

Family Practitioner Services

# Background Quality Report

General Pharmaceutical Services 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 Pharmaceutical Services.

Prior to 2020, the annual pharmaceutical 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 pharmacy statistics as it moved from the Compendium Report to a standalone publication. All references to the pharmacy publication should be read to cover also the pharmacy statistics within the Compendium Report.

## Introduction

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

This report is primarily derived from administrative data from four sources. These are:-

- Pharmaceutical Family Practitioners Payment System<sup>1</sup>
- FPS Pharmaceutical List
- The National Health Application and Infrastructure System (NHAIS)
- Drug Tariff Masterfile

Information is 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 are then compiled and quality assured by independent statisticians, on secondment to the Business Service Organisation's (BSO) 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 Pharmaceutical Services Statistics publication provides a statistical overview of pharmaceutical activity in Northern Ireland. It is based on payment claims submitted by community pharmacists, dispensing doctors and appliance suppliers to FPS. The information does not include prescribing in a secondary care (e.g. hospital) or private setting.

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

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<sup>1</sup> Also referred to as the FPS pharmacy payment system.

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 Pharmaceutical 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.*

This is a live document and will evolve and include additional material as further intelligence is gathered against each of the nine quality dimensions.

A Quality Assessment of Administrative Data (QAAD) for General Pharmaceutical Services statistics is in development and will be published alongside this Background Quality Report on the [General Pharmaceutical page](#) of the Information and Registration Unit's website in February 2022.

# 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 analyses 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 and Registration 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.

Where appropriate and practical, identified user needs will result in changes to the statistical outputs. For example, following an identified user requirement, key tables and analyses of the number of patients dispensed three specific drug groups - anti-depressants, diabetes medication and products, and opioid analgesics - were provided for the first time in the 2020/21 report, published in June 2021.

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 user consultation, the compendium was split into separate FPS service areas in 2018/19, including General Pharmaceutical Services statistics. This has allowed more detailed statistics to be produced, better targeted at the main users of these figures. Note: 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 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 pharmaceutical payment information can be used to understand prescribing patterns across Northern Ireland at varying levels and also as a proxy for morbidity. For example, information on dispensed prescription items by BNF chapter provides an indication of patient morbidity by condition type.

The data is derived from the FPS pharmacy payment system, all prescriptions prescribed in primary care in Northern Ireland that are subsequently dispensed by a pharmacist, dispensing doctor or appliance supplier and are finally submitted to the BSO for payment are included. The data will include items that have been ordered on a stock form, but excludes hospice items. The information also does not include prescribing in a secondary care setting, for example medications received while in hospital.

## **Accuracy and Reliability**

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

All information is based on data collected during the pharmaceutical payment process where prescriptions have been submitted to BSO for reimbursement. Prescriptions are scanned and subject to a rigorous automatic and manual validation process to ensure accurate payments are made. If BSO identifies any errors made by the dispensing body in claiming for the pharmaceutical products and services, then these will be corrected in the next available payment month.

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

Patient information is captured where a prescription form has been successfully scanned and automatically coded. In the past, BSO had experienced a reduction in scan rates resulting in around 25% of prescription items not having attributed patient information in 2017/18 and 2018/19. However, with the purchase of new scanners in BSO, this has recently improved and in 2020/21 around 90% of prescription items had attributed patient information. This has meant that at most, this proportion of prescriptions will have a geographical area or patient profile assigned. The historic reduction in scanning quality was widespread across Northern Ireland and not just isolated to any particular areas.

In order to assess the representativeness of the resultant dataset, for those prescriptions that were GP prescribed, LGD and Health Trust were assigned to items based upon the origin of the prescribing GP practice. Tables 2 and 3 on the following page provide the respective scan rates for each LGD and Trust for 2020/21.

Local Commissioning Group (Health Trust)	% Scan Rate
Belfast	91.2%
Northern	91.1%
South Eastern	92.3%
Southern	92.6%
Western	91.4%
<b>Northern Ireland</b>	<b>91.7%</b>

**Table 1:** GP Prescription Scan Rate by Local Commissioning Group (Health Trust), 2020/21

LGD	% Scan Rate
Antrim & Newtownabbey	91.2%
Ards & North Down	93.3%
Armagh City, Banbridge & Craigavon	93.7%
Belfast	91.1%
Causeway Coast & Glens	90.2%
Derry City & Strabane	89.1%
Fermanagh & Omagh	94.8%
Lisburn & Castlereagh	91.5%
Mid & East Antrim	91.9%
Mid Ulster	90.6%
Newry, Mourne & Down	92.5%
<b>Northern Ireland</b>	<b>91.7%</b>

**Table 2:** GP Prescription Scan Rate by Local Government District (LGD), 2020/21

The scan rate did not vary considerably across Health Trusts, ranging from 91.1% in Northern to 92.6% in Southern. Variability was higher at LGD level, with rates ranging from 89.1% in Derry City and Strabane to 94.8% in Fermanagh and Omagh.

It is important to note, however, that this analysis can only provide an approximation of whether the scanned prescriptions are representative of the NI population as not all patients will reside in the same area as the GP practice which they attend – particularly in Belfast. Given this important caveat, and the figures above, there is no strong evidence to suggest significant bias in the prescription dataset. The limitation should be borne in mind, however, when comparing absolute numbers across LGDs/Trusts and it is preferable to calculate percentage rates when making geographical or demographic comparisons.

Data on patient numbers presented in the report (chapter 6 of the main report and section 3 of the accompanying tables) have been estimated based on unique patients whose dispensed scripts have been successfully matched against the central GP patient register in a given year. There is a chance that some patients may have been missed if all of the scripts dispensed to them in a given year were not successfully scanned. However, because patients receiving these medications will generally have submitted multiple prescriptions in a year, there is a high probability they will have been picked up at least once.

A project is also in the pipeline to capture unscanned HCNs from historic prescription images using Optical Character Recognition (OCR). Although 100% coverage is not possible, due to handwritten scripts and other technical issues, this initiative has the potential to greatly improve data quality both of existing pharmaceutical datasets plus push up the HCN coverage rates on an ongoing basis.

## **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 pharmaceutical publications have been released in June of each year when the data for the entire year are complete – representing a three month lag between publication and the end of the payment period to which the data relate.

The quarterly updates of key report tables, which are not supported by commentary, are published within two months 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 pharmaceutical reports are published in PDF format on the BSO website along with accompanying tables presented in Excel and Open Document Spreadsheet (ODS) format. The main report contains a mixture of summary tables, charts, infographics and commentary intended to appeal to a wide user base.

The Excel/ODS 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.

More detailed user notes are provided in the Publication notes in the annual report and on a separate tab in the Excel/ODS tables which accompany the main report. This is supplemented by the information contained in this Background Quality Report, with the QAAD assessment for the General Pharmaceutical Services statistics due to be published in February 2022 on the [General Pharmaceutical page](#) of the Information and Registration Unit's website.

## 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 pharmacy activity/payments covered neither by this report nor in respect of community pharmacies, appliance contractors or dispensing doctors. This, however, will be kept under review and the section will be expanded in the event that alternative data sources are identified.

### Comparability

The Northern Ireland Pharmaceutical Services payment model is closely aligned to that in England and as such the prescription items and ingredient cost are presented in a similar manner to those published by England.

The Total Ingredient Cost (before discount) is the basic cost of a drug as used in primary care. This is the cost at list price excluding VAT i.e. the price listed in the national Drug Tariff or in standard price lists and is not necessarily the price that has been paid. It does not take into account any contract prices or discounts, dispensing costs or fees, so the amount that has been paid will be different.

In other parts of the UK the equivalent is called the Net Ingredient Cost (NIC) and is used in Prescription Services reports and other analyses, as it standardises prescribing costs nationally, and allows comparisons of data from different sources.

### *Dispensed Items and Ingredient Cost*

The FPS Pharmacy Payment system data is based upon the same information presented in the annual [Prescription Cost Analysis \(PCA\)](#) published on the Information and Registration Unit website. However, this information is provided by calendar year and as such will differ from the financial year information presented in the publication.

BSO also publish [prescribing information](#) at GP Practice level on a monthly basis. This data only contains information on dispensed items prescribed by GPs or Nurses (within a GP Practice) and hence will only represent a subset of total community dispensing (albeit a fairly significant subset). The two sources are not, therefore, strictly comparable.

### *Community Pharmacies*

The number of community pharmacies in Northern Ireland from 1985 and 2014 was previously published on the BSO website. But these figures may not compare to the data in this publication. Previously published information is based upon data at different time points whilst the current publication is based on data as at 31<sup>st</sup> March at the end of the relevant period.

NHS Business Services Authority produces [statistics](#) on General Pharmaceutical Services in England on a financial year basis. The community pharmacy information is comparable to information presented in FPS General Pharmaceutical publications.

The devolved administrations in both [Scotland](#) and [Wales](#) produce statistics on contractor activity. These offer some limited comparisons to the General Pharmaceutical Services statistics for Northern Ireland.

## **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 prescription and community pharmacy frozen files around seven weeks after the year end. This should then allow for production of the finalised annual 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. 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 BSO'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 and Registration 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.

Where appropriate and practical, identified user needs will result in changes to the statistical outputs. For example, following an identified user requirement, key tables and analyses at individual patient level related to the dispensing of three specific drug groups - anti-depressants, diabetes medication and products, and opioid analgesics - were provided for the first time in 2020/21 report, published in June 2021.

To ensure that understanding of user needs is as up-to-date as possible, the FPS Information and Registration 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.

## **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 £15,000.

## 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. Full details of the of the Information Unit's disclosure control policy, is available in the unit's [Statistics Charter](#).

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

## Responsible Statistician

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

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