

# **Scottish Adult Oral Health Survey: Pilot Study 2016**

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## Introduction

### The Scottish Adult Oral Health Survey (SAOHS) Pilot Project 2016

The Scottish Adult Oral Health Survey (SAOHS) was carried out as a pilot project in 2015/16 with the support and approval of the Scottish Dental Epidemiology Co-ordinating Committee (SDECC). The principal aim of this pilot project was to assess the feasibility of conducting a survey of adult oral health across Scotland, within an age defined group of people attending dental primary care for an examination appointment. It was anticipated that, if successful, this would be the first stage in the development of a rolling SAOHS programme within different age groups over time. Prior to this report, the most recent epidemiological survey which included a professional oral examination of the oral health of Scotland's adult population was carried out as part of the 1998 UK Adult Dental Health Survey (ADHS)<sup>1</sup>.

The long term purpose of the survey is to record levels of adult oral health across Scotland in order to inform policy, plan services, improve and maintain health and to monitor changes over time. Although this project was fundamentally testing an alternative approach for gathering epidemiological data, it was also designed to provide a picture of oral health for an under-reported cohort of the population: adults aged 45 years and over.

The SAOHS Group, led by the Chief Dental Officer, agreed to look at an alternative way to better utilise routine dental data collected daily within NHS primary care in Scotland. A web-based oral health data collection system was developed by National Services Scotland (NSS) which allowed dentists to record levels of adult oral health and directly transfer this information safely and securely to Information Services Division (ISD) for analysis. ISD has worked closely with dentists and other staff from the NHS Boards, NHS Education for Scotland and the Universities of Glasgow and Dundee to pilot this new method as a means of collecting routine adult oral health information.

Data were collected as part of dental examinations in the NHS [General Dental Service](#) (GDS) and [Public Dental Service](#) (PDS). Piloting of the SAOHS began in December 2015 when participating dentists were asked to collect and submit oral health data from 20 patients aged 45 years and over who were attending the service for either a new patient or recall examination appointment. A notable limitation of the data reported here is therefore that it represents only those people who sought a dental examination either as a new or emergency patient, or as a regular patient of the GDS or PDS. [ISD Dental Statistics](#) show that as at 30 September 2016 a high percentage (85%) of adults aged 45 years and over in Scotland are registered with a dentist, and of those registered 72% of adults aged 45 years and over participated in GDS, by attending a dentist for examination or treatment, within the last two years<sup>2</sup>.

This report focuses on the results of the pilot project carried out between December 2015 and March 2016 (noted as 2016 throughout the report). Details of the methodology used to collect and analyse these data can be found in [Appendix A1](#).

The survey questions used by dentists to collect this information can be found in [Appendix A2](#), and details of the characteristics of the dental practices of the participating dentists can be found in [Appendix A3](#).

## Key Definitions

For key definitions of terms used in this report please see the [glossary](#). Diagrams in appendices illustrate key terms to aid understanding: structure of a tooth and dental implant ([Appendix A5](#)), calculation of oral hygiene scores ([Appendix A6](#)) and calculation of BPE scores ([Appendix A7](#)).

## Demographic Measures

Several demographic measures are reported: urban/rurality (using [\[six fold\] Urban Rural Classification](#)<sup>3</sup>), ethnicity (using [Scotland's New Ethnicity Classification](#)<sup>4</sup>) and an area-based measure of deprivation (using the [Scottish Index of Multiple Deprivation](#)<sup>5</sup>), relating to the participating patients. These measures are defined in the [glossary](#).

## Specific Goals of the SAOHS

The aim of this project was to conduct a pilot survey of adult oral health across Scotland, within an age defined group (45+ years) of people attending dental primary care for an examination, as the first stage in the development of a rolling SAOHS programme. The survey aimed to address the following objectives:

- To examine the feasibility of collecting adult oral health data and establish appropriate methodologies;
- To work in conjunction with primary care dental practitioners to collect data;
- To gather population oral health information as part of dental examinations in the NHS GDS and PDS;
- To assess the condition of the mouth in adults, including the level of dental restorations, periodontal health and plaque control;
- To assess current oral health behaviours (smoking, alcohol consumption and dental attendance);
- To allow examination, in due course, of changes over time in oral health and behaviours.

## Main Points

- This pilot study has shown that collecting survey data in relation to oral health and behaviours of patients aged 45 years and over as part of a dental examination is feasible.
- In this pilot survey of 1,867 patients seen by 92 dentists, 96% of adults aged 45 years and over who attended primary dental care for an examination had at least one natural tooth.
- Two-thirds (67%) of those with at least one natural tooth had a functional dentition: having enough teeth for general oral function, including being able to eat comfortably.
- Older patients and those living in the more deprived areas of Scotland were less likely to have a functional dentition. In other words, they did not have enough teeth for general oral function such as eating comfortably.
- Adults living in the most deprived areas were more likely to smoke cigarettes in this pilot study. There was a higher level of gum disease recorded for those adults who smoke cigarettes compared to those who do not.
- This pilot will inform the future collection of adult oral health data in Scotland.

## Results and Commentary

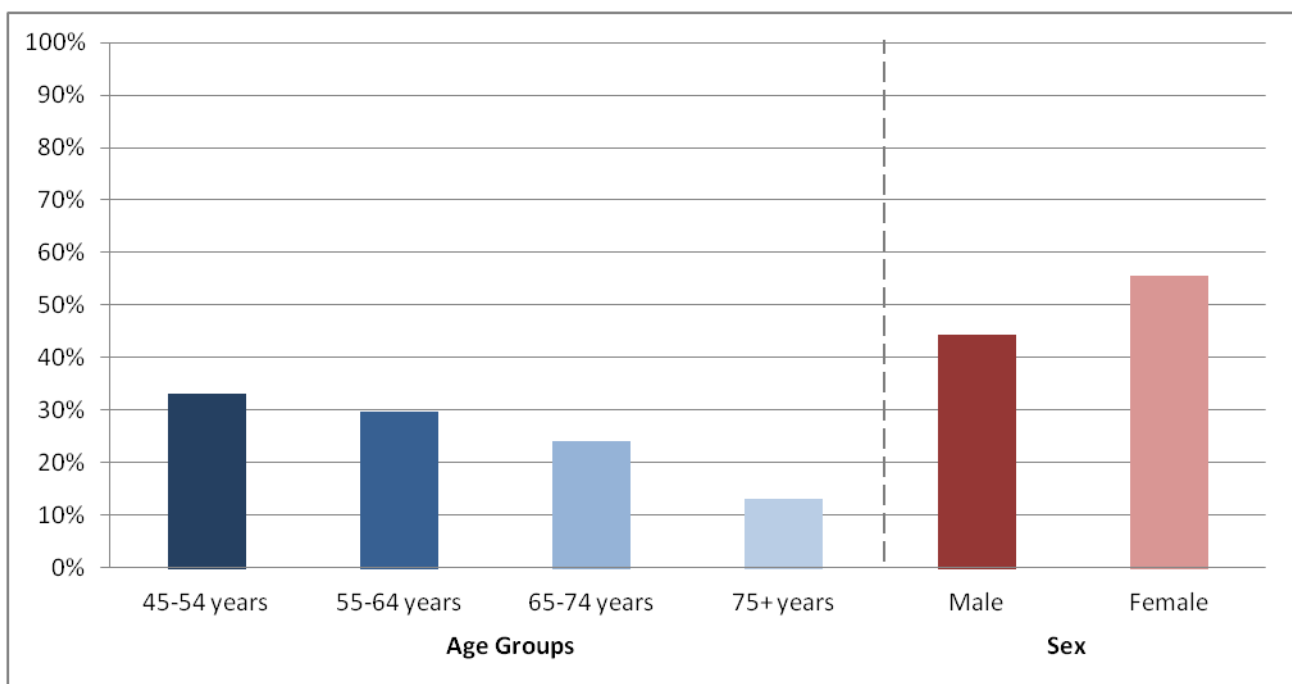
The following information provides national summary pilot data for 1,867 patients collected from 92 dentists who participated in the SAOHS 2016. Dentists were asked to submit data for 20 patients. Fifteen dentists submitted data for more than 20 patients, with the maximum being data from 25 patients submitted by one dentist. Details of the characteristics of dental practices and the service types under which the dentists who participated in the study practice can be found in [Appendix A3](#).

## Characteristics of Patients Examined

### Age and Sex

Of the 1,867 patients aged 45 years and over who participated, 44% were male and 56% were female. This is a slight over-representation of females when compared to the Scottish population ([Appendix A4](#)). Figure 1 presents the distribution of patients across age categories and by sex. Most were aged under 65 with only 13% aged 75 or over. Comparisons between the SAOHS pilot data and the Scottish population aged 45 years and over can be found in [Appendix A4](#).

**Figure 1: Percentage of patients examined according to age and sex**



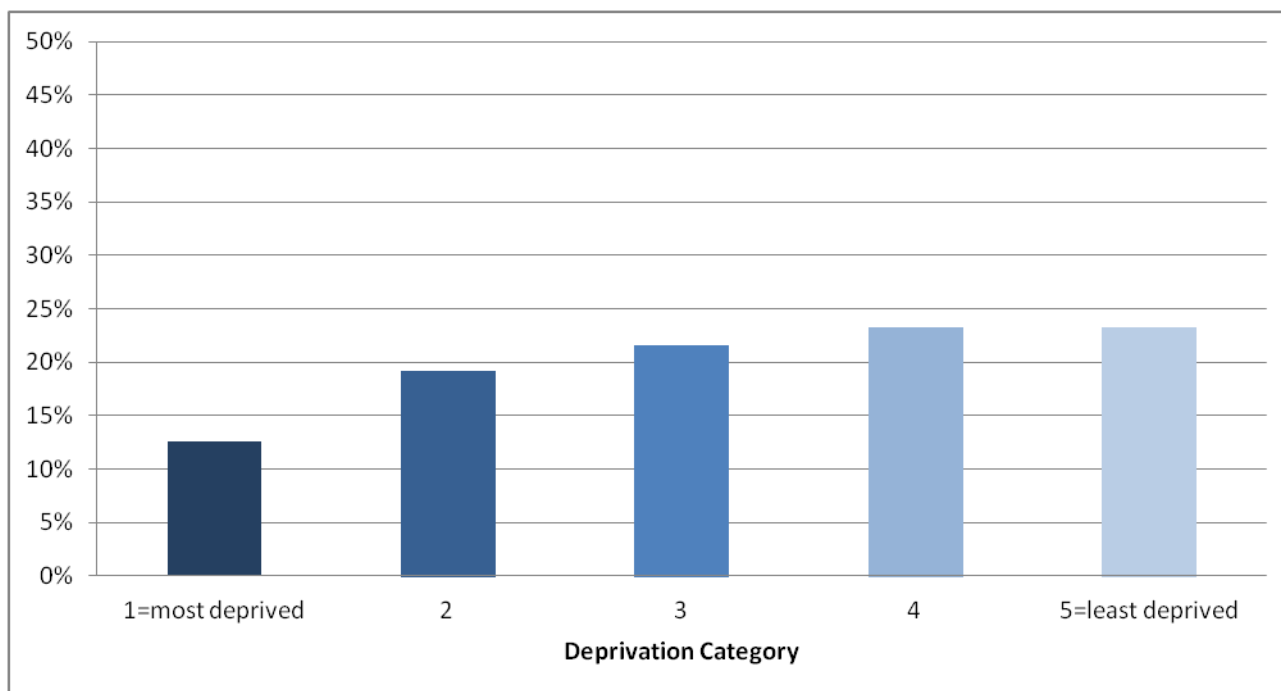
Source: ISD SAOHS database

Additional information relating to the age and sex of patients can be found in [Table 1](#).

## Deprivation

Figure 2 shows the percentage of patients examined within each area-based [deprivation category](#), using the [Scottish Index of Multiple Deprivation](#), based on their home postcode. There was an under-representation in patients from the most deprived areas. Comparisons between the SAOHS pilot data and the Scottish population aged 45 years and over in terms of the breakdown of deprivation categories can be found in [Appendix A4](#).

**Figure 2: Percentage of patients examined by national deprivation category**



Source: ISD SAOHS database

Additional information relating to the deprivation categories of patients can be found in [Table 1](#).

## Age and Deprivation

Table 1a shows the percentages and numbers of patients examined in each age and deprivation category. This table provides the denominators for many of the following tables in the report.

**Table 1a. Percentage (Number) of patients examined in each age and deprivation category**

SIMD Category	Age (years)				Total % (Number)
	45-54 % (Number)	55-64 % (Number)	65-74 % (Number)	75+ % (Number)	
1	13.6 (84)	12.4 (69)	12.0 (54)	11.5 (28)	12.6 (235)
2	19.9 (123)	17.8 (99)	19.8 (89)	18.8 (46)	19.1 (357)
3	22.2 (137)	22.1 (123)	23.0 (103)	16.0 (39)	21.5 (402)
4	23.4 (145)	23.0 (128)	23.2 (104)	23.8 (58)	23.3 (435)
5	20.6 (127)	24.5 (136)	21.8 (98)	29.9 (73)	23.3 (434)
Unknown	0.3 (2)	0.2 (1)	0.2 (1)	0.0 (0)	0.2 (4)
<b>Total</b>	<b>100.0 (618)</b>	<b>100.0 (556)</b>	<b>100.0 (449)</b>	<b>100.0 (244)</b>	<b>100.0 (1,867)</b>

Source: ISD SAOHS database

1. SIMD1 = most deprived; SIMD5 = least deprived

## NHS Board

Table 1b shows the breakdown of the 1,867 patients by NHS Board of residence. Comparisons between the SAOHS pilot data and the Scottish population aged 45 years and over can be found in [Appendix A4](#).

**Table 1b. Distribution of patient sample across NHS Boards**

NHS Board	Number	Percentage (%)
Ayrshire & Arran	93	5.0
Borders	83	4.4
Dumfries & Galloway	82	4.4
Fife	145	7.8
Forth Valley	136	7.3
Grampian	220	11.8
Greater Glasgow & Clyde	408	21.8
Highland	70	3.7
Lanarkshire	143	7.7
Lothian	285	15.3
Orkney	40	2.1
Shetland	41	2.2
Tayside	99	5.3
Western Isles	19	1.0
Unknown	3	0.2
<b>Scotland</b>	<b>1,867</b>	<b>100</b>

Source: ISD SAOHS database

## Ethnicity

Using the [Scottish Official Statistics Ethnicity Categories 2011](#), patients were asked to indicate which ethnicity category they felt most represented them. Of the sample, 87% identified with being 'White Scottish' or 'White British', 7% as 'White other' and 2% in the other ethnicity categories. This question was not answered by 4% of respondents. Comparisons between the SAOHS pilot data and the Scottish population aged 45 years and over can be found in [Appendix A4](#).

## Urban/Rural Classification

The majority of patients reported living in large urban areas (33%) or other urban areas (34%). Of other area types, patients tended to live in accessible locations (22%), similar to the Scottish population aged 45 years and over ([Appendix A4](#)).



## Oral Health Behaviours

### Smoking Status

Patients were asked to report their smoking status: 'never smoked', 'current smoker' or 'previous smoker'. Table 2 shows the breakdown of these categories by sex of the patient. Overall, 14% of patients said they were current smokers.

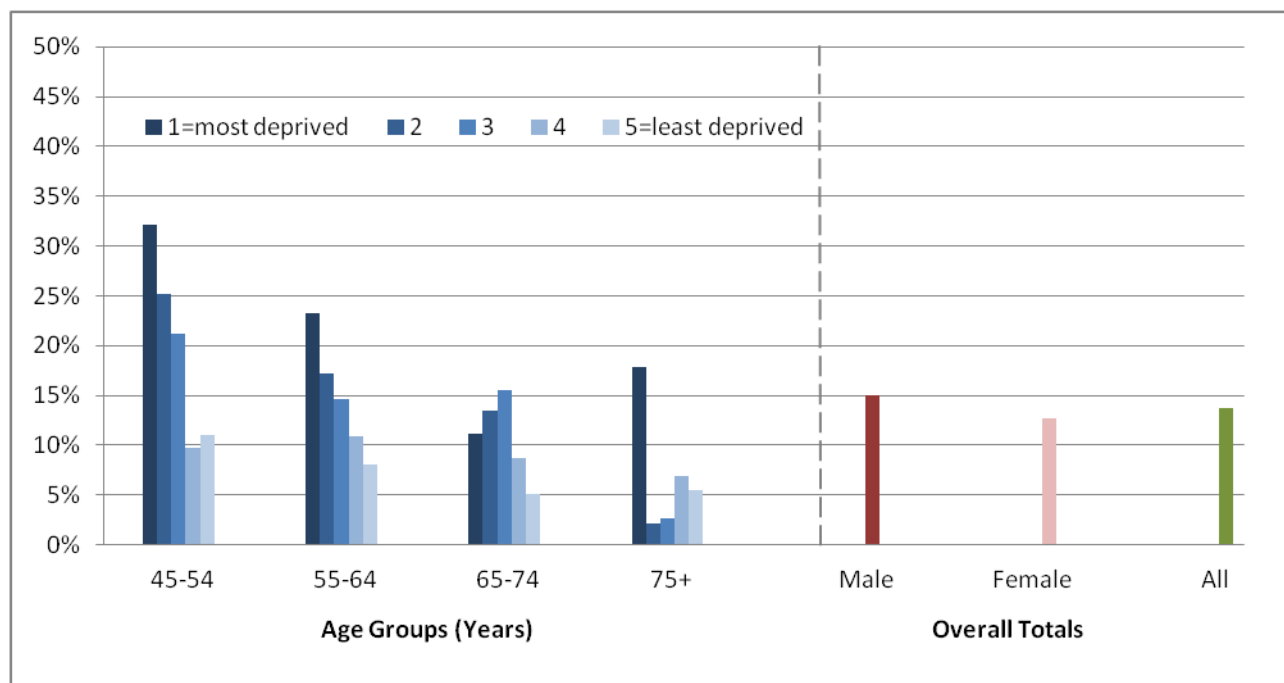
**Table 2. Smoking status by sex of patients examined**

Smoking Status	Sex		
	Male % (Number)	Female % (Number)	Total % (Number)
Never Smoked	48.3 (400)	56.5 (587)	52.9 (987)
Current Smoker	15.0 (124)	12.7 (132)	13.7 (256)
Previous Smoker	36.7 (304)	30.8 (320)	33.4 (624)
<b>Total</b>	<b>100.0 (828)</b>	<b>100.0 (1,039)</b>	<b>100.0 (1,867)</b>

Source: ISD SAOHS database

Figure 3 shows the percentage of patients examined who currently smoke according to sex, age and deprivation category. Generally, patients from the most deprived areas were much more likely to be a current smoker than in those from the least deprived areas.

**Figure 3: Percentage of patients examined who currently smoke according to sex, age and deprivation category**



Source: ISD SAOHS database

Additional information relating to patients who currently smoke by age, deprivation category and sex can be found in [Table 2a](#); and all smoking statuses by age and deprivation category in [Table 2b](#).

## Chewing Tobacco

Of all patients who participated, less than 1% reported ever having used chewing tobacco, paan, gutkha, supari or betel quid.

## Alcohol Consumption

Patients were asked to indicate how often during the past year they consumed alcohol above the recommended alcohol limits (8 or more units for males; 6 or more for females) on a single occasion. Table 3 shows that 20% of males and 11% of females reported consuming more than the recommended alcohol limit on a single occasion, at least weekly, in the last year. This criterion of 'at least weekly' has been used in this report to define 'risky drinking'.

**Table 3. Frequency of consuming (>=6 if female; >=8 if male)<sup>a</sup> units of alcohol on a single occasion in the last year, according to sex**

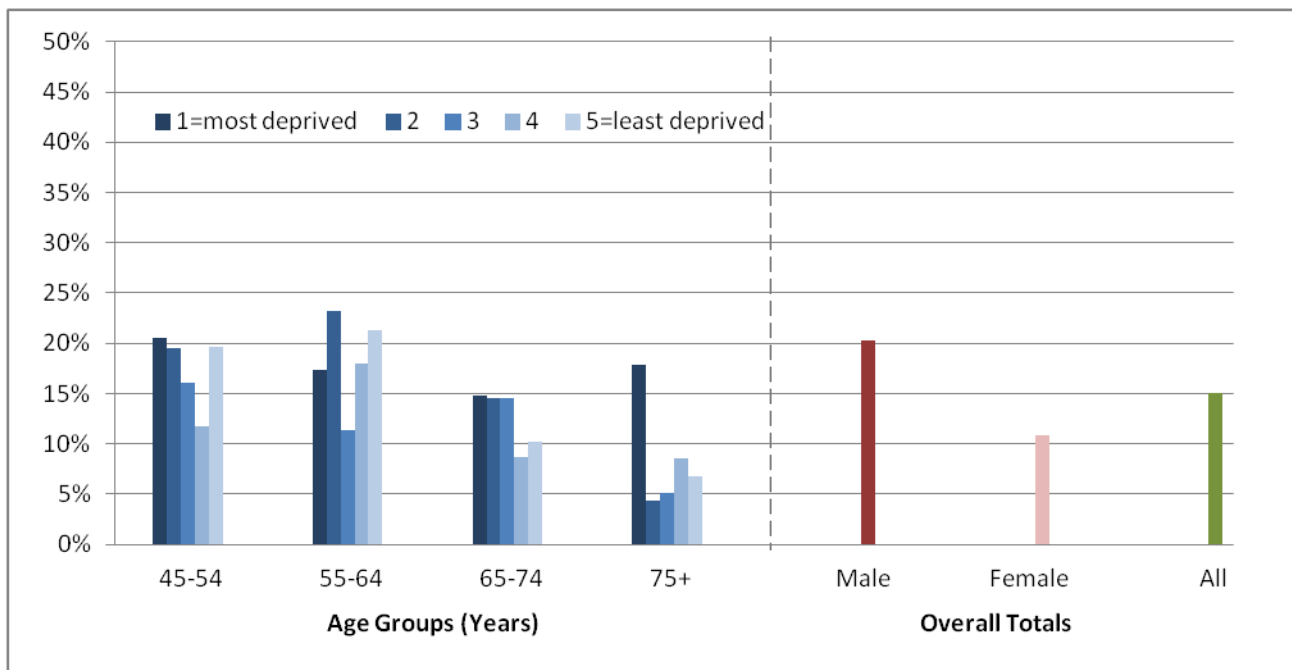
Alcohol Intake Categories	Sex		
	Male % (Number)	Female % (Number)	Total % (Number)
Never	37.4 (310)	51.1 (531)	45.0 (841)
Less than monthly	28.5 (236)	27.9 (290)	28.2 (526)
Monthly	13.6 (113)	10.1 (105)	11.7 (218)
Weekly	18.8 (156)	9.8 (102)	13.8 (258)
Daily or almost daily	1.4 (12)	1.0 (10)	1.2 (22)
Unknown	0.1 (1)	0.1 (1)	0.1 (2)
<b>Total</b>	<b>100.0 (828)</b>	<b>100.0 (1,039)</b>	<b>100.0 (1,867)</b>

Source: ISD SAOHS database

a. These recommended alcohol units were appropriate at the time the SAOHS was conducted. UK Chief Medical Officers have since published new guidelines: <http://www.gov.scot/Topics/Health/Services/Alcohol/safer-drinking>

Figure 4 shows the percentage of patients drinking alcohol at 'risky' levels by sex, age and deprivation category.

**Figure 4: Percentage of patients examined reporting ‘risky drinking’<sup>a</sup> according to sex, age and deprivation category**



Source: ISD SAOHS database

a. ‘Risky drinking’ is defined in this report as consuming more than the recommended alcohol limit on a single occasion, at least weekly, in the last year.

Additional information relating to ‘risky drinking’ by age, deprivation category and sex of patients examined can be found in [Table 3a](#), and all alcohol consumption categories by age, deprivation category and sex of patients examined in [Table 3b](#).

### Alcohol Consumption and Smoking Status

Table 4 shows the association between current smoking status and reported consumption of alcohol at ‘risky’ levels in the last year. Only 3% of patients were positive for both risk factors.

**Table 4. Association between current smokers and “risky drinking”<sup>a,b</sup>**

‘Risky’ alcohol consumption	Patient is a Current Smoker		
	No % (Number)	Yes % (Number)	Total % (Number)
No	74.2 (1,384)	10.8 (201)	85.0 (1,585)
Yes	12.1 (225)	2.9 (55)	15.0 (280)
<b>Total</b>	<b>86.3 (1,609)</b>	<b>13.7 (256)</b>	<b>100.0 (1,865)</b>

Source: ISD SAOHS database

a. Two patients did not answer the question regarding alcohol consumption.

b. ‘Risky drinking’ is defined in this report as consuming more than the recommended alcohol limit on a single occasion, at least weekly, in the last year.

## Anxiety about Visiting the Dentist

Patients were asked to indicate how they feel about visiting the dentist. Of those who participated in the survey, 68% of males and 55% of females reported not experiencing any anxiety about visiting a dentist (Table 5).

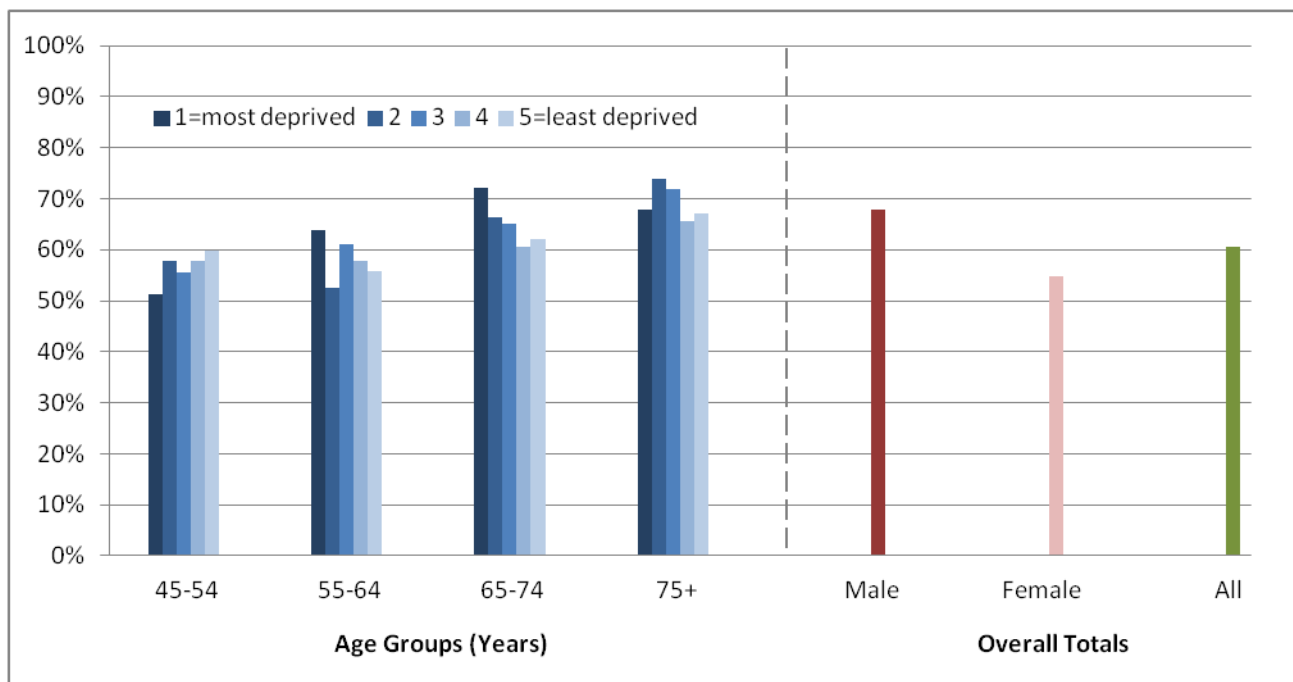
**Table 5. Anxiety level when visiting the dentist by sex of patients examined**

Anxiety	Sex		
	Male % (Number)	Female % (Number)	Total % (Number)
Not anxious	67.9 (562)	54.8 (569)	60.6 (1,131)
Slightly anxious	21.1 (175)	26.1 (271)	23.9 (446)
Fairly anxious	7.6 (63)	10.1 (105)	9.0 (168)
Very anxious	2.2 (18)	5.6 (58)	4.1 (76)
Extremely anxious	1.2 (10)	3.5 (36)	2.4 (46)
<b>Total</b>	<b>100.0 (828)</b>	<b>100.0 (1,039)</b>	<b>100.0 (1,867)</b>

Source: ISD SAOHS database

Figure 5 provides a breakdown of those patients who reported not experiencing any anxiety about visiting a dentist by sex and within each age group, according to deprivation category.

**Figure 5: Percentage of patients not anxious at visiting the dentist according to sex, age and deprivation category**



Source: ISD SAOHS database

Additional information relating to patients reporting no anxiety by age, deprivation category and sex can be found in [Table 5a](#), and all patient anxiety levels by age and deprivation category in [Table 5b](#).

### Regular Attendance at a Dentist

Patients were asked when they had last seen a dentist before this examination. The majority of patients participating in the survey reported attending a dentist at least once within the last year prior to this examination (85% of males and 87% of females; Table 6).

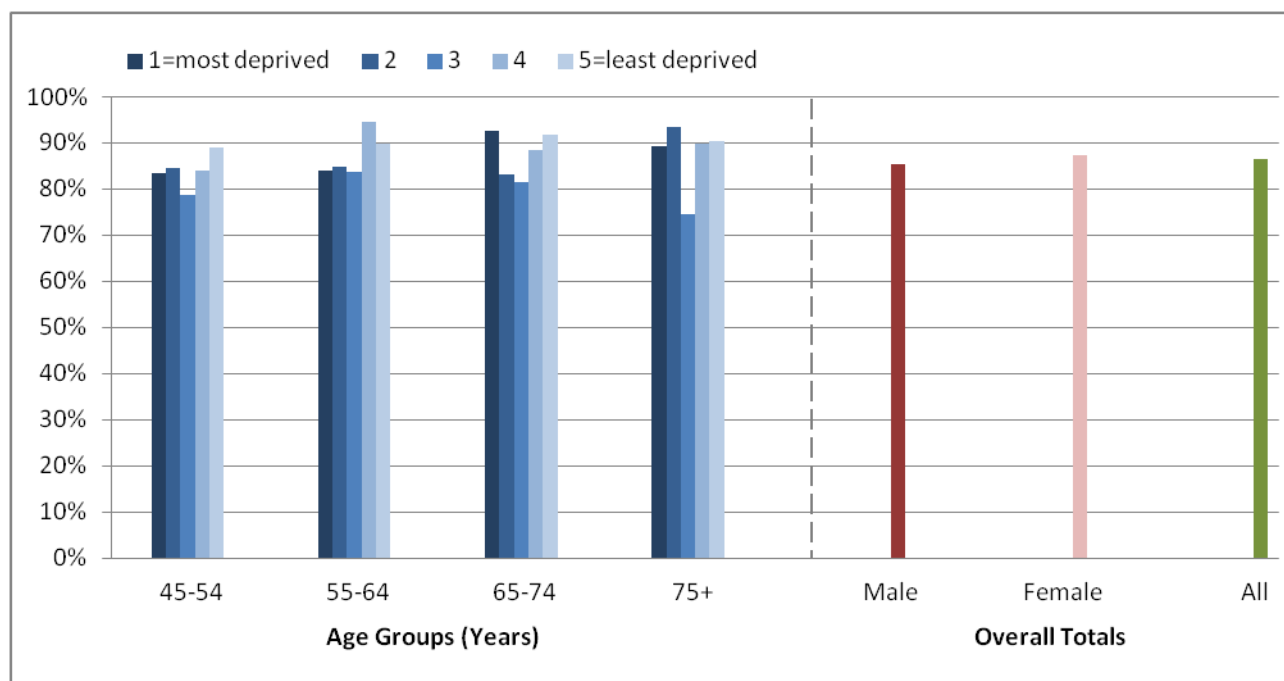
**Table 6. Time since last visit to the dentist, prior to this examination, by sex of patients examined**

Last Visit to a Dentist prior to this exam	Patient Sex		
	Male % (Number)	Female % (Number)	Total % (Number)
Within the last 6 months	46.4 (384)	46.1 (479)	46.2 (863)
6 months to 1 year ago	38.9 (322)	41.1 (427)	40.1 (749)
1 to 2 years ago	7.4 (61)	8.1 (84)	7.8 (145)
More than 2 years ago	6.9 (57)	4.6 (48)	5.6 (105)
Never been to a dentist	0.5 (4)	0.0 (0)	0.2 (4)
Unknown	0.0 (0)	0.1 (1)	0.1 (1)
<b>Total</b>	<b>100.0 (828)</b>	<b>100.0 (1,039)</b>	<b>100.0 (1,867)</b>

Source: ISD SAOHS database

Figure 6 shows the percentage of patients who attended the dentist at least once within the last year, prior to this examination, by sex and for each age group by deprivation category.

**Figure 6: Percentage of patients examined who reported visiting a dentist within the last year prior to this examination according to sex, age and deprivation category**



Source: ISD SAOHS database

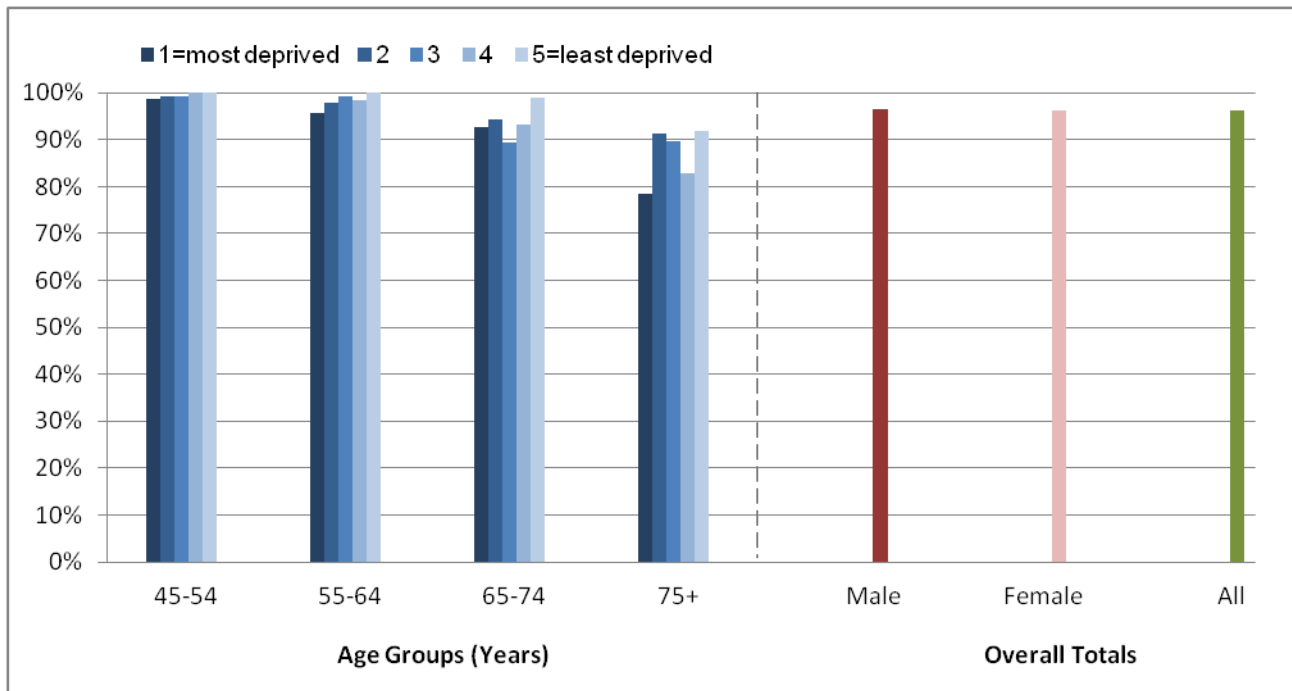
Additional information relating to a patient’s last visit to the dentist within the last year by age, deprivation category and sex can be found in [Table 6a](#), and all patients’ last visit to the dentist by age and deprivation category in [Table 6b](#).

## Intra-Oral Examination Findings

### Dentate Status

Figure 7 shows the percentage of patients with at least one natural tooth (patients in this group are said to be [dentate](#)) by sex, age and deprivation category. Overall, 96% (1,798) of patients who participated were dentate. The percentages of dentate patients decrease with increasing age.

**Figure 7: Percentage of patients examined who were dentate according to sex, age and deprivation category**



Source: ISD SAOHS database

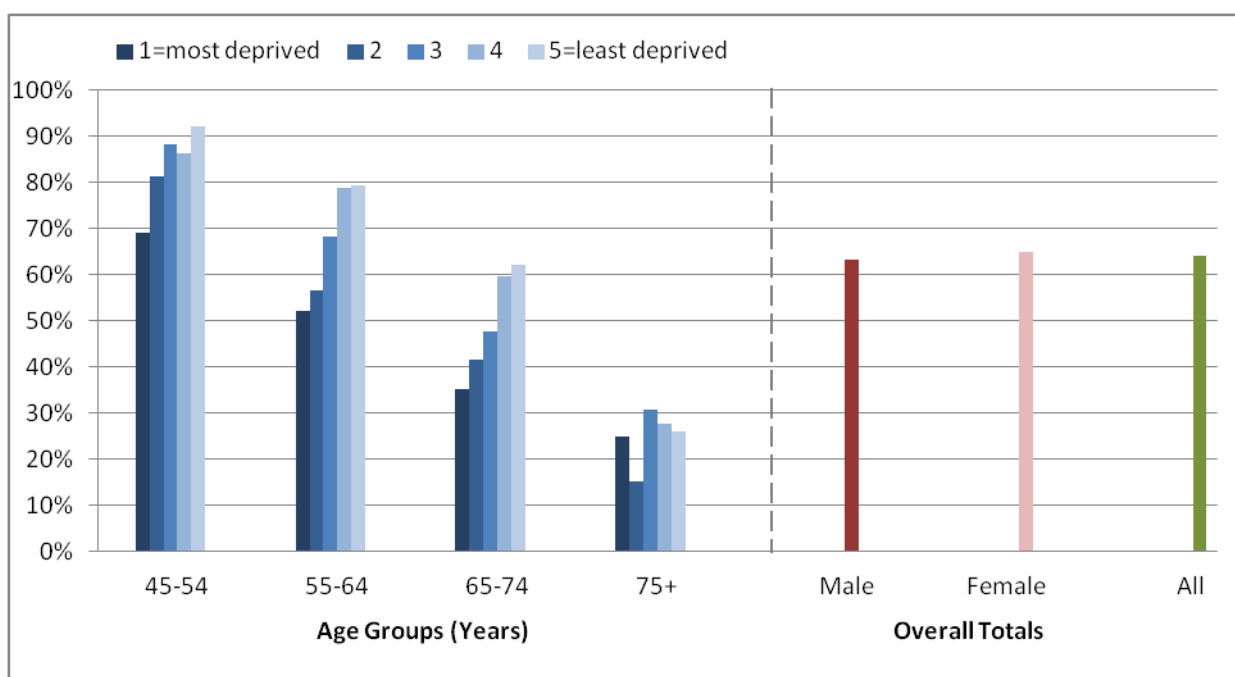
Additional information relating to patients' dentate/edentate status by age, deprivation category and sex can be found in [Table 7a](#).

## Functional Dentition

The number of teeth consistent with a [functional dentition](#) is widely accepted to be 21 or more natural teeth<sup>6</sup>. Although this figure is somewhat arbitrary, evidence exists to indicate that 21 or more natural teeth enables most dentate individuals to eat what they want without the need for a removable partial denture<sup>7</sup>.

The percentage of the 1,798 dentate patients who had at least 21 natural teeth is 67% (1,199). Figure 8 gives a breakdown by sex, age and deprivation category. As can be seen, the percentage of dentate patients with a functional dentition decreases with age. In general, a higher percentage of dentate patients in the least deprived areas have a functional dentition than in the most deprived areas.

**Figure 8: Percentage of dentate patients examined with at least 21 teeth according to sex, age and deprivation category**



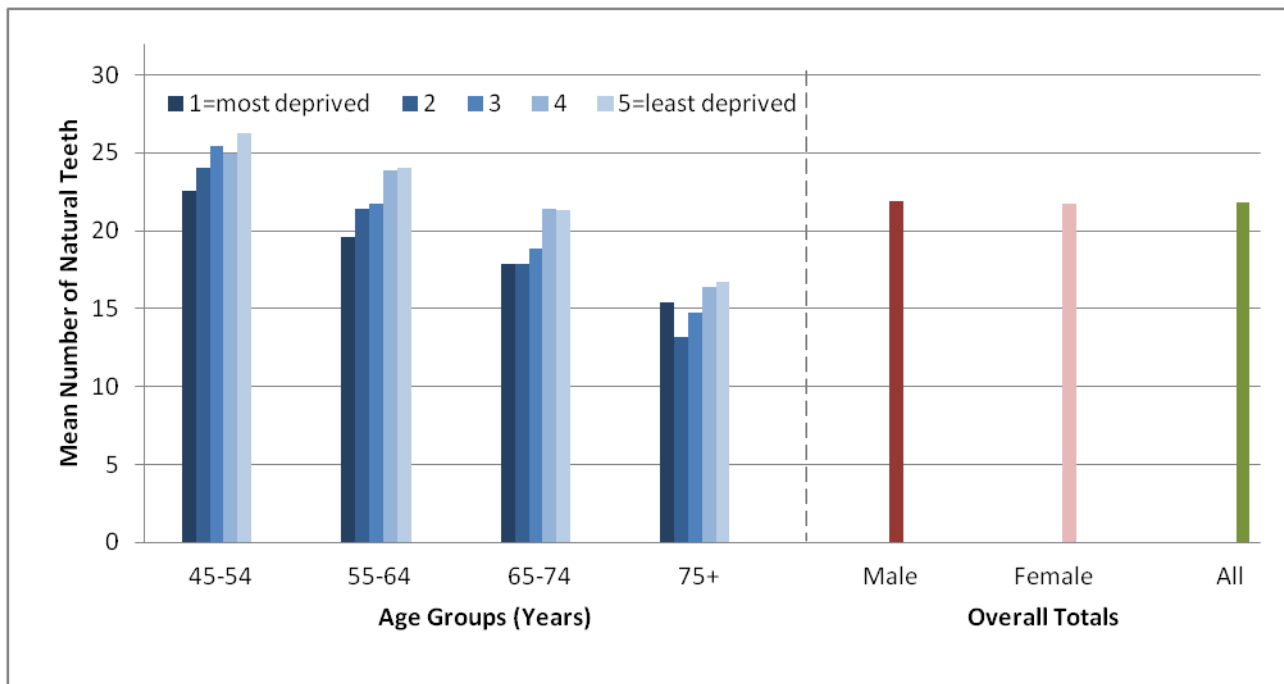
Source: ISD SAOHS database

Additional information relating to functional dentition status by age, deprivation category and sex of patients examined can be found in [Table 7b](#).

### Mean Number of Natural Teeth

The mean number of natural teeth among dentate patients was 21.9 for males and 21.7 for females. Figure 9 gives a breakdown by sex, age and deprivation category. As can be seen, the mean number of natural teeth among dentate patients decreases with age, and dentate patients living in the most deprived categories generally have fewer natural teeth.

**Figure 9: Mean number of natural teeth among dentate patients examined according to sex, age and deprivation category**



Source: ISD SAOHS database

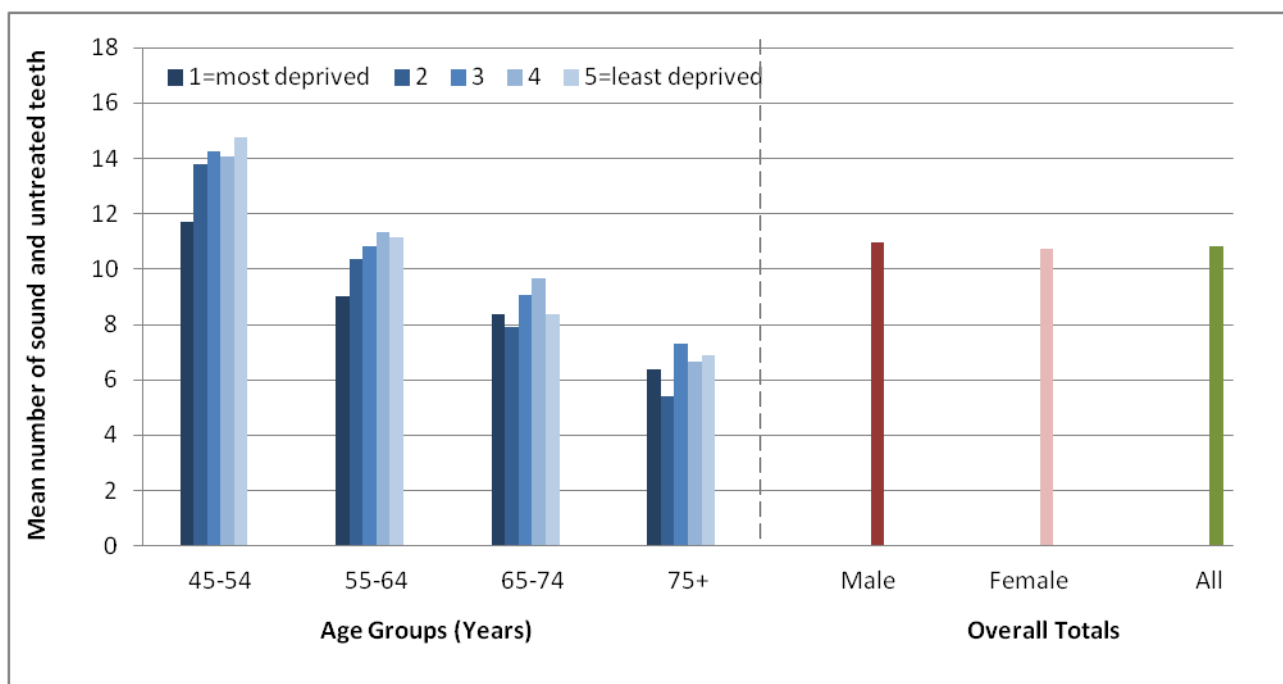
Additional information relating to mean number of natural teeth by age, deprivation category and sex of patients examined can be found in [Table 7c](#).



## Sound and Untreated Teeth

The mean number of [sound and untreated teeth](#) among dentate patients examined is shown by sex, age and deprivation category in Figure 10. The mean number of sound and untreated teeth among dentate patients generally decreases with age.

**Figure 10. Mean number of sound and untreated teeth among dentate patients examined according to sex, age and deprivation category**



Source: ISD SAOHS database

Additional information relating to mean number of sound and untreated teeth by age, deprivation category and sex of patients examined can be found in [Table 7d](#).

## Sound and Untreated, Decayed and Filled Teeth

The mean number of sound and untreated, decayed and filled teeth is shown by age category in Table 7.

**Table 7. Mean number of sound and untreated, decayed and filled teeth among dentate patients examined by age of patient**

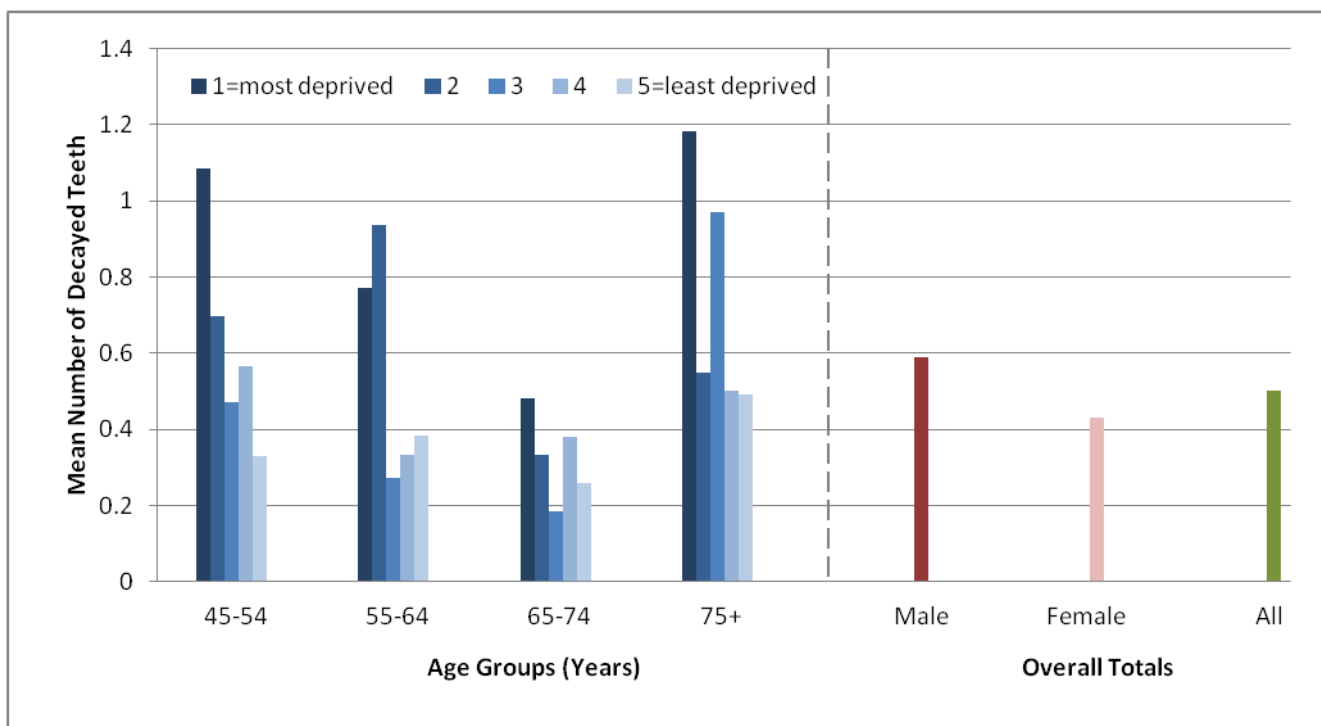
Age Category (years)	Mean number of:		
	Sound and untreated teeth	Decayed teeth	Filled teeth
45 – 54	13.9	0.6	10.3
55 – 64	10.7	0.5	11.3
65 – 74	8.7	0.3	10.7
75+	6.6	0.7	8.3

Source: ISD SAOHS database

### Mean Number of Decayed Teeth

The number of [decayed teeth](#) relates to obvious visual decay on either the natural crown or root surface of the tooth. Across all dentate patients, the mean number of decayed teeth was 0.6 for males and 0.4 for females. Figure 11 shows the variation in the mean number of decayed teeth by sex, age and deprivation category, with those living in the most deprived areas having in general a higher mean score.

**Figure 11: Mean number of decayed teeth among dentate patients examined according to sex, age and deprivation category**



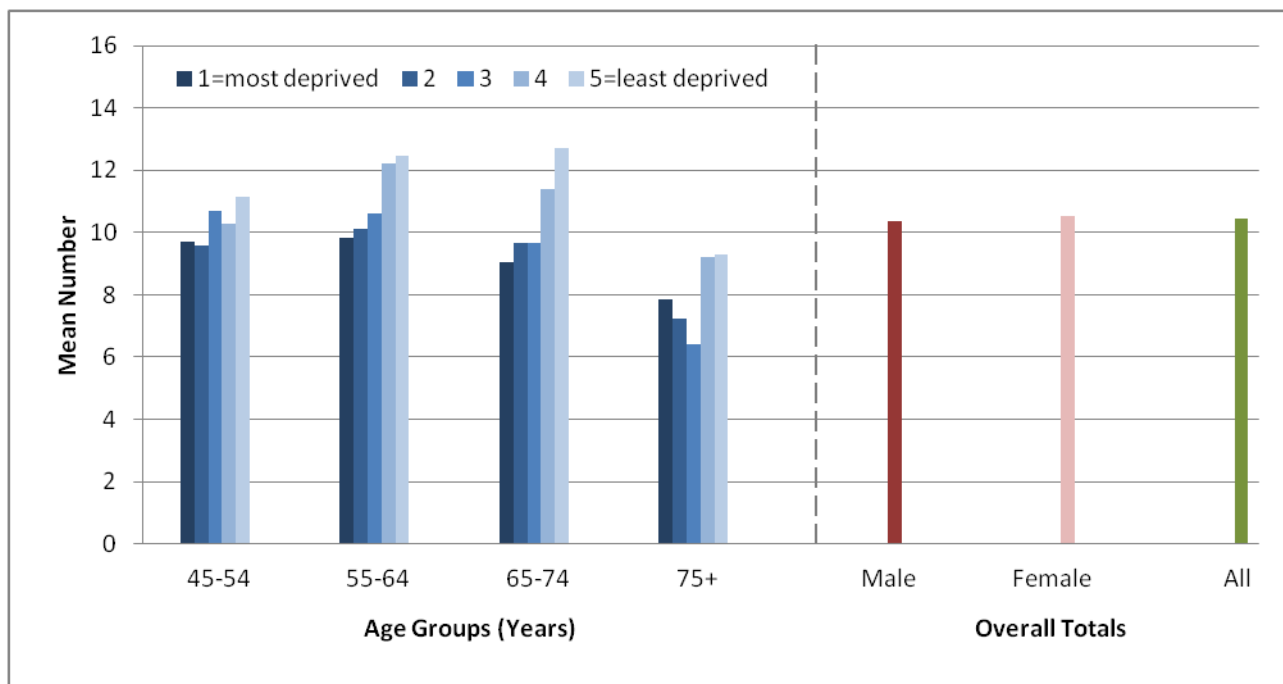
Source: ISD SAOHS database

Additional information relating to mean number of decayed teeth by age, deprivation category and sex of patients examined can be found in [Table 7e](#).

### Mean Number of Filled Teeth

The count of [filled teeth](#) relates to the number of teeth having any type of filling material on either the root surface of the tooth or on a natural crown. Across all dentate patients examined, the mean number of filled teeth was 10.4 for males and 10.6 for females. Figure 12 gives a breakdown by sex, age and deprivation category. Adults living in the least deprived areas had the highest mean number of filled teeth, with those living in the most deprived area tending to have the lowest number of teeth restored in this way.

**Figure 12: Mean number of filled teeth among dentate patients examined according to sex, age and deprivation category**



Source: ISD SAOHS database

Additional information relating to mean number of filled teeth by age, deprivation category and sex of patients examined can be found in [Table 7f](#).

## Artificial Crowns

Almost half of dentate patients had at least one artificial crown (48% of males and 50% of females). Table 8 shows the frequency distribution of crowns for all dentate patients examined.

**Table 8. Frequency distribution of crowns for all dentate patients examined**

Number of Crowns	Frequency	Percentage (%)
0	910	50.6
1	323	18.0
2	226	12.6
3	119	6.6
4	91	5.1
5	54	3.0
6	27	1.5
7	23	1.3
8	11	0.6
9+	14	0.8
<b>Total</b>	<b>1,798</b>	<b>100.0</b>

Source: ISD SAOHS database

## Bridges, Veneers and Dental Implants

Overall, 13% of dentate patients had at least one [bridge](#), 5% had at least one [veneer](#) and 2% had at least one [dental implant](#).

Table 9 shows the percentage of patients with any bridges or veneers by sex.

**Table 9. Percentage of dentate patients examined with any bridges or veneers<sup>a,b</sup>**

At least one:	Patient Sex		
	Male % (Number)	Female % (Number)	Total % (Number)
Bridge	11.0 (88)	15.0 (150)	13.2 (238)
Veneer	3.1 (25)	7.1 (71)	5.3 (96)

Source: ISD SAOHS database

a. Percentage of patients with at least one dental implant is not included here due to small numbers.

b. Percentages calculated from total dentate patients recorded as male (798) and female (1000).

Additional information relating to the frequency distribution of bridges can be found in [Table 9a](#).

## Oral Hygiene

The [Simplified Oral Hygiene Index](#)<sup>8</sup> was used to assess the amount of debris/[plaque](#) present on six index teeth - four at the back (posterior) and two at the front (anterior). Debris/plaque is scored individually on each of these six teeth on a scale of 0 to 3, with 0 indicating no discernible debris/plaque present and 3 that debris/plaque covers more than two thirds of the tooth surface (see Figure A3 in [Appendix A6](#)).

Table 10 shows the breakdown of oral hygiene scores for all dentate patients examined, with the highest score presented for each patient. Overall, 33% of males and 30% of females had a score of 2 or 3.

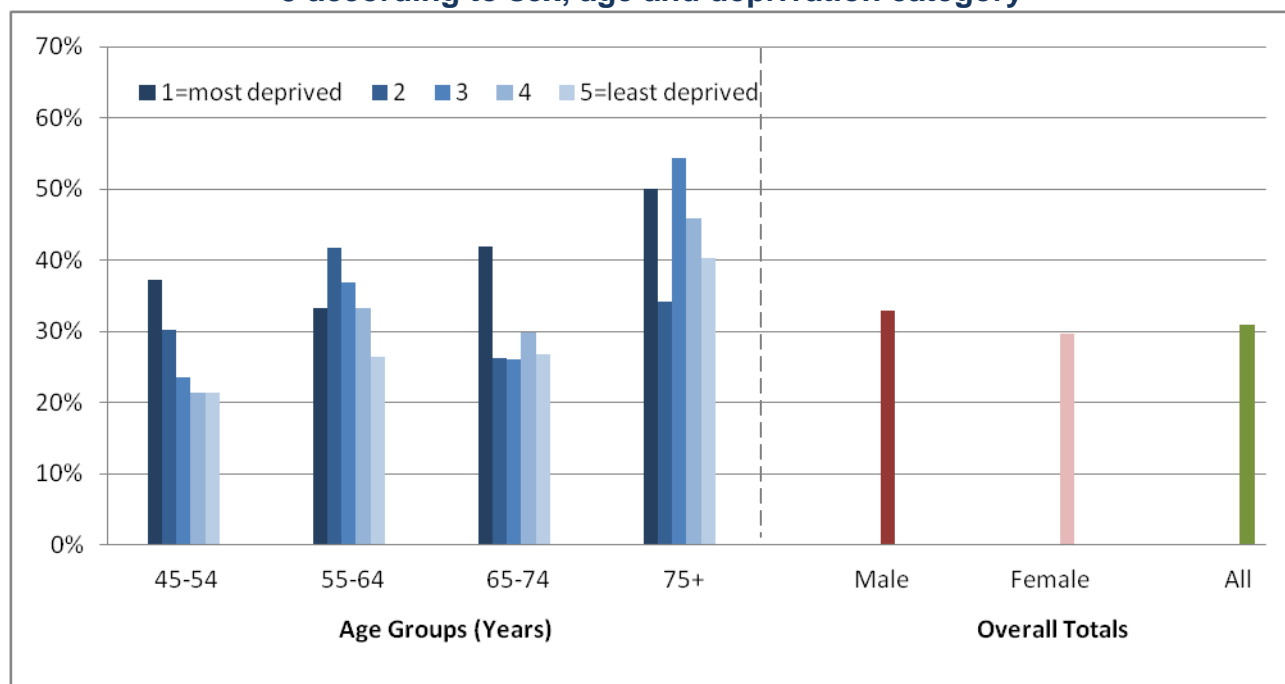
**Table 10. Highest oral hygiene index score recorded for dentate patients examined**

Oral Hygiene Score	Patient Sex		
	Male % (Number)	Female % (Number)	Total % (Number)
0	7.9 (63)	12.8 (128)	10.6 (191)
1	59.1 (472)	57.5 (575)	58.2 (1,047)
2	26.3 (210)	24.5 (245)	25.3 (455)
3	6.6 (53)	5.0 (50)	5.8 (103)
Unknown	0.0 (0)	0.2 (2)	0.1 (2)
<b>Total</b>	<b>100.0 (798)</b>	<b>100.0 (1,000)</b>	<b>100.0 (1,798)</b>

Source: ISD SAOHS database

Figure 13 shows the percentage of patients identified as having a score of 2 or 3 on at least one tooth surface. This shows that the amount of debris/plaque on tooth surfaces was generally higher in those from the more deprived areas and that there was also a tendency for the percentage of patients with high oral hygiene index scores to increase with age.

**Figure 13: Percentage of dentate patients examined with an oral hygiene index score of 2 or 3 according to sex, age and deprivation category**



Source: ISD SAOHS database

Additional information relating to plaque scores of 2 or 3 by age, sex and deprivation category of patients examined can be found in [Table 10a](#); and all plaque scores by age and deprivation category of patients examined in [Table 10b](#).

### Basic Periodontal Examination (BPE)

The [Basic Periodontal Examination \(BPE\)](#)<sup>9</sup> is a simple and rapid tool that is used to provide an indication of the condition of the structures that support the teeth. The findings indicate if a more detailed assessment of the periodontal condition is required and also provide basic guidance on treatment need. The mouth is divided into six areas (sextants), representing the posterior and anterior teeth in each jaw. All teeth are examined using a periodontal probe and a score is given ranging in severity from 0 to 4 (see [Appendix A7](#)). The worst score in each sextant is recorded, providing six scores for each patient. The worst score across sextants was analysed.

Table 11 shows the breakdown of BPE scores, using the highest sextant score for each dentate patient. The findings show that 32% of males and 28% of females have a highest sextant BPE score of 3 or 4.

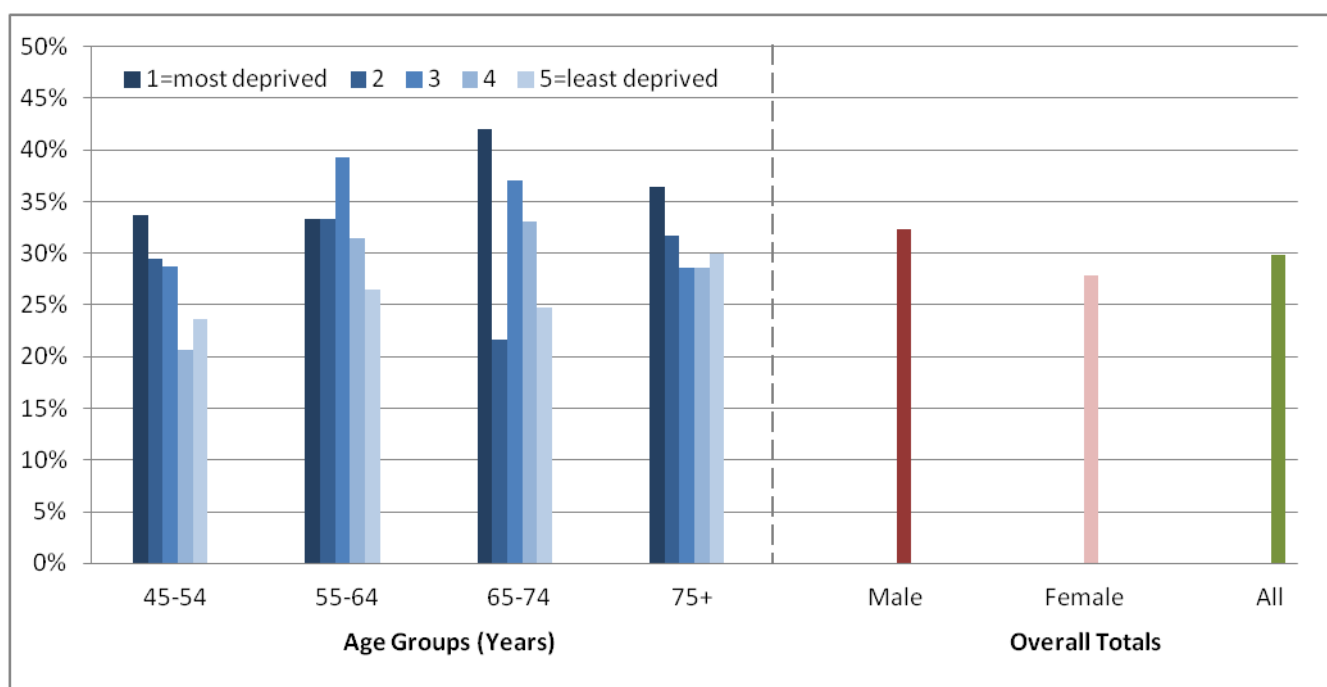
**Table 11. Percentage of dentate patients examined in each BPE category**

BPE Score	Patient Sex		
	Male % (Number)	Female % (Number)	Total % (Number)
0	4.0 (32)	7.1 (71)	5.7 (103)
1	13.4 (107)	14.2 (142)	13.8 (249)
2	50.3 (401)	50.6 (506)	50.4 (907)
3	24.7 (197)	20.0 (200)	22.1 (397)
4	7.6 (61)	7.7 (77)	7.7 (138)
Unknown	0.0 (0)	0.4 (4)	0.2 (4)
<b>Total</b>	<b>100.0 (798)</b>	<b>100.0 (1,000)</b>	<b>100.0 (1,798)</b>

Source: ISD SAOHS database

Figure 14 shows the percentage of patients identified as having BPE scores of 3 or 4 by sex, age and deprivation category.

**Figure 14: Percentage of dentate patients examined with a BPE score of 3 or 4 according to sex, age and deprivation category**



Source: ISD SAOHS database

Additional information relating to BPE scores of 3 or 4 by age, deprivation category and sex of patients examined can be found in [Table 11a](#).

The associations of age, deprivation category and smoking status with BPE scores are presented in Table 12. In general, a higher percentage of patients who are current smokers had BPE scores of 3 or 4 than patients who reported being previous smokers or not smoking at all.

**Table 12. Frequency distribution of BPE scores in dentate patients by age, deprivation category and smoking status<sup>a</sup>**

	<b>BPE 0</b> % (Number)	<b>BPE 1</b> % (Number)	<b>BPE 2</b> % (Number)	<b>BPE 3</b> % (Number)	<b>BPE 4</b> % (Number)	<b>Unknown</b> % (Number)
<b>Age Group</b>						
45-54 years	4.9 (30)	13.7 (84)	54.8 (337)	19.8 (122)	6.8 (42)	0.0 (0)
55-64 years	6.8 (37)	12.4 (68)	48.4 (265)	23.5 (129)	8.8 (48)	0.2 (1)
65-74 years	5.9 (25)	14.0 (59)	48.9 (206)	23.8 (100)	7.1 (30)	0.2 (1)
75+ years	5.1 (11)	17.8 (38)	46.3 (99)	21.5 (46)	8.4 (18)	0.9 (2)
<b>Deprivation category</b>						
1=most deprived	6.3 (14)	12.2 (27)	45.7 (101)	21.3 (47)	14.5 (32)	0.0 (0)
2	6.1 (21)	13.6 (47)	50.7 (175)	21.4 (74)	7.2 (25)	0.9 (3)
3	4.4 (17)	14.3 (55)	47.3 (182)	25.7 (99)	8.3 (32)	0.0 (0)
4	7.0 (29)	14.7 (61)	51.0 (212)	21.2 (88)	6.3 (26)	0.0 (0)
5=least deprived	5.2 (22)	13.8 (59)	55.0 (235)	20.6 (88)	5.2 (22)	0.2 (1)
Unknown	0.0 (0)	0.0 (0)	50.0 (2)	25.0 (1)	25.0 (1)	0.0 (0)
<b>Smoking</b>						
Never smoked	5.9 (57)	15.9 (153)	53.3 (513)	19.4 (187)	5.3 (51)	0.2 (2)
Previous smoker	5.9 (35)	12.1 (72)	48.7 (289)	23.8 (141)	9.3 (55)	0.2 (1)
Current smoker	4.5 (11)	9.9 (24)	43.4 (105)	28.5 (69)	13.2 (32)	0.4 (1)

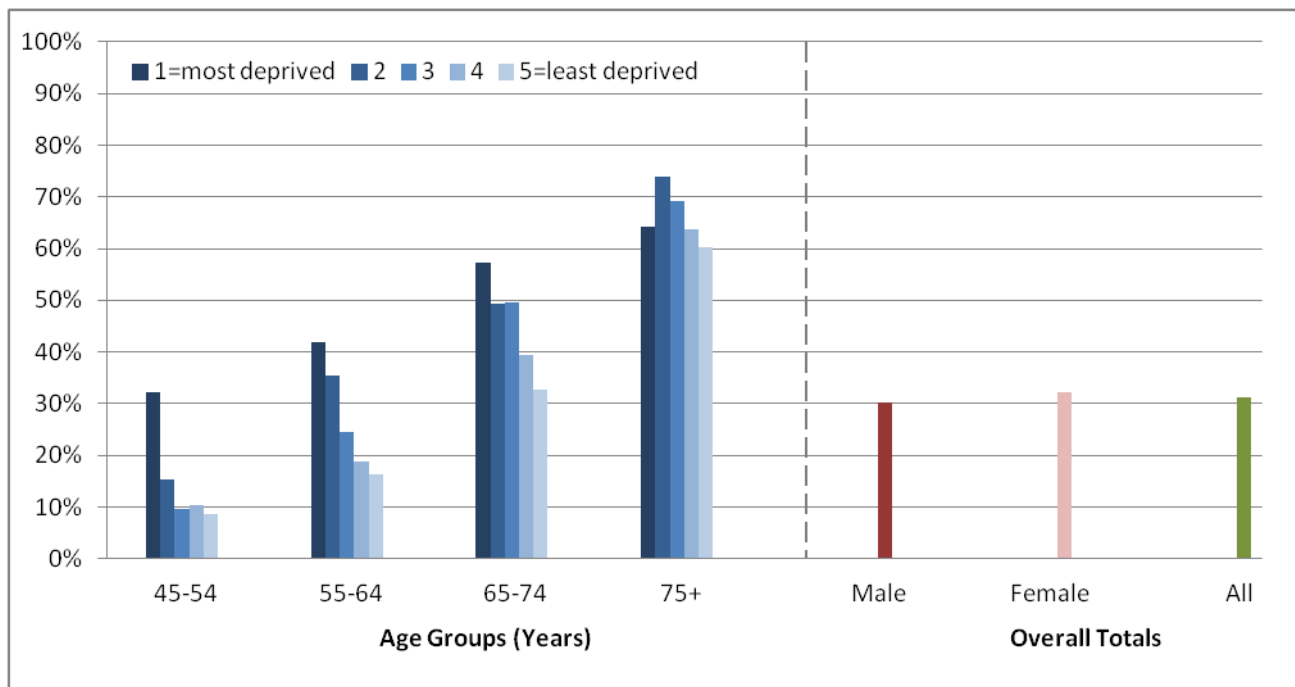
Source: ISD SAOHS database

a. Percentages in the above table may not add to 100 due to rounding.

## Dentures

Of the patients who participated in the survey, 31% (584) reported wearing a [denture](#) of some type, with the over 75 year olds being most likely to wear one (64%). Figure 15 shows a breakdown of those who wear a denture according to sex, age and deprivation category. As well as the increasing use of dentures with age, there is also a clear social gradient with denture use, with a higher percentage of those from more deprived areas wearing dentures.

**Figure 15: Percentage of all patients examined who wear any type of denture according to sex, age and deprivation category**



Source: ISD SAOHS database

Additional information relating to denture wear by age, deprivation category and sex of patients examined can be found in [Table 13a](#).

Dentures can be either ‘full’ (replacing all of the teeth and supporting structures) or ‘partial’, (replacing one or more missing teeth). They can replace teeth in either the upper or lower jaws. Table 13 shows a breakdown of the type of denture(s) worn by patients in each age category. Most people who wear dentures wear partial dentures.



**Table 13. Percentage (Number) of patients who wear dentures by denture type within each age group<sup>a,b</sup>**

Type of Denture	Age Groups			
	45-54 years % (Number)	55-64 years % (Number)	65-74 years % (Number)	75+ years % (Number)
Full and Full	3.5 (3)	6.4 (9)	13.6 (27)	17.2 (27)
Full and Partial	8.2 (7)	7.1 (10)	10.6 (21)	15.9 (25)
Full	8.2 (7)	14.3 (20)	15.6 (31)	19.7 (31)
Partial and Partial	13.0 (11)	11.4 (16)	9.0 (18)	7.6 (12)
Partial	67.1 (57)	60.7 (85)	51.3 (102)	39.5 (62)
<b>Total</b>	<b>100.0 (85)</b>	<b>100.0 (140)</b>	<b>100.0 (199)</b>	<b>100.0 (157)</b>

Source: ISD SAOHS database.

- a. Full and Full – denture replacing all teeth in both the upper and lower jaws  
 Full and Partial – denture replacing all teeth in either the upper and lower jaws, and some missing teeth in either the upper or lower jaws  
 Full – Denture replacing all teeth in either the upper or lower jaw  
 Partial and Partial – Dentures replacing some missing teeth in both the upper and lower jaws  
 Partial – Denture replacing missing teeth in either the upper or lower jaw.
- b. Of the 584 patients who wear a denture, only 581 are included above; the type of denture worn by 3 patients was not recorded.

## Soft Tissue Examination

The soft tissue examination comprised of examining all areas of the mouth other than the teeth and gums in a systematic manner. Findings such as white, red or speckled areas, ulcers or lumps are described collectively as [soft tissue lesions](#) and can represent or highlight an underlying condition or diagnosis. Seven areas of the lips, mouth and throat were examined. A ‘best guess’ diagnosis was recorded for any lesions found, which was described in the dentists’ own words. These were grouped by site (lips, cheeks, upper and lower areas of jaw supporting the teeth, under the tongue, tongue, palate and throat) and by a common description or diagnosis.<sup>10</sup>

Overall, 10% (195) of patients had one or more type of soft tissue lesion present, with a total of 224 lesions recorded. No malignant lesions were noted for those patients examined. Table 14 shows the number and percentage of lesions recorded in each area of the mouth and throat that was examined.

**Table 14. Number and percentage of lesions recorded in each area of the mouth examined<sup>a</sup>**

Area of Mouth	Number	Percentage (%)
Lips	29	12.9
Cheeks	69	30.8
Jaw	47	21.0
Tongue	39	17.4
Under the tongue	4	1.8
Palate	36	16.1
Throat	0	0
<b>Total</b>	<b>224</b>	<b>100.0</b>

Source: ISD SAOHS database.

- a. Patients may have more than 1 lesion recorded

Additional information relating to soft tissue examinations can be found in [Appendix A8](#).

## Glossary

<b>BPE</b>	Basic Periodontal Examination: The BPE is a simple and rapid screening tool for gum disease that is used to indicate the level of further examination and to provide basic guidance on treatment required. <sup>9</sup>
<b>Bridge</b>	A bridge is false tooth or teeth which are secured in place by attachment to one or other teeth beside it. It is a permanent, non-removable, means of filling the space where a missing tooth or teeth exists.
<b>Crown</b>	A crown is an artificial covering that fits over the remaining part of a prepared tooth. It can be made of a tooth coloured material, metal or a combination of both. <sup>11</sup>
<b>Decayed teeth</b>	Decay is the destruction of a tooth caused by bacteria in the presence of free sugars <sup>12</sup> .
<b>Deprivation Category</b>	The <a href="#">SIMD</a> classification used within this report is based on quintiles of deprivation: quintile 1 is the most deprived and quintile 5 is the least deprived. <sup>5</sup>
<b>Dental implant</b>	A dental implant is a metal screw that can replace the root of a tooth when it fails. It is surgically placed into the jawbone and is used to support one or more false teeth. <sup>13</sup>
<b>Dentate</b>	A dentate individual is someone who has at least one natural tooth.
<b>Denture</b>	A denture (or 'false teeth') is a replacement for missing teeth which look and function in the same way as natural teeth. Dentures are made of either acrylic (plastic) or metal and can be removed from the mouth. <sup>13</sup>
<b>Ethnicity</b>	Within this report ethnicity is described by the Scottish Official Statistics Ethnicity Categories 2011 <sup>4</sup> and describes which ethnicity category patients felt most represented them.
<b>Filled teeth</b>	Teeth which have been repaired using a material such as a white filling, dental amalgam or another material.
<b>Functional dentition</b>	The number of teeth consistent with a functional dentition <sup>7</sup> is widely accepted to be 21 or more natural teeth. Although this figure is somewhat arbitrary, evidence exists to indicate that 21 or more natural teeth enables most dentate individuals to eat what they want without the need for a removable partial denture. <sup>6</sup>
<b>GDS</b>	NHS General Dental Services The GDS is usually the first point of contact for NHS dental treatment in Scotland. The majority of GDS is provided by independent dentists ("High Street dentists") who have arrangements with NHS boards to provide care through the GDS.

<b>PDS</b>	<p>NHS Public Dental Service</p> <p>The main role of the PDS is to provide GDS for people who cannot access care from an independent dentist. From 1 January 2014 the salaried general dental service merged with the Community Dental Service to become the Public Dental Service (PDS). Historically, GDS was also provided by salaried dentists who were directly employed by NHS boards to provide an alternative service when considered the best solution to meet local needs.</p>
<b>Plaque</b>	<p>Plaque is a sticky film which builds up on the surface of the teeth and is a known factor in the development of gum disease. If plaque is not regularly removed by brushing, the gums can become irritated and inflamed. Plaque which is not removed eventually hardens into a substance called calculus which is also irritating to the gums.<sup>14</sup></p>
<b>SDPBRN</b>	<p>Scottish Dental Practice Based Research Network</p>
<b>SIMD</b>	<p><a href="#">Scottish Index of Multiple Deprivation</a><sup>5</sup>.</p> <p>The SIMD Classification identifies 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.</p> <p>For this index, the most deprived quintile is shown by SIMD1 and the least deprived quintile is shown by SIMD5. There were SIMD releases in 2004, 2006, 2009 and 2012; <b>SIMD 2012 is used in this report</b>. SIMD 2016 has been released but was not available at the time of analysis.</p>
<b>Simplified Oral Hygiene Index</b>	<p>The Simplified Oral Hygiene Index is a rapid method for evaluating oral cleanliness in a population group<sup>8</sup>.</p>
<b>Soft tissue lesion</b>	<p>A soft tissue lesion is an abnormality of the soft tissues of the mouth or throat which can represent or highlight an underlying condition or diagnosis<sup>10</sup>.</p>
<b>Sound and untreated teeth</b>	<p>Sound and untreated teeth are those with no visible decay or restoration of any kind, including those, such as veneers and crowns, which are not always used to manage disease<sup>11</sup>.</p>
<b>Urban Rural Classification</b>	<p>The Scottish Government six-fold Urban Rural Classification (SGUR6FOLD)<sup>3</sup> provides a standard definition of rural areas in Scotland. The classification distinguishes between urban, rural and remote areas with 1 identifying a large urban area, and 6 a remote rural area.</p>
<b>Veneer</b>	<p>A veneer is a thin layer of porcelain or other tooth coloured material made to fit over the front surface of a tooth to repair damage or improve the appearance.<sup>11</sup></p>

## References

1. Kelly, M., Steele, J., Nuttall, N., Bradnock, G., Morris, J., Nunn, J., Pine, C., Pitts, N., Treasure, E. and White, D., 2000. Adult dental health survey-oral health in the United Kingdom 1998.
2. Information Services Division. Dental Statistics – NHS Registration and Participation [Online] Edinburgh: Information Services Division; 2017 [cited 24 January 2017]. Available at: <https://www.isdscotland.org/Health-Topics/Dental-Care/Publications/2017-01-24/2017-01-24-Dental-Report.pdf>
3. Scottish Government. Urban Rural Classification (six-Fold) [Online] Edinburgh: Scottish Government; 2011 [cited 05 May 2016]. Available at: <http://statistics.gov.scot/data/urban-rural-classification>
4. Scottish Government. Scotland's New Ethnicity Classification for Scottish Official Statistics and Recommended for Scotland's 2011 Census [Online] Edinburgh: Scottish Government; 2008 [cited 2016 April 28]. Available at: <http://www.gov.scot/Publications/2008/07/29095058/2>
5. Scottish Government. Scottish Index of Multiple Deprivation: Guidance and Analysis [Online] Edinburgh: Scottish Government; 2016 [cited 21 December 2016]. Available at: <http://www.gov.scot/Topics/Statistics/SIMD/GuidanceAnal>
6. Hobdell M, Peterson PE, Clarkson J and Johnson N. Global goals for oral health 2020. *International Dental Journal* 2003; (53): 285-288.
7. Gotfredson K and Walls, AWG. What dentition assures oral function? *Clinical Oral Implants Research* 2007; 18(s3): 34-45. Original paper: Kayser AF. Shortened dental arches and oral function. *Journal of Oral Rehabilitation* 1981; (8): 457-462.
8. Greene JG, Vermillion JR. The simplified oral hygiene index. *The Journal of the American Dental Association*. 1964;68(1):7-13.
9. British Society of Periodontology Basic Periodontal Examination (BPE) [Online] 2011 [cited 21 December 2016]. Available at: [http://www.bsperio.org.uk/publications/downloads/39\\_143748\\_bpe2011.pdf](http://www.bsperio.org.uk/publications/downloads/39_143748_bpe2011.pdf)
10. Scottish Dental Clinical Effectiveness Programme. Oral Health Assessment and Review: Dental Clinical Guidance [Online] SDCEP: Dundee: 2012 [cited 21 December 2016] Available at: <http://www.sdcep.org.uk/wp-content/uploads/2015/04/SDCEP-OHAR-Version-1.0.pdf>
11. Oral health and function – a report from the adult dental health survey 2009. Available at: <http://content.digital.nhs.uk/catalogue/pub01086/adul-dent-heal-surv-summ-them-the1-2009-rep3.pdf>
12. Information Services Division. National Dental Inspection Programme (NDIP) 2016 [Online] Edinburgh: Information Services Division; 2017 [cited 25 January 2017]. Available at: <https://www.isdscotland.org/Health-Topics/Dental-Care/Publications/2017-01-24/2017-01-24-Dental-Report.pdf>
13. Oral Health Foundation. Tell me about: Oral Treatments and Dental Health [Online] 2016. Oral Health Foundation [cited 21 December 2016]. Available at: <https://www.dentalhealth.org/tell-me-about>
14. Scottish Dental Clinical Effectiveness Programme Patient Leaflet 'Your Oral Health: Prevention of Gum Disease' [Online] SDCEP: Dundee: 2012 [cited 25 January 2017]. Available at: <http://www.sdcep.org.uk/wp-content/uploads/2015/01/SDCEP+Oral+Hygiene+Leaflet+for+Patients.pdf>
15. Steele J, O'Sullivan I. Executive summary: Adult Dental Health Survey 2009: Health and Social Care Information Centre, NHS National Statistics.

16. Scottish Government. The Scottish Health Survey 2015: Volume 1: Main Report [Online] Edinburgh: Scottish Government; 2016 [cited 06 January 2017]. Available at: <http://www.gov.scot/Publications/2016/09/2764>
17. Scottish Dental Clinical Effectiveness Programme. Prevention and Treatment of Periodontal Diseases in Primary Care: Dental Clinical Guidance [Online] 2015 [cited 21 December 2016]. Available at: <http://www.sdcep.org.uk/wp-content/uploads/2015/01/SDCEP+Periodontal+Disease+Full+Guidance.pdf>

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## Appendices

### A1 – Methodology

#### Background

The most recent epidemiological survey which incorporated a clinical examination of the oral health of Scotland's adult population was carried out as part of the 1998 UK ADHS. Scotland did not participate in the 2009 ADHS<sup>11, 15</sup> leaving an information gap around the current oral health status of the adult population in Scotland. In order to partially address this gap, the Chief Dental Officer for Scotland formed a Scottish Adult Oral Health Survey (SAOHS) Group to develop and pilot a practice-based oral health data collection system which could utilise routine data already collected within the primary care dental setting.

#### Feasibility Study

During April and May 2013 a feasibility study, with a convenience sample of General Dental Practitioners (GDPs) was carried out to help inform Scotland's SAOHS group discussions. Twenty four [SDPBRN](#) (Scottish Dental Practice Based Research Network) Rapid Evaluation Practitioners gathered non-identifiable oral health data for 20 consecutive patients at either a first visit or recall examination. Results from the feasibility study were used to inform discussions around:

- The suitability of the oral health data collected
- The acceptability of the system to GDPs and patients
- Additional resources required for GDPs to assess, record and extract the required oral health dataset data.

It was subsequently decided that gathering data as part of a routine dental examination would be feasible but required further development before being fully implemented.

#### Pilot Study

The next stage was to conduct a pilot study to test methods of recruitment and data collection, the quality and usefulness of the collected data, and the resources required.

For this pilot project, data collection within dental primary care was restricted to patients aged 45 years and over and attending for an examination appointment. It was envisioned that this would be the first stage in the development of a rolling SAOHS programme.

For a full epidemiological survey, it was calculated that between 4,000 and 8,000 patients would be required to allow robust estimates of population parameters within health boards. From the original feasibility study, dentists indicated that a sample of 20 patients per dentist was an acceptable and feasible number, and therefore between 200 and 400 dentists would have to be recruited. For the pilot study, all dentists across Scotland were eligible to participate in order for us to assess recruitment rates for future full-scale surveys. During the three month period in which data were submitted, 92 dentists and 1,867 patients participated in the pilot survey.

#### Information Governance

An ethical opinion on this survey was sought via the Scientific Officer of the West of Scotland Research Ethics Service. It was deemed to be a service evaluation/ development and therefore NHS ethical approval was not required.

## A1 – Methodology cont.

A Privacy Impact Assessment was carried out to identify the most effective way to comply with data protection obligations and meet individuals' expectations of privacy. All appropriate steps to protect the confidentiality of patient information were taken in line with Caldicott Principles.

### Methodology

The SAOHS was a pilot survey which took place in dental practices across Scotland. NHS General Dental Practitioners and Public Dental Service dentists were eligible to participate in the pilot. Dentists were asked to submit oral health information for 20 consecutive patients who attended for new patient or recall examination and met the age criterion. Piloting of the SAOHS began in December 2015.

Recruitment of dentists opened on the 7th of December 2015. Initial communication about the project was via the Scottish Dental (<http://www.scottishdental.org/scottish-adult-oral-health-survey-2015-16/>) and SDPBRN (<http://www.sdpbrn.org.uk/current-projects-2/adult-dental-health/>) web pages. Details were also sent via email to Consultants in Dental Public Health, Dental Lead Officers and Dental Practice Advisers. Dentists interested in participating were asked to send an email from an nhs.net email address to a generic SAOHS mailbox. A response to sign-up email and associated project documents were then sent back to the dentist. One further communication about the project was sent via the NHS Education for Scotland (NES) Dental Portal on the 14th of January 2016. The SAOHS mailbox received over 200 initial 'interest to participate' emails. Close of recruitment was 31st January 2016.

As part of the survey dentists were asked to carry out their regular dental examination plus a series of additional tasks:

1. Gain verbal consent from the patient to take part in the survey and record this in the patient notes.
2. Ask and record specific aspects of the patient's personal information.
3. Ask and record the answers to a series of questions which related to the patient's oral and general health behaviours.
4. Examine and record routine oral health data during the patient dental examination.

Eligible patients were those born before, but not including, the 1st of January 1971 and attending a new patient or recall examination appointment. All patients were asked to read the SAOHS Information Sheet for Patients ([Appendix A9](#)) and were given time to ask any questions before deciding whether to take part.

All dentists submitted completed questionnaires for each patient via the SAOHS web-form (see [Appendix A2](#)), which was only accessible on a secure NHS network.

### *Data Management*

The information collected was brought together and managed on behalf of the SAOHS Group by ISD. The data were received by NSS and extracted from the database on a weekly basis. Range and consistency checks were undertaken to ensure data quality, which included corrections to any errors in dentists' email addresses, practices' postcodes, GDC numbers and patients' postcodes. Additionally, 'missing' values were inserted for incomplete questions. Final checks of the data were carried out to remove any duplicate records. Where a dentist had not submitted the required number of 20 records, all records submitted by that dentist were removed. Data from all dentists were then combined in a master file.

### A1 – Methodology cont.

The data quality checks made on all variables used histograms and frequency tabulations to ensure all data were within established ranges and were consistent. Validity of the submitted data was checked by comparing to other national oral health surveys and the Scottish Health Survey<sup>16</sup>.

#### *Data Analysis*

Summary statistics were produced for all variables: means and standard deviations; medians, quartiles and range where appropriate. Percentages were reported for categorical data. Where appropriate, data were stratified by sex, age groups (45-54 years; 55-64 years; 65-74 years; 75+ years) and area-based deprivation quintiles (based on home postcode using national SIMD based on 2012 SIMD<sup>5</sup>). As this was a pilot study, no weighting of the data was used.

Where appropriate, new oral health/behaviour variables were derived based on clinically important descriptors such as: current smoking status, alcohol consumption on a single occasion, anxiety levels when visiting the dentist and when the patient last visited a dentist before their current visit. Due to the pilot nature of the project, statistical tests were not performed; instead, data were described rather than testing specific hypotheses. These data will now be used to power future surveys to allow data to be analysed at NHS Board level.

#### **Using SAOHS data to support quality improvement within primary dental care**

Dentists on an NHS Health Board 'dental list' are required to undertake at least 15 hours of clinical audit activities during each three-year clinical audit cycle. Beginning in the 2013-2016 clinical audit cycle, participation in eligible research that supports quality improvement in primary dental care can now count for up to five hours clinical audit credit in any three-year audit cycle. More information about this initiative can be accessed [here](#).

The SAOHS pilot project was approved for three hours clinical audit credit. Dentists who wished to claim this credit were required to reflect on the study findings for their own practice, compare the findings for their own practice with the national average, and develop and implement action plans for improving quality. Fifty-six dentists claimed and were awarded clinical audit hours for their participation in the 2016 pilot SAOHS project. More information about the audit component of the SAOHS project can be accessed [here](#).

## A2 - Scottish Adult Oral Health Survey Questionnaire 2015/16

### Scottish Adult Oral Health Survey

#### Section A

Details to be completed by the dentist at a new or recall examination appointment for patients meeting criteria defined within the Scottish Adult Oral Health Survey guidance notes.

A1. Examination Date:	
-----------------------	--

A2. Practice Postcode:	
------------------------	--

A3. GDC number:	
-----------------	--

A4. Select which type of service you are providing for the patient at this appointment:	
General Dental Practice	
Public Dental Service	
Out of Hours Emergency Dental Service	

#### Section B

Patient details to be asked and recorded by the dentist for the patient who will be examined during this appointment. Please note: only patients aged 45 or over are eligible for this survey.

B1. Surname:	
--------------	--

B2. Forename:	
---------------	--

B3. Sex:	
----------	--

B4. Date of Birth:	
--------------------	--

B5. Postcode:	
---------------	--

**A2 - Scottish Adult Oral Health Survey Questionnaire 2015/16 cont.**

**Section C**

Questions to be asked by dentist and answers recorded as indicated.

C1. Have you ever smoked?					
Never smoked		Current smoker		Previous smoker	

C2. Have you ever used chewing tobacco, paan, gutkha supari or betel quid?					
Yes		No		Unsure	

C3. How often have you consumed 6 or more units of alcohol (if female), or 8 or more units of alcohol (if male) on a single occasion in the last year?									
Never		Less than monthly		Monthly		Weekly		Daily or almost daily	

C4. Which of the following options best describes how you feel about visiting the dentist?									
Not anxious		Slightly anxious		Fairly anxious		Very anxious		Extremely anxious	

C5. When did you last see a dentist before today?									
Within the last 6months		6 months to 1 year ago		1 to 2 years ago		More than 2 years ago		Never been to dentist	



**A2 - Scottish Adult Oral Health Survey Questionnaire 2015/16 cont.**

**Section D**

To be completed following intraoral examination (see guidance notes).

**D1. Charting of Permanent Teeth Present**

Indicate whether each permanent tooth is present and sound (S), decayed (D),

18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38

missing (M) or filled (F). If decayed and filled please chart as decayed.

D2. How many natural teeth does the patient have? (include crowned teeth and bridge abutments but not pontics)

D3. How many crowns does the patient have? (excluding bridges)

D4. How many bridges does the patient have?

D5. How many veneers does the patient have?

D6. How many dental implants does the patient have?

D7. Does the patient wear a denture?

Yes

No

**A2 - Scottish Adult Oral Health Survey Questionnaire 2015/16 cont.**

D8. If the answer to question 12 was 'yes' what type of denture? (select all which apply)	
F/-	
-/F	
F/F	
P/-	
-/P	
P/P	

D9. Plaque Score		
Indicate plaque score from 0 to 3 for each sextant (see guidance notes).		
18-14	13-23	24-28
48-44	43-33	34-38

D10. Basic Periodontal Examination (BPE)					
Indicate BPE score from 0 to 4 including * for each sextant (see guidance notes).					

**A2 - Scottish Adult Oral Health Survey Questionnaire 2015/16 cont.**

D11. Soft Tissue Examination		
Record if soft tissue lesion present by intraoral site. If lesion present record 'Best Guess' diagnosis.		
Intraoral Site	Lesion Present Y/N	If a lesion is present what is your 'Best Guess' diagnosis
Lips		
Buccal Mucosa		
Alveolus		
Tongue		
Floor of Mouth		
Palate		
Fauces		

D12. NHS Treatment Prescribed			
List the SDR items by 4 digit code (e.g. 1401) prescribed in the current course of treatment for this patient.			

**A2 - Scottish Adult Oral Health Survey Questionnaire 2015/16 cont.**

D13. Private Treatment Prescribed	
Please select private treatment items prescribed in the current course of treatment for this patient, select those which apply.	
Examination	<input type="checkbox"/>
Preventive Care	<input type="checkbox"/>
Periodontal Treatment	<input type="checkbox"/>
Conservative Treatment	<input type="checkbox"/>
Surgical Treatment	<input type="checkbox"/>
Dentures	<input type="checkbox"/>
Orthodontic Treatment	<input type="checkbox"/>

**A2 - Scottish Adult Oral Health Survey Questionnaire 2015/16 cont.**

**Section E**

Please note this question is optional. Question to be asked by the dentist:

E1 Which of the categories best describes your ethnicity?	
White Scottish	
White English	
White Welsh	
White Northern Irish	
White British	
White Irish	
White Gypsy/ Traveller	
White Polish	
Any other white ethnic group	
Any mixed or multiple ethnic group	
Pakistani, Pakistani Scottish or Pakistani British	
Indian, Indian Scottish or Indian British	
Bangladeshi, Bangladeshi Scottish or Bangladeshi British	
Chinese, Chinese Scottish or Chinese British	
Other Asian, Asian Scottish, Asian British	
African, African Scottish or African British	
Caribbean, Caribbean Scottish or Caribbean British	
Black, Black Scottish or Black British	
Other African, Caribbean or Black	
Arab, Arab Scottish or Arab British	
Other ethnic group	
Refused/ Not provided by the patient	
Not known	

### A3 – Characteristics of Dental Practices of the Participating Dentists

In total, 92 dentists submitted data for 20 or more patients in the survey. The majority of patients were seen under General Dental Service arrangements (78%), with 21% being seen by dentists working under Public Dental Service arrangements and only 1% in Out of Hours.

Table A1 shows a breakdown of the number and percentage of patients who participated in the survey at dental practices in each NHS Board.

**Table A1. Number and percentage of patients who participated in the survey at dental practices in each NHS Board<sup>a</sup>**

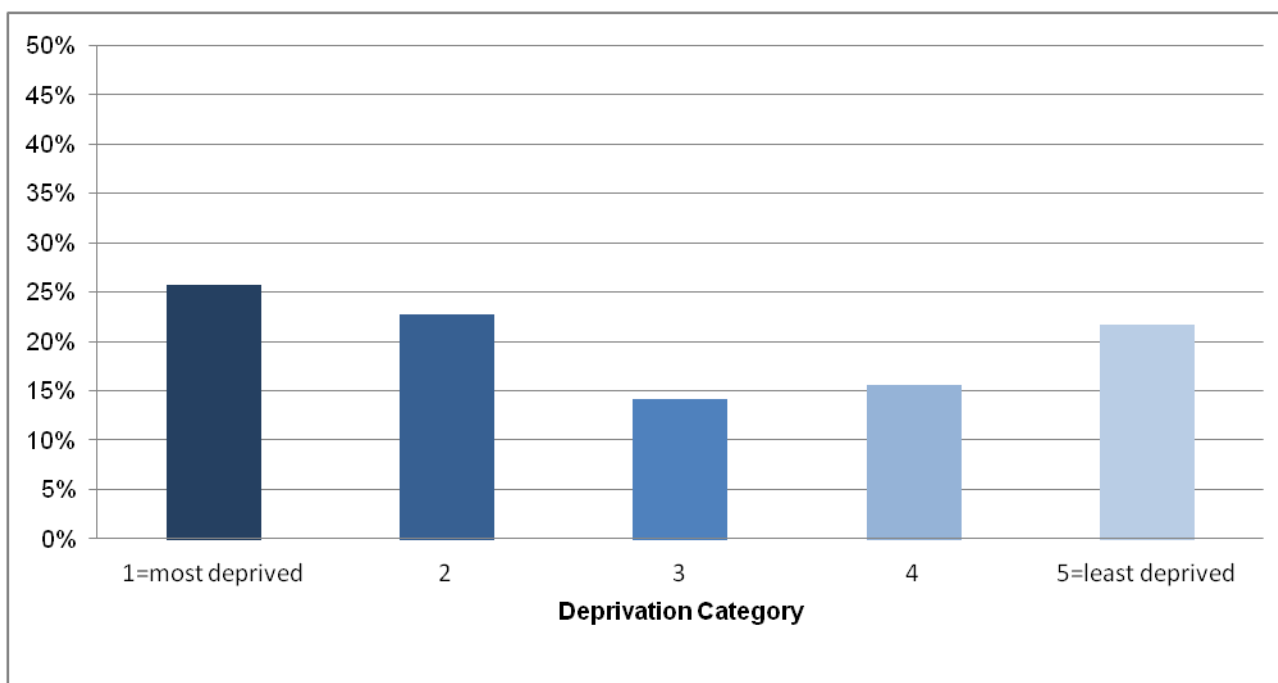
NHS Board	Number	Percentage (%)
Ayrshire & Arran	81	4.3
Borders	80	4.3
Dumfries & Galloway	82	4.4
Fife	140	7.5
Forth Valley	141	7.6
Grampian	223	11.9
Greater Glasgow & Clyde	442	23.7
Highland	63	3.4
Lanarkshire	125	6.7
Lothian	289	15.5
Orkney	40	2.1
Shetland	41	2.2
Tayside	100	5.4
Western Isles	20	1.1
<b>Scotland</b>	<b>1,867</b>	<b>100.0</b>

Source: ISD SAOHS database.

a. Participation is based on postcode of the dental practice.

Figure A1 shows the percentage of practices within each deprivation category based on their postcode.

**Figure A1: Percentage of dental practices in each deprivation category**



Source: ISD SAOHS database.

**A3 – Characteristics of Dental Practices of the Participating Dentists cont.**

**Patient and practice deprivation**

Table A2 shows a breakdown of patient deprivation category by the deprivation category of the dental practice that they visited.

**Table A2 – Patient deprivation category by practice deprivation category<sup>a</sup>**

Practice deprivation category	Patient deprivation category				
	1 % (Number)	2 % (Number)	3 % (Number)	4 % (Number)	5 % (Number)
1=most deprived	46.8 (110)	26.8 (63)	6.8 (16)	9.8 (23)	9.8 (23)
2	28.6 (102)	36.1 (129)	14.3 (51)	9.5 (34)	11.5 (41)
3	20.4 (82)	19.7 (79)	24.6 (99)	18.7 (75)	16.7 (67)
4	22.1 (96)	19.8 (86)	11.0 (48)	22.8 (99)	24.4 (106)
5=least deprived	20.3 (88)	15.2 (66)	12.0 (52)	14.1 (61)	38.5 (167)

Source: ISD SAOHS database.

a. Patient deprivation category is based on the patient's postcode of residence; practice deprivation category is based on the practice postcode.

## A4 – Comparisons between SAOHS data and the Scottish Population

The tables below provide comparisons between the SAOHS data and the population of adults aged 45 years and over in Scotland.

**Table A3 – Comparison of age group distribution between SAOHS data and the Scottish Population**

Age Group (Years)	SAOHS		Scotland Population	
	Number	Percentage (%)	Number	Percentage (%)
45-54	618	33.1	801,111	32.5
55-64	556	29.8	679,818	27.6
65-74	449	24.0	545,281	22.1
75+	244	13.1	437,717	17.8
<b>Scotland</b>	<b>1,867</b>	<b>100</b>	<b>2,463,927</b>	<b>100</b>

Source: ISD SAOHS database; 2015 National Records Scotland data zone population estimates.

**Table A4 – Comparison of sex distribution between SAOHS data and the Scottish Population**

Sex	SAOHS		Scotland Population	
	Number	Percentage (%)	Number	Percentage (%)
Male	828	44.3	1,155,786	46.9
Female	1,039	55.7	1,308,141	53.1
<b>Scotland</b>	<b>1,867</b>	<b>100</b>	<b>2,463,927</b>	<b>100</b>

Source: ISD SAOHS database; 2015 National Records Scotland data zone population estimates.

**Table A5 – Comparison of deprivation category distribution between SAOHS data and the Scottish Population**

Deprivation Category	SAOHS		Scotland Population	
	Number	Percentage (%)	Number	Percentage (%)
1=most deprived	235	12.6	441,634	18.1
2	357	19.1	476,579	19.5
3	402	21.5	500,712	20.5
4	435	23.3	520,700	21.4
5=least deprived	434	23.2	501,354	20.5
Unknown	4	0.2	0	0.0
<b>Total</b>	<b>1,867</b>	<b>100</b>	<b>2,440,979</b>	<b>100</b>

Source: ISD SAOHS database; 2014 National Records Scotland data zone population estimates.

Note: The different Scotland Population total in Table A5 when compared to Tables A3, A4, A6 and A8 is due to having to use different National Records Scotland data zone population estimates: 2014 estimates were used in Table A5, whereas 2015 estimates were used in Tables A3, A4, A6 and A8. This is because 2015 data zone population estimates were not available in relation to deprivation categories at the time of analysis.



**A4 – Comparison between SAOHS data and the Scottish Population cont.**

The table below provides comparison between the SAOHS data and the population of adults aged 45 years and over in Scotland.

**Table A6 – Comparison of NHS Board distribution between SAOHS data and the Scottish Population**

NHS Board	SAOHS		Scotland Population	
	Number	Percentage (%)	Number	Percentage (%)
Ayrshire & Arran	93	5.0	187,607	7.6
Borders	83	4.4	61,798	2.5
Dumfries & Galloway	82	4.4	81,481	3.3
Fife	145	7.8	175,467	7.1
Forth Valley	136	7.3	140,923	5.7
Grampian	220	11.8	257,537	10.5
Greater Glasgow & Clyde	408	21.9	496,326	20.1
Highland	70	3.7	166,128	6.8
Lanarkshire	143	7.7	301,710	12.2
Lothian	285	15.3	359,592	14.6
Orkney	40	2.1	11,388	0.5
Shetland	41	2.2	10,876	0.4
Tayside	99	5.3	198,412	8.1
Western Isles	19	1.0	14,682	0.6
<b>Scotland</b>	<b>1,867</b>	<b>100</b>	<b>2,463,927</b>	<b>100</b>

Source: ISD SAOHS database; 2015 National Records Scotland data zone population estimates.

**A4 – Comparison between SAOHS data and the Scottish Population cont.**

The table below provides comparison between the SAOHS data and the population of adults aged 45 years and over in Scotland.

**Table A7 – Comparison of ethnicity distribution between SAOHS data and the Scottish Population**

Ethnicity	SAOHS		Scotland Population	
	Number	Percentage (%)	Number	Percentage (%)
White Scottish	1374	73.6	2,040,684	87.0
White British	352	18.8	211,213	9.0
White Irish	9	0.5	26,077	1.1
White Gypsy/Traveller	1	0.1	1,190	0.1
White Polish	2	0.1	6,523	0.3
Any other white ethnic group	19	1.0	23,572	1.0
Mixed or multiple ethnic group	4	0.2	2,211	0.1
Pakistani, Pakistani Scottish or Pakistani British	5	0.3	9,691	0.4
Indian, Indian Scottish or Indian British	6	0.3	5,647	0.2
Chinese, Chinese Scottish or Chinese British	7	0.4	6,257	0.3
Other Asian, Asian Scottish or Asian British	6	0.3	3,581	0.2
African, African Scottish or African British	3	0.2	2,961	0.1
Caribbean, Caribbean Scottish or Caribbean British	2	0.1	940	<0.1
Black, Black Scottish or Black British	3	0.2	483	<0.1
Other African, Caribbean or Black	2	0.1	158	<0.1
Other ethnic group	5	0.3	1,216	0.1
Refused/Not provided by patient/Not Known	67	3.5	2,099	0.1
<b>Total</b>	<b>1,867</b>	<b>100</b>	<b>2,344,503</b>	<b>100</b>

Source: ISD SAOHS database; Census 2011, National Records Scotland.

Note: The different Scotland Population total in Table A7 when compared to Tables A3, A4, 6 AND A8 is due to different sources of data: the 2011 Census data has been used in Table A7 because no other population estimates exist for ethnicity categories; the 2015 National Records Scotland data zone estimates in Tables A3, A4, A6 and A8.

**A4 - Comparison between SAOHS data and the Scottish Population cont.**

The table below provides comparison between the SAOHS data and the population of adults aged 45 years and over in Scotland.

**Table A8 – Comparison of urban/rural distribution between SAOHS data and the Scottish Population**

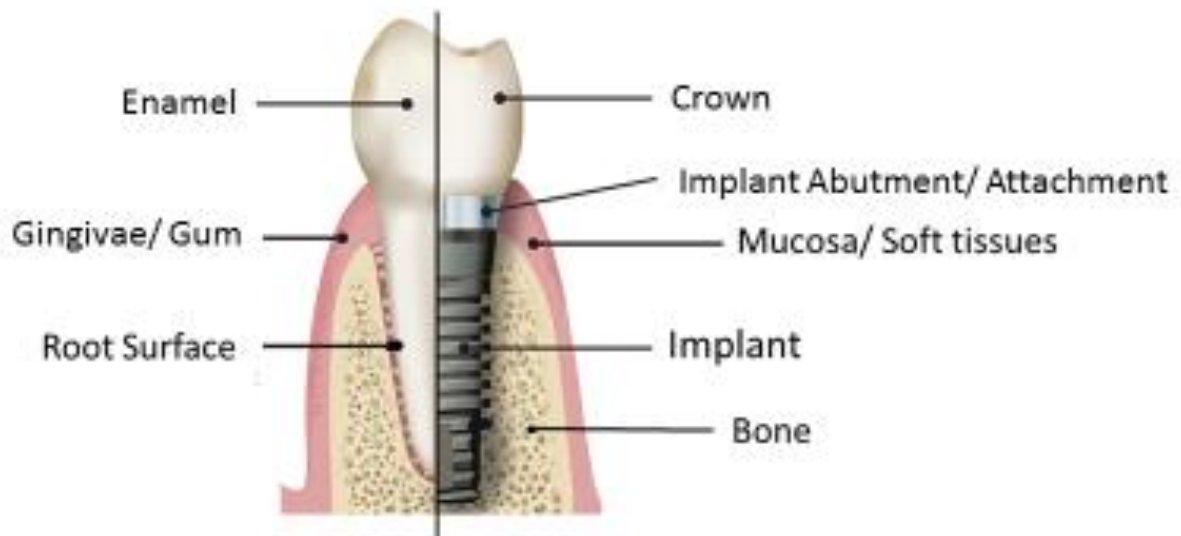
Urban/Rural Classification	SAOHS		Scotland Population	
	Number	Percentage (%)	Number	Percentage (%)
Large Urban Areas	617	33.0	761,386	30.9
Other Urban Areas	627	33.6	871,631	35.4
Accessible Small Towns	195	10.4	247,008	10.0
Remote Small Towns	45	2.4	94,517	3.8
Accessible Rural	217	11.6	313,072	12.7
Remote Rural	162	8.7	176,313	7.2
Unknown	4	0.2	0	0.0
<b>Total</b>	<b>1,867</b>	<b>100</b>	<b>2,463,927</b>	<b>100</b>

Source: ISD SAOHS database; 2015 National Records Scotland data zone population estimates.

## A5 – Parts of the tooth / dental implant

Figure A2 shows several of the parts of a tooth or dental implant defined above.

**Figure A2: Parts of a tooth and dental implant**



Source: Image reproduced in an amended format with kind permission from Scottish Dental Clinical Effectiveness Programme.



## A7 – Calculation of Basic Periodontal Examination (BPE) Scores

Teeth were divided into six sections and all teeth (with the exception of three molars) were examined in each section. A probe was used to assess periodontal health with a score given ranging in severity from 0 to 4 (see Figures A4 and A5 and Table A9). The highest score in each section was then recorded.

**Figure A4: Probing depths observed at sites with BPE scores 0, 1, 2, 3, 4 and \*<sup>17</sup>**



Source: Image reproduced in an amended format with kind permission from Scottish Dental Clinical Effectiveness Programme.

**Figure A5: BPE teeth probing<sup>17</sup>**



Source: Image reproduced in an amended format with kind permission from Scottish Dental Clinical Effectiveness Programme.

**Table A9: Basic Periodontal Examination (BPE) scores<sup>a</sup>**

Score	Definition
0	No pockets >3.5 mm, no calculus/overhangs, no bleeding after probing ( <i>black band completely visible</i> )
1	No pockets >3.5 mm, no calculus/overhangs, but bleeding after probing ( <i>black band completely visible</i> )
2	No pockets >3.5 mm, but supra- or subgingival calculus/overhangs ( <i>black band completely visible</i> )
3	Probing depth 3.5-5.5 mm ( <i>black band partially visible, indicating pocket of 4-5 mm</i> )
4	Probing depth >5.5 mm ( <i>black band entirely within the pocket, indicating pocket of 6 mm or more</i> )
*	Furcation involvement; significant loss of attachment of tooth to supporting structures

a. Furcation involvement, the significant loss of attachment of tooth to support structures, was not included within the analyses for this report.

## A8 – Soft Tissue Lesions

Soft tissue lesions were recorded by location in the mouth as free text responses. These were recorded as a ‘best guess’ diagnosis describing in the dentist’s professional opinion what the lesion was most likely to be. No further tests or referral confirmation was sought for the purpose of the pilot survey. The responses were reviewed and grouped by analogous term or common theme.

Of the soft tissue lesions recorded, ‘trauma’ was the most common theme recorded accounting for 25% (56) of the recorded lesions (224 in a total of 194 patients). Table A10 shows the number of each type of soft tissue lesion recorded in each area of the mouth examined.

**Table A10: Number of each soft tissue lesion type recorded in each area of the mouth examined**

Area of Mouth	Soft Tissue Lesion Type	Number
Lips	Herpes simplex cold sore	7
	Haemangioma/Haematoma	6
	Angular cheilitis	4
	Mucocele	3
	Trauma	3
	Pigmentation	2
	Polyp	2
	Aphous Ulcer	2
Cheeks	Keratosis/trauma or other lesion associated with cheek biting	34
	Lichen planus/lichenoid reaction	11
	Aphous ulcer	3
	Draining sinus	2
	Dry mouth	1
	Fordyce spots	1
	Papilloma	1
	Polyp	1
	Amalgam tattoo	1
	Not recorded	14
Jaw	Keratoses	7
	Tori/Bony exostoses	5
	Draining sinus/chronic infection	5
	Desquamative gingivitis	4
	Amalgam tattoo	4
	Infected socket/Alveolar osteitis	2
	Gingival hyperplasia	2
	Denture induced lesion/trauma	2
	Aphous ulcer	2
	Lichen planus/Lichenoid reaction	1
	Trauma	1
	Not recorded	12
	Tongue	Trauma
Lichen planus/Lichenoid reaction		6

	Geographic tongue/benign glossitis	5
	Papilloma	3
	Haemangioma/ Haematoma	3
	Exogenous staining/coating	3
	Keratoses	3
	Fissuring/ anatomical feature on tongue	2
	Evidence of previous surgery	2
	Apthous ulcer	1
	Fungal infection	1
	Under the tongue	Fungal infection
Lichen planus/Lichenoid reaction		1
Mucocele		1
Keratoses		1
Palate	Denture Induced Stomatitis	10
	Trauma	8
	Denture Inducted Lesion	7
	Pigmentation	1
	Keratoses	1
	Lichen planus/Lichenoid reaction	1
	Tori/ Bony exostoses	1
	Blocked minor salivary gland	1
	Not recorded	6

Source: ISD SAOHS database.



## A9 – Information Sheet for Patients

### Scottish Adult Oral Health Survey 2015/16

Your NHS dental practice is taking part in a national survey called the Scottish Adult Oral Health Survey. We would like to invite you to take part in the survey which will look at how we collect information about dental health. Before agreeing to take part you need to understand why the survey is being carried out and what it would involve. Please take time to read the following information carefully. If you would like more information then please feel free to discuss the survey with the dentist you are seeing today or contact a member of the survey team on 01382 383941.

This leaflet answers some of the questions you may have about taking part in this survey. Please take time to read through the following information carefully.

#### **What is the purpose of the survey?**

The main purpose of this survey is to gain a picture of the dental health of the adult population in Scotland. Currently we do not have much information on the dental health of adults over the age of 45. Information collected will be used locally and nationally to effectively plan dental services.

#### **Why have I been invited to take part?**

You have been invited to take part because you are attending a check-up or examination appointment with an NHS dentist who has opted into the survey. Everyone who has been invited to attend is over the age of 45.

#### **Do I have to take part?**

No, it is up to you to decide. We encourage you to read this information sheet and discuss it with your dentist. If you agree to take part the dentist you are seeing today will record this in your patient record to show you have agreed to take part.

If you change your mind, you are free to withdraw at any stage, and you do not need to give a reason. If you wish to withdraw during the survey please let your dentists know. The data collected, prior to you withdrawing will be removed from the survey.

If you decide not to take part in the survey, or if you wish to withdraw at any time, it will not influence your care or treatment in any way, now or in the future.

#### **What type of survey is it?**

This is a national survey which is taking part in NHS dental practices across Scotland. We hope to have 400 dentists involved in the survey. The dentists will each record routine information about 20 of their patients.

#### **What will happen if I decide to take part?**

The dentist will carry out your regular dental exam plus a series of additional tasks.

1. The dentist will record specific aspects of your personal information
2. The dentist will ask you a series of questions which relate to your dental and general health. They will record the answers to these questions.

3. The dentist will carry out and record the information from an extended dental examination. The information collected will be brought together and managed for the NHS by the Information Services Division (ISD). ISD is part of NHS National Services Scotland (NSS). ISD is working with dentists and other staff from the NHS Health Boards, NHS Education for Scotland and the Universities of Glasgow and Dundee to pilot this method of gathering patient information.

### **What will I have to do?**

We will expect you to:

1. Read this information sheet
2. Discuss the survey with the dentist you are seeing today
3. Tell the dentist whether you give consent and agree to take part in the survey

### **What are the possible disadvantages and risks of taking part?**

Your appointment may take up to 5 minutes longer than a regular dental examination appointment. There are no known risks of taking part in the survey.

### **What if there is a problem?**

If you have a concern about any aspect of this survey, you should ask to speak to a member of the dental team who will do their best to answer your questions. If you wish to speak to a member of the survey team then please contact [final contact to be confirmed].

### **Will my taking part in this survey be kept confidential?**

Yes. We will follow ethical and legal practice and all information about you will be handled in strictest confidence. The data will be stored securely by Information Service Division, NHS National Services Scotland. It will be analysed by authorised employees of ISD and the Universities of Glasgow and Dundee. All members of the survey team have a duty of confidentiality to you.

### **What will happen to the results of the survey?**

The results of the survey will be published in the Scottish Adult Oral Health Survey report and in professional medical publications. No individual will be identifiable in any publication.

### **What should I do now?**

Please inform the dentist you are seeing today if you want to take part in the survey or not. If you decide to participate the dentist will carry out the survey as part of an extended dental examination.

Further information on the safe and secure use of personal information can be obtained at:

[http://www.isdscotland.org/About-  
ISD/Confidentiality/Safe\\_and\\_secure\\_use\\_of\\_personal\\_health\\_info\\_Dec2012.pdf](http://www.isdscotland.org/About-<br/>ISD/Confidentiality/Safe_and_secure_use_of_personal_health_info_Dec2012.pdf)

OR please request a copy of this information from the dentist who is seeing you today.

## A10 – Links and Comparisons to Other Sources of Dental Health Information

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

### 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.
- A biannual [NHS Registration and Participation](#) report providing information on NHS General Dental Services (GDS) registrations and participation (contact with GDS).
- An annual [National Dental Inspection Programme \(NDIP\)](#) report which advises the Scottish Government, NHS boards and other organisations concerned with children's health of the oral disease prevalence of all P1 and P7 children in their area.
- An annual [Primary Care in Dentistry](#) report, published on behalf of the Scottish Dental Practice Board, which provides information on how primary care dental services are managed and provided in Scotland, and how well these services are operating.

The 2014 [Scottish Health Survey](#) covers dental health topics such as dental health problems and trends in prevalence of natural teeth, but not oral health behaviours.

**Table A11. Is SAOHS comparable with other UK dental survey data?**

Country	Comparable to SAOHS?	Available	Links
Rest of UK	No - different methodologies used.	Yes	The <a href="#">Adult Dental Health Survey</a> collected information about adults' teeth in England, Wales and Northern Ireland.

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.

**A11 – Publication metadata (including revisions details)**

<b>Metadata Indicator</b>	<b>Description</b>
Publication title	Scottish Adult Oral Health Survey 2016
Description	This report presents the results of the Scottish Adult Oral Health Survey pilot carried out December 2015 – March 2016.
Theme	Dental care
Topic	Adult's dental health
Format	PDF and Microsoft Excel
Data source(s)	Scottish Adult Oral Health Survey database
Date that data are acquired	December 2015 – March 2016
Release date	21 February 2017
Frequency	This iteration is a pilot study only; frequency of future iterations is currently unknown.
Timeframe of data and timeliness	December 2015 – March 2016; 11 months in arrears.
Continuity of data	Results in this report relate to a pilot study only.
Revisions statement	These data are not subject to planned major revisions. However, ISD aims to continually improve the interpretation of the data and therefore analysis methods are regularly reviewed and may be updated in future.
Revisions relevant to this publication	None
Concepts and definitions	See Glossary, References and Appendices.
Relevance and key uses of the statistics	The principal aim of the Scottish Adult Oral Health Survey was to assess the feasibility of collecting adult oral health data and establish appropriate methodologies for this to occur routinely in future. An additional key aim was to record levels of adult oral health in Scotland. This pilot was carried out as the first stage in the development of a rolling Scottish Adult Oral Health Survey programme.
Accuracy	Data was collected by dentists during routine dental examinations; it is considered that data recorded by practitioners during oral health examinations is accurate. Data recorded during the examination in relation to oral health behaviours (i.e. smoking, alcohol consumption) relies on the patient accurately responding to survey questions; without any method to confirm this data, it is considered that the data collected is accurate.
Completeness	A data quality reporting process included measures of data accuracy and completeness in order to ensure data quality.
Comparability	Comparisons with UK-wide statistics. See <a href="#">Appendix A9</a> .

Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to <a href="#">published guidelines</a> .
Coherence and clarity	Tables and charts are accessible via the <a href="#">ISD website</a> .
Value type and unit of measurement	Various dental/epidemiological and demographic units of measurement.
Disclosure	The <a href="#">ISD protocol on Statistical Disclosure Protocol</a> is followed.
Official Statistics designation	Official Statistics
UK Statistics Authority Assessment	Not assessed at this time.
Last published	N/A
Next published	Unknown – current iteration is a pilot study only; date of next publication is to be confirmed.
Date of first publication	21 February 2017
Help email	<a href="mailto:nss-isd-dental-info@nhs.net">nss-isd-dental-info@nhs.net</a>
Date form completed	11 January 2017

## A12 – 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:

#### Standard Pre-Release Access:

Scottish Government Health and Social Care Directorate  
 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:

Margie Taylor, Chief Dental Officer, Scottish Government (Chair of SAOHS Steering Group)

### Early Access for Quality Assurance

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	<a href="mailto:Lorna.Macpherson@glasgow.ac.uk">Lorna.Macpherson@glasgow.ac.uk</a>	Members of Publication Writing Group
Senior Lecturer in Statistics	A Sherriff	<a href="mailto:Andrea.Sherriff@glasgow.ac.uk">Andrea.Sherriff@glasgow.ac.uk</a>	
Clinical Lecturer / Honorary Specialty Registrar in Dental Public Health	S Carson	<a href="mailto:s.y.carson@dundee.ac.uk">s.y.carson@dundee.ac.uk</a>	
Programme Manager	L Young	<a href="mailto:linda.young@nes.scot.nhs.uk">linda.young@nes.scot.nhs.uk</a>	
Consultant in Dental Public Health	D Richards	<a href="mailto:derek.richards@nhs.net">derek.richards@nhs.net</a>	

## A13 – 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 (i.e. assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (i.e. legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (i.e. 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](#).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.