

Family Practitioner Services

# Background Quality Report

General Dental Statistics



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## Preface

This document constitutes a quality report for annual and quarterly statistics issued by Family Practitioner Services (FPS) covering General Dental Services.

Prior to 2020, the annual dental statistics were issued in the FPS Compendium Report, which covered all aspects of family practitioner activity in Northern Ireland i.e. dental, ophthalmic, pharmacy and general medical. They are now issued on an individual basis in line with user needs and to improve their timeliness and punctuality.

There were no material changes which affected the underlying quality assessment of dental statistics as it moved from the Compendium Report to a standalone publication. All references to the Dental publication should be read to cover also the dental statistics within the Compendium Report.

## Introduction

This document constitutes a data quality report for the Family Practitioner Services (FPS) General Dental Statistics and in-year quarterly updates.

This report is derived from administrative data from a range of sources. These are:-

- FPS Dental Payment System
- FPS Common Practitioner Model
- The National Health Application and Infrastructure System (NHAIS).

Information has been extracted from the live payment system following the close of the financial payment year (or relevant in-year quarters – ending March 31<sup>st</sup>, June 30<sup>th</sup>, September 30<sup>th</sup> and December 31<sup>st</sup>).

The statistics have then been compiled and quality assured by independent statisticians, on secondment to BSO's FPS Information and Registration Unit, from the Northern Ireland Statistics and Research Agency (NISRA) in accordance with the [Code of Practice for Statistics](#).

## Context

The General Dental Services Statistics publication provides a statistical overview of general dental activity in Northern Ireland. It is based on payment claims submitted by primary care dentists to Family Practitioner Services (FPS) as well as summary information about the practitioners themselves. This data does not cover private work or secondary care activity including work carried out by the Community Dental Service. In addition, some demographic breakdowns are provided in relation to patients registered with a General Dental Practitioner in NI.

The Family Practitioner Services division within BSO provides a range of services to General Medical, Dental, Ophthalmic and Pharmaceutical practitioners across Northern Ireland.

The administrative information which is produced as a by-product of these activities provides information on FPS payments as well as on service provision and the relative health of the population at NI and sub-regional level. It complements official statistics relating to other aspects of the NI health care system, namely secondary, community and social released by the Department of Health.

## **Purpose of this document**

This document aims to provide users with an evidence based assessment of the quality of data held within the FPS General Dental Services Statistics by reporting against nine quality dimensions and principles appropriate to this output.

In doing so, this meets our obligation to comply with the UK Statistics Authority (UKSA) [Code of Practice for Statistics](#), particularly the pillar of Quality, principle Q3 Assured Quality which states:

*Producers of statistics and data should explain clearly how they assure themselves that statistics and data are accurate, reliable, coherent and timely.*

It is a live document and will evolve and include additional material as further intelligence is gathered against each of the 9 ESS dimensions.

The 'Quality Assessment of Administrative Data' (QAAD) for General Dental Services has been completed and provides further valuable information [here](#).

# Assessment of statistics against quality dimensions and principles

## Relevance

*This dimension covers the degree to which the product meets user need in both coverage and content.*

The FPS Information and Registration Unit launched an online survey using Citizen Space on 21<sup>st</sup> February 2018. The survey invited users/potential users of summary statistics related to Primary Care Services to provide feedback to help shape our statistical publications. The survey closed on the March 13<sup>th</sup> 2018 and received 86 responses. A follow up online survey was launched on 12<sup>th</sup> March 2019, closing on 1<sup>st</sup> April 2019; 20 responses were received.

The findings of the user engagement surveys have been published [here](#) and highlighted that the formal and regular publication of these statistics would help address an important information gap. The survey also informed the types of analysis users wished to have access to, and in what format. This informed the development of the Compendium report and the subsequent individual reports.

Statisticians in the Information Unit are regularly in contact with key users of the statistics. Initially the readership surveys were used to provide an overall assessment of whether user needs were being met. However the current approach employed is to undertake focused consultations with key users on a rolling basis. This approach helps to gain greater insight into how the statistics are used and to identify additional specific requirements. In addition, any ad hoc requests for information are recorded centrally in a database and these records are used to provide intelligence from a wider set of users in relation to changing requirements. User Engagement Action Plans, incorporating summaries of identified user requirements, together with their current status and timescales for addressing these needs are provided [here](#). These will be updated regularly as new user needs are identified or addressed as part of our ongoing programme of engagement.

To ensure that understanding of user needs is as up-to-date as possible, the FPS Information and Registration Unit launched an online user survey in December 2021, closing in January 2022. Again the results of this will be analysed, with the findings published. Where appropriate and practical, the identified needs of users will be acted upon.

BSO had historically released a statistical compendium, which ceased following the 2007/08 publication. The revival of this output had been identified by internal customers as a high priority in order that there would be a definitive source of quality assured figures related to FPS activity. A new statistical compendium was launched in 2017/18 and released again the following year. Following a user consultation, the compendium was split into separate FPS service areas in 2018/19, including General Dental Services (GDS). This has allowed more detailed statistics to be produced better targeted at the main users of these figures (note that a short summary Key Facts compendium has also been developed to meet the needs of users with a cross cutting interest in primary care statistics).

In order to cater for different levels of user need, the main body of the GDS annual report is intended to be a high level summary of activity, supplemented by charts and commentary, with the detailed statistical tables which underpin the report included in its annexes. More detailed breakdowns can be provided on request.

BSO was specified in legislation as a Producer of Official Statistics in the Official Statistics Order (Northern Ireland) 2012. The information held by the Family Practitioners Service is of interest both to the Government and wider public as it relates to the provision of primary care in Northern Ireland.

The dental statistics are derived from the FPS dental payment system. It includes all health service dental treatments carried out in primary care in Northern Ireland that are submitted to the BSO for payment. The information does not include any dental treatments in secondary care settings or any treatments carried out privately by health service dentists.



The dental payment data can be used as an indication of the oral health of Northern Ireland. It also helps inform the official NI Mid-Year Population Estimates by showing that a person has been active within the health service in a specified time period.

This report contains information on primary care dentistry in Northern Ireland at a national and local level. This publication includes facts and figures on the number of people who are registered with a dentist; see a primary care dentist, the volume and type of treatment they receive and the number of dentists and dental practices.

## **Accuracy and Reliability**

*This dimension covers the statistics proximity between an estimate and the unknown true value.*

All information is based on the data supplied by the dentist at the time of the claim, and only includes claims paid by BSO after validation. If any errors made by practitioners in claiming for treatment provided are identified by BSO they will be corrected in the next available payment month. Less than 1% of dental claims are adjusted each month due to inaccuracies.

## **Reliability/known data quality issues**

A new dental payment system was introduced in 2015 which incorporated greater validation than the previous system. Therefore claims which were payable in the old payment system may not pass the stricter validation in the new system.

However, the new payment system had many technical issues in the first 18 months which may have delayed payments on certain types of claims until those issues were resolved. The quality of the dental data is continually improving. As issues are addressed in the system, and where possible the historical data is corrected, payments are either returned to or taken from dentists for the inaccuracies.

The payment system will carry out a number of validations to ensure the payment claims submitted meet the criteria laid down within the Statement of Dental Remuneration. It will check that the claims are not duplicates, the dentist is eligible for payment, and cross-check the treatment against the previous history of treatments for each patient to ensure the claim is eligible to be paid. 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.

All data is based on payment date. However many treatments, particularly orthodontic treatments, can take many years to finish. Practitioners have up to 6 months from finishing treatments to submit their claims for payments. Therefore payments-based data may not always be reflective of when the treatment was carried out.

## **Timeliness and punctuality**

*Timeliness refers to the time gap between publication and the reference period.*

*Punctuality refers to the gap between planned and actual publication dates.*

The first iteration of the compendium was released in October 2018 and covered data for financial year 2017/18. Future compendiums and annual dental publications have been released in June of each year when the data for the entire year are complete – representing a 3 month lag between publication and the end of the activity period to which the data relate.

The quarterly updates of key report tables, which is not supported by commentary, is now published within 6 weeks of the quarter end payment. For this reason, the quarterly updates will have a provisional status but will be finalised at year end.

All publications have been punctual, being released on the planned publication date.

## Accessibility and clarity

*Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.*

Both the compendium and individual annual dental reports are published in PDF format on the BSO website along with accompanying tables presented in Excel. In the 2020/21 dental report, open data csv files on treatment by financial year, local council area, local government district, age group and gender were added. The main report contains a mixture of summary tables, charts, infographics and commentary intended to appeal to a wide user base.

The Excel/CSV tables will allow users to perform secondary analysis on the actual data and contains a separate tab with metadata.

The accompanying tables are now presented in an accessible format. Assistive technology can be used with the supporting tables, which enables users with disabilities to have full access to the data. Work is currently underway to make the annual PDF report accessible.

Interactive maps have also been developed using R Studio detailing dental activity at super output area. Further breakdowns of the data are available on request and contact details for this have been provided in the main report.

More detailed user notes are provided in the Publication notes in the annual report and on a separate tab in the Excel/CSV tables which accompany the main report. All of this is then supplemented by the information contained in this Background Quality Report and the Quality of Administrative Data ([QAAD](#)) assessment for Dental Statistics.

## Coherence and comparability

*Coherence is the degree to which data which have been derived from different sources or methods but refer to the same topic or similar. Comparability is the degree to which data can be compared over time and domain.*

### Coherence

We are not aware of other sources of NI data relating to FPS dental activity/payments covered neither by this report nor in respect of the primary care workforce. This, however, will be kept under review and the section will be expanded in the event that alternative data sources are identified.

### Comparability

#### *Comparisons with England*

NHS Digital produces dental statistics on activity, patients seen and workforce which are available [here](#).

England operates a different payment system to Northern Ireland. Treatments are grouped together into bands and patients don't pay for individual treatment items. Instead they pay band rates which are as follows:

- Band 1: Check-up and simple treatment (such as examination, x-rays and prevention advice);
- Band 2 – mid-range treatments such as fillings, extractions, and root canal work in addition to Band 1 work;
- Band 3 – includes complex treatments such as crowns, dentures, and bridges in addition to Band 1 and Band 2 work;
- Urgent – a specified set of treatments including up to two extractions and one filling provided to a patient where prompt care and treatment is provided where oral health is likely to deteriorate significantly, or the person is in severe pain by reason

of their oral condition; care and treatment is provided to prevent significant deterioration or address severe pain; and

- Other – Courses of treatment which include the following procedures do not attract a patient charge: arrest of bleeding, bridge repair, denture repair, removal of sutures and prescription issues

In some of the English tables further breakdowns on the bands are provided via estimation and it is possible to compare the numbers of x-rays, fillings and extractions in England with Northern Ireland.

Data on patients seen in England looks at adults seen in the previous 24 months and children seen in the previous 12 months. Northern Ireland data is presented as patients seen in each financial year. Unlike Northern Ireland, in England there is no registration payment associated with seeing a patient.

English workforce statistics are split into General Dental Services, Personal Dental Services and Trust-led Dental Services. These groupings do not exist in Northern Ireland. England also produces data on the number of joiners and leavers each year.

This is not possible in Northern Ireland as dentists have many different contract numbers and retain these for various reasons during the year. For example, a dentist may work across many different practices and therefore it would not be possible to estimate numbers accurately.

#### *Comparisons with Wales*

Welsh Government dental statistics on patients treated, patient charges, activity and workforce are available [here](#). Dental data for Wales is produced in the same way as the English data and therefore has all the same issues as above.

#### *Comparisons with Scotland*

Public Health Scotland (PHS) provides information on Dental Fees and Treatments, Primary Care dentistry and Registration and Participation [here](#).

A key policy change influencing registration levels in Scotland 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 dental 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. As a result of the introduction of lifetime registration, the registration rate has become less informative as a measure of patient accessibility and utilisation of GDS. Therefore, in addition, PHS first published figures on patients' participation in 2010. This differs to Northern Ireland where the registration period is just 24 months.

Scottish workforce statistics are split into Hospital Dentists, General Dental Services and Personal Dental Services (PDS). The main treatment role of the PDS is to provide care for people who have special needs and for whom particular skills are required to provide their care. PDS does not exist in Northern Ireland and Hospital Dentists statistics are not available.

## **Trade-offs between output quality components**

*This dimension describes the extent to which different aspects of quality are balanced against each other.*

The main trade-off in the report is the balance between timeliness and data quality. The data are derived from a live payment system which is constantly being updated so a decision needs to be made as to when to extract the frozen data files on which to produce the official statistics. The longer this is left the more accurate will be the final data (as it provides more time for post-hoc payment and other adjustments) but as a consequence will be less timely.

In respect of the annual report, the data will be extracted to a frozen file around 4 weeks after the year end. This should then allow for production of the finalised statistics report

within three months of the year-end to which they relate. The frozen file will only then be revisited should any significant data quality issues come to light (resulting in the need for the statistical publications to be revised).

The quarterly tabular updates are produced to a quicker timeline, aiming to release the statistics within two months of quarter end. Currently the timeframe is about 5-6 weeks from when the quarter end payment takes place. These will hence have a provisional status to allow more time for not only adjustments to the most recent month but also any subsequent adjustments that may be required later in the year. The in-year quarterly data will be finalised following the production of the annual report.

The need for the provisional status attached to the quarterly updates will continue to be monitored based on the magnitude of the resultant year end revisions.

## **Assessment of user needs and perceptions**

*This dimension covers the processes for finding out about users and uses and their views on the statistical products.*

The Business Services Organisation's Information and Registration Unit conducted an online survey in February and March 2018, inviting users/potential users of summary statistics related to Primary Care Services to provide feedback. A follow up survey was conducted in March and April 2019.

The results of the surveys were used to inform the content of this publication including the type of data presented, style of presentation and statistical breakdowns. The reports summarising the results of this user engagement are published [here](#).

Statisticians in the Information Unit are regularly in contact with key users of the statistics. Initially the readership surveys were used to provide an overall assessment of whether user needs were being met. However the current approach employed is to undertake focused consultations with key users on a rolling basis. This approach helps to gain greater insight into how the statistics are used and to identify additional specific

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## **Performance, cost and respondent burden**

*This dimension describes the effectiveness, efficiency and economy of the statistical output.*

There is no respondent burden, since all of the data are extracted from existing BSO information and payments systems held on the HSCNI network. Additional sources such as the Central Postcode Directory and NISRA population data are available from organisational websites without the need for any intermediate intervention.

Over time, the production of the report tables will be further automated with data extracted directly to the Excel templates with minimal need for manual intervention.

Using the Information Unit's time recording system, the total cost in staff time of producing a quarterly report is estimated at £1,000, while the total cost in staff time of producing the annual report and associated outputs is estimated at £9,500.



## Confidentiality, transparency and security

*The procedures and policy used to ensure sound confidentiality, security and transparent practices.*

Data used to produce this report has been processed on PCs/laptops/servers connected to HSCNI network and are protected as per the [HSC ICT Security Policy](#).

Suppression has been applied where the number of cases in a cell containing personal information could identify individuals. This is described in table footnotes where applicable. Where necessary, additional values will be hidden to avoid disclosure of suppressed counts.

Within the Information Unit, access to data is only provided to those staff involved in the production of the reports.

## Responsible Statisticians

All queries relating to individual publications should be addressed to the statistician responsible for overseeing their preparation. The responsible statistician for FPS dental statistics is:

**Dental and Ophthalmic**

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