspection* are then anonymised and aggregated. They are used to monitor the impact of local and national NHS dental health improvement programmes and assist in the development of local dental services.

Primary 1 Basic Data Scotland; 2017

During 2016/17, all P1 classes of Scottish Local Authority schools were invited to participate in the Programme. The *Basic Inspections* were conducted in primary schools in all NHS Board areas, and overall 51,899 P1 children were inspected (Table A6.1). This represents 88.7% of P1 children who attended mainstream Local Authority schools across Scotland in the 2016/17 school year and whose parents/carers were advised by letter of the dental health of their child.

**Table A6.1. Primary 1 children inspected by NHS Boards during school year 2016/17; Basic Inspection<sup>1-7</sup>**

NHS Board	Estimated Total no. of P1-age children in Scotland	Total no. of P1 children inspected	Percentage (%) of P1 children inspected	Percentage (%) of A letters issued	Percentage (%) of B letters issued	Percentage (%) of C letters issued
Ayrshire & Arran	3,879	3,623	93.4	4.3	25.2	70.5
Borders	1,129	1,048	92.8	4.5	23.6	71.9
Dumfries & Galloway	1,539	1,314	85.4	4.9	23.7	71.3
Fife	4,265	2,571	60.3	4.7	26.6	68.7
Forth Valley	3,353	2,992	89.2	6.8	20.2	73.1
Grampian	6,734	5,697	84.6	7.1	17.9	75.0
Greater Glasgow & Clyde	12,314	11,638	94.5	10.3	23.2	66.5
Highland	3,284	2,886	87.9	6.8	19.5	73.7
Lanarkshire	7,436	7,063	95.0	7.8	21.8	70.4
Lothian	9,545	8,504	89.1	6.0	20.8	73.2
Orkney	224	198	88.4	2.0	14.1	83.8
Shetland	276	239	86.6	2.5	14.2	83.3
Tayside	4,255	3,896	91.6	8.9	21.7	69.5
Western Isles	264	230	87.1	4.3	20.4	75.2
<b>Scotland</b>	<b>58,497</b>	<b>51,899</b>	<b>88.7</b>	<b>7.3</b>	<b>21.8</b>	<b>70.9</b>

Source: ISD NDIP Database

1. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.

2. Based on NHS Board boundaries as defined in 2014.

3. The population of Primary 1 pupils is based on the NRS mid-year population estimate for children aged 5 (2015).

4. Children with a missing postcode, had an exam but did not receive a letter, or did not have an exam, were removed before analysis. This accumulated to 5,250 children. Repeat examinations were also omitted.

5. Letter A - should arrange to see the dentist as soon as possible, if the child has not had a recent appointment, on account of severe decay or abscess.

6. Letter B - should arrange to see the dentist in the near future, if the child has not had a recent appointment, on account of evidence of current or previous decay.

7. Letter C - no obvious decay experience but should continue to see the family dentist on a regular basis.



Primary 7 Basic Data Scotland; 2017

In total, 48,074 P7 children received a *Basic Inspection*. This represents 87.6% of P7 children attending mainstream Local Authority schools across Scotland (Table A6.2). As with P1 children, parents/carers of those P7 children who received a *Basic Inspection* were advised by letter of the dental health of their child.

**Table A6.2. Primary 7 children inspected by NHS Boards during school year 2016/17; Basic Inspection<sup>1-7</sup>**

NHS Board	Estimated Total no. of P7-age children in Scotland	Total no. of P7 children inspected	Percentage (%) of P7 children inspected	Percentage (%) of A letters issued	Percentage (%) of B letters issued	Percentage (%) of C letters issued
Ayrshire & Arran	3,866	3,341	86.4	1.6	26.3	72.1
Borders	1,228	1,065	86.7	1.8	30.0	68.2
Dumfries & Galloway	1,480	1,342	90.7	2.8	26.0	71.2
Fife	3,884	3,366	86.7	1.1	34.4	64.6
Forth Valley	3,342	2,918	87.3	4.9	28.3	66.7
Grampian	5,696	4,876	85.6	1.8	25.9	72.3
Greater Glasgow & Clyde	11,282	10,472	92.8	2.5	32.3	65.2
Highland	3,420	2,738	80.1	1.5	21.0	77.5
Lanarkshire	7,409	6,635	89.6	2.3	31.8	65.8
Lothian	8,346	7,060	84.6	1.3	25.2	73.5
Orkney	211	201	95.3	0.5	10.4	89.1
Shetland	249	230	92.4	2.2	14.3	83.5
Tayside	4,148	3,593	86.6	1.7	27.3	71.0
Western Isles	303	237	78.2	1.3	20.7	78.1
<b>Scotland</b>	<b>54,864</b>	<b>48,074</b>	<b>87.6</b>	<b>2.1</b>	<b>28.6</b>	<b>69.4</b>

Source: ISD NDIP Database

1. Numbers are based on the postcode of the child's home address and not the postcode of the school where the child was inspected.
2. Based on NHS Board boundaries as defined in 2014.
3. The population of Primary 7 pupils is based on the NRS mid-year population estimate for children aged 11 (2015).
4. Children with a missing postcode, had an exam but did not receive a letter, or did not have an exam, were removed before analysis. This accumulated to 6,947 children. Repeat examinations were also omitted.
5. Letter A - should arrange to see the dentist as soon as possible, if the child has not had a recent appointment, on account of severe decay or abscess.
6. Letter B - should arrange to see the dentist in the near future, if the child has not had a recent appointment, on account of evidence of current or previous decay, in either primary or permanent dentition.
7. Letter C - no obvious decay experience but should continue to see the family dentist on a regular basis.

**Number of children with Additional Support Needs in Primary 1 and Primary 7 (attending Special Schools or Units/Classes) who received a Basic Inspection in Scotland; 2017**

**Table A6.3. Numbers of children with Additional Support Needs (ASN) in Primary 1 and Primary 7 (and numbers of Special Schools or Unit/Classes they attended) receiving a Basic Inspection (2017)**

NHS Board	No. of children with ASN Inspected (P1-age)	No. of Special Schools or Unit/Classes for children with ASN (P1)	No. of children with ASN Inspected (P7-age)	No. of Special Schools or Unit/Classes for children with ASN (P7)
Scotland	279	67	368	74

Source: ISD NDIP Database

1. ASN – Additional Support Needs children – identified by NHS Boards as attending Special Schools or Units.

This is the first year that NHS Boards have been requested to ensure all children with Additional Support Needs (ASN) who attended Special Schools or Units/Classes are included within the NDIP Basic Programme. The results of these inspections are included within the overall P1 and P7 Basic Inspection results above (Tables A6.1 and A6.2). The numbers of children and Schools or Units/Classes are too small to present separately or by NHS Board.

Note: Many children identified as having ASN within the pupil census are in mainstream schools / mainstream classes and are thus already included.

A data linkage research project is planned to identify whether children identified as having ASN (in both mainstream schools and classes as well as in Special Schools and Unit/Classes) have different dental health needs than general child population.

The numbers of children inspected broadly follow the numbers of children expected from the Scottish Pupil Census (ScotXed - [gov.scot/Topics/Statistics/Browse/School-Education/dspupcensus](http://gov.scot/Topics/Statistics/Browse/School-Education/dspupcensus))

### **A7 – Authors**

This report, which is published by ISD Scotland on behalf of the Scottish Dental Epidemiology Co-ordinating Committee, has been prepared by the NDIP Report Writing Group, whose membership is as follows:

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**A8 – Publication Metadata (including revisions details)**

Metadata Indicator	Description
Publication title	National Dental Inspection Programme (NDIP) 2017.
Description	This report presents the results of the programme of children’s dental inspections carried out in Scotland during school year 2016/17.
Theme	Dental care.
Topic	Children’s dental health.
Format	PDF.
Data source(s)	2008/09, 2010/11, 2012/13, 2014/15, 2016/17 National Dental Inspection Programme databases.
Date that data are acquired	Various dates during school year 2016/17.
Release date	24 <sup>th</sup> October 2017.
Frequency	Annual.
Timeframe of data and timeliness	School year ending June 2017; four months in arrears.
Continuity of data	Reports annually.
Revisions statement	These data are not subject to planned major revisions. However, ISD aims to continually improve the interpretation of the data and therefore analysis methods are regularly reviewed and may be updated in future.
Revisions relevant to this publication	None.
Concepts and definitions	See Glossary, Appendix and References.
Relevance and key uses of the statistics	The principal aims of the National Dental Inspection Programme (NDIP) are to inform parents/carers of the dental health status of their children and, through appropriately anonymised, aggregated data, advise the Scottish Government, NHS Boards and other organisations concerned with children’s health of dental disease prevalence at national and local levels.
Accuracy	These data are regarded as highly accurate as per the Kappa estimates agreement in <a href="#">Appendix A2</a> .
Completeness	These data are regarded as suitably complete. The Basic inspection saw 88.7% of P1s and 87.6% of P7s inspected.
Comparability	Each annual NDIP report has two levels: a Basic Inspection (intended for all P1 and P7 children) and a Detailed Inspection (where a representative sample of either the P1 or the P7 age group is inspected in alternate years).
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to <a href="#">published guidelines</a> .

Coherence and clarity	Tables and charts are accessible via the <a href="#">ISD website</a> .
Value type and unit of measurement	Various dental/epidemiological and demographic units of measurement.
Disclosure	The <a href="#">ISD Statistical Disclosure Protocol</a> is followed.
Official Statistics designation	Official Statistics.
UK Statistics Authority Assessment	Not assessed at this time.
Last published	25 <sup>th</sup> October 2016 (2016 report covered Primary 1 children).
Next published	25 <sup>th</sup> October 2018.
Date of first publication	31 <sup>st</sup> December 2003 (revised 3 <sup>rd</sup> March 2008).
Help email	<a href="mailto:nss.isd-dental-info@nhs.net">nss.isd-dental-info@nhs.net</a>
Date form completed	17/08/2017

## A9 – Early Access details (including Pre-Release Access)

### Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access. Early Access endeavours to strengthen quality assurance across the content of the report by way of a report writing group; members listed in table below:

Early Access Job Title	Early Access Contact Name	Early Access Email Address	Early Access Reason
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### Standard Pre-Release Access

Scottish Government Health Department

NHS Board Chief Executives

NHS Board Communication leads

### Early Access for Management Information

These statistics will also have been made available to those who needed access to 'management information', i.e. as part of the delivery of health and care.

## A10 – ISD and Official Statistics

### About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

**Purpose:** To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

**Mission:** Better Information, Better Decisions, Better Health

**Vision:** To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

### Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

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- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
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