

Publication Report



Dental Statistics – HEAT Target H9: Fluoride varnishing for 3- and 4-year-olds

(Data as at 31st March 2013)

Publication date – 26th November 2013

Contents

Introduction	2
Key points	3
Results and Commentary	4
Glossary	10
List of Tables	11
Contact	12
Further Information	12
Rate this publication	12
A1 – Background Information	13
A2 – Publication Metadata (including revisions details)	14
A3 – Early Access details (including Pre-Release Access)	16
A4 – ISD and Official Statistics	17

Introduction

[Childsmile](#) is a national programme designed to improve the oral health of children in Scotland and to reduce inequalities in dental health and in access to dental services.

The [Nursery, School](#) and [Practice](#) elements of the *Childsmile* programme include the application of fluoride varnish among the services provided. Fluoride varnishing (FV) is shown to be effective in reducing tooth decay in children when used in combination with brushing teeth regularly with fluoride toothpaste. In the *Childsmile* Nursery and School programme, dental teams work in educational establishments focusing on children living in the most deprived local quintile as defined by [SIMD](#). FV can also be applied in NHS dental practices, and dentists are remunerated for providing this service to children.

This release provides information on the [application of FV to children's teeth](#). The recorded clinical activity is also being monitored under the Scottish Government's [HEAT target](#) (at least 60% of 3- and 4-year-old children in each SIMD quintile to receive at least two applications of FV per year by March 2014). These figures cover FV applications carried out in nurseries, schools and dental practices and are consolidated across the different settings using data linkage.

Key points

- The data presented here for Scotland and for the NHS boards are the numbers and percentages of 3- and 4-year-old children resident in that NHS board area who received two or more applications of FV in the previous year, along with the estimated populations of 3- and 4-year-old children, by deprivation quintile for the period 1st April 2012 to 31st March 2013.
- Nationally the total number of children receiving two or more FV treatments has increased from 8,873 3-year olds and 11,016 4-year olds in 2011/12 to 12,192 3-year olds and 13,068 4-year olds in 2012/13, an increase in the number of children of 37.4% and 18.6% respectively.
- The national percentage of 3 and 4 year olds receiving two or more FV treatments was 20.2% and 22.5% respectively, but there was much higher use of FV for children living more deprived SIMD quintiles than for children living in the less deprived quintiles.
- There was extensive variation between the NHS boards, but again children living in the more deprived SIMD quintiles had higher use of FV treatments.
- ISD reports these data quarterly on the HEAT dashboard, and based on trajectories made by each NHS board these figures are expected to increase – across quintiles – towards the March 2014 end-point (of this HEAT target's clinical activity), as *Childsmile* activity increases.

Results and Commentary

Tables 1 and 2 present the numbers and percentages of children aged 3 and 4 years old who had two or more FV treatments, carried out in nurseries, schools and dental practices for the period 1st April 2012 to 31st March 2013, along with the estimated populations.

Table 1: Number of children aged 3 who had two or more FV treatments, estimated population, and percentage of children who had two or more treatments, by SIMD quintile: April 2012 – March 2013.

Scotland SIMD (2012) Quintile Of Child	Children aged 3 who had 2 or more FV treatments	Estimated population of children aged 3	Percentage of children aged 3 who had 2 or more FV treatments
1 – most deprived	4,241	14,538	29.2%
2	2,782	12,133	22.9%
3	2,075	11,332	18.3%
4	1,793	11,505	15.6%
5 – least deprived	1,185	10,768	11.0%
Unknown	116	-	-
Total	12,192	60,276	20.2%

Source: ISD, MIDAS. Children aged three at the start of period of activity reported. Populations are mid-year population estimates for 2011 (NRS).

Table 2: Number of children aged 4 who had two or more FV treatments, estimated population, and percentage of children who had two or more treatments, by SIMD quintile: April 2012 – March 2013.

Scotland SIMD (2012) Quintile Of Child	Children aged 4 who had 2 or more FV treatments	Estimated population of children aged 4	Percentage of children aged 4 who had 2 or more FV treatments
1 – most deprived	5,181	13,494	38.4%
2	2,940	11,623	25.3%
3	2,023	10,979	18.4%
4	1,639	11,231	14.6%
5 – least deprived	1,096	10,828	10.1%
Unknown	189	-	-
Total	13,068	58,155	22.5%

Source: ISD, MIDAS. Children aged four at the start of period of activity reported. Populations are mid-year population estimates for 2011 (NRS).

The total number of children nationally receiving two or more FV treatments increased from 8,873 3-year olds and 11,016 4-year olds in 2011/12 to 12,192 (20.2%) 3-year olds and 13,068 (22.4%) 4-year olds in 2012/13, an increase in the number of children of 37.4% and 18.6% respectively.

The percentage of children receiving two or more FV treatments in each national SIMD quintile in 2012/13 increased on activity in 2011/12, though due to updated population and SIMD denominators between reports (2009 to 2012 mid-year estimates for this publication), percentage of children results are not directly comparable. Note that NRS 2011 mid-year

population estimates are used here, as datazone level 2012 population estimates required for SIMD analysis were unavailable at time of publication.

At a national level, children from more deprived SIMD quintiles were more likely to receive two or more FV treatments than children from less deprived quintiles. This may be due to the *Childsmile* programme’s targeting of schools and nurseries attended by children from more socioeconomically deprived backgrounds.

There was extensive variation in FV use between the NHS boards, both overall and by SIMD quintile. However, the same general trend is observed with children in more the deprived SIMD quintiles being more likely to receive two or more FV treatments. It is interesting to note that Orkney, Shetland and the Western Isles NHS Boards have higher use of FV treatments, which is likely to be due to their smaller populations meaning that treatments can be targeted more comprehensively. Figures for individual boards are in Tables 3-16, and can also be accessed in a [supplementary table](#).

Tables 3-16: Number of children aged 3 and 4 who had two or more FV treatments, estimated population, and percentage of children who had two or more treatments, by SIMD quintile for each NHS health board: April 2012 – March 2013.

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Ayrshire & Arran	3	1	317	966	32.8%
		2	117	877	13.3%
		3	92	782	11.8%
		4	113	725	15.6%
		5	83	640	13.0%
		Unknown	6	-	-
	4	1	373	927	40.2%
		2	153	830	18.4%
		3	81	781	10.4%
		4	89	737	12.1%
		5	79	667	11.8%
Unknown		5	-	-	

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Borders	3	1	98	276	35.5%
		2	37	252	14.7%
		3	26	223	11.7%
		4	38	229	16.6%
		5	34	259	13.1%
		Unknown	5	-	-
	4	1	142	245	58.0%
		2	62	257	24.1%
		3	30	238	12.6%
		4	43	244	17.6%
		5	39	268	14.6%
Unknown		3	-	-	

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Dumfries & Galloway	3	1	91	426	21.4%
		2	48	309	15.5%
		3	34	291	11.7%
		4	25	238	10.5%
		5	28	266	10.5%
		Unknown	3	-	-
	4	1	156	401	38.9%
		2	54	292	18.5%
		3	49	323	15.2%
		4	19	275	6.9%
		5	48	285	16.8%
Unknown	3	-	-		

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Fife	3	1	415	1,019	40.7%
		2	209	863	24.2%
		3	108	869	12.4%
		4	87	808	10.8%
		5	81	794	10.2%
		Unknown	3	-	-
	4	1	470	941	49.9%
		2	197	844	23.3%
		3	147	772	19.0%
		4	106	762	13.9%
		5	112	794	14.1%
Unknown	16	-	-		

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Forth Valley	3	1	172	813	21.2%
		2	99	710	13.9%
		3	63	696	9.1%
		4	56	700	8.0%
		5	35	602	5.8%
		Unknown	3	-	-
	4	1	192	811	23.7%
		2	99	636	15.6%
		3	57	698	8.2%
		4	44	666	6.6%
		5	57	621	9.2%
Unknown	6	-	-		

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Grampian	3	1	429	1,529	28.1%
		2	278	1,193	23.3%
		3	241	1,235	19.5%
		4	118	1,361	8.7%
		5	90	1,160	7.8%
		Unknown	14	-	-
	4	1	610	1,356	45.0%
		2	296	1,206	24.5%
		3	178	1,187	15.0%
		4	106	1,348	7.9%
		5	77	1,165	6.6%
Unknown		21	-	-	

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Greater Glasgow & Clyde	3	1	924	3,426	27.0%
		2	614	2,857	21.5%
		3	364	2,654	13.7%
		4	395	2,587	15.3%
		5	219	2,437	9.0%
		Unknown	19	-	-
	4	1	1,286	3,142	40.9%
		2	810	2,805	28.9%
		3	493	2,515	19.6%
		4	328	2,432	13.5%
		5	179	2,435	7.4%
Unknown		35	-	-	

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Highland	3	1	306	828	37.0%
		2	138	671	20.6%
		3	112	545	20.6%
		4	127	630	20.2%
		5	78	621	12.6%
		Unknown	7	-	-
	4	1	408	721	56.6%
		2	176	671	26.2%
		3	151	569	26.5%
		4	137	669	20.5%
		5	110	589	18.7%
Unknown		24	-	-	

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Lanarkshire	3	1	627	1,569	40.0%
		2	528	1,352	39.1%
		3	540	1,370	39.4%
		4	451	1,262	35.7%
		5	487	1,218	40.0%
		Unknown	21	-	-
	4	1	493	1,458	33.8%
		2	255	1,360	18.8%
		3	246	1,354	18.2%
		4	203	1,295	15.7%
		5	232	1,247	18.6%
Unknown		19	-	-	

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Lothian	3	1	589	2,415	24.4%
		2	274	1,956	14.0%
		3	231	2,046	11.3%
		4	153	1,841	8.3%
		5	135	1,721	7.8%
		Unknown	23	-	-
	4	1	760	2,188	34.7%
		2	323	1,709	18.9%
		3	263	1,960	13.4%
		4	199	1,706	11.7%
		5	152	1,725	8.8%
Unknown		34	-	-	

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Orkney	3	1	20	35	57.1%
		2	11	30	36.7%
		3	25	42	59.5%
		4	25	60	41.7%
		5	11	36	30.6%
		Unknown	1	-	-
	4	1	27	54	50.0%
		2	25	33	75.8%
		3	24	36	66.7%
		4	45	52	86.5%
		5	18	35	51.4%
Unknown		7	-	-	

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Shetland	3	1	30	47	63.8%
		2	15	54	27.8%
		3	31	43	72.1%
		4	26	44	59.1%
		5	27	44	61.4%
		Unknown	3	-	-
	4	1	31	51	60.8%
		2	17	43	39.5%
		3	25	55	45.5%
		4	27	55	49.1%
		5	18	61	29.5%
Unknown	6	-	-		

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Tayside	3	1	346	1,203	28.8%
		2	159	853	18.6%
		3	99	846	11.7%
		4	117	849	13.8%
		5	71	717	9.9%
		Unknown	7	-	-
	4	1	506	1,050	48.2%
		2	234	772	30.3%
		3	140	834	16.8%
		4	137	871	15.7%
		5	86	726	11.8%
Unknown	6	-	-		

Health Board	Age	Health Board SIMD (2012) Quintile Of Child	Number of children who had 2 or more FV treatments	Estimated population of children	Percentage of children who had 2 or more FV treatments
NHS Western Isles	3	1	17	44	38.6%
		2	15	56	26.8%
		3	18	47	38.3%
		4	35	58	60.3%
		5	24	51	47.1%
		Unknown	1	-	-
	4	1	23	51	45.1%
		2	27	42	64.3%
		3	23	70	32.9%
		4	42	62	67.7%
		5	35	75	46.7%
Unknown	4	-	-		

It is important to note that ISD reports these data quarterly on the HEAT dashboard, which presents the lowest of the ten available quintile scores across 3- and 4-year-olds for each period reported, and so that score is not representative of the wider activity within each NHS board or nationally. This is an accruing HEAT target, and based on trajectories made by each NHS board these figures are expected to increase – across quintiles – towards the March 2014 end-point (of this HEAT target’s clinical activity), as *Childsmile* activity increases.

Only since October 2011 have dentists been remunerated under the terms of NHS general dental services for providing *Childsmile* fluoride varnishing. Additionally, population denominators have been updated, and minor deficits in data submitted to ISD which may result in an element of undercounting are being regularly reviewed in collaboration with partners across the service.

Glossary

SIMD	Scottish Index of Multiple Deprivation
HEAT	Health Improvement, Efficiency, Access and Treatment
MIDAS	Management Information & Dental Accounting System
FV	Fluoride Varnish
NRS	National Records for Scotland

List of Tables

Table No.	Name	Time period	File & size
1.	Fluoride Varnish Statistics by NHS board	April 2012 – March 2013	Excel - 39kb

Contact

Craig Collins

Senior Information Analyst

craig.collins@nhs.net

0141 282 2124

Stephen Goold

Principal Information Analyst

stephen.goold@nhs.net

0131 275 6316

Further Information

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

Rate this publication

[Click here](#) to provide feedback and rate this publication.

Appendix

A1 – Background Information

These HEAT target Official Statistics releases will be published annually until 2014. The database managed by ISD records the number of 3- and 4-year olds in each SIMD quintile of an NHS board who have received fluoride varnish applications. Performance “scores” are given as the number of children treated two or more times divided by the total population of 3- and four-year-olds.

The data presented in this report for each NHS board are the level (percentage) of population who received at least two applications of fluoride varnish in each deprivation quintile of 3- or 4-year-old children resident in that NHS board area in the previous year. The Scottish Government’s [HEAT target](#) is for “at least 60% of 3- and 4-year-old children in each SIMD quintile to receive at least two applications of fluoride varnish per year by March 2014”. This release covers the period 1st April 2012 to 31st March 2013.

A2 – Publication Metadata (including revisions details)

Metadata Indicator	Description
Publication title	Dental Statistics – Fluoride varnishing for 3- and 4-year-olds.
Description	This release provides information, as part of the <i>Childsmile</i> programme, on the application of fluoride varnish to children's teeth and specifically on the Scottish Government's HEAT target (at least 60% of 3- and 4-year-old children in each SIMD quintile to receive at least two applications of fluoride varnish per year by March 2014).
Theme	Dental Care.
Topic	HEAT Target: fluoride varnishing.
Format	PDF and external Excel file.
Data source(s)	MIDAS; <i>Childsmile</i> database, Health Informatics Centre, University of Dundee; <i>Childsmile</i> database, Glasgow Dental Hospital and School.
Date that data are acquired	24 th July 2013.
Release date	26 th November 2013.
Frequency	Annual
Timeframe of data and timeliness	Year of 1 st April 2012 to 31 st March 2013; currently 8 months in arrears.
Continuity of data	Data recorded and analysed quarterly since 2010.
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 the future.
Revisions relevant to this publication	None
Concepts and definitions	See glossary and notes
Relevance and key uses of the statistics	Making information publicly available for planning, provision of services, research, etc.
Accuracy	Data are generally accurate and timeous.
Completeness	Small element of data incompleteness may result in under-counting. Partner organisations regularly review this in collaboration with ISD.
Comparability	n/a
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines .
Coherence and clarity	Single relevant external table supplied. Coherent and consistent with table in publication body.
Value type and unit of measurement	Number of 3- or 4-year-old children who received at least two applications of fluoride varnish in the previous year, estimated population of 3- or 4-year-old children, and percentage of population who received at least two applications of fluoride varnish, by deprivation quintile of residence nationally and in each NHS board area in the previous year.
Disclosure	The ISD protocol on Statistical Disclosure Protocol is followed.

Official Statistics designation	Official Statistics
UK Statistics Authority Assessment	Not assessed at this time.
Last published	27 th November 2012
Next published	25 th November 2014
Date of first publication	27 th November 2012
Help email	NSS.ISD-Dental-Info@nhs.net
Date form completed	11 th November 2013

A3 – 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.

Standard Pre-Release Access:

Scottish Government Health Department
NHS Board Chief Executives
NHS Board Communication leads

Extended Pre-Release Access

Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

Scottish Government Health Department (Analytical Services Division)

A4 – 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](#).