

National Dental Inspection Programme (NDIP) 2019

**Report of the 2019 Detailed
Inspection Programme of
Primary 7 Children and the Basic
Inspection of Primary 1 and
Primary 7 children**

**Publication date
22 October 2019**

This is an Official Statistics Publication

[The Official Statistics \(Scotland\) Order 2008](#) authorises NHS National Services Scotland (the legal name being the Common Services Agency for the Scottish Health Service) to produce official statistics.

All official statistics should comply with the UK Statistics Authority's Code of Practice which promotes the production and dissemination of official statistics that inform decision making. They can be formally assessed by the UK Statistics Authority's regulatory arm for National Statistics status.

Find out more about the Code of Practice at:

<https://www.statisticsauthority.gov.uk/osr/code-of-practice/>

Find out more about official statistics at:

<https://www.statisticsauthority.gov.uk/national-statistician/producers-of-official-statistics/>

Contents

Introduction	4
The 2019 National Dental Inspection Programme (NDIP) in school year 2018/19	4
Key Definitions	4
Specific Goals of the Detailed Inspection	7
How many children had a Detailed Inspection?	7
Main points.....	8
Results and Commentary.....	9
Detailed Inspection Results	9
What are the obvious decay experience results for the teeth of P7 children in NHS Boards in Scotland?.....	9
What proportion of P7 children in Scotland had no obvious decay experience in 2019? ...	10
What levels of obvious decay experience were seen in P7 children in 2019?	11
How has the dental health of P7 children in Scotland changed over time?	12
What percentage of obvious decay experience in P7 children was treated with fillings? ...	14
What percentage of P7 children had untreated decay?	15
Measures of Oral Health Inequalities	16
Is there a continuing link between area-based socio-economic deprivation and poor dental health among P7 children in Scotland?	16
Measures of Inequality of obvious decay experience across P7 children in Scotland	18
Dental health of the first permanent molar teeth.....	19
Conclusions	22
Glossary	23
References.....	26
Acknowledgements	27
List of Tables, Figures and Diagrams	28
Contacts.....	30
Further Information	30
Rate this publication.....	30
Appendices	31
A1 – What are the stages of tooth decay?.....	31
A2 – National training and calibration course	32
A3 – Links/comparisons to other sources of dental health information.....	33

A4 – Results of Care Index at NHS Board level; Detailed Inspection	35
A5– Results at Health and Social Care Partnerships (HSCP); Detailed Inspection for Primary 7 children in 2019.....	36
A6 – Basic Inspection results	54
A7 – Authors.....	58
A8 – Publication Metadata.....	59
A9 – Early Access details (including Pre-Release Access)	61
A10 – ISD and Official Statistics	62

Introduction

The 2019 National Dental Inspection Programme (NDIP) in school year 2018/19

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 oral 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 oral disease prevalence at national and local levels. This ensures that reliable oral 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 2018/19 (noted as 2019 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 (D₃)

- 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 D₃ 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 (D₃MFT)

- 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 D₃MFT=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)¹

- A tool for measuring the extent of area-based 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 (D₃MFT) score when moving across the socio-economic status (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 (D₃MFT) when moving across the SES spectrum. This can be calculated by dividing the SII by the mean level of decay in the population.

Significant Caries Index (SiC)²

- 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 D₃MFT values.
 - The third of the population with the highest caries scores is selected.
 - The mean D₃MFT 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 D₃MFT scores, the top tenth is chosen and the mean D₃MFT of this tenth of the sample with the most teeth affected by obvious decay experience was calculated.

Scottish Caries Inequality Metric (SCIM10)³

- The area under the curve in relation to the distribution of the tenths of the population by obvious decay experience (D₃MFT).

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 2018 and June 2019, 15,986 children (28.2% 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 10.8% to 89.7%.

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 10.1 – 12.9 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 2018-19¹⁻⁴

NHS Board	Estimated Primary 7 (P7) population	Number of P7 children receiving a Detailed Inspection	% of P7 population receiving a Detailed Inspection
Ayrshire & Arran	3,912	1,399	35.8
Borders	1,162	317	27.3
Dumfries & Galloway	1,553	526	33.9
Fife	4,091	441	10.8
Forth Valley	3,361	1,887	56.1
Grampian	6,062	2,261	37.3
Greater Glasgow & Clyde	11,731	3,567	30.4
Highland	3,465	692	20.0
Lanarkshire	7,482	1,160	15.5
Lothian	9,079	1,917	21.1
Orkney	242	217	89.7
Shetland	297	227	76.4
Tayside	4,039	1,109	27.5
Western Isles	300	266	88.7
Scotland	56,776	15,986	28.2

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 (2017).
4. The estimated Primary 7 population of Orkney was increased for analytical purposes.

Main points

- More than three quarters (80%) of P7 children had no obvious decay experience in their permanent teeth in 2019. This is a large improvement since ISD started recording this information in 2005 (53%).
- The average number of P7 children's teeth affected by obvious decay experience in 2019 is 0.42. This is less than a third of the average number of teeth affected in 2005 (1.29).
- There has been a small improvement in the inequality metrics but clear dental health inequalities remain. Only 69.5% of P7 children have no obvious decay experience in the most deprived areas compared with 88.1% in the least deprived areas. (Note: no obvious decay experience means there are no obvious decayed, missing or filled teeth).

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 2019 survey, 20% of P7 children in Scotland had obvious decay experience in their permanent teeth. For those children, the mean number of affected teeth was 2.09. This ranged across the Boards from 1.77 in children in NHS Orkney to 2.29 in children in NHS Western Isles. The number of teeth affected in an individual child varied from one tooth to 14 teeth.

Table 2: Obvious decay experience in permanent teeth of P7 children for each NHS Board and Scotland in 2019¹⁻⁴

NHS Board	% with no obvious decay experience in permanent teeth	Mean number of:				
		decayed, missing and filled teeth (D ₃ MFT)	decayed teeth (D ₃ T)	missing teeth (MT)	filled teeth (FT)	decayed, missing and filled teeth for those with obvious decay experience (D ₃ MFT>0)
Ayrshire & Arran	78.8	0.46	0.21	0.05	0.20	2.17
Borders	78.6	0.39	0.13	0.03	0.23	1.88
Dumfries & Galloway	79.9	0.44	0.13	0.09	0.23	2.21
Fife	80.7	0.38	0.13	0.05	0.20	1.89
Forth Valley	81.9	0.36	0.13	0.03	0.19	2.02
Grampian	82.8	0.34	0.10	0.06	0.19	2.01
Greater Glasgow & Clyde	76.4	0.51	0.21	0.06	0.24	2.17
Highland	82.5	0.35	0.09	0.08	0.18	2.02
Lanarkshire	78.4	0.46	0.13	0.08	0.25	2.10
Lothian	81.4	0.38	0.13	0.06	0.18	2.06
Orkney	94.2	0.10	0.02	0.02	0.06	1.77
Shetland	88.6	0.21	0.06	0.06	0.09	1.85
Tayside	79.4	0.43	0.11	0.12	0.19	2.06
Western Isles	80.7	0.44	0.18	0.07	0.19	2.29
Scotland	80.0	0.42	0.15	0.06	0.21	2.09

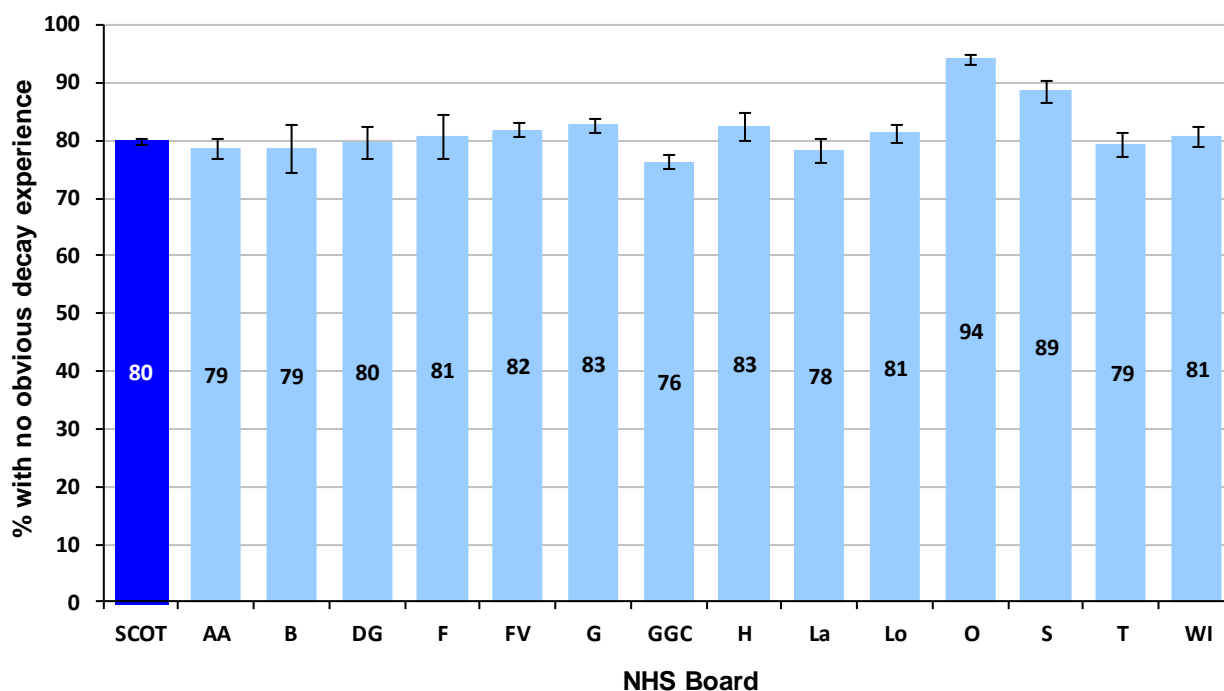
Source: ISD NDIP Database

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 D₃MFT, DT, MT, FT and D₃MFT>0 can be found in the [Glossary](#).

What proportion of P7 children in Scotland had no obvious decay experience in 2019?

In Scotland, 80.0% of P7 children fell into this category, with a range from 76.4% in NHS Greater Glasgow & Clyde up to 94.2% in NHS Orkney across the 14 NHS Boards (Figure 1).

Figure 1: Percentage of P7 children in Scotland with no obvious decay experience in 2019; by NHS Board¹⁻³



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

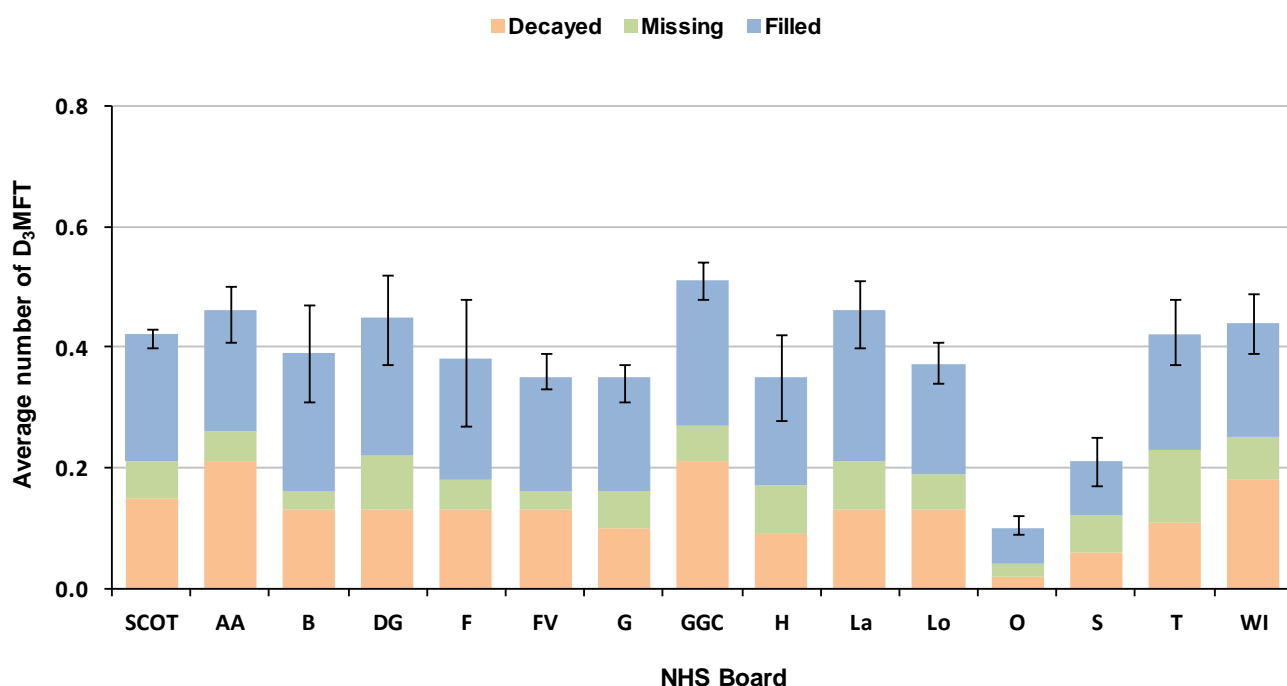
Source: ISD NDIP Database

1. No obvious decay experience is when D₃MFT=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 2019?

The average number of obvious decayed, missing and filled teeth (D₃MFT) across all P7 children inspected in Scotland was 0.42. This ranged from 0.10 in NHS Orkney to 0.51 in NHS Greater Glasgow & Clyde across the 14 NHS Boards (Figure 2).

Figure 2: Mean number of obvious decayed, missing and filled permanent teeth (D₃MFT) of P7 children in 2019 in Scotland; by NHS Board¹⁻³



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

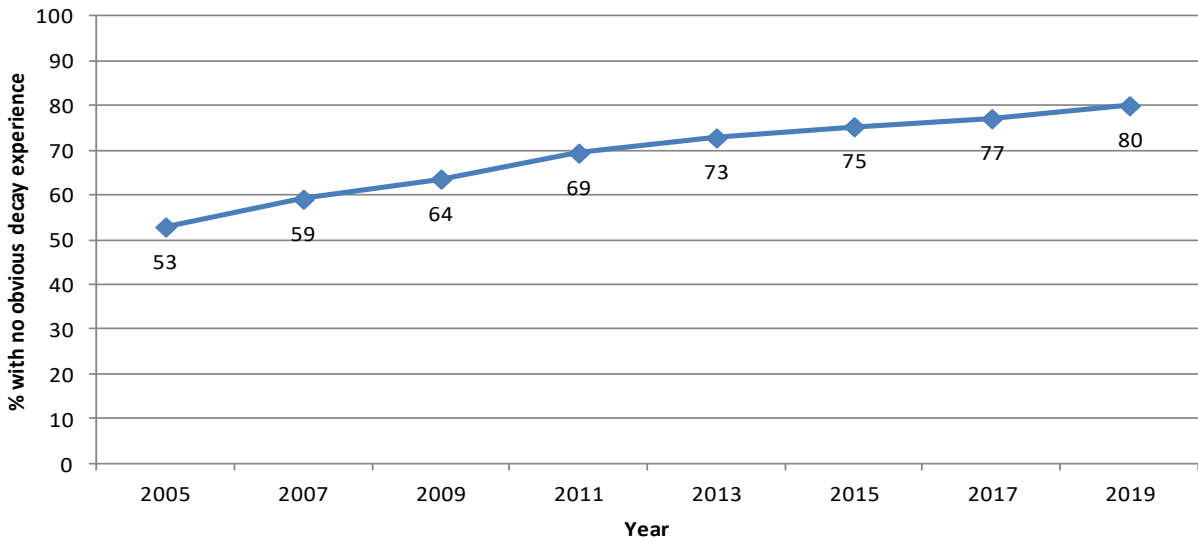
Source: ISD NDIP Database

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 2017 in the percentage of P7 children with no obvious decay experience ($D_3MFT=0$), and a large increase since 2005.

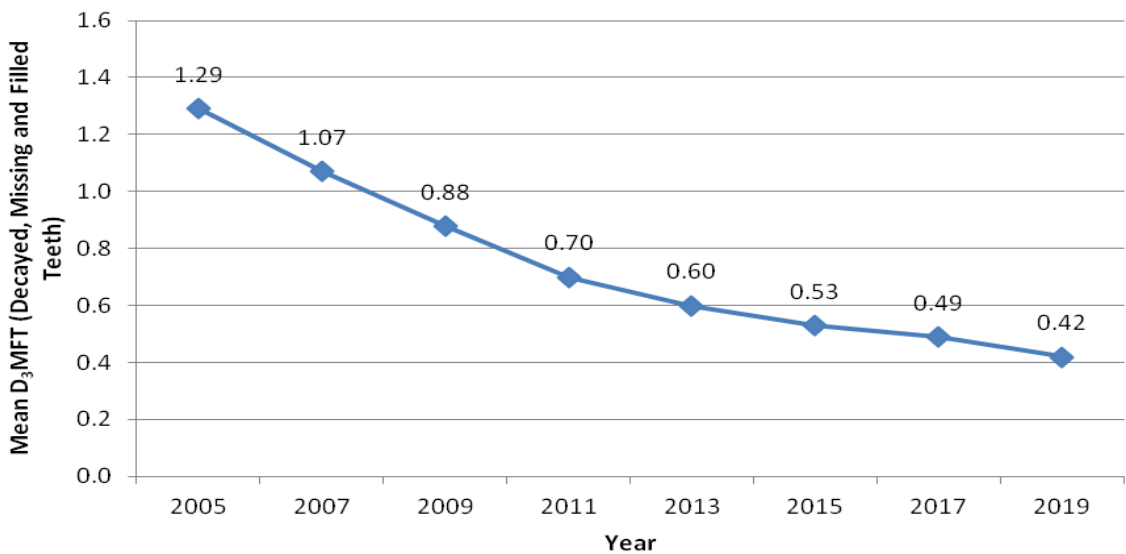
Figure 3: Trends in the percentage of P7 children with no obvious decay experience in Scotland; 2005-2019



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).

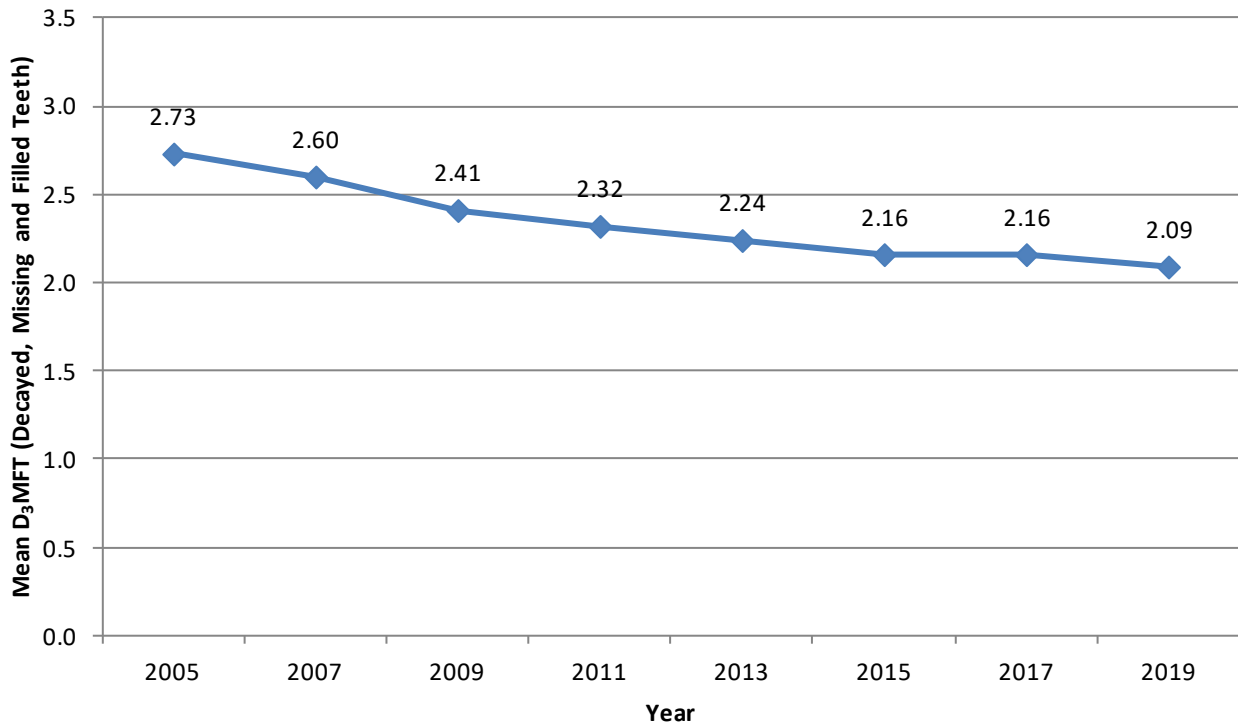
Figure 4: Mean number of decayed, missing and filled permanent teeth (D_3MFT) in the P7 population in Scotland; 2005-2019



Sources: ISD NDIP Database

For the subgroup of children with obvious decay experience, the mean number of decayed, missing and filled permanent teeth continues to decline (2.09) (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; 2005-2019

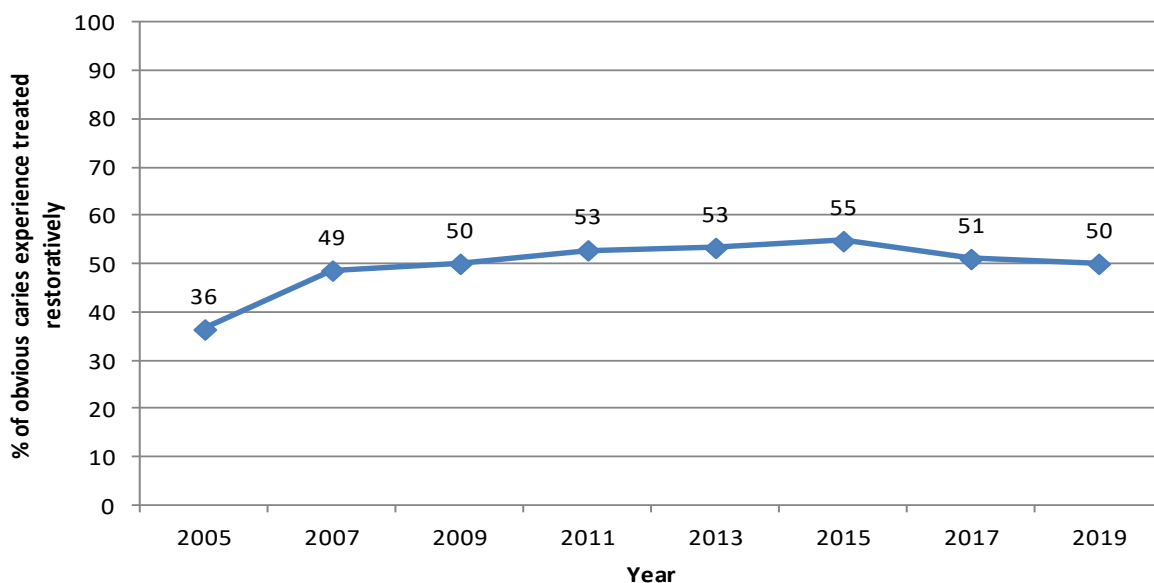


Sources: ISD NDIP Database

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

Figure 6 shows the Care Index for the last eight surveys. In the 2019 survey, 50.0% of teeth with obvious decay experience had been filled. There was variation across Scotland, with the Care Index ranging from 42.9% in NHS Shetland to 60.0% in NHS Orkney. These results can be found in Appendix A4 (Table A4.1).

Figure 6: Care Index for P7 children in Scotland; 2005-2019¹



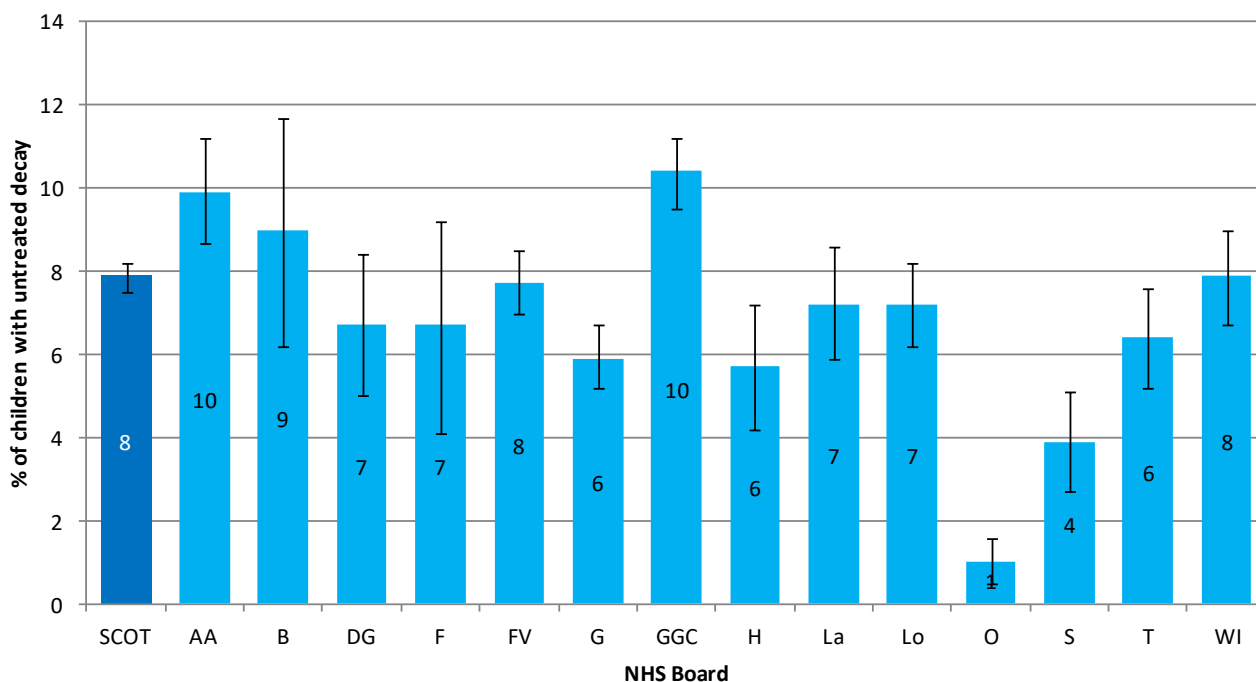
Sources: ISD NDIP Database

1. Care Index = (number of filled teeth) / (number of obviously decayed, missing and filled teeth) x 100

What percentage of P7 children had untreated decay?

In Scotland, 7.9% of P7 children had untreated decay ($D_3T>0$), with a range of 1.0% in NHS Orkney to 10.4% in NHS Greater Glasgow & Clyde (Figure 7). Of the children with obvious decay experience, 39.5% had untreated decay.

Figure 7: Percentage of P7 children in Scotland with untreated decay; by NHS Board in 2019¹⁻³



AA	B	DG	F	FV	G	GGC
AYRSHIRE & ARRAN	BORDERS	DUMFRIES & GALLOWAY	FIFE	FORTH VALLEY	GRAMPIAN	GREATER GLASGOW & CLYDE
H	LA	Lo	O	S	T	WI
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 Oral 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.

69.5% of P7 children in SIMD1 showed no obvious decay experience, compared with 88.1% of P7 children in SIMD5 (Table 3). The absolute inequality between SIMD1 and SIMD5 in 2019 was 18.6 percentage points, this continues to decline (improve) from 20.9 in 2017 and 21.5 in 2015 (Figure 8).

Figure 8: Change between 2009 and 2019 in the percentage of P7 children in Scotland with no obvious decay experience; by SIMD quintile^{1,2}

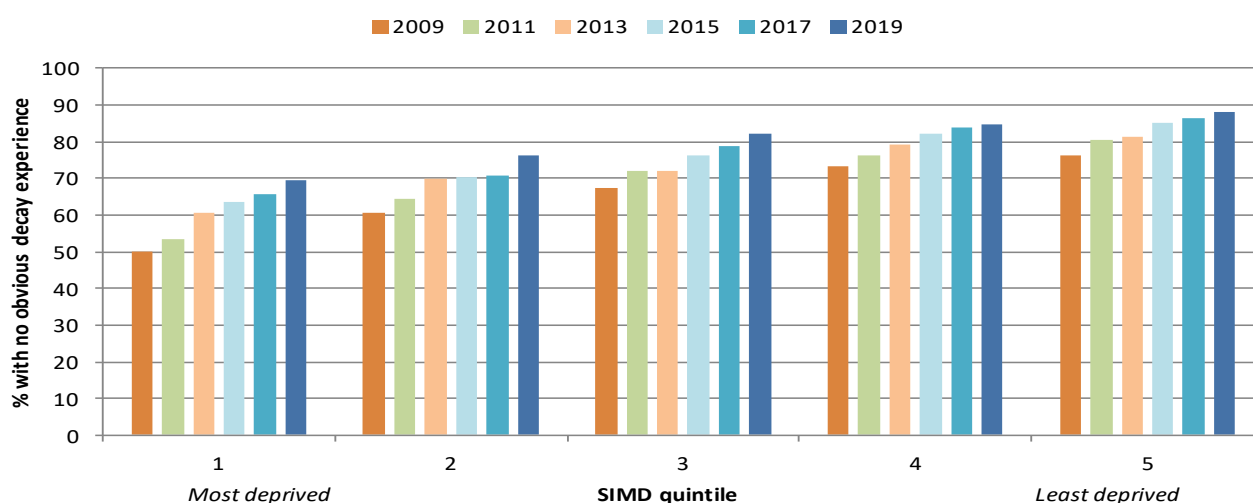


Table 3: Percentage of P7 children in Scotland with no obvious decay experience; by SIMD quintile^{1,2}

Year	SIMD quintile				
	1	2	3	4	5
2009	49.9	60.6	67.3	73.3	76.2
2011	53.5	64.3	71.9	76.1	80.6
2013	60.7	70.0	72.0	79.1	81.5
2015	63.5	70.2	76.1	82.2	85.0
2017	65.6	70.9	78.8	83.7	86.5
2019	69.5	76.1	82.0	84.6	88.1

Source: ISD NDIP Database

1 .No obvious decay experience is when D₃MFT=0.

2. Scotland level SIMD has been used, subject to availability as follows: 2009 - SIMD 2006; 2011 - SIMD 2009; 2013 & 2015 - SIMD 2012; 2017 and 2019 - SIMD 2016.

Similarly, there is an inequality gap in the average number of teeth with obvious decay experience (D₃MFT). This was 0.69 in the most deprived quintile (SIMD1) compared with 0.51 in SIMD2, 0.39 in SIMD3, 0.29 in SIMD4 and 0.20 in the least deprived quintile (SIMD5).

As with the SIMD quintiles, there is a clear difference in dental health among P7 children in the different SIMD deciles (Table 4). The SIMD decile classification has 10 divisions of deprivation from decile 1 (most deprived) to decile 10 (least deprived).

The most deprived decile (SIMD1) showed an increase of 6.7 percentage points, free from obvious decay experience in 2019 whilst there was an increase of less than 1 percentage point in the least deprived decile (SIMD10), when compared to 2017.

The absolute inequality between the most and least deprived deciles has narrowed to 20.1%, a 6.5 percentage point decrease since 2017.

[Figure 9](#) is available in the publication appended graphs (Change in the percentage of P7 children in Scotland with no obvious decay experience; by SIMD decile.)

Table 4: Percentage of P7 children in Scotland with no obvious decay experience; by SIMD decile^{1,2}

SIMD decile	Year					
	2009	2011	2013	2015	2017	2019
1	44.7	50.0	57.6	60.8	61.5	68.2
2	52.4	57.6	64.4	66.0	69.2	70.9
3	57.9	62.7	69.8	69.3	68.3	74.1
4	59.2	65.7	70.2	71.0	73.4	78.2
5	63.8	71.0	72.1	73.8	78.3	81.0
6	67.5	72.8	71.9	78.2	79.3	83.0
7	69.1	75.5	77.8	82.9	82.7	84.0
8	74.4	76.8	80.7	81.5	84.8	85.2
9	73.9	79.6	80.2	83.5	85.0	87.9
10	75.8	82.1	83.1	86.6	88.1	88.3

Source: ISD NDIP Database.

1. No obvious decay experience is when D₃MFT=0.

2. Scotland level SIMD has been used, subject to availability: 2009 - SIMD 2006; 2011 - SIMD 2009; 2013 & 2015 - SIMD 2012; 2017 & 2019 - SIMD 2016.

Measures of Inequality of obvious decay experience across P7 children in Scotland

The value for the Slope Index of Inequality (SII) in 2019 was 0.60, which continues the general downward trend from 2009 (Table 5). Similarly, the three non-SES-based measures of dental health inequalities shown in the table (SiC, SiC10, SCIM10) continue to show improvements since 2009.

Table 5: Inequality measures in teeth of P7 children in Scotland; 2009-2019

Year	Slope Index of Inequality (SII)	Relative Index of Inequality (RII)	Significant Caries (SiC) Index	Significant Caries 10 (SiC10)	Scottish Caries Inequality Metric (SCIM10)
2009	1.14	1.28	2.55	4.51	6.60
2011	0.95	1.27	2.24	4.06	5.42
2013	0.74	1.19	1.88	3.84	4.35
2015	0.75	1.41	1.60	3.45	3.60
2017	0.72	1.44	1.50	3.39	3.29
2019	0.60	1.43	1.26	3.11	2.65

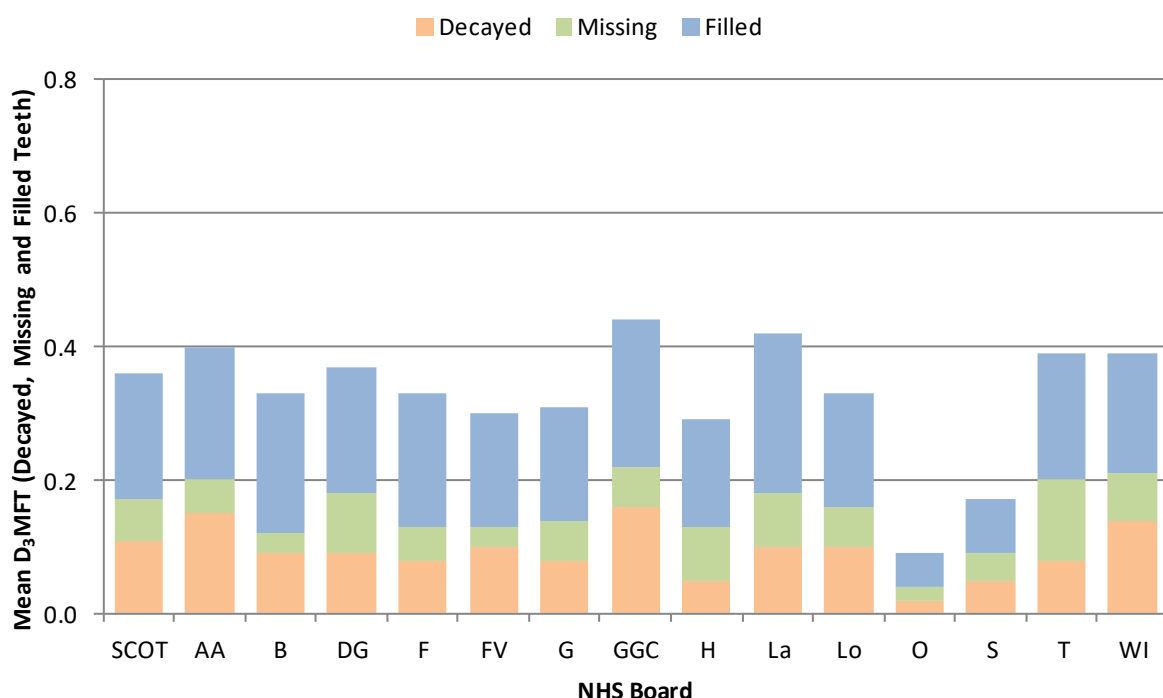
Source: ISD NDIP Database

Dental health of the first permanent molar teeth

Across Scotland, 81.0% of P7 children had no obvious decay experience in their first permanent molars. Across the 14 NHS Boards, the range was from 77.2% in NHS Greater Glasgow and Clyde to 95.6% in NHS Orkney. Figure 10 shows the mean D₃MFT for first permanent molars for Scotland and for each NHS Board.

Data for [Figure 10](#) is available in the publication appended graphs (Mean number of obviously decayed, missing and filled first permanent molars in P7 children in 2019 in Scotland; by NHS Board).

Figure 10: Mean number of obviously decayed, missing and filled first permanent molars in P7 children in 2019 in Scotland; by NHS Board^{1,2}



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

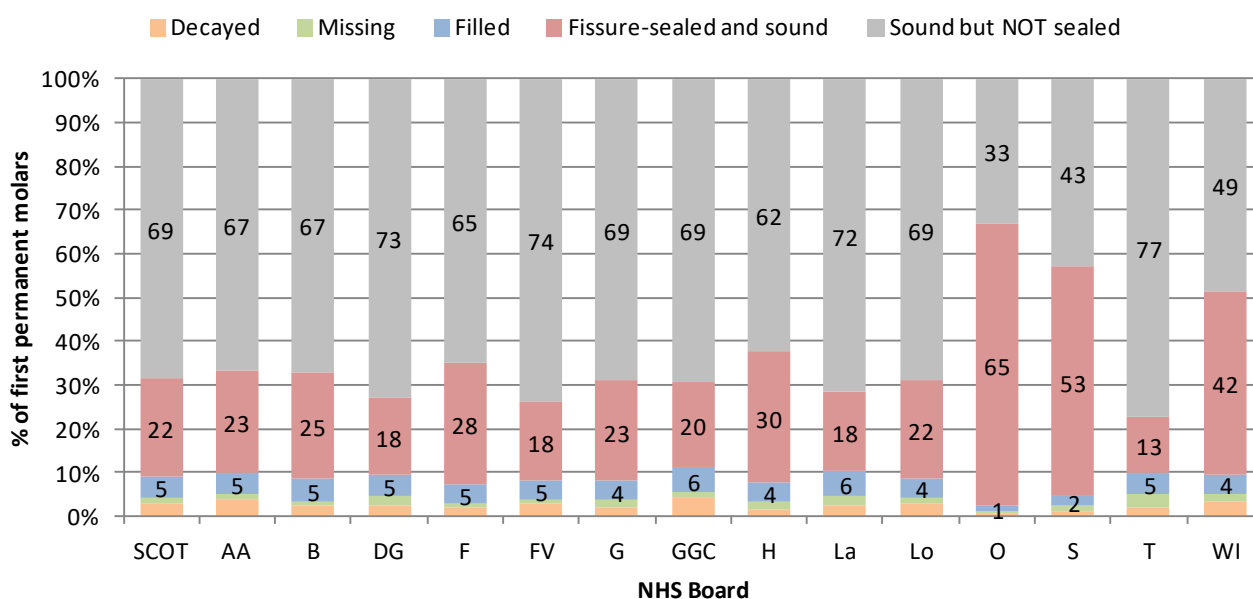
Source: ISD NDIP Database.

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 sealants should be applied on the occlusal surface of permanent molar teeth as early after eruption as possible to reduce the risk of decay⁴.

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 13.1% in NHS Tayside to 64.6% in NHS Orkney.

Figure 11: Percentage of D₃MFT, fissure-sealed and apparently sound, and apparently sound but NOT sealed first permanent molars in P7 children in 2019 in Scotland; by NHS board^{1,2}



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

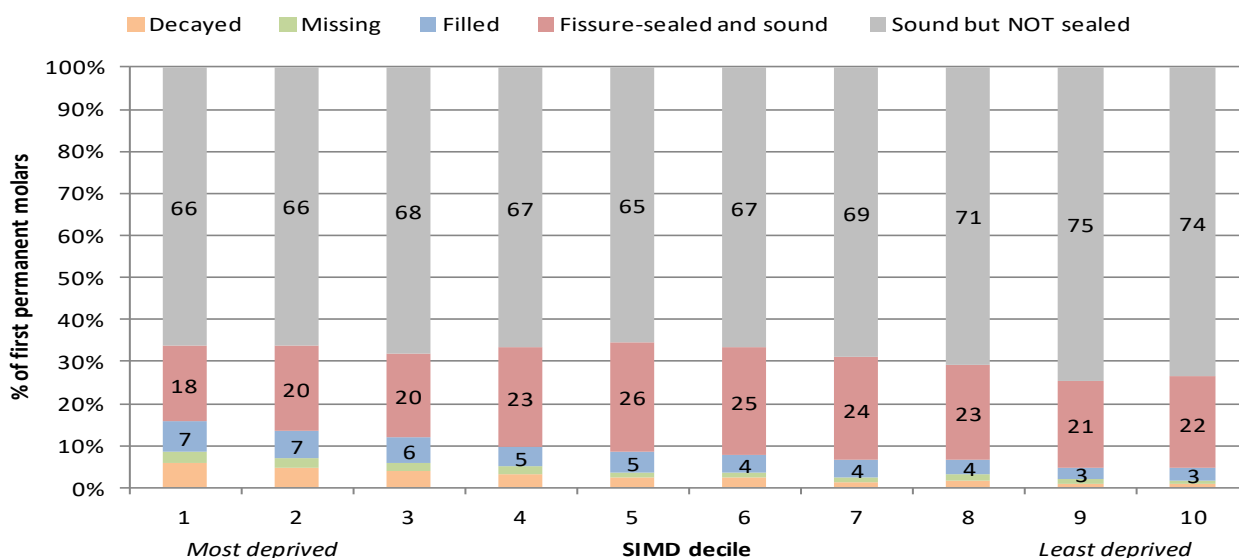
Source: ISD NDIP Database.

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 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 the lowest value.

Figure 12: Percentage of D₃MFT, fissure-sealed and apparently sound, and apparently sound but NOT sealed first permanent molars in P7 children in 2019 by SIMD decile¹



Source: ISD NDIP Database.

1. Scotland level SIMD has been used, subject to availability: 2019 – SIMD 2016

Table 6 shows that approximately 7% 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 59.9% 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 6: Percentage of surfaces of P7 children’s first permanent molars present on inspection affected by obvious decay experience in Scotland; in 2019

Tooth		Occlusal (%)	Mesial (%)	Distal (%)	Buccal (%)	Lingual (%)
Upper	16 (right)	7.0	1.2	1.2	0.7	1.3
	26 (left)	7.1	1.2	1.1	0.7	1.3
Lower	36 (left)	7.2	0.8	1.0	2.0	0.9
	46 (right)	7.0	0.9	1.1	1.9	0.9

Source: ISD NDIP Database.

Conclusions

The dental health of P7 children in Scotland is better than in 2017, and has considerably improved since the early 2000s when the P7 National Dental Inspection Programme started.

Clear health inequalities remain, with 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](#).

Results of the Basic Inspection for all Additional Support Needs (ASN) P1 and P7 children, in terms of numbers inspected, 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 Appendix A6 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 ₃ MFT)×100].
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 ₃ MFT	Obvious decay experience in permanent teeth, as noted above, includes both missing teeth (extracted due to decay) and filled teeth.
D ₃ MFT>0	(Any) amount of decay experience in permanent teeth.
D ₃ MFT _{1pm}	D ₃ MFT for first permanent molar
D ₃ 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 ₃ 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 ₃ 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 ₃ MFT for the tenth of the sample with the most teeth affected by caries experience.
SII	<u>Slope Index of Inequality</u> . 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 ₃ MFT score when moving across the SES spectrum and is indicative of the total experience of individuals in the whole population.
RII	<u>Relative Index of Inequality</u> . 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 ₃ 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	<u>Scottish Index of Multiple Deprivation</u> . 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 geographical access) are combined into an overall index to rank relative multiple deprivation in all geographical areas throughout Scotland. Several different versions of the SIMD are used across time. In 2009 the SIMD2006 was used; in 2011 the SIMD2009 was used; in 2013 & 2015 the SIMD2012 was used; in 2017 & 2019 the SIMD2016 was used. All of the indices, show SIMD1 or decile 1 as the most deprived quintile (or decile) and SIMD5 or decile 10 as the least deprived quintile (or decile). The five equally sized groups (fifths) and the ten equally sized groups (tenths) of the distribution of SIMD are known colloquially as 'quintiles' and 'deciles'.
16: upper right 26: upper left 36: lower left 46: lower right	Numbering of first permanent molar teeth according to <u>FDI World Dental Federation</u> tooth notation system.

References

1. Scottish Index of Multiple Deprivation 2016. Scottish Government, 2016.
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
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.
4. SIGN 138 – Clinical Guidelines. Dental interventions to prevent caries in children. Healthcare Improvement Scotland, 2014.
sign.ac.uk/assets/sign138.pdf.
5. Mitropoulos C, Pitts NB, Deery C. BASCD Trainers pack for caries prevalence studies, 1992/93. Dundee: University of Dundee, 1992.
6. 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
7. Petersen PE. The world oral health report 2003. Geneva: WHO Oral Health Programme, 2003.
who.int/oral_health/media/en/orh_report03_en.pdf
8. The WHO Global Oral Health Database and the WHO Oral Health Country/Area Profile Programme Malmo 2017.
mah.se/CAPP/.
9. Scottish Public Health Observatory (ScotPHO). NHS National Services Scotland, 2017
scotpho.org.uk/.

Acknowledgements

The National Dental Inspection Programme would not have been possible without the efforts of many people throughout Scotland who worked together to ensure its success.

The Programme is indebted to:

- The participating schools, the children and their parents/carers.
- The head teachers, staff and children in the Coatbridge, Edinburgh, Glasgow and Perth schools where the training and calibration exercises were conducted:
 - St Timothy's Primary School, Mr Forbes, Coatbridge
 - Castlevew Primary School, Ms Watt, Edinburgh
 - St Rose of Lima Primary School, Ms Shiels, Glasgow
 - Inchview Primary School, Mrs Donaghy, Perth
- Staff at NHS Fife, NHS Greater Glasgow & Clyde, NHS Lanarkshire, NHS Lothian, NHS Tayside, for organising the training and calibration courses, and Professor Nicola Innes from the University of Dundee.
- Local Education Authorities of Scotland.
- NHS Boards in Scotland.
- Public Dental Service staff who conducted the inspections.
- NHS NSS ISD and the Community Oral Health Section, University of Glasgow Dental School, for the analysis of the results.
- Consultants in Dental Public Health and Chief Administrative Dental Officers Group.
- Scottish Association of Clinical Dental Directors.

List of Tables, Figures and Diagrams

Table No.	Name	Time period	File & size
Table 1	<u>Estimated Primary 7 population and the number and percentage who received a Detailed Inspection by NHS Board across Scotland.</u>	School year 2018/19	Excel [11KB]
Table 2	<u>Obvious decay experience in permanent teeth of P7 children for each NHS Board and Scotland.</u>	School year 2018/19	Excel [11KB]
Table 3	<u>Percentage of P7 children in Scotland with no obvious decay experience; by SIMD quintile</u>	2009-2019	Excel [24KB]
Table 4	<u>Percentage of P7 children in Scotland with no obvious decay experience; by SIMD decile</u>	2009-2019	Excel [24KB]
Table 5	<u>Inequality Measures in teeth of P7 children in Scotland.</u>	2009-2019	Excel [10KB]
Table 6	<u>Percentages of surfaces of P7 children's first permanent molars present on inspection affected by decay experience in Scotland.</u>	2018-2019	Excel [10KB]
Table A3.1	<u>Is NDIP comparable with other UK data?</u>	N/A	Excel [10KB]
Table A4.1	<u>Care Index for P7 children in Scotland; by NHS Board.</u>	School year 2018/19	Excel [11KB]
Table A5.1- A5.8	<u>Detailed results at Health & Social Care Partnership (HSCP) level.</u>	School year 2018/19	Excel [42KB]
Table A6.1	<u>Basic Inspection - Primary 1 children inspected by NHS Boards.</u>	School year 2018/19	Excel [12KB]
Table A6.2	<u>Basic Inspection - Primary 7 children inspected by NHS Boards.</u>	School year 2018/19	Excel [12KB]
Table A6.3	<u>Basic Inspection - Primary 1 & 7 ASN children inspected by NHS Boards.</u>	School year 2018/19	Excel [9KB]

Figure No.	Name	Time period	File & size
Figure 1	<u>Percentage of P7 children in Scotland with no obvious decay experience in 2019; by NHS Board.</u>	School year 2018/19	Excel [32KB]
Figure 2	<u>Mean number of obvious decayed, missing and filled permanent teeth (D₃MFT) of P7 children in Scotland and by NHS Board.</u>	School year 2018/19	Excel [37KB]

Figure 3	<u>Trends in the percentage of P7 children with no obvious decay experience in Scotland.</u>	2005-2019	Excel [20KB]
Figure 4	<u>Mean number of decayed, missing and filled permanent teeth (D₃MFT) in the P7 population in Scotland.</u>	2005-2019	Excel [18KB]
Figure 5	<u>Mean number of decayed, missing and filled permanent teeth in P7 children with obvious decay experience (D₃MFT>0) in Scotland.</u>	2005-2019	Excel [17KB]
Figure 6	<u>Care Index for P7 children in Scotland.</u>	2005-2019	Excel [19KB]
Figure 7	<u>Percentage of P7 children in Scotland with untreated decay; by NHS Board</u>	School year 2018/19	Excel [32KB]
Figure 8	<u>Change in the percentage of P7 children in Scotland with no obvious decay experience; by SIMD quintile</u>	2009-2019	Excel [24KB]
Figure 9	<u>Change in the percentage of P7 children in Scotland with no obvious decay experience; by SIMD decile.</u>	2009-2019	Excel [24KB]
Figure 10	<u>Mean number of obvious decayed, missing and filled first permanent molars in P7 children in Scotland and in each NHS Board.</u>	School year 2018/19	Excel [28KB]
Figure 11	<u>Percentage of D₃MFT, fissure-sealed and apparently sound, and apparently sound but NOT sealed first permanent molars in P7 children by NHS Board and Scotland.</u>	School year 2018/19	Excel [30KB]
Figure 12	<u>Percentage of D₃MFT, fissure-sealed and apparently sound, and apparently sound but NOT sealed first permanent molars in P7 children by SIMD decile.</u>	School year 2018/19	Excel [21KB]

Diagram No.	Name	Time period	File & size
1	<u>The various stages of tooth decay.</u>	n/a	Excel [252KB]

Contacts

Caroline Buchanan, Information Analyst

Information Services Division

Phone: 0131 275 6057

Email: caroline.buchanan@nhs.net

Chris Watling, Senior Information Analyst

Information Services Division

Phone: 0131 275 6292

Email: c.watling@nhs.net

Ahmed Mahmoud, Principal Information Analyst

Information Services Division

Phone: 0131 275 7555

Email: a.mahmoud@nhs.net

Lorna M D Macpherson, Professor of Dental Public Health

University of Glasgow Dental School

Phone: 0141 211 9751

Email: Lorna.Macpherson@glasgow.ac.uk

Further Information

Further information can be found on the [ISD website](#).

Rate this publication

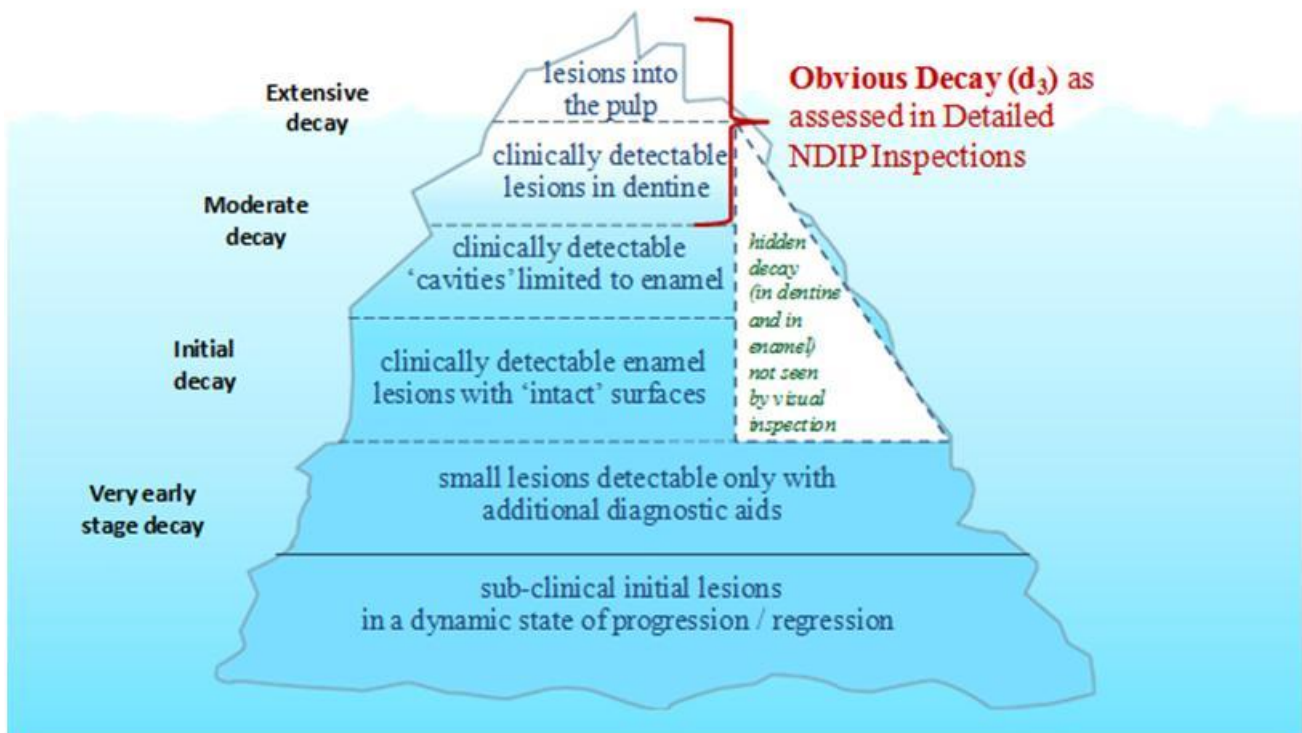
Please [provide feedback](#) on this publication to help us improve our services.

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

Preliminary training was carried out locally. The training and calibration events for the Detailed NDIP survey of P7 children in Scotland were organised by NHS Lothian, NHS Lanarkshire, NHS Tayside, and NHS Greater Glasgow & Clyde in October and November 2018.

Mandatory training and calibration were run over four separate courses to accommodate the 52 inspection teams (dentist/dental therapist 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' Pack⁵. 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 was 11.

Analyses were undertaken by the Community Oral Health research group, University of Glasgow Dental School, supported by colleagues in NHS Tayside, NHS Greater Glasgow & Clyde, 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 D₃MFT and separately for D₃T, MT, and FT components.

Cohen Kappa estimates agreement, which is considered⁶:

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

The percentage agreements among the 52 inspection teams ranged from 73% to 100%. The kappa agreement scores for D₃MFT at the patient level did not drop below moderate, ranging from 0.48 to 1.00 with a mean of 0.86 (standard deviation=0.18).

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](#) - improving the oral health of children in Scotland.

Dental data in Scotland

ISD publishes

- Information relating to the [general dental service workforce](#) in Scotland.
- 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.
- An annual [NHS Registration and Participation](#) report providing information on NHS General Dental Services (GDS) registrations and participation (contact with GDS).

The 2017 [Scottish Health Survey](#) covers dental health topics such as dental health problems and trends in prevalence of natural teeth.

The 2018 [Scottish Adult Oral Health Survey](#) provides analyses of oral health factors and demographic measures for adults.

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 & Social Care Information Centre (HSCIC) commissioned the ONS to undertake the 2013 Child Dental Health Survey, 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.</i> <i>This has been carried out every every ten years since 1973.</i>

As stated, the results from these reports 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 adults⁷. The [WHO Global Oral Health Database](#) and the [WHO Oral Health Country/Area Profile Programme](#)⁸ 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)⁹ [website](#).

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

Table A4.1 displays the Care Index from the 2019 survey for all 14 NHS Boards. This ranged from 42.9% in NHS Shetland to 60.0% in NHS Orkney.

Table A4.1: Care Index for P7 children in Scotland; by NHS Board¹⁻³

NHS Board	% of teeth with obvious caries experience treated restoratively
Ayrshire & Arran	43.5
Borders	59.0
Dumfries & Galloway	52.3
Fife	52.6
Forth Valley	52.8
Grampian	55.9
Greater Glasgow & Clyde	47.1
Highland	51.4
Lanarkshire	54.3
Lothian	47.4
Orkney	60.0
Shetland	42.9
Tayside	44.2
Western Isles	43.2
Scotland	50.0

Source: ISD NDIP Database

1. Care Index = (number of filled teeth) / (number of obviously decayed, missing and filled teeth) x 100
2. Numbers are based on the postcode of the child 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 2019

Tables A5.1- A5.8 show the 2019 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.

The following variables are presented:

- Mean age
- Weighted % no obvious decay experience
- Weighted mean D₃MFT
- Weighted mean D₃MFT for first permanent molar (D₃MFT_{fp}m)
- Weighted mean D₃T
- Weighted mean MT
- Weighted mean FT
- Weighted mean number of teeth decayed into the pulp
- Weighted mean number of sealed teeth
- Mean D₃MFT for children with D₃MFT>0

Results for the HSCPs are weighted by population deprivation categories specific to each NHS Board. 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 deprivation results for the HSCPs are **not** directly comparable with those in the main report.

The HSCPs are weighted by NHS Board deprivation categories so as to allow fair comparison within the NHS Board area. This is only applicable to NHS Boards with more than one HSCP, and therefore NHS Boards with only one HSCP are not reported, namely NHS Borders, NHS Dumfries & Galloway, NHS Fife, NHS Orkney, NHS Shetland and NHS Western Isles.

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

HSCP name	No. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
East Ayrshire	446	11.4	0.3	10.8	12.4
North Ayrshire	510	11.5	0.3	10.8	12.6
South Ayrshire	443	11.5	0.3	10.8	12.6

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
East Ayrshire	68.7	65.2	72.3
North Ayrshire	82.2	79.6	84.9
South Ayrshire	86.3	84.0	88.6

HSCP name	Weighted mean D ₃ MFT		
	Mean D ₃ MFT	Lower 95% CL	Upper 95% CL
East Ayrshire	0.7	0.6	0.8
North Ayrshire	0.4	0.3	0.4
South Ayrshire	0.3	0.2	0.4

HSCP name	Weighted mean D ₃ MFT for first permanent molar		
	Mean D ₃ MFT _{fp} m	Lower 95% CL	Upper 95% CL
East Ayrshire	0.6	0.5	0.7
North Ayrshire	0.3	0.3	0.4
South Ayrshire	0.2	0.2	0.3

HSCP name	Weighted mean D ₃ T		
	Mean D ₃ T	Lower 95% CL	Upper 95% CL
East Ayrshire	0.4	0.3	0.5
North Ayrshire	0.1	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	0.1
North Ayrshire	0.1	0.0	0.1
South Ayrshire	0.0	0.0	0.1

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

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
East Ayrshire	0.3	0.2	0.3
North Ayrshire	0.2	0.1	0.2
South Ayrshire	0.2	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	1.3	1.2	1.4
North Ayrshire	1.0	0.9	1.1
South Ayrshire	0.7	0.6	0.8

HSCP name	No. of children with obvious decay experience	Mean D ₃ MFT for children with obvious decay experience (D ₃ MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
East Ayrshire	139	2.2	2.0	2.5
North Ayrshire	94	2.0	1.8	2.3
South Ayrshire	67	2.2	1.8	2.6

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

HSCP name	No. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
Clackmannanshire and Stirling	867	11.5	0.3	10.8	12.3
Falkirk	1020	11.5	0.3	10.6	12.4

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
Clackmannanshire and Stirling	83.0	81.4	84.7
Falkirk	81.1	79.6	82.7

HSCP name	Weighted mean D ₃ MFT		
	Mean D ₃ MFT	Lower 95% CL	Upper 95% CL
Clackmannanshire and Stirling	0.4	0.3	0.4
Falkirk	0.4	0.3	0.4

HSCP name	Weighted mean D ₃ MFT for first permanent molar		
	Mean D ₃ MFTfpm	Lower 95% CL	Upper 95% CL
Clackmannanshire & Stirling	0.3	0.3	0.3
Falkirk	0.3	0.3	0.3

HSCP name	Weighted mean D ₃ T		
	Mean D ₃ T	Lower 95% CL	Upper 95% CL
Clackmannanshire and Stirling	0.2	0.1	0.2
Falkirk	0.1	0.1	0.1

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

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

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
Clackmannanshire and Stirling	0.2	0.1	0.2
Falkirk	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
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	0.8	0.7	0.9
Falkirk	0.7	0.6	0.7

HSCP name	No. of children with obvious decay experience	Mean D ₃ MFT for children with obvious decay experience (D ₃ MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
Clackmannanshire and Stirling	160	2.2	2.0	2.4
Falkirk	197	1.9	1.7	2.1

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

HSCP name	No. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
Aberdeen City	677	11.5	0.3	10.8	12.9
Aberdeenshire	986	11.5	0.3	10.9	12.5
Moray	598	11.5	0.3	10.7	12.8

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
Aberdeen City	80.0	77.5	82.5
Aberdeenshire	80.7	78.6	82.7
Moray	88.7	87.0	90.4

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

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

HSCP name	Weighted mean D ₃ T		
	Mean D ₃ T	Lower 95% CL	Upper 95% CL
Aberdeen City	0.1	0.1	0.2
Aberdeenshire	0.1	0.1	0.1
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

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

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
Aberdeen City	0.2	0.2	0.3
Aberdeenshire	0.2	0.2	0.2
Moray	0.1	0.1	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	0.0
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	0.6	0.6	0.7
Aberdeenshire	1.0	0.9	1.1
Moray	1.3	1.2	1.4

HSCP name	No. of children with obvious decay experience	Mean D ₃ MFT for children with obvious decay experience (D ₃ MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
Aberdeen City	141	2.2	2.0	2.5
Aberdeenshire	192	1.9	1.8	2.1
Moray	68	1.8	1.5	2.0

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

HSCP name	No. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
East Dunbartonshire	436	11.5	0.3	10.8	12.7
East Renfrewshire	435	11.5	0.3	10.8	12.4
Glasgow City	1,363	11.5	0.3	10.5	12.8
Inverclyde	442	11.5	0.3	10.8	12.5
Renfrewshire	439	11.5	0.3	10.8	12.6
West Dunbartonshire	452	11.5	0.3	10.8	12.4

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
East Dunbartonshire	80.2	77.0	83.4
East Renfrewshire	83.4	80.8	86.0
Glasgow City	72.8	70.7	74.8
Inverclyde	75.8	73.1	78.6
Renfrewshire	81.6	78.4	84.8
West Dunbartonshire	73.9	70.9	77.0

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

HSCP name	Weighted mean D ₃ MFT for first permanent molar		
	D ₃ MFTfpm	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.3	0.3	0.4
East Renfrewshire	0.3	0.3	0.4
Glasgow City	0.5	0.5	0.6
Inverclyde	0.4	0.4	0.5
Renfrewshire	0.3	0.2	0.4
West Dunbartonshire	0.4	0.4	0.5

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

HSCP name	Weighted mean D ₃ T		
	Mean D ₃ T	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.1	0.1	0.2
East Renfrewshire	0.2	0.1	0.2
Glasgow City	0.3	0.2	0.3
Inverclyde	0.3	0.2	0.3
Renfrewshire	0.1	0.1	0.1
West Dunbartonshire	0.2	0.2	0.3

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
East Dunbartonshire	0.1	0.0	0.1
East Renfrewshire	0.1	0.0	0.1
Glasgow City	0.1	0.0	0.1
Inverclyde	0.1	0.0	0.1
Renfrewshire	0.0	0.0	0.1
West Dunbartonshire	0.0	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	0.2	0.1	0.2
Glasgow City	0.3	0.3	0.3
Inverclyde	0.2	0.2	0.3
Renfrewshire	0.2	0.1	0.3
West Dunbartonshire	0.2	0.2	0.2

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

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	0.1
Inverclyde	0.0	0.0	0.0
Renfrewshire	0.0	0.0	0.0
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	0.9	0.8	1.0
East Renfrewshire	0.8	0.7	1.0
Glasgow City	0.8	0.7	0.9
Inverclyde	1.0	0.9	1.1
Renfrewshire	1.0	0.8	1.1
West Dunbartonshire	1.0	0.9	1.1

HSCP name	No. of children with obvious decay experience	Mean D ₃ MFT for children with obvious decay experience (D ₃ MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
East Dunbartonshire	85	2.0	1.7	2.3
East Renfrewshire	69	2.3	1.9	2.8
Glasgow City	382	2.3	2.2	2.5
Inverclyde	105	2.2	1.9	2.5
Renfrewshire	82	1.8	1.6	2.0
West Dunbartonshire	122	1.9	1.7	2.1

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

HSCP name	No. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
Argyll & Bute	278	11.6	0.3	11.0	12.5
Highland	414	11.6	0.3	10.9	12.5

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
Argyll & Bute	85.8	82.1	89.6
Highland	78.9	75.0	82.7

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

HSCP name	Weighted mean D ₃ MFT for first permanent molar		
	Mean D ₃ MFT _{fp} m	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 ₃ T		
	Mean D ₃ T	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.1	0.0	0.1
Highland	0.1	0.1	0.1

HSCP name	Weighted mean MT		
	Mean MT	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.0	0.0	0.1
Highland	0.1	0.1	0.2

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

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
Argyll & Bute	0.1	0.1	0.2
Highland	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
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	1.4	1.2	1.5
Highland	1.2	1.0	1.3

HSCP name	No. of children with obvious decay experience	Mean D ₃ MFT for children with obvious decay experience (D ₃ MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
Argyll & Bute	36	1.9	1.4	2.4
Highland	88	2.1	1.7	2.4

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

HSCP name	No. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
North Lanarkshire	615	11.5	0.3	10.6	12.6
South Lanarkshire	545	11.4	0.3	10.8	12.4

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
North Lanarkshire	78.0	75.0	81.1
South Lanarkshire	79.0	75.8	82.2

HSCP name	Weighted mean D ₃ MFT		
	Mean D ₃ MFT	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.5	0.4	0.5
South Lanarkshire	0.4	0.4	0.5

HSCP name	Weighted mean D ₃ MFT for first permanent molar		
	Mean D ₃ MFTfpm	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.4	0.4	0.5
South Lanarkshire	0.4	0.3	0.5

HSCP name	Weighted mean D ₃ T		
	Mean D ₃ T	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.1	0.1	0.2
South Lanarkshire	0.1	0.1	0.2

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

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

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
North Lanarkshire	0.3	0.2	0.3
South Lanarkshire	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
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	0.7	0.6	0.8
South Lanarkshire	0.8	0.7	0.9

HSCP name	No. of children with obvious decay experience	Mean D ₃ MFT for children with obvious decay experience (D ₃ MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
North Lanarkshire	133	2.1	1.9	2.3
South Lanarkshire	115	2.1	1.8	2.4

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

HSCP name	No. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
East Lothian	348	11.5	0.4	10.8	12.9
Edinburgh	766	11.5	0.3	10.8	12.6
Midlothian	355	11.5	0.3	10.8	12.6
West Lothian	448	11.5	0.3	10.8	12.7

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
East Lothian	83.9	80.9	87.0
Edinburgh	81.8	79.3	84.2
Midlothian	83.5	80.3	86.6
West Lothian	77.8	74.2	81.3

HSCP name	Weighted mean D ₃ MFT		
	Mean D ₃ MFT	Lower 95% CL	Upper 95% CL
East Lothian	0.3	0.2	0.4
Edinburgh	0.4	0.3	0.4
Midlothian	0.3	0.2	0.4
West Lothian	0.5	0.4	0.5

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

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

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

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	0.0	0.0	0.1
West Lothian	0.1	0.0	0.1

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
East Lothian	0.2	0.1	0.2
Edinburgh	0.2	0.1	0.2
Midlothian	0.2	0.1	0.2
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	0.1
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	1.1	0.9	1.3
Edinburgh	0.9	0.8	1.0
Midlothian	1.0	0.8	1.1
West Lothian	1.0	0.8	1.1

HSCP name	No. of children with obvious decay experience	Mean d ₃ mft for children with obvious decay experience (d ₃ mft >0)		
		Mean	Lower 95% CL	Upper 95% CL
East Lothian	61	2.0	1.7	2.3
Edinburgh	152	2.2	1.9	2.4
Midlothian	59	1.9	1.6	2.2
West Lothian	100	2.1	1.8	2.3

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

HSCP name	No. of children	Mean age			
		Mean	Std dev	Minimum	Maximum
Angus	338	11.6	0.3	10.9	12.5
Dundee	413	11.6	0.3	10.9	12.5
Perth & Kinross	358	11.7	0.3	11.0	12.5

HSCP name	Weighted % no obvious decay experience		
	%	Lower 95% CL	Upper 95% CL
Angus	78.6	74.7	82.5
Dundee	75.6	72.1	79.2
Perth & Kinross	83.6	80.2	87.0

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

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

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

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

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

HSCP name	Weighted mean FT		
	Mean FT	Lower 95% CL	Upper 95% CL
Angus	0.2	0.1	0.2
Dundee	0.2	0.2	0.3
Perth & Kinross	0.1	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	0.6	0.5	0.8
Dundee	0.6	0.5	0.7
Perth & Kinross	0.5	0.4	0.6

HSCP name	No. of children with obvious decay experience	Mean D ₃ MFT for children with obvious decay experience (D ₃ MFT >0)		
		Mean	Lower 95% CL	Upper 95% CL
Angus	73	2.0	1.8	2.3
Dundee	100	2.0	1.7	2.2
Perth & Kinross	59	2.2	1.8	2.6

The results are weighted by population SIMD2016 categories, specific to each NHS Board. This is different to the SIMD2016 used in the main report which used SIMD2016 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 oral health improvement programmes and assist in the development of local dental services.

It is worth noting that the percentage of "C" letters for P7 will tend to be lower than the percentage with no obvious decay experience in the Detailed NDIP results due to teeth from both the primary and permanent dentition being included in the Basic but not in the Detailed NDIP dataset.

Primary 1 Basic Data Scotland; 2019

During 2018/19, 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 50,593 P1 children were inspected (Table A6.1). This represents 84.3% of P1 children who attended mainstream Local Authority schools. Parents/carers were advised by letter of the oral health of their child.

Table A6.1: Primary 1 children inspected by NHS Boards during school year 2018/19; Basic Inspection¹⁻⁷

NHS Board	Estimated Primary 1 (P1) population	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	4,006	3,335	83.2	7.2	23.1	69.7
Borders	1,229	1,040	84.6	3.6	18.1	78.4
Dumfries & Galloway	1,432	1,226	85.6	5.1	24.0	70.9
Fife	4,151	3,481	83.9	5.7	24.5	69.8
Forth Valley	3,492	2,799	80.2	6.1	21.3	72.6
Grampian	6,446	5,357	83.1	6.8	17.3	75.8
Greater Glasgow & Clyde	13,156	11,074	84.2	8.8	24.5	66.8
Highland	3,352	2,777	82.9	7.5	18.5	74.0
Lanarkshire	7,568	6,624	87.5	7.7	21.8	70.5
Lothian	9,921	8,438	85.1	5.2	19.9	74.9
Orkney	221	217	98.2	0.0	11.5	88.5
Shetland	264	211	79.9	1.9	10.0	88.2
Tayside	4,492	3,768	83.9	5.8	23.6	70.6
Western Isles	271	246	90.8	2.0	19.5	78.5
Scotland	60,001	50,593	84.3	6.8	21.7	71.6

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. Primary 1 population is estimated using an aggregated population lookup file of children aged 5 (2017).
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 4,971 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; 2019

During 2018/19, all P7 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 51,639 P7 children were inspected (Table A6.2). This represents 90.9% of P7 children who attended mainstream Local Authority schools. Parents/carers were advised by letter of the oral health of their child.

Table A6.2: Primary 7 children inspected by NHS Boards during school year 2018/19; Basic Inspection¹⁻⁷

NHS Board	Estimated Primary 7 (P7) population	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	3,912	3,560	91.0	2.1	28.9	69.0
Borders	1,231	1,107	89.9	0.5	21.5	78.1
Dumfries & Galloway	1,553	1,455	93.7	2.3	21.7	76.0
Fife	4,091	3,548	86.7	1.6	27.5	70.9
Forth Valley	3,361	3,053	90.8	3.2	25.6	71.2
Grampian	6,062	5,309	87.6	1.3	21.5	77.2
Greater Glasgow & Clyde	11,731	11,165	95.2	2.3	28.8	68.9
Highland	3,465	3,009	86.8	0.9	18.3	80.8
Lanarkshire	7,482	6,949	92.9	2.4	26.4	71.3
Lothian	9,079	7,882	86.8	1.2	22.2	76.6
Orkney	237	219	92.4	0.0	10.1	90.0
Shetland	297	228	76.8	0.9	17.1	82.0
Tayside	4,039	3,889	96.3	1.3	28.0	70.7
Western Isles	300	266	88.7	2.3	25.2	72.6
Scotland	56,840	51,639	90.9	1.8	25.3	72.9

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. Primary 7 population is estimated using an aggregated population lookup file of children aged 11 (2017).
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 6,689 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.

Additional Support Needs P1 and P7 children Basic Data Scotland; 2019

Table A6.3: Numbers of children with Additional Support Needs (ASN)^{1,2} in Primary 1 and Primary 7 receiving a Basic Inspection (2019), and numbers of Special Schools or Unit/Classes they attended

NHS Board	Total no. of P1 children inspected	No. of Special Schools or Unit/Classes for children with ASN (P1)	Total no. of P7 children inspected	No. of Special Schools or Unit/Classes for children with ASN (P7)
Scotland	252	50	405	57

Source: ISD NDIP Database

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

Children with Additional Support Needs (ASN) who attended Special Schools or Units/Classes and were within the expected age range for P1 and P7 children 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). Table A6.3 shows figures for all Additional Support Needs (ASN) children attending Special Schools or Units/Classes and seen within the NDIP Basic Programme regardless of age.

Note: Many children identified as having ASN within the pupil census are in mainstream schools / mainstream classes and are thus already included in either Tables A6.1 and A6.2.

A data linkage research project is underway 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 the 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).

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:

L. M. D. Macpherson (Glasgow Dental School, University of Glasgow and NHS Greater Glasgow and Clyde).

D. I. Conway (Glasgow Dental School, University of Glasgow and Information Services Division, NHS National Services Scotland).

A. D. McMahon (Glasgow Dental School, University of Glasgow and Information Services Division, NHS National Services Scotland).

C. Watling (Information Services Division, NHS National Services Scotland).

A. Mahmoud (Information Services Division, NHS National Services Scotland).

E. J. O’Keefe (NHS Fife).

A. Trainer (Information Services Division, NHS National Services Scotland).

V. White (NHS Dumfries and Galloway).

M. Muir (NHS Ayrshire and Arran).

A8 – Publication Metadata

Metadata Indicator	Description
Publication title	National Dental Inspection Programme (NDIP) 2019.
Description	This report presents the results of the programme of children's dental inspections carried out in Scotland during school year 2018/19.
Theme	Dental care.
Topic	Children's dental health.
Format	PDF.
Data source(s)	2008/09, 2010/11, 2012/13, 2014/15, 2016/17, 2017/18, 2018/19 National Dental Inspection Programme databases.
Date that data are acquired	Various dates during school year 2018/19.
Release date	22 October 2019
Frequency	Annual.
Timeframe of data	School year ending June 2019; 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.
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 oral 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 oral disease prevalence at national and local levels.
Accuracy	These data are regarded as highly accurate as per the Kappa estimates agreement in Appendix A2 .
Completeness	These data are regarded as suitably complete. The Detailed inspection was carried out on 15,986 children, over 28.2% of the estimated P7 children from Local Authority Schools across Scotland. The Basic inspection saw 84.3% of P1's and 90.9% of P7's 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 published guidelines .
Coherence and clarity	Tables and charts are accessible via the ISD website .
Value type and unit of measurement	Various dental/epidemiological and demographic units of measurement.

Disclosure	The ISD Statistical Disclosure Protocol is followed.
Official Statistics designation	Official Statistics.
UK Statistics Authority Assessment	Not assessed at this time.
Last published	24 October 2017 (2018 report covered Primary 7 children).
Next published	19 October 2021 (2020 report will cover Primary 7 children).
Date of first publication	31 December 2003 (revised 3 rd March 2008).
Help email	nss.isd-dental-info@nhs.net
Date form completed	06/08/2019

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
Professor of Dental Public Health	L M D Macpherson	lorna.macpherson@glasgow.ac.uk	Members of Publication Writing Group
Consultant in Dental Public Health	E J O'Keefe	emmaokeefe@nhs.net	
Consultant in Dental Public Health	V White	valeriewhite@nhs.net	
Specialty Trainee in Dental Public Health	M Muir	morag.muir@nhs.net	

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.

ISD's statistical publications are currently classified as one of the following:

- 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)
- other (not Official Statistics)

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).