

Publication Report



Prescribing & Medicines: Prescription Cost Analysis

Financial Year - 2011/12

Publication date – 26 June 2012



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Introduction

Prescription cost analysis information is obtained from NHS prescriptions dispensed in Scotland that are prescribed elsewhere in the United Kingdom. All these prescriptions are dispensed by community pharmacies, dispensing doctors, a small number of specialist appliance suppliers and stoma providers. GPs write the vast majority of these prescriptions, with the remainder written by authorised prescribers such as nurses and dentists. Also included are prescriptions written in hospitals that were dispensed in the community, but exclude prescriptions dispensed within hospitals.

Prescription Cost Analysis

The prescription cost analysis tables available for download show details of the number of items and the gross ingredient cost of all NHS prescriptions dispensed in the community in Scotland. The items dispensed are listed alphabetically within chemical entity (for drugs) by British National Formulary (BNF) therapeutic class.

Top 10 drugs

Also included are statistics on the top 10 drugs. These statistics detail the ten most commonly dispensed drugs in Scotland during 2011/12. These statistics look at the top ten in terms of both volume and cost.

Volume and Cost

General medical practitioners prescribe most of the prescriptions dispensed in the community, whilst dentists, nurses and pharmacists prescribe proportionally fewer. Some prescriptions which are written in hospitals may also be dispensed within the community. The prescriptions that these prescribers write and that are dispensed within the community are processed by [Practitioner Services Division](#). Information from these prescriptions is used to calculate a variety of statistics. The two main statistics are volume, which is the sum of all the prescriptions dispensed, and the cost. There are various ways of calculating the cost, from the cost of the drugs, the cost of fees to contractors for dispensing those drugs to deductions of patient charges. The cost discussed is the total net cost, which is the cost to the Scottish Government. This volume and costing information has been looked at over a ten year trend. Comparisons between NHS Boards have also been evaluated for 2011/12 data only. This has been standardised by GP list sizes.

Key points

- In 2011/12 simvastatin (used for controlling cholesterol) was the most commonly prescribed drug by volume, replacing aspirin for the first time.
- Salmeterol with fluticasone proprionate (used for respiratory conditions) was the most expensive by gross ingredient cost in 2011/12, replacing atorvastatin for the first time.
- The total volume of items dispensed in Scotland in 2011/12 is 94.6 million, a rise of 3.8% between 2010/11 and 2011/12.
- The total (net) cost rose by 3.2% in 2011/12 compared to 2010/11 to £1.18 billion.
- NHS Lothian has the lowest items (13.1) and net cost (£179.69) per person on a GP list size, with NHS Western Isles the highest in terms of items (23.7) and NHS Ayrshire and Arran in terms of net cost (£231.75) in 2011/12.

Results and Commentary

The top 10 drugs, generic prescribing rate, prescribing volume and costs for the financial year 2011/12 have been reviewed.

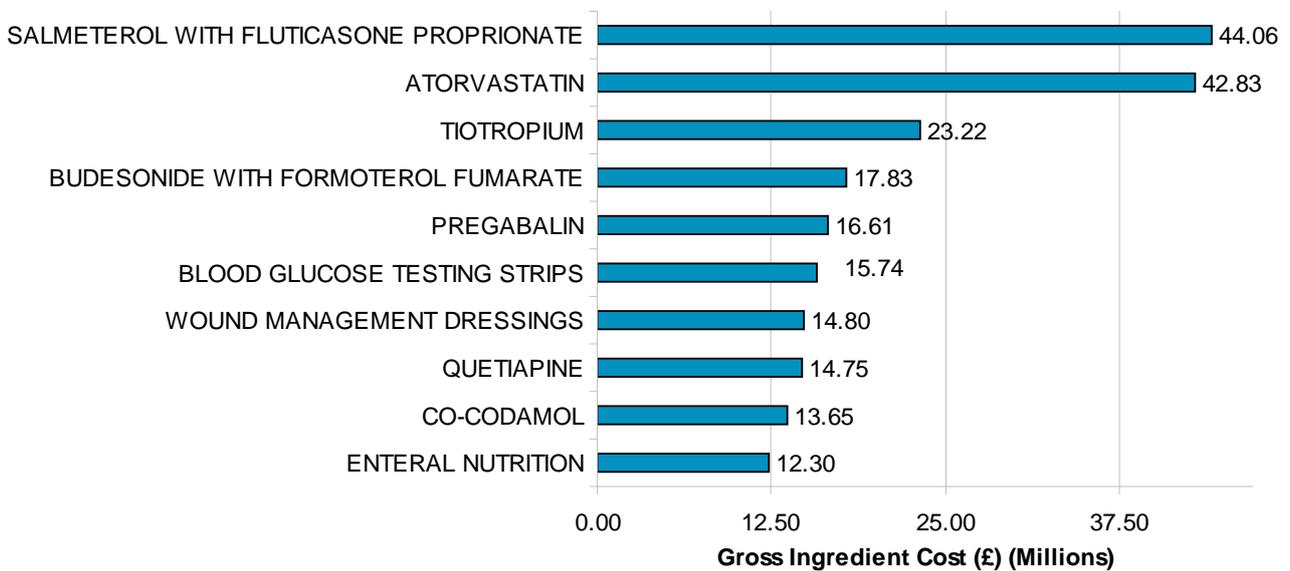
Top 10

The top ten most commonly dispensed drugs in Scotland during the year ending 31st March 2012 varies depending on whether you look at cost or volume.

Gross Ingredient Cost

Figure 1 below shows the top 10 drugs by gross ingredient cost (£), that were dispensed in NHS Scotland during financial year 2011/12.

Figure 1 – Top 10 drugs by Gross Ingredient Cost (£) dispensed in NHS Scotland – 2011/12



Source: Prescribing Information System, ISD Scotland

Figure 1 shows that for drugs dispensed in NHS Scotland in 2011/12 financial year, salmeterol with fluticasone proprionate has the highest gross ingredient cost (GIC) at £44.1 million.

Table 1 shows the top 10 drugs by gross ingredient cost dispensed during 2011/12 and gives examples of what the drugs might be used for.

Table 1 – Reason for prescribing – gross ingredient cost (£)

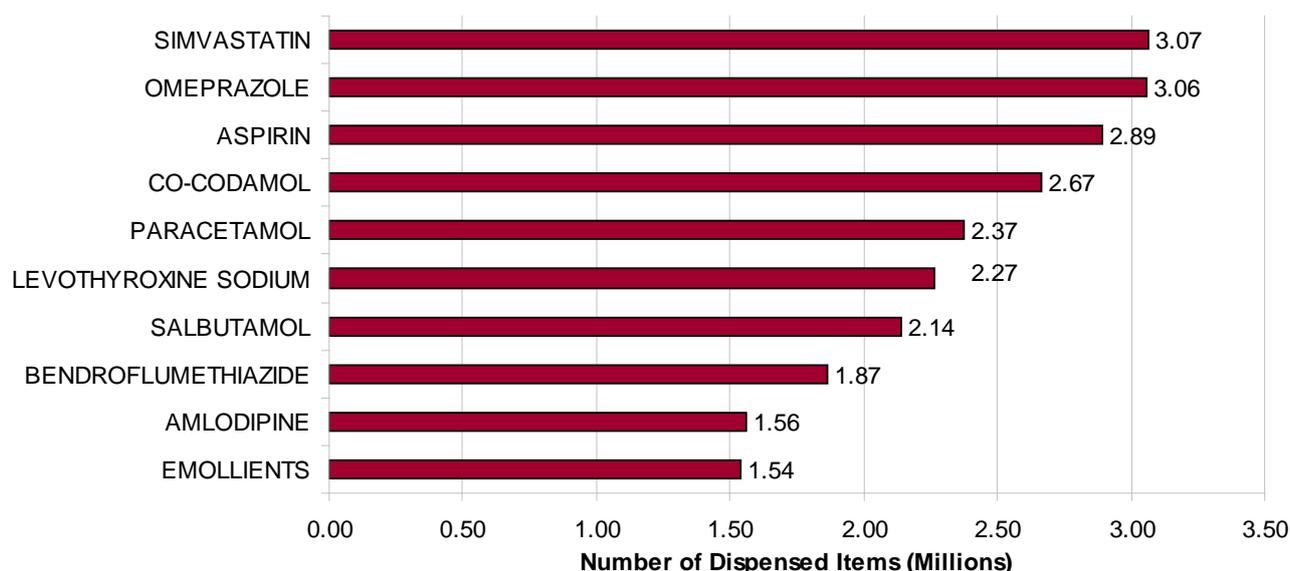
Chemical Name	Most commonly used
salmeterol with fluticasone proprionate	For respiratory conditions
atorvastatin	For controlling cholesterol
tiotropium	For respiratory conditions
budesonide with formoterol fumarate	For respiratory conditions
pregabalin	For epilepsy
blood glucose testing strips	For home blood glucose monitoring
wound management dressings	For dressing wounds
quetiapine	For schizophrenia/mania
co-codamol	As a painkiller
enteral nutrition	As nutritional supplements

Source: Prescribing Information System, ISD Scotland

Table 1 shows that drugs used for respiratory conditions feature quite predominantly, being the first, third and fourth most expensive drugs dispensed within Scotland. In total, all the drugs featured in Figure 1 and Table 1 account for £215.8 million, which equates to 21.2% of the community drugs bill for the financial year 2011/12.

Dispensed Items

Figure 2 below shows the top 10 drugs dispensed in NHS Scotland by volume (the number of dispensed items) during financial year 2011/12.

Figure 2 – Top 10 drugs by the number of items dispensed in NHS Scotland – 2011/12

Source: Prescribing Information System, ISD Scotland

The data presented in Figure 2 show that simvastatin and omeprazole are the most commonly prescribed drugs in NHS Scotland, accounting for a total of 6.1 million items. Reasons why the top 10 drugs dispensed in NHS Scotland by volume might be prescribed are shown in table 2.

Table 2 – Reason for prescribing – number of dispensed items

Chemical Name	Most commonly used
simvastatin	For controlling cholesterol
omeprazole	For reducing stomach acid
aspirin	As a blood thinning agent
co-codamol	As a painkiller
paracetamol	As a painkiller
levothyroxine sodium	Sodium for thyroid hormone
salbutamol	For respiratory conditions
bendroflumethiazide	For lowering blood pressure
amlodipine	For angina and lowering blood pressure
emollients	For skin conditions

Source: Prescribing Information System, ISD Scotland

Table 2 shows that all of the drugs featured are those that are no longer in patent and have been in the Scottish Drug Tariff for several years. In total, all of the drugs featured in Figure 2 and Table 1 account for 23.4 million items, which equates to almost 25% of the total dispensed volume for financial year 2011/12.

When studying Figures 1 and 2, co-codamol appears within both charts. As co-codamol is within the Scottish Drug Tariff, it can be deduced that its high cost is due to its high volume of dispensing. Drugs that are used for controlling cholesterol (atorvastatin and simvastatin) also feature in Figures 1 and 2. This shows that the use of 'statin' drugs is quite predominant within NHS Scotland, given that simvastatin is number one for volume and atorvastatin the number two for cost.

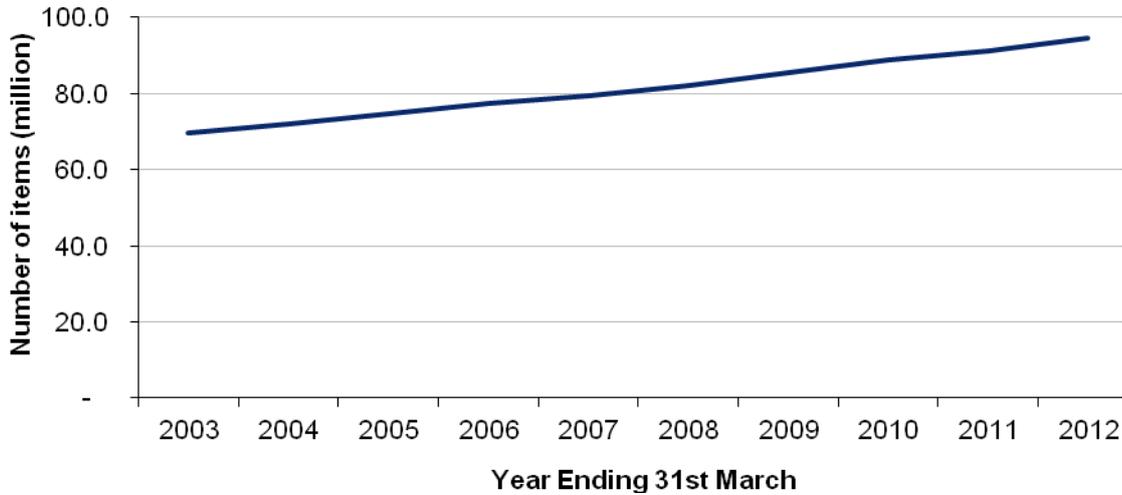
Volume and Cost

NHS Scotland

Information on the number of dispensed items (volume) and the total (net) cost has been analysed over a ten year trend.

Figure 3 below shows the number of items dispensed in NHS Scotland over a ten year trend for financial years 2002/03 to 2011/12.

Figure 3 – Number of items dispensed in NHS Scotland, 2002/03 – 2011/12

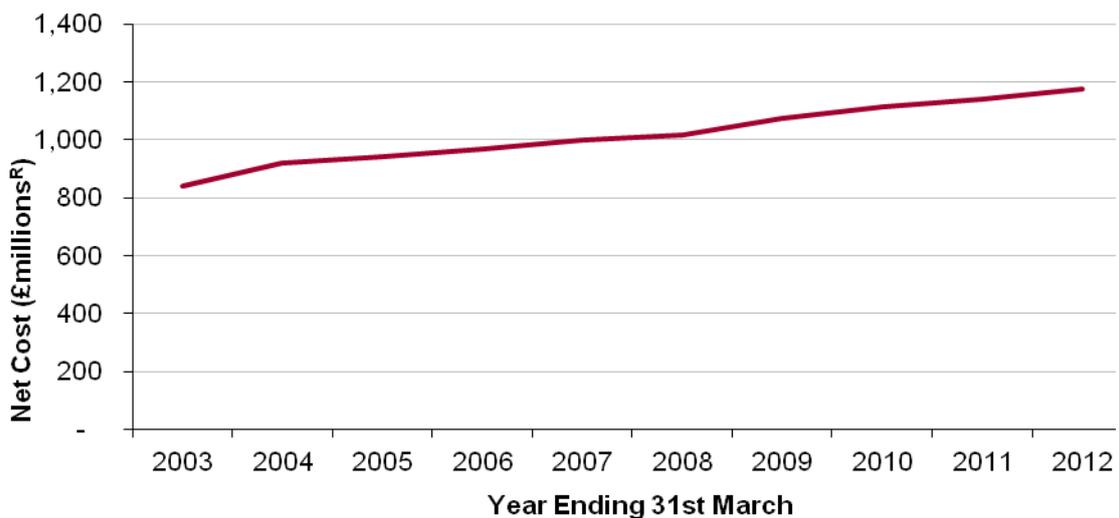


Source: Prescribing Information System, ISD Scotland

Prescribing volumes increased from 69.5 million in 2002/03 to 94.6 million items in 2011/12. This growth reflects not only the availability of new or more effective medicines, but also increasing patient expectation and demographic changes and latterly the implementation of clinical guidelines and recommendations. The rate of increase in prescribing volumes between 2010/11 and 2011/12 was 3.8% compared to 2.4% between 2009/10 and 2010/11.

Figure 4 shows the total (net) cost of items dispensed in NHS Scotland between 2002/03 and 2011/12.

Figure 4 – Total (Net) cost (£) of items dispensed in NHS Scotland, 2002/03 – 2011/12



Source: Prescribing Information System, ISD Scotland
 R: Label changed from £

The cost to the Scottish Government is given by the net cost, which is the gross cost less any patient charges. In the past ten years from 2002/03 to 2011/12 this cost has increased from £840.6 million to £1.18 billion. The rate of increase in total cost between 2010/11 and 2011/12 was 3.2% compared to 2.5% between 2009/10 and 2010/11.

NHS Board

Information on the NHS Board that the prescriptions were dispensed within has also been analysed. Data is shown per person on a GP list size and both volume and the total (net) cost have been evaluated.

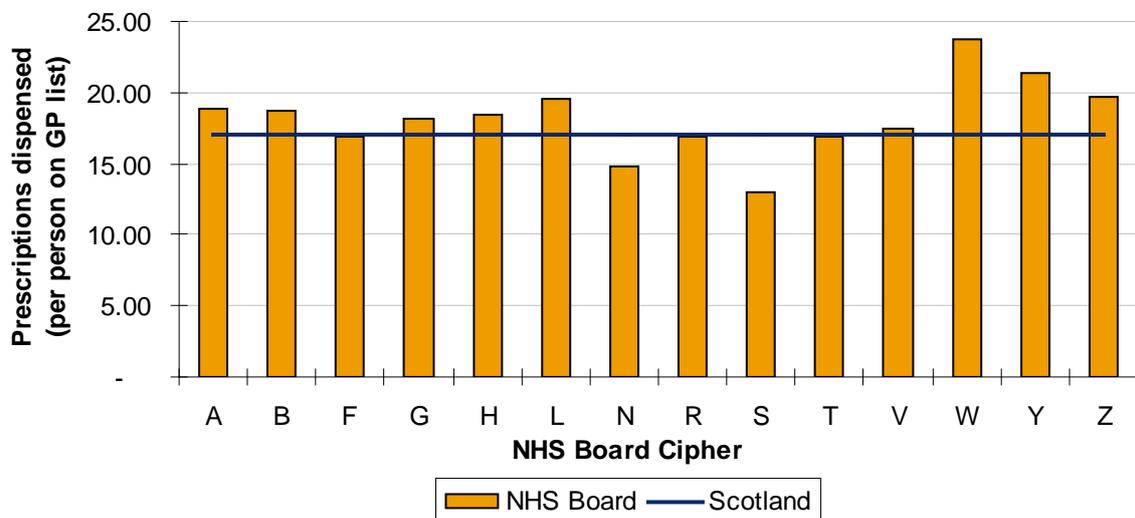
Table 3 below provides a translation between the cipher and the NHS Board name. Please note that NHS Argyll and Clyde ceased to exist as a single entity from April 2006. Argyll and Bute was absorbed into NHS Highland and the remainder into NHS Greater Glasgow and Clyde. NHS Board ciphers are displayed in the Figures 5 and 6 for reason of clarity.

Table 3 – NHS Board Cipher – Translation

NHS Board Cipher	Name
A	Ayrshire & Arran
B	Borders
F	Fife
G	Greater Glasgow & Clyde
H	Highland
L	Lanarkshire
N	Grampian
R	Orkney
S	Lothian
T	Tayside
V	Forth Valley
W	Western Isles
Y	Dumfries & Galloway
Z	Shetland

Source: Prescribing Information System, ISD Scotland

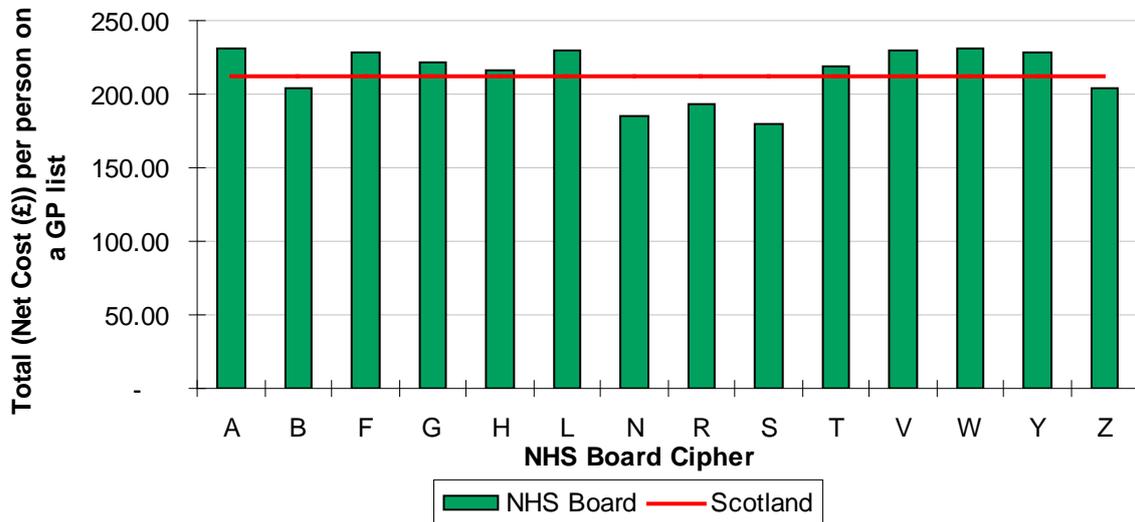
Figure 5 – Number of prescriptions dispensed per person (on a GP list) by NHS Board, 2011/12



Source: Prescribing Information System, ISD Scotland

There is some variation between the NHS Boards. Nine NHS Boards are above the Scottish average of 17.11 prescriptions dispensed per person with NHS Western Isles the highest with 23.7 items per person and NHS Lothian the lowest with 13.1 items per person. The reason for this could be due to regional prescribing habits.

Figure 6 – Average total (net) cost (£) per person (on a GP list) by NHS Board, 2011/12



Source: Prescribing Information System, ISD Scotland

The average total (net) cost per person varies between the NHS Boards. There are nine NHS Boards whose average cost is over that of the Scottish average of £212.77. Surprisingly though they are not the same NHS Boards that had a high number of items per person. For example NHS Borders was 18.7 items per person (over the Scottish average) yet their spend was £204.00 (well under the Scottish average). As before, NHS Lothian have the lowest cost per person and for the first time NHS Western Isles has been replaced by NHS Ayrshire and Arran for the highest cost per person.

Glossary

Gross Ingredient Cost (GIC)	Cost of drugs and appliances reimbursed before deduction of any dispenser discount (note: this definition differs from other parts of the UK).
Net Ingredient Cost (NIC)	Cost of drugs and appliances reimbursed after deduction of any dispenser discount (note: this definition differs from other parts of the UK).
Prescription item	An item is an individual product prescribed e.g. 100 aspirin tablets of 300mg. Also called a dispensed item.
Prescription form	A prescription form that can contain up to three items.
Quantity	Quantity dispensed of an individual item e.g. 100 tablets.
Approved Drug Name	As listed in BNF, being the recognised official non-proprietary title (recommended International Non-Proprietary Name - rINN).
Prescribable Item Name	The drug name written on the prescription - can be by approved name or a brand name.
British National Formulary (BNF)	A standard classification of drugs into conditions of primary therapeutic use, the aim is to provide prescribers, pharmacists and other healthcare professionals with sound up-to-date information about the use of medicines.
Prescribed Health Board	The NHS Board with which the prescriber holds a contract to prescribe, i.e. GP, Dentist, Non-medical prescriber.
Dispensing Health Board	The NHS Board with which the dispenser holds a dispensing contract, i.e. Community Pharmacy, Dispensing Doctor or Appliance Supplier.
Community Pharmacy (CP)	A retail pharmacy outlet holding a contract with a Health Board to provide NHS pharmaceutical services
Dispensing Doctor (practice)	Dispensing practices exist in those areas of Scotland where the population density is considered too low to support a pharmacy and where the NHS Board has determined that a dispensing service should be supplied.
Appliance Supplier (AS)	Appliance suppliers are a specific sub-set of NHS dispensing contractors who are contracted to supply approved medical devices on prescriptions (e.g. stoma).
Dummy items	Are items which were not recognised by the prescription pricing system or where payment was rejected.
Patient Charges	Income generated from paid prescriptions (£3.00 per item as at April 2010, please note that this amount changes yearly and will be ZERO as of 1 April 2011) - excludes prepayment certificates.
Gross cost	Net Ingredient Cost plus dispensing fees plus other fees and allowances centrally paid.
Total (net) cost	Gross cost minus charges paid by patients. Previously called exchequer cost.
Over the counter	A drug for which a prescription is not needed.

List of Tables

Table No.	Name	Time period	File & size
1	Top 10 drugs	FY 2011/12	Excel [126kb]
2	Prescription Cost Analysis	FY 2011/12	Excel [2,296kb]
3	Summary Statistics (NHS Board)	FY 2003/04 – 2011/12	Excel [300kb]
4	Summary Statistics (NHS Scotland)	FY 2001/02 – 2011/12	Excel [115kb]

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Further Information

Further information can be found on the [Prescribing and Medicines](#) area of the ISD website.

Further information on other ISD publications and datasets can be found the on the [ISD website](#).

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Appendix

A1 – Background Information

How the data is obtained

[Practitioner Services](#), a division of NHS National Services Scotland, processes all NHS prescriptions for payment of pharmacists, dispensing doctors and appliance suppliers. This gives a full record from which trends in prescribing can be investigated at a detailed level. The data includes prescribing by GPs, nurses, dentists, pharmacists and hospitals, where the latter was dispensed in the community. Hospital dispensed prescriptions are not included in the figures. The Information Services Division (ISD) cannot ascertain what proportion of the drug dispensed is actually consumed. These data do not include products purchased "over the counter". Prescriptions processed internally by Boards for payment purposes are not included in these data.

Top 10 – assumptions

A drug may be available in a number of formulations, such as tablets and syrups, produced by different manufacturers. For example, co-codamol includes aggregated data for all preparations of that drug, both branded and generic.

A2 – Publication Metadata (including revisions details)

Metadata Indicator	Description
Publication title	NHSScotland Prescribing Statistics - covering main annual publication series including; prescribing cost analysis, Top 10, generic prescribing and volume & cost.
Description	Summary and detailed statistics on prescribing and dispensing in the community in Scotland including: drug costs and volumes generic prescribing rates and detailed information on drugs dispensed for particular therapeutic areas.
Theme	Health and Social Care
Topic	Health Care Personnel, Finance and Performance
Format	Excel workbooks
Data source(s)	Prescribing Information System (PIS). All data held in PIS is sourced from Practitioner Services Division (PSD) within NHS National Services Scotland who are responsible for the remuneration and reimbursement of dispensing contractors within Scotland.
Date that data are acquired	Data is acquired on a monthly basis from PSD following payment approximately 2 calendar months after the end of the month being claimed for payment by contactors
Release date	26 June 2012
Frequency	Annual
Timeframe of data and timeliness	Data covering year to 31 March 2012.
Continuity of data	Data is held in PIS for the most recent 10 years and is stored in archive files back to 1993/94. The definition of the main measures such as gross ingredient cost and number of items are unchanged over this period. Types and value of dispensing fees are agreed the Scottish Government and set annually. Details can be found in the Scottish Drug Tariff and in Primary Care circulars issued by the Government. Drug products are first licensed as proprietary medicines but generic versions often appear once the original patent expires. This can affect the price and uptake of these drugs. The Scottish Government sets the reimbursement price of generic drug products via the Scottish Drug Tariff which is updated and issued quarterly.
Revisions statement	Data are sourced from monthly pharmacy payments data on an ongoing basis therefore once published there is no routine requirement to revise historical data. However occasionally adjustments are made to pharmacy payments retrospectively by PSD for example due to an administrative error. Retrospective revisions can also occur the classification of drugs in the British National Formulary (BNF). Where either of these occur and are deemed to be significant in line with ISD's Revisions policy, a revision will be made to published data. This will be notified on the website.

Revisions relevant to this publication	
Concepts and definitions	The data published in all these releases correspond to prescriptions that have been dispensed in the community in Scotland, i.e. dispensed by a pharmacy, dispensing doctor or appliance supplier. This includes prescriptions which were issued in another UK country but dispensed in Scotland. These data do not include prescription drugs that were supplied and administered to patients in a hospital setting. Prescriptions issued in hospital to patients on discharge and dispensed in the community are included. Each excel workbook contains further detailed definitions of the main measures and links to a glossary.
Relevance and key uses of the statistics	These statistics are the primary source of data used to monitor the national community drugs bill within Scotland and the pharmacy contract agreed with dispensing contractors. They are also used to monitor national and local prescribing indicators covering both the quality and efficiency of prescribing in general practice.
Accuracy	The data is sourced from a payment system and routine monthly checks are carried out by PSD on a random sample of approximately 5% of prescription payments. These check all data captured for payment and the accuracy of the payment calculation and have a target accuracy of 98% which is routinely met. Data that is captured but is not mandatory for payment purposes can be of lower quality; principally this includes the prescriber code which links a prescription back to the individual prescriber e.g. GP and their organisation including NHS Board. Routine monitoring of unallocated prescriptions is carried out and correct codes are applied before publication. This ensures that unallocated prescriptions account for under 2% of all prescriptions. For remaining unallocated prescriptions, the prescribing NHS Board is assumed to be the same as the dispensing NHS Board.
Completeness	The Prescribing Information System holds information on 100% of NHS Scotland prescriptions dispensed within the community and claimed for payment by a pharmacy contractor (i.e. pharmacy, dispensing doctor or appliance supplier). It does not include data on prescriptions dispensed but not claimed (likely to be very small) or prescriptions prescribed but not submitted for dispensing by a patient. Some research have estimated these latter prescriptions to account for around 6% of all prescriptions issued to patients. It is not possible to determine from payment data how much of the medicine dispensed to patients is actually taken in accordance with dosage instructions.
Comparability	The main measures of drug ingredient cost and volumes of items dispensed in the community are comparable across the UK countries. However it should be noted that the Gross Ingredient Cost (GIC) within Scotland is equivalent to

	the Net Ingredient Cost (NIC) in England, i.e. the reimbursement cost of drugs before any pharmacy discounts are applied. Also each country determines its own dispensing fees based on separate contractual arrangements with dispensing contractors in each country. A common formulary called the British National Formulary (BNF) is used to classify drugs based on therapeutic use.
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines .
Coherence and clarity	All prescribing tables are accessible via the ISD website . Prescribing statistics are presented within excel spreadsheets for NHS Scotland and where appropriate broken down by NHS Board.
Value type and unit of measurement	The main units of measure of drug reimbursement costs are Gross Ingredient Cost (GIC) and Net ingredient cost (NIC) quantity. The latter takes account of pharmacy discounts, the rates for which are set by the Scottish Government in the Scottish Drug Tariff. There are a large number of individual dispensing remuneration fees paid to dispensing contractors details of which can be found in the Scottish Drug Tariff. The main measures of drug volume are items (the number of individual drug items on a prescription form), quantity (the total number of tablets, capsules etc), and defined daily doses (DDDs - estimated average daily maintenance doses for a total quantity of prescribed). Further details and definitions can be found in the glossary.
Disclosure	The ISD protocol on Statistical Disclosure Protocol is followed.
Official Statistics designation	National Statistics.
UK Statistics Authority Assessment	Completed assessment by UK Statistics Authority. Report published December 2011.
Last published	28 June 2011
Next published	25 June 2013
Date of first publication	March 2000
Help email	NSS.isdprescribing@nhs.net
Date form completed	8 June 2012

A3 – Early Access details (including Pre-Release Access)

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access.

Standard Pre-Release Access:

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

Extended Pre-Release Access

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

Scottish Government Health Department (Analytical Services Division)

A4 – ISD and Official Statistics

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD's statistical publications are currently classified as one of the following:

- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

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.