Dental Statistics – NHS Registration and Participation

Update of statistics as at 31st March 2014

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A National Statistics Publication for Scotland
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Introduction

Background
This release provides information on NHS General Dental Service registrations and participation (contact with an NHS dentist) as at 31st March 2014, along with data from earlier snapshots, published previously.

NHS General Dental Service (GDS)
The NHS General Dental Service (GDS) is usually the first point of contact for NHS dental treatment. The majority of GDS is provided by independent dentists (“High Street dentists”) who have arrangements with NHS boards to provide GDS. People register with a dentist in order to receive the full range of NHS treatment available under GDS.

Historically, there were a number of salaried dentists who also provided GDS. Salaried dentists were directly employed by NHS boards, and provided an alternative service to independent dentists when this was considered the best solution to meet local needs. People could also register with salaried dentists.

Historically, the Community Dental Service (CDS) provided a ‘safety net’ dental service for people who were unable to obtain care through the GDS. Data in relation to patients seen by a community dentist were not collected or counted as part of the national registration database as it was not possible to register with CDS dentists.

From 1 January 2014 the salaried dental service merged with the CDS to become the Public Dental Service (PDS).

The main role of PDS dentists is to provide GDS for people who cannot access care from an independent dentist. People previously registered with a salaried dentist will remain registered under the PDS. People who were not registered with the CDS will now be able to register with PDS dentists.

GDS will therefore be delivered by independent dentists and the PDS. Only GDS activity is published in this report. The different population and service profiles for the NHS boards may mean that private dentistry or historically the CDS may play a greater role in treating patients than in other areas. This will impact on patient registration data and may explain some of any variation seen between the boards.

For the purposes of this publication ‘NHS dentist’ is a dentist providing GDS.

Data collection
Management Information & Dental Accounting System (MIDAS), the computerised payment system for GDS dentists, processes information on people registered with an NHS dentist in a dynamic database that changes daily. Therefore, the number of people registered with an NHS dentist will change over time, depending on when data are entered into and extracted from the database. Registrations may take several months to be included in MIDAS, because GP17 forms are submitted by dentists after the completion of a course of treatment (but must be received by Practitioner Services Division (PSD; now part of Practitioner & Counter Fraud Services) within 3 months of the completion date of treatment).
Key Definitions

Registration
Data are presented on the number and percentage of the population who are registered with an NHS dentist. Based on the postcode of the registered person's home address, the level of population registered with an NHS dentist by administrative area is calculated as follows:

\[
\text{the number of people registered with an NHS dentist; in any administrative area} \\
\text{the number of people resident in that administrative area}
\]

Population figures are based on mid-year population estimates provided by the National Records of Scotland (NRS). Registration levels for September 2013 & March 2014 are based on the 2012 mid-year estimates.

This methodology ensures that the element of “cross-boundary flow” that is skewed by the movement of patients from the administrative area of their home address to the administrative area of their dental practice is minimised; furthermore, it is widely regarded as a more meaningful methodology and is the one now favoured by ISD Scotland.

The number of registered patients who live in an administrative area is expressed as a percentage of all people living in that same administrative area, regardless of which administrative area the registered patients’ dental practices are located. Note that “cross-boundary flow” still exists, in that people may live in one administrative area (e.g. NHS Lanarkshire) but be registered with a dentist whose practice is located in another (usually adjacent) administrative area (e.g. NHS Greater Glasgow & Clyde).

Policy impacts on registration

A key policy change influencing registration levels has been the introduction of non-time-limited registration. Prior to April 2006, patient registration lapsed after a period of 15 months if the patient did not attend the practice. This was extended to 36 months from April 2006, and further extended to 48 months from April 2009. In April 2010, ‘lifetime registration’ was introduced, i.e. the patient will remain registered with that dentist unless they move to another dentist, or upon death. These extensions to the registration period are likely to have had, and will continue to have, an impact on registration rates.

The creation of the PDS in January 2014 will increase patient registration rates slightly as people who were previously treated by CDS dentists begin to be seen and registered under GDS.

The different population and service profiles for the NHS boards may mean that private dentistry or historically the CDS may play a greater role in treating patients than in other areas. This will impact on patient registration data and may explain some of any variation seen between the boards.

Note that it is possible to register with a new NHS dentist as an adult without actually being seen by the dentist. In contrast, children can only register with a dentist if they are actually seen by the dentist at the same time.

As a result of the introduction of lifetime dental registration, the registration rate is becoming less informative as a measure of patient accessibility and utilisation of GDS. Thus, in addition, since September 2010, ISD has published figures on patients’ participation.
Participation
Participation is defined as contact with GDS for registration, examination or treatment in the last two years.

This is restricted to patients who are registered with an NHS dentist and therefore does not include patients who only attend for occasional or emergency treatment.

Based on the postcode of the registered person’s home address, the level of participation by administrative area is calculated as follows:

\[
\text{the number of registered patients who have participated in GDS in the previous two years; in any administrative area} \\
\text{the number of people registered with an NHS dentist in that administrative area}
\]

Policy impacts on participation
The creation of the PDS will increase participation figures slightly as people who were previously treated by CDS dentists begin to be seen and registered under GDS, and therefore counted in participation too.

Dentists are paid a monthly fee for each registered patient. This is reduced to 20% if the patient hasn’t attended for three years. It was suggested that dentists may only be submitting forms once every three years to ensure continued full payment, rather than for each visit. Following investigation, ISD found no evidence that this is the case and have therefore concluded that there is no evidence to suggest that the figures in this report are undercounting the level of participation.

Data snapshots
Figures are based on six-monthly snapshots of data. The number of people registered with an NHS dentist will change daily and therefore it is not possible to recreate figures from earlier snapshots. ISD has only published figures on registration rates since March 2007 and by service provider since March 2011. Similarly, the participation measure has only been calculated since September 2010 as a result of monitoring the introduction of lifetime registration.

Revisions
Due to an error in the analysis of SIMD data for children June 2011, the data have been revised as of the June 2014 publication. All tables are noted “R” and footnoted where appropriate. This error affects all health boards however the national figure remains unchanged.

The NHS board totals (number of registrations) in ‘Table 2b - trends’ (number of registrations by NHS board and SIMD) will not match those from ‘Table 1b - trends’ (number of registrations by NHS board) due to different postcode lookup files used in these tables.
Key Points

Registration

- Over 4.5 million patients (85% of population) were registered with an NHS dentist in Scotland in March 2014.
- There has been a 75% increase from the 2.6 million patients registered (51% of population) in 2007.
- 91% of children and 84% of adults are now registered with an NHS dentist.
- For adults, registration rates fall steadily with age, with only 70% of patients aged 75 and over being registered.
- Most NHS boards had over 85% of children registered with a dentist, with only Grampian (84%) and Western Isles (81%) being lower.
- Registration rates have increased generally across all NHS boards. The largest increase for children registration was in Western Isles, up from 67% to 81% since March 2012.
- Adult registration varied widely across the NHS Boards, with a high of 88% of adults registered in March 2014 in Ayrshire & Arran compared with a low of 64% in Grampian. Rates for Grampian have, however, increased by 22 percentage points since March 2010, among the largest increases in Scotland.
- There was no association between registration with an NHS dentist and deprivation for children (all quintiles with around 88% registered).
- In contrast, adults from the most deprived areas were most likely to be registered with an NHS dentist (85%), while registration rates for all other deprivation quintiles (fifths of the population) areas were the same (around 79%). This may be because free NHS dental treatment is available to people who receive certain benefits.

Participation

- Over 3.4 million patients registered with an NHS dentist in March 2014 attended in the previous two years ("participation").
- Three-quarters (73%) of adults registered with an NHS dentist in March 2014 attended in the last two years (2.6 million adults).
- 86% of children see their NHS dentist at least once within two years (815,000 children).
- Despite an increasing number of patients participating, the participation rate is falling. This is because the number of registrations has increased at a faster pace than the numbers participating, and as a result, the percentage of registered patients participating has shown a steady decline.
- Participation for children has fallen from 89% in September 2010 to 86% in March 2014.
- Participation rates for adults have also fallen since September 2010 from 80% to 73%.
- Borders had the highest participation rate, both for children (92%) and adults (84%). Shetland had the lowest participation rate for children (83%), while Orkney had the lowest participation rate for adults (61%).
- In contrast to the registration patterns, for both adults and children, registered patients from the most deprived areas were least likely to see their dentist within the two years previously.
Results and Commentary

Registration trends
As at 31st March 2014, over 4.5 million patients (85% of the population) were registered with an NHS dentist in Scotland. Since 2007, there has been a 75% increase from the 2.6 million patients registered in 2007 (figure 1). Adults are registering at a greater rate, 90% more registrations in March 2014 compared with 2007, compared with an increase of 35% in registrations for children.

Figure 1 - Number of children and adults registered with an NHS dentist in Scotland1–5

Source: ISD, MIDAS
1. Children are defined as <18 years old and adults as 18+ years.
2. Figures between 2010 and March 2013 exclude registrations for deceased patients.
3. Duplicate registrations are excluded from those cases which have a CHI number. However there may still be duplicate registrations amongst the 3% of records on MIDAS which have no CHI number, as these cannot be identified for removal.
4. Figures are taken from the original snapshots of NHS registrations extracted for each report, e.g. taken in May for those on the system as at the 31st March 2014. These snapshots are only available since 2007.
5. Due to the method of data extraction by ISD, figures for September 2013 include 15,933 CDS attendances.

The impact of the policy changes from April 2006 to gradually introduce lifetime registration has caused the numbers of patients to be registered with a dentist to increase; unfortunately no snapshots of the data prior to 2007 are available to quantify the full extent of the increase.

However, the percentage of the Scottish population registered with an NHS dentist has increased from 67% to 91% of children, and 46% to 84% of adults between March 2007 and March 2014, again showing adult registration is rising more sharply than for children (figure 2).
The creation of the PDS in January 2014 will increase patient registration rates slightly because people who would have previously been treated by CDS dentists begin to be seen and registered under GDS.

The majority of GDS is provided by independent dentists (around 95% of all those registered). However, a slightly lower percentage of the registered children were registered with an independent dentist (91%) than for registered adults (95%), possibly due to differing use of PDS. In March 2014, 80% of the Scottish population were registered with an independent dentist, compared with 5% with PDS.
Registration rates by patient age

Children
Over 99% of children aged 6-17 were registered with an NHS dentist in March 2014 (figure 3). Although 47% of children aged 0-2 and 92% of 3-5 year olds were registered with an NHS dentist in March 2014, this varied greatly by age. Registration rates for children aged less than 1 was lowest at 15%; was considerably higher (51%) for children aged 1; and then increased incrementally with age, to 100% of children aged 5. This is in line with current Childsmile guidance which advises parents to register their baby with a dentist soon after birth and at least as soon as the first tooth appears. Every 3 and 4-year-old attending nursery in Scotland (extended into some P1 and P2 classes in schools), is eligible to be offered free dental packs reinforcing the benefits of regular dental health checks and offering support to parents who have not already registered their child with a dentist.

Adults
Registration rates decreased steadily with age from 97% in the 25-34 age group to 70% for people aged 75 and over (figure 3). A similar pattern was seen in previous years.

Since March 2010, registration has increased for all age groups, with the biggest increases (around 27 percentage points) in the 25-34 year olds and in the over 75s (Table 1 and Table 1b - trends).

Figure 3: Percentage of the Scottish population registered with an NHS dentist, as at 31st March 2014; by age group

Source: ISD Scotland, MIDAS.
1. NRS 2012 mid-year population estimates were used to calculate the percentage of people registered.
2. Duplicate registrations are excluded from those cases which have a CHI number. However there may still be duplicate registrations amongst the 3% of cases on MIDAS which have no CHI number, as these cannot be identified for removal.
3. Figures are taken from a snapshot of NHS registrations as at 31st March 2014.

Additional information is available on NHS dental registrations for the following administrative areas: NHS board, local authority, Scottish parliamentary constituency, Scottish parliamentary region and community health partnership, by age group (Table 1 and Table 1b - trends).
Registration rates by NHS board

Registration rates by NHS board of residence based on the patient’s postcode are shown in figure 4a (children) and figure 4b (adults) from March 2010.

Additional information is available on NHS dental registrations for the following administrative areas: NHS board, local authority, Scottish parliamentary constituency, Scottish parliamentary region and community health partnership, by age group (Table 1 and Table 1b - trends).

Differing use of private dentistry and the CDS historically may explain some of the variation in the GDS registration rates across the Boards (seen below).

Children
All NHS boards had at least 85% of children registered, except for Grampian (84%) and Western Isles (81%), as at 31st March 2014. Indeed both Greater Glasgow & Clyde and Shetland had more than 90% of children registered with an NHS dentist (figure 4a).

Registration rates for children in Orkney and Shetland decreased slightly (around 1.5 percentage points lower) between March 2012 and March 2014 but remained among the highest rates in Scotland. In contrast, although Western Isles continued to have the lowest registration rates, this board reported the largest increase in rates since March 2012, up from 67% to 81%.

Adults
A different pattern was seen for adult registration, with much greater variation between the NHS boards. Three boards (Grampian, Orkney and Highland) had less than 60% of adults registered in GDS, whereas more than 85% of adults in Ayrshire & Arran, Greater Glasgow & Clyde and Lanarkshire were registered (figure 4b).
Figure 4a: Percentage of the child population registered with an NHS dentist; by NHS board and date of snapshot\textsuperscript{1-7}

![Figure 4a: Percentage of the child population registered with an NHS dentist; by NHS board and date of snapshot](image)

Figure 4b: Percentage of the adult population registered with an NHS dentist; by NHS board and date of snapshot\textsuperscript{1-7}

![Figure 4b: Percentage of the adult population registered with an NHS dentist; by NHS board and date of snapshot](image)

Key: A&A – Ayrshire & Arran; D&G – Dumfries & Galloway; GG&C – Greater Glasgow & Clyde

Source: ISD Scotland, MIDAS

1. NRS mid-year population estimates were used to calculate the percentage of people registered.
2. NHS board is based on the postcode of the patient’s home address. As at 31st March 2014, 4% of postcodes could not be identified or matched to an NHS board.
3. Children are defined as <18 years old and adults as 18+ years.
4. Duplicate registrations are excluded from those cases which have a CHI number. However there may still be duplicate registrations amongst the 3% of cases which have no CHI number, as these cannot be identified for removal.
5. Figures between 2010 and March 2013 exclude registrations for deceased patients.
6. Figures are taken from the original snapshots of NHS registrations extracted for each report, e.g. taken in May for those on the system as at the 31st March 2014. These snapshots are only available since 2007.
7. Prior to March 2010, data was published by NHS board of treatment and therefore trend data is not available for earlier snapshots.
### Registration rates by deprivation

Data for NHS dental registrations are analysed by the ‘Scotland level’ [Scottish Index of Multiple Deprivation (SIMD)](https://www.scotland.gov.uk/topics/health-and-wellbeing/healthcare/dentistry/simd) population-weighted quintiles. Each quintile consists of approximately 20% of the population living in Scotland, with deprivation quintile 1 indicating the population living in the most deprived areas.

### Children

As at 31st March 2014, there was no association between registration and deprivation for children, with similar registration rates seen across the SIMD quintiles (figure 5). This is similar to previous years.

### Adults

In contrast, adults from the most deprived quintile (85%) were more likely to be registered with an NHS dentist than the other quintiles (around 79%) (figure 5). This may be because free NHS dental treatment is available to people who receive certain benefits.

![Figure 5: Percentage of the Scottish population registered with an NHS dentist, as at 31st March 2014; by ‘Scotland level’ SIMD](https://example.com/simd_chart.png)

Source: ISD Scotland, MIDAS

1. NRS mid-year population estimates were used to calculate the percentage of people registered.
2. SIMD is based on the postcode of the patient’s home address. As at 31st March 2014, 3.9% of postcodes could not be identified or matched to a SIMD quintile.
3. Children are defined as <18 years old and adults as 18+ years.
4. Duplicate registrations are excluded from those cases which have a CHI number. However there may still be duplicate registrations amongst the 3% of cases which have no CHI number, as these cannot be identified for removal.
5. Figures are taken from a snapshot of NHS registrations as at 31st March 2014.

Additional information is available on NHS dental registrations by SIMD, NHS board and dental service ([Table 2](#) (‘Scotland-level’) and [Table 2b - trends (‘Health board-level’ SIMD)]). Please note that data up to September 2013 (‘table 2-trends’) are calculated using ‘Health board-level’ SIMD and are therefore not comparable with Table 2.
Participation
Since September 2010, ISD has published figures on patients' participation, i.e. contact with GDS for registration, examination or treatment in the last two years. This is restricted to patients who are registered with an NHS dentist and therefore does not include patients who only attend for occasional or emergency treatment.

The level of participation is calculated as follows:

\[
\text{The number of patients participating in GDS} \over \text{The number of people registered with an NHS dentist}
\]

Participation trends
There were 3.4 million registered patients who participated in GDS in the two-year period up to 31st March 2014. This is a 13% increase from 3 million who participated in the two years prior to September 2010 (figure 5).

Despite an increasing number of patients participating, the participation rate is falling. This is because the number of registrations has increased at a faster pace than the numbers participating, and as a result, the percentage of registered patients participating has shown a steady decline (figures 6a and 6b).

Children
Nationally, the participation rate for children has fallen steadily from 89% in September 2010 to 86% in March 2014. This is due to a 6% increase in participation, from around 770,000 to 815,000, compared with a 10% increase in registrations over the same time period (from around 870,000 to 950,000).

Adults
Participation rates for adults also fell from 80% to 73% between September 2010 and March 2014. Participation figures increased by 16%, from 2.3 million to 2.6 million, whereas registration rates increased by 27% over the same time period (from 2.8 million to 3.6 million).

The interpretation of trends in participation rates is affected by the trends in the registration rates.
Figure 6a: Registered children participating in GDS, by specified dates 1-7

Figure 6b: Registered adults participating in GDS, by specified dates 1-7

Source: ISD Scotland, MIDAS
1. Patients defined as ‘participating’ must be registered with an NHS dentist and have had contact with GDS for registration, examination or treatment in the last two years.
2. Children are defined as <18 years old and adults as 18+ years.
3. Figures between 2010 and March 2013 exclude dental activity for deceased patients.
4. Figures are taken from the original snapshots of NHS registrations extracted for each report, e.g. taken in May for those on the system as at the 31st March 2014. These figures are only available since 2010 when the participation measure was introduced.
5. Activity relating to occasional/emergency patients is not included.
6. Due to the method of data extraction by ISD, figures for September 2013 include 15,933 CDS attendances in error.
7. Duplicate registrations are excluded from those cases which have a CHI number. However there may still be duplicate registrations amongst the 3% of cases which have no CHI number, as these cannot be identified for removal.
Participation rates by patient age

**Children**
As at 31\textsuperscript{st} March 2014, the highest national participation levels were reported for children aged 0-2 (98%). This is largely as a consequence of the definition (i.e. contact within 2 years). For all children, the participation rate was over 80% although it decreased incrementally with age, to 82% for the 13-17 age group (figure 7).

This pattern was consistent across each NHS board ([Table 3](#)).

**Adults**
Although national registration levels for adults aged over 24 decreased with age (figure 3), participation increased incrementally between the 18-24 and 55-64 age groups (figure 7). Participation was lowest the over 75s (66%).

A similar pattern was seen in previous years ([Table 3](#)).

**Figure 7: Percentage of registered patients participating in GDS, as at 31\textsuperscript{st} March 2014; by age group\textsuperscript{1-4}**

Source: ISD Scotland, MIDAS
1. Patients defined as ‘participating’ must be registered with an NHS dentist and have had contact with GDS for registration, examination or treatment in the last two years.
2. Figures are taken from a snapshot of NHS dental activity on 31\textsuperscript{st} March 2014.
3. Activity relating to occasional/emergency/hospital patients is not included.
4. Duplicate registrations are excluded from those cases which have a CHI number. However there may still be duplicate registrations amongst the 3% of cases which have no CHI number, as these cannot be identified for removal.
Participation rates by NHS board

Participation rates as at 31st March 2012 and 31st March 2014 by NHS board are shown in figures 8a (children) and 8b (adults).

Additional information is available on participation with in GDS by NHS board and age group (Table 3).

As with registration, differing use of private dentistry and the CDS historically may explain some of the variation in the GDS participation rates across the Boards (seen below).

Children
There was some variation in child participation rates across the NHS Boards. Borders had the highest participation rate for children (92%), as at 31st March 2014, while Shetland was lowest (83%) (figure 8a).

Generally, participation rates have fallen slightly over time for all NHS Boards, except for children in Western Isles. Here participation of children increased from 79% in March 2012 to 89% in March 2014. However, Western Isles were just catching up with the rest of Scotland as their participation rates between September 2010 and March 2012 were much lower than other NHS Boards (Table 3).

Adults
There was a larger gap between the lowest and highest participation rates as at 31st March 2014 in adults: Orkney had the lowest participation rate at 61%, while Borders was highest at 84%.

Participation rates have been falling generally for adults, with the biggest decrease between March 2012 and March 2014 seen in Shetland (down 12 percentage points) (Figure 8b).
Figure 8a: Percentage of registered children participating in GDS; by NHS board and date of snapshot

Figure 8b: Percentage of registered adults participating in GDS; by NHS board and date of snapshot

Key: A&A – Ayrshire & Arran; D&G – Dumfries & Galloway; GG&C – Greater Glasgow & Clyde

Source: ISD Scotland, MIDAS

1. Patients defined as ‘participating’ must be registered with an NHS dentist and have had contact with GDS for registration, examination or treatment in the last two years.
2. NHS board is based on the postcode of the patient’s home address. As at 31st March 2014, 4% of postcodes could not be identified or matched to an NHS board.
3. Children are defined as <18 years old and adults as 18+ years.
4. Figures between 2010 and March 2013 exclude dental activity for deceased patients.
5. Figures are taken from the original snapshots of NHS registrations extracted for each report, e.g. taken in May for those on the system as at the 31st March 2014. These figures are only available since 2010 when the participation measure was introduced.
6. Activity relating to occasional/emergency patients is not included.
7. Duplicate registrations are excluded from those cases which have a CHI number. However there may still be duplicate registrations amongst the 3% of cases which have no CHI number, as these cannot be identified for removal.
Participation rates by deprivation

Data are again analysed using the ‘Scotland level’ Scottish Index of Multiple Deprivation (SIMD) population-weighted quintiles.

Children

Figures suggest an association between deprivation and participation with children living in the most deprived areas least likely to see their dentist within two years (82% for most deprived, SIMD1; 91% for least deprived, SIMD5) (figure 9).

This pattern was generally seen across most of the NHS Boards (table 4), although it should be noted that not all Boards have people residing in all five deprivation quintiles.

Adults

A similar pattern was seen for adults, with patients living in the most deprived areas least likely to participate (69% in SIMD1, 79% in SIMD5). This differs from the pattern seen for registration rates, where patients living in the most deprived were most likely to be registered with an NHS dentist.

Figure 9: Percentage of registered patients participating with GDS, as at 31st March 2014; by ‘Scotland level’ SIMD1-5

Source: ISD Scotland, MIDAS
1. Patients defined as ‘participating’ must be registered with an NHS dentist and have had contact with GDS for registration, examination or treatment in the last two years.
2. Children are defined as <18 years old and adults as 18+ years.
3. Figures are taken from a snapshot of NHS dental activity on 31st March 2014.
4. Activity relating to occasional/emergency/hospital patients is not included.
5. SIMD is based on the postcode of the patient’s home address. As at 31st March 2014, 4% of postcodes could not be identified or matched to a SIMD quintile.

Additional information is available on participation with GDS by ‘Scotland level’ SIMD, NHS board and dental service (Table 4).
## Glossary

| CDS | Community Dental Service  
|     | CDS provided a 'safety net’ dental service for people who were unable to obtain care through the GDS. From 1 January 2014 the salaried dental service merged with the CDS to become the Public Dental Service (PDS) |
| GDS | General Dental Service  
|     | The NHS General Dental Service (GDS) is usually the first point of contact for NHS dental treatment |
| Independent dentist | Independent contractor dentist working on behalf of an NHS board |
| MIDAS | Management Information & Dental Accounting System  
|     | Computerised payment system for GDS dentists |
| Participation | Contact with GDS for registration, examination or treatment in the last two years |
| Registration | Registration with an NHS dentist |
| PDS | Public Dental Service  
|     | From 1 January 2014 the salaried dental service merged with the CDS to become the Public Dental Service (PDS) |
| PSD | Practitioner Services Division (now part of Practitioner & Counter Fraud Services) |
| Salaried dentist | Dentist working in the salaried General Dental Service (or Community Dental Service) as employee of an NHS board |
| SIMD | Scottish Index of Multiple Deprivation  
|     | Data for NHS dental registrations and participation in this report are analysed by the 'Scotland level' Scottish Index of Multiple Deprivation (SIMD) population-weighted quintiles. Each quintile consists of approximately 20% of the population living in Scotland, with deprivation quintile 1 indicating the population living in the most deprived areas |
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<tr>
<td>Figure 5</td>
<td>Percentage of patients registered with an NHS dentist; by ‘Scotland level’ SIMD</td>
<td>As at 31&lt;sup&gt;st&lt;/sup&gt; March 2014</td>
<td>Excel [69kb]</td>
</tr>
<tr>
<td>Table 2</td>
<td>NHS General Dental Service Registrations by NHS board and ‘Scotland-level’ SIMD</td>
<td>As at 31&lt;sup&gt;st&lt;/sup&gt; March 2014</td>
<td>Excel [178kb]</td>
</tr>
<tr>
<td>Table 2 trends</td>
<td>NHS General Dental Service Registrations by NHS board and ‘Health board-level’ SIMD&lt;sup&gt;R&lt;/sup&gt;</td>
<td>December 2010 to March 2014</td>
<td>Excel [485kb]</td>
</tr>
<tr>
<td>Figures 6a &amp; 6b</td>
<td>Registered patients participating in GDS</td>
<td>September 2010 to March 2014</td>
<td>Excel [51kb]</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Percentage of registered patients participating in GDS; by age group</td>
<td>As at 31&lt;sup&gt;st&lt;/sup&gt; March 2014</td>
<td>Excel [33kb]</td>
</tr>
<tr>
<td>Table 3</td>
<td>Registered NHS patients participating in NHS General Dental Service</td>
<td>September 2010 to March 2014</td>
<td>Excel [527kb]</td>
</tr>
<tr>
<td>Figures 8a &amp; 8b</td>
<td>Percentage of registered patients participating in GDS; by NHS board</td>
<td>As at 31&lt;sup&gt;st&lt;/sup&gt; March 2012 &amp; 31&lt;sup&gt;st&lt;/sup&gt; March 2014</td>
<td>Excel [59kb]</td>
</tr>
<tr>
<td>Table 4</td>
<td>Participation with NHS general dental service; by NHS board and ‘Scotland-level’ SIMD</td>
<td>As at 31&lt;sup&gt;st&lt;/sup&gt; March 2014</td>
<td>Excel [107kb]</td>
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<tr>
<td>Figure 9</td>
<td>Percentage of registered patients participating with GDS; by NHS board, and ‘Scotland level’ SIMD</td>
<td>As at 31&lt;sup&gt;st&lt;/sup&gt; March 2014</td>
<td>Excel [57kb]</td>
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</tbody>
</table>

<sup>R</sup> – July 2014. The figures for June 2011 have been updated as figures presented for children by health board were incorrect. Scotland totals remain unaffected.

Analysis by ‘NHS board level’ SIMD as at 31<sup>st</sup> March 2014 is available on request, via NSS.isd-dental-info@nhs.net. Please note that data up to September 2013 (‘table 2-trends’) are calculated using ‘Health board-level’ SIMD and are therefore not comparable.
Contact

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Further Information
Further information can be found on the ISD website

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Appendices

A1 – Background Information

The Community Health Index (CHI) is a unique patient number from which a patient’s age and postcode can be derived when linked to the appropriate data sources. ISD Scotland has appended the (CHI) number to records in the patient registration dataset.

Between 2007 and September 2010 there were some unknown patient ages and unknown Health Boards due to missing CHI numbers. From March 2011, where patient age or postcode is unknown, this information is sourced from MIDAS where available.
A2 – Links/comparisons to other sources of dental health information

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

**Childsmile** - improving the oral health of children in Scotland.

**Dental data in Scotland**
ISD publishes information relating to the general dental service workforce in Scotland.

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

ISD publishes an annual *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 in their area.

The 2012 *Scottish Health Survey* covers dental health topics such as dental health problems and trends in prevalence of natural teeth.

ISD publishes information on the application of fluoride varnishing 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).

**Comparison with other UK dental data**

<table>
<thead>
<tr>
<th>Country</th>
<th>Registration measure</th>
<th>Participation measure</th>
<th>Comparable to Scottish Participation?</th>
<th>Links:</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>no</td>
<td>Yes (number of patients seen within two-year period)</td>
<td>No – Scottish participation is restricted to patients registered to an NHS dentist</td>
<td><strong>The Health and Social Care Information Centre (HSCIC)</strong></td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>no</td>
<td>no</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wales</td>
<td>no</td>
<td>Yes (number of patients treated within two-year period)</td>
<td>No – Scottish participation is restricted to patients registered to an NHS dentist</td>
<td><strong>StatsWales</strong></td>
</tr>
</tbody>
</table>

**The Health and Social Care Information Centre** (HSCIC) in England produces annual and quarterly statistical publications providing a range of information on all patients who receive NHS dental care in Scotland, England, Northern Ireland and Wales. Subjects covered include: dental activity, clinical treatments, orthodontic activity and dental workforce. Information on the number of patients seen by an NHS dentist in the previous 2 years at specified dates is also included.

**StatsWales** provide statistics on GDS, including data on the proportion of patients treated.
It should be noted that the definition of patients seen/treated used by HSCIC and StatsWales differs to ISD’s definition of participation (which is restricted to patients who are registered with an NHS dentist).

The Office for National Statistics’ (ONS) has carried out a Dental Health Survey of Children and Young People every ten years since 1973. The study provides information to underpin dental health care for children in England, Wales and Northern Ireland. The information collected helps the NHS to understand how the dental health of each generation of children is changing. It is used in the planning of dental care services for the future.

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.
A3 – Publication Metadata (including revisions details)

<table>
<thead>
<tr>
<th>Metadata Indicator</th>
<th>Description</th>
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<tr>
<td>Publication title</td>
<td>Dental Statistics – NHS Registration and Participation.</td>
</tr>
<tr>
<td>Description</td>
<td>This release provides information on NHS dental registrations as at 31\textsuperscript{st} March 2014. Information on the participation (contact with GDS) of these registered patients can also be found in this release.</td>
</tr>
<tr>
<td>Theme</td>
<td>Dental health care.</td>
</tr>
<tr>
<td>Topic</td>
<td>Registration and participation.</td>
</tr>
<tr>
<td>Format</td>
<td>Excel workbooks.</td>
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<tr>
<td>Data source(s)</td>
<td>MIDAS, NRS.</td>
</tr>
<tr>
<td>Date that data are acquired</td>
<td>12\textsuperscript{th} May 2014.</td>
</tr>
<tr>
<td>Release date</td>
<td>24\textsuperscript{th} June 2014.</td>
</tr>
<tr>
<td>Frequency</td>
<td>Six-monthly.</td>
</tr>
<tr>
<td>Timeframe of data and timeliness</td>
<td>As at 31\textsuperscript{st} March 2014, therefore three months in arrears.</td>
</tr>
<tr>
<td>Continuity of data</td>
<td>Reports six-monthly as at 31\textsuperscript{st} March and 30\textsuperscript{th} September.</td>
</tr>
<tr>
<td>Revisions statement</td>
<td>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.</td>
</tr>
<tr>
<td>Revisions relevant to this publication</td>
<td>Due to an error in the analysis of SIMD data for children June 2011, the data have been revised as of the June 2014 publication. All tables are noted “R” and footnoted where appropriate. This error affects all health boards however the national figure remains unchanged. For data up to and including Sep2013, the NHS board totals (number of registrations) in ‘table 2b-trends’ (number of registrations by NHS board and SIMD) will not match those from ‘table 1b-trends’ (number of registrations by NHS board) due to different postcode lookup files used in these tables. Figures are based on six-monthly snapshots of data. The number of people registered with an NHS dentist will change daily and therefore it is not possible to recreate figures from earlier snapshots.</td>
</tr>
<tr>
<td>Concepts and definitions</td>
<td>Registrations</td>
</tr>
<tr>
<td></td>
<td>Data are presented on the number and percentage of the population who are registered with an NHS dentist.</td>
</tr>
<tr>
<td></td>
<td>Based on the postcode of the registered person’s home address, the level of population registered with an NHS dentist by administrative area is calculated as follows:</td>
</tr>
<tr>
<td></td>
<td>• The number of people registered with an NHS dentist in any administrative area, based on patients’ home address.</td>
</tr>
</tbody>
</table>
address postcodes (numerator) ÷ The number of people resident in that administrative area, based on mid-year population estimates provided by the National Records of Scotland (NRS).

**Participation**

Based on the postcode of the registered person’s home address, the level of participation by administrative area is calculated as follows:

- The number who have had contact with GDS for registration, examination or treatment in the last two years, in any administrative area, based on patients’ home address postcodes (numerator) ÷ The number of people registered with an NHS dentist in that administrative area, based on patients’ home address postcodes (denominator).

**Relevance and key uses of the statistics**

Making information publicly available for planning, provision of services, research etc.

**Accuracy & Completeness**

GDS data are highly accurate and reliable; they are the product of practitioners’ detailed records of treatments provided to their patients for payment and clinical governance purposes. Practitioner Services Division’s (PSD) internal reporting routinely quantifies the accuracy of MIDAS source data. However, errors made by practitioners in claiming for treatment provided are identified by PSD’s validation systems and corrected in the next available payment schedule (usually the following month).

**Summary of the quality assurance undertaken on the dental payments database**

Two types of checks are made as payment verification of the GDS payment database (see [http://www.psd.scot.nhs.uk/professionals/dental/payment-verification.html](http://www.psd.scot.nhs.uk/professionals/dental/payment-verification.html)). The Level 1 checks are there to check the quality of the data held in the database; Levels 2-4 are designed to determine fraudulent claims by dentists.

The Level 1 checks cover a range of validations to ensure the payment claims submitted meet the criteria laid down within the Statement of Dental Remuneration, they are not duplicates, that they make sense with regards to the claim being made by the dentist, and are run against all records before being accepted onto the database. In the past financial year, 6.6% of claims submitted were returned for clarification as they did not meet the specified criteria/were duplicates etc. It is unknown how many of these claims were resubmitted (as it is not possible to track them through as they haven’t made it onto the database). In addition, upon payment of the claim, 0.43% have been queried by...
the dentists as to why they did not match what they were expecting. Some of these queries are found to be mistakes in the claim, and are resolved, others are not upheld and the payment left as is, and a few are errors made during processing. Any amendments are made to MIDAS and the data quality improved. (Figures supplied by Martin Morrison, Head of Service Delivery, Practitioner Services Division, personal communication).

Additionally, around 1% of claims are also checked for their appropriateness for clinical need as part of a prior approval process for all claims for treatment over £350. This also helps to ensure data quality.

The second type of checks (the Level 2-4 checks) is largely aimed at detecting fraud. The Level 2 checks involve undertaking trends analysis to try to identify outlier patterns which may indicate fraudulent activity, while levels 3 and 4 involve examining and auditing dental care records. While the purpose of these checks is to safe-guard against fraud, this activity will improve accuracy with any errors identified and resolved within the database.

### Comparability

**Additions to June 2014 report**

In line with UK Statistics Authority guidance, the commentary in this report has been expanded to make the definitions, concepts and interpretation clearer to the general user.

Additional figures and tables have been created to help show the impact of the creation of PDS.

Analysis by SIMD has been calculated using the ‘Scotland-level’ SIMD, previously ‘Health-board’ SIMD was used. This change is to enable comparisons to be made across boards.

**Time trends within this report**

2012 mid-year population estimates are from the newly available 2011-based census from National Records Scotland, whereas previous years are based on the 2001-based census. In order to use the most recently available figures, registration levels for September 2013 & March 2014 are based on the 2012 mid-year estimates. This should be considered when looking at time trend analysis. These changes do not appreciably affect the results, nor would they change the overall interpretation of results by users of the report.

CHI number is identified for approximately 97% of records on MIDAS. Between March 2010 and March 2013, CHI number, where available, was used to identify and remove
records for deceased patients from the database. Dentists only stop receiving registration payments for these patients when records are updated as ‘deceased’ and therefore, until then, patients’ registrations are still active. Data from September 2013 onwards will include dental information for deceased patients. As at 30th September 2013, 21,947 (0.5%) of active registrations were for deceased patients.

**Comparisons with UK-wide statistics**
See appendix 2.

<table>
<thead>
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<th>Accessibility</th>
<th>It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coherence and clarity</td>
<td>Tables and charts are accessible via the ISD website at: <a href="http://www.isdscotland.org/Health-Topics/Dental-Care/Publications/">www.isdscotland.org/Health-Topics/Dental-Care/Publications/</a>.</td>
</tr>
<tr>
<td>Value type and unit of measurement</td>
<td>Number of patients and percentage of population registered with an NHS dentist/participating in GDS.</td>
</tr>
<tr>
<td>Disclosure</td>
<td>The ISD protocol on Statistical Disclosure Protocol is followed.</td>
</tr>
<tr>
<td>UK Statistics Authority Assessment</td>
<td>Awarded. Further details can be found in the UKSA assessment report (report 209).</td>
</tr>
<tr>
<td>Last published</td>
<td>26th November 2013.</td>
</tr>
<tr>
<td>Date of first publication</td>
<td>(Registrations) 2007.</td>
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</tr>
<tr>
<td>Date form completed</td>
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A4 – 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).
A5 – 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](http://isdscotland.org.uk).

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.