



WP2 Framework for pharmacoepidemiological studies  
WG3 Drug utilisation data

# **DRUG CONSUMPTION DATABASES IN EUROPE**

## **Countries summary**

First version August 2011  
Updated version November 2013

**PROTECT: Pharmacoepidemiological Research on Outcomes of Therapeutics by a European Consortium**

The **PROTECT** project is receiving funding from the European Community's Seventh Framework Programme (FP7/2007-2013) for the Innovative Medicines Initiative (IMI).

**IMI Call topic:** Call No.6: Strengthening the Monitoring of Benefit/Risk (Call Identifier: IMI\_Call\_2008\_1\_06). Grant agreement n° 115004.



**Working Package 2 (Working Group 3) participants and affiliation**

Name	Institution	Country	Role in WP2
Joan-Ramon Laporte Luisa Ibáñez Mònica Sabaté Elena Ballarín Pili Ferrer Paula Solari <sup>1</sup>	Foundation Catalan Institute of Pharmacology (FICF)	Spain	WG3 participants
Sam Yeboa <sup>2</sup> Kay Lay Goh <sup>3</sup> Marieke Shoonen <sup>4</sup>	Amgen	United Kingdom	WG3 participants
Joan Fortuny	Novartis	Spain	WG3 participants
Joerg Hasford Marietta Rottenkolber	Ludwig Maximilians Universität (LMU)	Germany	WG3 participants
Olaf Klungel	Utrecht University (UU)	The Netherlands	WP2 co-lead
Hans Petri Iain Tatt <sup>5</sup>	L.A. Hoffmann-Roche (Roche)	United Kingdom Switzerland	WG3 participants
Robert Reynolds	Pfizer	United States	WP2 co-lead

Participated during the first 18 months of the project

<sup>2</sup> Participated during the first 20 months of the project

<sup>3</sup> Participated during the first 21 months of the project

<sup>4</sup> Participation from April 2012

<sup>5</sup> Participation from April 2012

**Document type:** report

**Release date:** December, 2012

**WP2 Co-leaders:** Olaf Klungel (UU) and Robert Reynolds (Pfizer).

**WG3 Coordinators:** Luisa Ibáñez (FICF) and Hans Petri (Roche) up to March 2012. Joan Fortuny (Novartis) from April 2012.

**First version authors:** Pili Ferrer (FICF), Elena Ballarín (FICF), Mònica Sabaté (FICF), Hans Petri (Roche), Paula Solari (FICF), SamYeboa (Amgen), Kay Lay Goh (Amgen) and Luisa Ibáñez (FICF).

**Updated version authors:** Pili Ferrer (FICF), Elena Ballarín (FICF), Mònica Sabaté (FICF), Joan Fortuny (Novartis), Iain Tatt (Roche), Marieke Schoonen (Amgen), Marietta Rottenkolber (LMU), Joerg Hasford (LMU) and Luisa Ibáñez (FICF).

**Second version reviewers:** Pili Ferrer (FICF), Elena Ballarín (FICF), Mònica Sabaté (FICF), Marietta Rottenkolber (LMU), Marieke Schoonen (Amgen), Joan Fortuny (Novartis), Joerg Hasford (LMU), Iain Tatt (Roche)

**November 2013 update authors:** Elena Ballarín (FICF), Pili Ferrer (FICF), Mònica Sabaté (FICF), Joan Fortuny (Novartis), Iain Tatt (Roche), Justyna Amelio (Amgen), Marietta Rottenkolber (LMU), Sven Schmiedl (LMU), Joerg Hasford (LMU) and Luisa Ibáñez (FICF).

**Reviewers (all versions):** Olaf Klungel (UU), Robert Reynolds (Pfizer), Joan-Ramon Laporte (FICF).

**Conflicts of interest:** The research leading to these results was conducted as part of the PROTECT consortium (Pharmacoepidemiological Research on Outcomes of Therapeutics by a European Consortium), [www.imi-protect.eu](http://www.imi-protect.eu), which is a private-public partnership coordinated by the European Medicines Agency. The PROTECT project has received support from the Innovative Medicine Initiative Joint Undertaking ([www.imi.europa.eu](http://www.imi.europa.eu)) under Grant Agreement n° 115004, resources of which are composed of financial contribution from the European Union's Seventh Framework Programme (FP7/2007-2013) and EFPIA companies' in kind contribution.

The views expressed are those of the authors only.

**Authors' disclosure information:** Joan Fortuny, Iain Tatt, Marieke Schoonen, Hans Petri and Robert Reynolds belong to EFPIA (European Federation of Pharmaceutical Industries and Association) member companies in the IMI JU and costs related to their part in the research were carried by the respective company as in-kind contribution under the IMI JU scheme.

**Table of contents**

**PREFACE** ..... **8**

**COUNTRIES SUMMARY (IN ALPHABETICAL ORDER)** ..... **8**

BELGIUM..... 9

*Reimbursement characteristics*..... 9

*National drug consumption database: Pharmanet database*..... 10

*List of national websites of interest* ..... 11

BULGARIA ..... 12

*Reimbursement characteristics*..... 12

*National drug consumption database of the Bulgarian Drug Agency*..... 13

*List of national websites of interest* ..... 13

CROATIA..... 14

*Reimbursement characteristics*..... 14

*National drug consumption database of the Croatian Medicines Agency*..... 15

*List of national websites of interest* ..... 15

CZECH REPUBLIC ..... 16

*Reimbursement characteristics*..... 16

*National drug consumption database of the State Institute for Drug Control (SUKL)*..... 17

*List of national websites of interest* ..... 17

DENMARK..... 18

*Reimbursement characteristics*..... 18

*National drug consumption database: The Danish Registry of Medicinal Products Statistics* ..... 19

*List of national websites of interest* ..... 21

ESTONIA ..... 22

*Reimbursement characteristics*..... 22

*EHIF database*..... 23

*The State Agency Medicines database of Estonia*..... 23

*List of national website of interest* ..... 24

FINLAND ..... 25

*Reimbursement characteristics*..... 25

*National drug consumption database: Finnish Prescription registry*..... 26

*National drug consumption database: Drug sales register*..... 27

*List of national website of interest* ..... 27

FRANCE ..... 28

*Reimbursement characteristics*..... 28

*National drug consumption database: ANSM database* ..... 29

PROTECT Drug consumption databases in Europe – Countries summary

<i>National drug consumption database: Extraction, Recherches, Analyses pour un Suivi Médico-Economique database (ERASME)</i> .....	30
<i>Other databases</i> .....	31
<i>List of national website of interest</i> .....	31
GERMANY .....	32
<i>Reimbursement characteristics</i> .....	32
<i>National drug consumption database: WidO database</i> .....	33
<i>List of national website of interest</i> .....	34
HUNGARY .....	35
<i>Reimbursement characteristics</i> .....	35
<i>National drug consumption database of the Directorate General of National Institut of Pharmacy</i> .....	36
<i>List of national websites of interest</i> .....	36
ICELAND .....	37
<i>Reimbursement characteristics</i> .....	37
<i>National drug consumption database of the Icelandic Medicines Agency</i> .....	38
<i>The Icelandic Medicines Registry</i> .....	38
<i>List of national websites of interest</i> .....	39
IRELAND .....	40
<i>Reimbursement characteristics</i> .....	40
<i>The Irish Health Service Executive Primary Care Reimbursement Services (HSE-PCRS) national primary care prescribing database</i> .....	41
<i>List of national websites of interest</i> .....	41
ITALY.....	42
<i>Reimbursement characteristics</i> .....	42
<i>National drug consumption database: OsMed database</i> .....	43
<i>List of national website of interest</i> .....	44
LATVIA.....	45
<i>Reimbursement characteristics</i> .....	45
<i>National drug consumption database of the State Agency of Medicines of Latvia</i> .....	46
<i>List of national website of interest</i> .....	46
LITHUANIA.....	47
<i>Reimbursement characteristics</i> .....	47
<i>National Health Insurance Fund database</i> .....	48
<i>List of national website of interest</i> .....	48
NORWAY .....	49
<i>Reimbursement characteristics</i> .....	49
<i>National drug consumption database: Norwegian Prescription Database (NorPD)</i> .....	50
<i>National drug consumption database: Norwegian Drug Wholesales- statistics Database</i> .....	51
<i>List of national website of interest</i> .....	51

POLAND.....	52
<i>Reimbursement characteristics.....</i>	52
<i>National drug consumption database: National Health Fund database.....</i>	53
<i>List of national website of interest.....</i>	53
PORTUGAL.....	54
<i>Reimbursement characteristics.....</i>	54
<i>National drug consumption database: INFARMED's database.....</i>	55
<i>List of national website of interest.....</i>	55
SLOVENIA.....	56
<i>Reimbursement characteristics.....</i>	56
<i>National drug consumption database of Slovenia.....</i>	57
<i>List of national website of interest.....</i>	57
SPAIN.....	58
<i>Reimbursement characteristics.....</i>	58
<i>National drug consumption database: DGFPD database.....</i>	59
<i>List of national website of interest.....</i>	59
SWEDEN.....	60
<i>Reimbursement characteristics.....</i>	60
<i>National drug consumption database: Swedish Prescribed Drug Register.....</i>	61
<i>National drug consumption database: Apotek AB database.....</i>	62
<i>List of national website of interest.....</i>	62
THE NETHERLANDS.....	63
<i>Reimbursement characteristics.....</i>	63
<i>National drug consumption database: GIP Database.....</i>	64
<i>National drug consumption database: Database of the Foundation for Pharmaceutical Statistics.....</i>	65
<i>List of national websites of interest.....</i>	65
THE UNITED KINGDOM.....	66
<i>Reimbursement characteristics.....</i>	66
<i>National drug consumption database: Electronic Prescribing Database-England (ePACT).....</i>	67
<i>Northern Ireland drug consumption databases.....</i>	68
ePACT database-North Ireland.....	68
HSC BSO Enhanced Prescribing Database (EPD).....	68
<i>Scotland drug consumption databases.....</i>	69
ePACT database-Scotland.....	69
HMUD database.....	69
<i>List of national website of interest.....</i>	70

## **PREFACE**

This report shows selected results of one of the goals set by the PROTECT project: to build up an inventory on national drug consumption databases across Europe. The interest behind this inventory is to collect information on sources of drug utilisation data across Europe from a researcher's point of view, trying to include aspects such as drug providers, national healthcare organisation, and characteristics more specific to the databases. <http://www.imi-protect.eu/documents/DUinventory2011.pdf> A contact name and updated websites addresses are provided for those investigators requiring further information, promoting the accessibility to these databases.

This document is a compilation of all relevant information per European country included in this inventory. Everyone interested in drug utilisation or in pharmacoepidemiological research can find the health care system and reimbursement characteristics, the list of national websites of interest and the national drug consumption databases for each country in an easy way. All this information is publicly available on the IMI website which will help save time for researchers interested in the subject.

We hope that this work will be useful to researchers, both from academia and pharmaceutical firms, as well as for regulators. It hopefully will help to improve the use of the medicines, the ultimate goal being patient benefit.

## **COUNTRIES SUMMARY (in alphabetical order)**



## BELGIUM

Population	11,099,554 inhabitants (1/1/2013) <a href="http://statbel.fgov.be/fr/statistiques/chiffres/">http://statbel.fgov.be/fr/statistiques/chiffres/</a> (accessed on 11/2013)
Health care provider	Health insurance system
Population coverage	Universal access
Model of health care financing	Compulsory system of health insurance which main sources of funding are the social security contributions depending upon a person's income (66%), and the subsidies from the federal government (10%). Other: indirect tax revenues (14%), allocated and diverse receipts (10%)



### Reimbursement characteristics

Method of payment	The patient only pays part of the total cost of a medicine and the sickness funds pay the remaining part to the pharmacist.
The beneficiaries	Reimbursement schemes differ for salaried and self-employed people, with the latter not receiving pharmaceutical reimbursement, except for oncological and AIDS drugs. The retired, widowers, orphans and people with disability benefits or people classified as preferentially insured persons are entitled to better benefits from the insurance system.
Categories of reimbursable drugs	Positive reimbursable list. This list is subdivided into different chapters according to indication for use. It is valid for out- and inpatient healthcare sector.
Structure of reimbursement to the patient (patient copayment)	Copayment consists of a flat fee for medicine supplied and to a percentage of the real cost, and limited to a ceiling-fee. The flat fee varies also by reimbursement category.
Reimbursement level for drugs	Medicines are classified into 5 categories (reimbursement rate): A (100%), B (75 or 85%), C (50%), Cs (40%), and Cx (20%).

**National drug consumption database: Pharmanet database**

<b>Organisation</b>	Institut national d'assurance maladie-invalidité (INAMI) (National Institute for Health and Disability Insurance).
<b>Web</b>	<a href="http://www.riziv.fgov.be">www.riziv.fgov.be</a> (Flemish) - <a href="http://www.inami.be">www.inami.be</a> (French)
<b>Source</b>	Prescribed and reimbursed drugs, including magistral formulations, sterile insulin syringes and other medical devices, medical foods and since Jan 2011 active bandages, analgesics, and contraceptives for young people, reimbursed under special circumstances.
<b>Setting</b>	Outpatient. General practitioners, doctors under specialist training, specialists in internal medicine, cardiology, pneumology, gastroenterology, rheumatology, paediatrics, dermatology, gynaecology and other specialists, and dentists.
<b>Population coverage</b>	>90%.
<b>Accessibility</b>	Outpatient data is collected from pharmacies, pharmaceutical invoice offices, and by the health insurers which send data to the INAMI. Contact: <a href="mailto:marc.defalleur@fgov.inami.be">marc.defalleur@fgov.inami.be</a> Data requested should be accompanied with a full protocol (objectives, the scientific or social rationale, methodology and the way data will be disseminated), principal investigator's name, and people with access to the data, address where data will be analyzed, source of funding and the heading under which the use of the data may be classified. A special committee will evaluate the feasibility of the project. After acceptance, a contract will be signed between INAMI and the investigator. There is a fee for the data requested.
<b>Drug codification</b>	Anatomical Therapeutic Chemical code (ATC) through linkage to another database.
<b>Data</b>	Drug-based data: Reimbursement category, CNK code, (unique identification number for each packaging of a drug in Belgium), codification for magistral preparations, pharmaceutical form of the magistral preparation, number of packages/modules dispensed, amount of the insurance contribution, reduction in the insurance contribution, reduced insurance contribution, reference to the authorisation to reimburse magistral preparations and prescription drugs for which the direct settlement system is authorised, the dispensing unit for magistral preparations, lump sums for cystic fibrosis, indication that the drug is prescribed under its international non-proprietary name. Patient-based data: permanent identification number of the beneficiary, gender, year of birth, national statistical institute code of the patient address, reference data of the SIS-card, beneficiary codes, amount of the copayment. Dispenser-based data: identification of the invoice office, pharmacy number, prescription date (still optional), dispensing date, invoicing year and month. Prescriber-based data: identification of the prescriber.
<b>Record period</b>	Since 1996
<b>Language</b>	French and Flemish. Analytical report on the contents of Pharmanet is available in English.
<b>Record linkage</b>	Yes, with INAMI's other databases. ATC/DDD, reimbursable prescription drugs file, healthcare provider file, pharmacy/invoice office/health insurer file and the "population" file.

**List of national websites of interest**

National Medicine Agency	Agence Fédérale des Médicaments et des Produits de Santé - AFMPS. Federal Agency for Medicines and Health Products.	<a href="http://www.fagg-afmps.be">www.fagg-afmps.be</a>
Pricing Agency	SPF Economie, PME, Classes moyennes et Energie. Service des Prix. Federal Minister of Economic Affairs. Price Services. FOD Economie, KMO, Middenstand en Energie. Prijzendienst.	<a href="http://www.economie.fgov.be/fr/consommateurs/Prix_reglementes/">www.economie.fgov.be/fr/consommateurs/Prix_reglementes/</a>
Reimbursement Agency	Institute National d'Assurance Maladie-Invalidité. Commission de Remboursement des Médicaments. Rijksinstituut voor ziekte- en invaliditeitsverzekering. Commissie Tegemoetkoming Geneesmiddelen.	<a href="http://www.riziv.fgov.be">www.riziv.fgov.be</a>
Pharmaceutical data source	Association Pharmaceutique Belge.	<a href="http://www.apb.be">www.apb.be</a>
	Internal list with all the prices of medical specialties online	<a href="http://www.apbtarif.be">www.apbtarif.be</a> (No free access)
	Centre Belge d'Information Pharmaceutique. Belgisch Centrum voor Farmacotherapeutische Informatie. Repertoire of medicines with comments on them.	<a href="http://www.bcfi.be">www.bcfi.be</a>

## BULGARIA

<b>Population</b>	7,284,552 inhabitants(31/12/2012) <a href="http://www.nsi.bg/indexen.php">http://www.nsi.bg/indexen.php</a>
<b>Health care provider</b>	Health insurance system with compulsory and voluntary health insurance managed by the National Health Insurance Fund (NHIF). The Ministry of Health is responsible of emergency care, transplantations, transfusion, tuberculosis and inpatient mental health care.
<b>Population coverage</b>	77%. All Bulgarian citizens are compulsorily health insured. In early 2011, 23% did not pay their contributions to the NHIF, thus not covered.
<b>Model of health care financing</b>	Mixed public-private: compulsory statutory health insurance (SHI) contributions, taxes, out-of-pocket payments, voluntary health insurance premiums, corporate payments, donations and external funding.



### Reimbursement characteristics

<b>Method of payment</b>	The patient only pays part of the total cost of a medicine and the sickness funds pays the remaining part.
<b>The beneficiaries</b>	Reimbursement schemes are the same for all inhabitants
<b>Categories of reimbursable drugs</b>	Positive reimbursable list for the outpatient sector. Inpatient sector: there is a list of medicines available at hospital level.
<b>Structure of reimbursement to the patient (patient copayment)</b>	Copayment rates are product specific. Group IA (0%), IB (down to 0%), IC (up to 95%), II (up to 100%). The last copayment category includes medicines listed in category II and III.
<b>Reimbursement level for drugs</b>	3 categories (reimbursement rate, %): I (up to 100%), II (up to 100%), III (up to 75%).

**National drug consumption database of the Bulgarian Drug Agency**

<b>Organisation</b>	Bulgarian Drug Agency
<b>Web</b>	<a href="http://www.bda.bg">www.bda.bg</a>
<b>Source</b>	Sales from wholesalers (more than 150 distributors in Bulgaria) every January for the previous year.
<b>Setting</b>	Out- and Inpatient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Request to the Agency, under contact tab there is the list of who is responsible for each department. Medicines Use Control Department <a href="mailto:maria.popova@bda.bg">maria.popova@bda.bg</a>
<b>Drug codification</b>	ATC code as in the marketing authorisation
<b>Data</b>	Drug-based data: trade name, international non-proprietary name (INN), pharmaceutical form and strength, ATC code, legal status, number of packages sold to hospitals, pharmacy stores and other outlets. The data is collected at the end of January each year.
<b>Record period</b>	Since 2009
<b>Language</b>	Bulgarian and English
<b>Record linkage</b>	No

**List of national websites of interest**

National Medicine Agency	Изпълнит. ЕЛНА АГЕНЦИЯ ПО ЛЕКАРСТВАТА (Bulgarian Drug Agency)	<a href="http://www.bda.bg">www.bda.bg</a>
Pricing Agency	Министерство на здравеоноето (Ministry of Health) There is a Pricing Commission Pricing Transparency Commission and a Positive List Commission that support and implement the pricing and reimbursement policy of the government.	<a href="http://www.mh.government.bg">www.mh.government.bg</a>
Reimbursement Agency	Национална здравноосигурителна каса (National Health Insurance Fund) This is the health insurer that reimburses the medicines. The reimbursement policy is the responsibility of the Ministry of Health.	<a href="http://www.nhif.bg/">http://www.nhif.bg/</a>
Pharmaceutical data source	ИЗПЪЛНИТЕЛНА АГЕНЦИЯ ПО ЛЕКАРСТВАТА (Bulgarian Drug Agency) List and summary information on medicinal products.	<a href="http://www.bda.bg/images/stories/documents/bdias/drugs2_list2_1.htm">http://www.bda.bg/images/stories/documents/bdias/drugs2_list2_1.htm</a>

# CROATIA

<b>Population</b>	4,267,558 inhabitants (mid-2012) <a href="http://www.dzs.hr/default_e.htm">http://www.dzs.hr/default_e.htm</a>
<b>Health care provider</b>	Compulsory public Health Insurance Fund (Croatian Institute for Health Insurance)
<b>Population coverage</b>	Universal access
<b>Model of health care financing</b>	Mixed system of financing: health insurance contributions, co-payments, voluntary complementary health insurance, privately provided supplementary health insurance, the state budget and local self-administration county units' budgets.



## Reimbursement characteristics

<b>Method of payment</b>	The patient only pays part of the total cost of a medicine and the sickness funds pays the remaining part. Except for the basic list.
<b>The beneficiaries</b>	Reimbursement is equal for all the citizens. But children, pregnant women, patients with HIV, chronic psychiatry patients, transplant patients, dialysis and cancer patients, citizens living under the poverty level are excepted from co-payment.
<b>Categories of reimbursable drugs</b>	There are "Basic" list with all essential medicines covered by mandatory insurance and the "Complementary" list with medicines covered partially through mandatory insurance and partially by out-of-pocket payments.
<b>Structure of reimbursement to the patient (patient copayment)</b>	Prescription fee of HRK15 (roughly €2) per year on medicines. Above. The basic list: 0%.
<b>Reimbursement level for drugs</b>	100% for medicines included in the basic list.

**National drug consumption database of the Croatian Medicines Agency**

<b>Organisation</b>	Croatian Drug Agency
<b>Web</b>	<a href="http://www.almp.hr/?ln=en">http://www.almp.hr/?ln=en</a>
<b>Source</b>	Sales from wholesalers
<b>Setting</b>	Out- and Inpatient.
<b>Population coverage</b>	100%
<b>Accessibility</b>	Request to the Agency Contact person: <a href="mailto:viola.macolic@halmed.hr">viola.macolic@halmed.hr</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Information about sales for out and inpatient healthcare sectors. It includes quantity of drug sold, package size, number of packages dispensed, strength, dose form, ATC code updated in the beginning of the year, DDD/1000 inhabitants/day (DID)
<b>Record period</b>	Since 2004
<b>Language</b>	Croatian and English
<b>Record linkage</b>	No.
<b>Other databases</b>	There is the database of the Croatian Health Insurance Fund with information on reimbursed medicines by them <a href="http://www.hzzo-net.hr/">http://www.hzzo-net.hr/</a>

**List of national websites of interest**

<b>National Medicine Agency</b>	Agencija za lijekove i medicinske proizvode: HALMED Agency for medicinal products and medical devices of Croatia	<a href="http://www.almp.hr/?ln=en">http://www.almp.hr/?ln=en</a>
<b>Pricing Agency</b>	Hrvatski zavod za zdravstveno osiguranje Croatia Health Insure Fund	<a href="http://www.hzzo-net.hr/">http://www.hzzo-net.hr/</a>
<b>Reimbursement Agency</b>	Hrvatski zavod za zdravstveno osiguranje Croatia Health Insure Fund	<a href="http://www.hzzo-net.hr/">http://www.hzzo-net.hr/</a>
<b>Pharmaceutical data source</b>	Agencija za lijekove i medicinske proizvode: HALMED Agency for medicinal products and medical devices of Croatia	<a href="http://www.almp.hr/?ln=hr&amp;w=lijekovi">http://www.almp.hr/?ln=hr&amp;w=lijekovi</a>

## CZECH REPUBLIC

<b>Population</b>	10,514,714 inhabitants (March 2013) <a href="http://www.czso.cz/eng/redakce.nsf/i/population">http://www.czso.cz/eng/redakce.nsf/i/population</a>
<b>Health care provider</b>	It is provided on the basis of Statutory Health Insurance which is provided by 9 Health Insurance Funds.
<b>Population coverage</b>	100%
<b>Model of health care financing</b>	Mixed public and private budget. The public health insurance system covers 76.6% of the total, state and territorial budgets cover 7.2% and the private expenditure is around 16.2%.



### Reimbursement characteristics

<b>Method of payment</b>	The patient pays part of the total cost of a medicine and the Health Insurance Funds pays the rest directly to the pharmacy.
<b>The beneficiaries</b>	Reimbursement is equal for all Czech residents. Special reimbursement decisions on type of medicines and medical conditions. For dependent children, pensioners, women on maternity or parental leave, persons receiving parental benefits, job seekers, adults with moderate to severe level of dependence and their caregivers, military and civil service are covered by the state.
<b>Categories of reimbursable drugs</b>	Positive reimbursable list of medicines. Special reimbursement may be granted for special medical purposes depending on the extent and severity of the disease (e.g. specific infectious diseases).
<b>Structure of reimbursement to the patient (patient copayment)</b>	Copayment of a maximum ceiling of CZK5000 (roughly €200) per year on medicines. Above which, the sickness funds reimburses 100% of the medicines, except for a fixed flat fee per prescription.
<b>Reimbursement level for drugs</b>	50% of the medicines on the positive reimbursable list are fully covered by the sickness funds, only flat fee for prescription of €1.20.



**National drug consumption database of the State Institute for Drug Control (SUKL)**

<b>Organisation</b>	The State Institute for Drug Control (SUKL).
<b>Web</b>	<a href="http://www.sukl.cz">www.sukl.cz</a>
<b>Source</b>	Sales from wholesalers from 2006 up to now. Since 2011, dispensed medicines also available.
<b>Setting</b>	Outpatient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Application to the Information and Press Department <a href="mailto:infs@sukl.cz">infs@sukl.cz</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Drug-based data: package size, number of packages, strength, dosage form, etc. Sales of OTC from wholesalers, dispensing OTC with limits. Indication for use: Only for increased reimbursement from health insurance (International Classification of Diseases). For not assigned ATC/DDD, they use number of packages as units sold and the SUKL identification number assigned to all drugs.
<b>Record period</b>	Since 2006 sales from wholesalers. Dispensed medicines since 2011.
<b>Language</b>	Czech and English
<b>Record linkage</b>	No

**List of national websites of interest**

National Medicine Agency	Státní ústav pro kontrolu léčiv (SÚKL). State Institute for Drug Control.	<a href="http://www.sukl.cz">www.sukl.cz</a>
Pricing Agency	Státní ústav pro kontrolu léčiv (SÚKL). State Institute for Drug Control.	<a href="http://www.sukl.cz">www.sukl.cz</a>
Reimbursement Agency	Státní ústav pro kontrolu léčiv (SÚKL). State Institute for Drug Control.	<a href="http://www.sukl.eu/sukl/reimbursement-of-costs-for-advice-provision">http://www.sukl.eu/sukl/reimbursement-of-costs-for-advice-provision</a>
Pharmaceutical data source	Státní ústav pro kontrolu léčiv (SÚKL). State Institute for Drug Control. <i>Medicinal Products Database.</i>	<a href="http://www.sukl.eu/modules/medication/search.php">http://www.sukl.eu/modules/medication/search.php</a>

## DENMARK

<b>Population</b>	5,599,741 (March2013) <a href="http://www.dst.dk">http://www.dst.dk</a>
<b>Health care provider</b>	Universal compulsory system. No possibility of opting out of the system. Around 20% of Danish population have purchased additional voluntary health insurance from non-for-profit organisations.
<b>Population coverage</b>	100%. Non-residents are entitled acute treatment.
<b>Model of health care financing</b>	Income taxes and block grants from the state finance municipalities. Regions are financed by the state through income taxes, VAT, other taxes and by the municipalities.



### Reimbursement characteristics

<b>Method of payment</b>	The patient pays fully/partially the cost of the medicine and the municipality pays the remaining part to the pharmacist.
<b>The beneficiaries</b>	Reimbursement schemes may differ for patients chronically or terminally ill. Supplementary reimbursement schemes for pensioners, people on low income, patients receiving cash assistance. Reimbursement schemes may also differ according to medicine.
<b>Categories of reimbursable drugs</b>	General reimbursement scheme for prescription-only medicines and OTC. Other medicines may be classified for general reimbursement when limited to certain diseases. Individual reimbursement scheme upon doctor's application for medicines non-reimbursed.
<b>Structure of reimbursement to the patient (patient copayment)</b>	Positive list of medicines eligible for reimbursement. Copayment consists to full payment of medicines up to a maximum cost for a period of 12 months. Above this maximum, different percentages are paid by the patient depending on patient's health expenditure with copayment rates of 100%, 50%, 25%, 15%, and 0%.
<b>Reimbursement level for drugs</b>	4 reimbursement categories (reimbursement rate): General reimbursement POM (0,50,75,85,100%); general reimbursement POM limited to certain diseases (0,50,75,85,100%); general reimbursement OTC (0,50,75,85,100%); individual for a specific product (0,50,75,85,100).

**National drug consumption database: The Danish Registry of Medicinal Products Statistics**

<b>Organisation</b>	Lægemiddelstyrelsen (Danish Health and Medicines Authority).
<b>Web</b>	<a href="http://laegemiddelstyrelsen.dk/en/">http://laegemiddelstyrelsen.dk/en/</a> <a href="http://medstat.dk">http://medstat.dk</a> (online data)
<b>Source</b>	For <u>primary health sector</u> : Dispensed medicines (prescribed or not prescribed) from community pharmacies, dispensing doctors, shops selling liberalised drugs and The Danish State Serum Institute (only vaccines, immune sera and immunoglobulines). Supplies to nursing homes, abuse centres and other similar institutions included. For <u>hospital sector</u> : dispensed medicines by ward codes.
<b>Setting</b>	Out- and in-patient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Free. Further data is only available through Statistics Denmark to authorised Danish research institutions or foreign researchers affiliated to an authorised Danish research institution.
<b>Drug codification</b>	ATC code
<b>Data</b>	Statistics can be downloaded by groups of medicines, ATC code or product name. Results are presented in DDD, DDD/1000 inhabitants/day, number of users, number of users/1000 inhabitants, turnover (including VAT value added tax, and other prescription charges), and number of packages, number of packages eligible for reimbursement and paid reimbursement. It can be downloaded by region, age and gender. Other information: date, time and place of sale; sales number; code for the sale (e.g. OTC), number of the person reporting the sale, person receiving the medicinal product, prescriber's code (which corresponds to doctor's practice; doctor's registration number only for specific drugs), type of reimbursement and authority involved, number of packages, de-selection of generic substitution, reiteration number (number of times the product has been sold on prescription), number of prescribed product, number of dispensed product; unique patient identification (ID) number or if a child without ID number, the age; sales price, and price on which the reimbursement is calculated, date of pricing of sale of medicinal products, payment from patient, regional and municipality reimbursements, reimbursement entitled to the patient, dose for ordination. There is the possibility to report indication for use in free-text on the prescriptions. However, it is not yet available for research. The Register has also incorporated the following information from the Statens Serum Institute: ATC, DDD, pharmaceutical form and trade name of the medicinal product.
<b>Record period</b>	From 2005 available online. The registry began in January 1995, data for outpatient available since 1996. In-hospital data since 1997. Since 2001 new outlets selling OTC medicines report their sales to the register.
<b>Language</b>	Danish and English.
<b>Record linkage</b>	Yes. Health registers, demographic data (residence, migration, death, family), socioeconomic data (education, occupation, employment status, income) through Statistics Denmark ( <a href="http://www.dst.dk">www.dst.dk</a> ). There exists the possibility of linking up with researchers' own register with the Register of medicines from Denmark.

**The Danish National Database of Reimbursed Prescriptions (DNRP)**

<b>Organisation</b>	Department of Clinical Epidemiology at Aarhus University Hospital
<b>Web</b>	<a href="http://kea.au.dk/en/research/thedanishnationaldatabaseofreimbursedprescriptions/">http://kea.au.dk/en/research/thedanishnationaldatabaseofreimbursedprescriptions/</a>
<b>Source</b>	Reimbursed prescriptions
<b>Setting</b>	Outpatient (community pharmacies and hospital-based outpatient pharmacies).
<b>Population coverage</b>	All Danish population including residents of long-term care institutions.
<b>Accessibility</b>	Researchers from all over Denmark after approval from the Danish Data Protection Agency have been obtained. Application to the data provider with a 3-page protocol to the corresponding board member of the region that the researcher works in.
<b>Drug codification</b>	ATC
<b>Data</b>	<b>Patient details:</b> personal identification number, birth year, age at dispensing date, gender, municipal and region of residence. <b>Dispensing details:</b> product code (Nordic article number), encoding name, form, strength and pack size, trade name, number of packets or units, pharmaceutical form, DDD, dispensing date, generic substitution done at pharmacy (if any), retail price, price forming basis of reimbursement calculation. <b>Prescriber details:</b> practice code. <b>Pharmacy details:</b> unique pharmacy identifier
<b>Record period</b>	Since 2004, prescription data collected by the Danish Regions have been stored in a database maintained by the Computer Science Corporation (CSC), an IT-consulting firm. Since March 2011, a contract between Danish Regions and Aarhus University approved the use of the data for research.
<b>Language</b>	Danish and English
<b>Record linkage</b>	Yes. Other Danish registries through the unique personal identification number.

**List of national websites of interest**

National Medicine Agency	Lægemiddelstyrelsen. Danish Health and Medicines Authority.	<a href="http://www.laegemiddelstyrelsen.dk">www.laegemiddelstyrelsen.dk</a>
Pricing Agency	Indenrigs-og Sundhedsministeriet. The Ministry of Interior and Health.	<a href="http://www.im.dk">www.im.dk</a>
Reimbursement Agency	Lægemiddelstyrelsen. The Danish Medicines Agency.	<a href="http://www.laegemiddelstyrelsen.dk">www.laegemiddelstyrelsen.dk</a>
Pharmaceutical data source	Laegemiddelstyrelsen. Danish Medicines Agency.	<a href="http://www.laegemiddelstyrelsen.dk">www.laegemiddelstyrelsen.dk</a>
	Prices of medicines, and other information on the different pharmaceutical products (summary of product characteristics, package leaflet). Lists with information about medicinal products updated daily.	<a href="http://www.produktresume.dk">www.produktresume.dk</a>
	Dansk laegemiddelinformation. Information on medicines. Information on medicinal products for both the patients and health care professionals.	<a href="http://www.medicin.dk">www.medicin.dk</a>

## ESTONIA

<b>Population</b>	1,286,479 inhabitants (1/1/2013) <a href="http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=PO021&amp;ti=POPULATION+BY+SEX+AND+AGE+GROUP%2C+1+JANUARY&amp;path=../I_Databas/Population/01Population_indicators_and_composition/04Population_figure_and_composition/&amp;lang=1">http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=PO021&amp;ti=POPULATION+BY+SEX+AND+AGE+GROUP%2C+1+JANUARY&amp;path=../I_Databas/Population/01Population_indicators_and_composition/04Population_figure_and_composition/&amp;lang=1</a>
<b>Health care provider</b>	The National Health Service supervised by the Ministry of Social Affairs
<b>Population coverage</b>	Universal access
<b>Model of health care financing</b>	It is mainly publicly funded through a general tax system. Social Health Insurance (SHI) contributions in the form of earmarked social payroll tax, which amounts to over 60% of total funding. Health Insured system operated through the Central Sickness Fund and 22 regional sickness funds. The Ministry of Social Affairs and its agencies are responsible for the financing and management of public health



### Reimbursement characteristics

<b>Method of payment</b>	The patient partially pays the cost of the medicine and the Estonian Health Insurance Fund (EHIF) pays the rest.
<b>The beneficiaries</b>	The reimbursement system is disease specific
<b>Categories of reimbursable drugs</b>	Positive reimbursable list. The reimbursement category is determinate according to the severity of the disease, efficacy of medication and social status of the patient.
<b>Structure of reimbursement to the patient (patient copayment)</b>	Outpatient prescription are subject to co-payment of €3.20 (EEK 50) per prescription plus some of the price of the medicine. Drugs of the positive list prescribed by ambulatory provides: (i) 50% of €393.40-639.00 per calendar year; (ii) 75% of €639.00-1,278.00 per calendar year; (iii) 0% above €1,278.00.
<b>Reimbursement level for drugs</b>	List of medicines (27 indications/group) for severe diseases receive 100% reimbursed. Less severe but mostly chronic diseases (44) 75% reimbursed. In this group 90% reimbursed is applied for certain social group (children under 16, disabled and retired people). Children below 4 years 100% reimbursed. Other drugs belong the positive list that no belong the diagnoses outlined before are reimbursed at 50%.

**EHIF database**

Organisation	Estonian Health Insurance Fund
Web	<a href="http://www.haigekassa.ee/">http://www.haigekassa.ee/</a>
Source	Reimbursed drugs.
Setting	Outpatient.
Population coverage	95%
Accessibility	Application to <a href="mailto:infor@haigekassa.ee">infor@haigekassa.ee</a>
Drug codification	ATC
Data	Information including manual, electronic and electronic prescription in the pharmacy not collected by the patients, indication for drug use (ICD-10), date prescribed (for electronic prescriptions), date dispensed, quantity of drug, package size, number of packages dispensed, dose, strength, dosage form, prescriber information (name and specialty), ATC code (update March 1 <sup>st</sup> ), DDDs for combination products, patient related information (unique identification number, age and gender)
Record period	In 2002 is published the first report
Language	Estonian and English.
Record linkage	No

**The State Agency Medicines database of Estonia**

Organisation	State Agency of Medicines
Web	<a href="http://www.sam.ee/en">www.sam.ee/en</a>
Source	Sales from wholesalers
Setting	Out- and Inpatient
Population coverage	100%
Accessibility	Application to <a href="mailto:info@raviamet.ee">info@raviamet.ee</a>
Drug codification	ATC
Data	All the wholesalers report their drug sales data to the State Agency of Medicines 4 times a year. Information about sales including ATC code (update March 1 <sup>st</sup> ), active pharmaceutical ingredient, trade name, pharmaceutical form, strength, package size and the manufacturer, DDD, DID, monetary value.
Record period	First report published in 2002
Language	Estonian and English
Record linkage	No

**List of national website of interest**

National Medicine Agency	Raviviamet State Agency of Medicines	<a href="http://www.sam.ee">www.sam.ee</a>
Pricing Agency	Ministry of Social Affairs	<a href="http://www.sm.ee/eng.html">http://www.sm.ee/eng.html</a>
Reimbursement Agency	Both the State Agency of Medicines and the Estonian Health Insurance Fund assess the Ministry of Social Affairs in the reimbursement of medicines	<a href="http://www.sm.ee/eng.html">http://www.sm.ee/eng.html</a>
Pharmaceutical data source	State Agency of Medicines	<a href="http://193.40.10.165/register/register.php?keel=eng&amp;inim_vet=inim">http://193.40.10.165/register/register.php?keel=eng&amp;inim_vet=inim</a>



## FINLAND

Population	5,426,674 inhabitants (end 2012) <a href="http://www.stat.fi/tup/suoluk/suoluk_vaesto_en.html">http://www.stat.fi/tup/suoluk/suoluk_vaesto_en.html</a>
Health care provider	Public. Universal access to health care. Three health care systems: municipal (35%), private (15%) and occupational (45%).
Population coverage	Municipal care covers all permanent residents. Asylum seekers, illegal immigrants, tourists, temporary students and workers for non- European Union countries are not covered by municipality health care, except for emergency care.
Model of health care financing	Municipal financing based on taxes (from municipal taxes, state subsidies, and user-fees) and National Health Insurance based on compulsory insurance fees (sickness and income insurance). Private health care system: There are voluntary health insurances (not very common). Statutory motor accident and occupational accident, both compulsory.



### Reimbursement characteristics

Method of payment	The patient partially pays the cost of the medicine. The Social Insurance Institution (KELA) pays the remaining part to the pharmacist.
The beneficiaries	Reimbursement schemes differ by therapeutic value for basic reimbursement and by type of disease for special reimbursement categories. Municipalities additionally support people on low income, pensioners receiving support, children, and people with disabilities.
Categories of reimbursable drugs	Positive and negative reimbursable lists. For special reimbursement, a doctor's application needs to be filled up. Some OTC medicines may also be granted basic or lower special reimbursement.
Structure of reimbursement to the patient (patient copayment)	When patient's copayment exceeds a maximum ceiling (€700.92, year 2012), the patient pays a flat fee for prescription of €1.50. The patient pays medicines not eligible for reimbursement, which are not included in the annual ceiling. General flat fee of €3 is charged for prescription.
Reimbursement level for drugs	There are 4 reimbursement categories (reimbursement rate): Basic reimbursement (42%); lower special reimbursement (72%); higher special reimbursement (100%); additional reimbursement scheme when the maximum copayment/year is reached.

**National drug consumption database: Finnish Prescription registry**

<b>Organisation</b>	Social Insurance Institution of Finland.
<b>Web</b>	<a href="http://www.kela.fi/in/internet/english.nsf/NET/060601135829KH?OpenDocument">http://www.kela.fi/in/internet/english.nsf/NET/060601135829KH?OpenDocument</a> (link to drug statistics).
<b>Source</b>	Reimbursed medicines.
<b>Setting</b>	Outpatient. Excluded public nursing homes and hospitals.
<b>Population coverage</b>	100%
<b>Accessibility</b>	Application to data provider: Kela research department. <a href="mailto:tutkimus@kela.fi">tutkimus@kela.fi</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Drug-based data: Nordic Commodity Number (trade name, pharmaceutical form, strength, pack size, DDDs/package, marketing authorisation holder, ATC code); number of packages received; price; reimbursement; coded indication in the case of special reimbursement; dosage and indication as written by the doctor-only kept for approximately 1.5 years-; date of prescribing and date of dispensing. Patient-based data: unique identification number (age, sex, place of residence, disease entitling to special reimbursement). Prescriber-based data: Sickness insurance code (specialty, working place according to the latest survey). Dispenser-based data: Unique Identification code (area, date of dispensing). <i>NO DATA</i> : OTC medicines, non-reimbursed medicines, inexpensive medicines until 31/12/2005, in-patient care, purchases under deduction limit or compensated by the employer, purchased abroad.
<b>Record period</b>	Since 1994. Up to 2006 there are only registered reimbursed medicines for patients exceeding copayment of 10 Euros for normal refund or 5 Euros for special refund.
<b>Language</b>	Suomi, Swedish, English.
<b>Record linkage</b>	Yes. Hospital discharge register, cancer register, causes of death register, longitudinal database of population censuses with data on socioeconomic variables, population information system.

**National drug consumption database: Drug sales register**

<b>Organisation</b>	Finnish Medicines Agency.
<b>Web</b>	<a href="http://www.fimea.fi/frontpage">http://www.fimea.fi/frontpage</a>
<b>Source</b>	Sales from wholesalers.
<b>Setting</b>	Out and inpatient.
<b>Population coverage</b>	100%
<b>Accessibility</b>	Reports since 2007 available on the website. Application to data provider <a href="mailto:communications@fimea.fi">communications@fimea.fi</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Data aggregated. Consumption expressed in DDD/1000 inhabitants/day. No data on age and gender.
<b>Record period</b>	Since 1987
<b>Language</b>	Suomi, Swedish, English
<b>Record linkage</b>	No

**List of national website of interest**

National Medicine Agency	Lääkealan turvallisuus- ja kehittämiskeskus. Finnish Medicines Agency.	<a href="http://www.fimea.fi">www.fimea.fi</a>
Pricing Agency	Sosiali –ja Terveysministeriö. Lääkkeiden hintalautakunta. Ministry of Social Affairs and Health. Pharmaceutical Pricing Board.	<a href="http://www.stm.fi/stm/neuvottelukunnat/hila/etusivu">www.stm.fi/stm/neuvottelukunnat/hila/etusivu</a>
Reimbursement Agency	Kansaneläkelaitos. Social Insurance Institution.	<a href="http://www.kela.fi">www.kela.fi</a>
Pharmaceutical data source	Lääkealan turvallisuus- ja kehittämiskeskus. Finnish Medicines Agency. Free search service on information on medicinal products, summary of product characteristics, patient leaflets.	<a href="http://www.fimea.fi/medicines/fimeaweb">http://www.fimea.fi/medicines/fimeaweb</a>

## FRANCE

<b>Population</b>	65,585,857 inhabitants (01/2013) <a href="http://www.insee.fr/fr/themes/detail.asp?reg_id=0&amp;ref_id=bilan-demo&amp;page=donnees-detaillees/bilan-demo/pop_age2b.htm">http://www.insee.fr/fr/themes/detail.asp?reg_id=0&amp;ref_id=bilan-demo&amp;page=donnees-detaillees/bilan-demo/pop_age2b.htm</a>
<b>Health care provider</b>	Public through Statutory Health Insurance System. Universal access to health care services.
<b>Population coverage</b>	Statutory health insurance (SHI) provided by mutual associations which cover 99.9% of the French residents. People with low income (minimum income of €9020 /year in 2008) and non-residents are covered by the state medical help.
<b>Model of health care financing</b>	Mixed public and private financing. The Statutory Health Insurance is responsible of 73.8% of French healthcare expenditure; 5.2% is financed by the State; and 20.2% by private sources. Initially the SHI was financed by the employer and the employee payroll taxes and other national taxes; currently, anyone can opt in to the system and pay a contribution to the SHI. In addition, 88% of population has a private-for-profit complementary voluntary health insurance.



### Reimbursement characteristics

<b>Method of payment</b>	The patient partially pays the cost of the medicines and the health insurer pays the rest to the pharmacist.
<b>The beneficiaries</b>	Reimbursement schemes differ by the therapeutic value of the medicine and disease severity as advised by the Health High Authority (HAS). People < 18 years are exempted of the flat-fee per prescribed medicine package.
<b>Categories of reimbursable drugs</b>	Positive reimbursable list. Within this list, the medicines are classified according to their clinical benefit assessment (Service Médicale Rendu, SMR): major or important, moderate, mild, and insufficient clinical benefit.
<b>Structure of reimbursement to the patient (patient copayment)</b>	The patient pays a flat fee of €0.50 /package plus a copayment of 85%, 70%, 35% and 0% depending of the therapeutic value of the medicine.
<b>Reimbursement level for drugs</b>	There are 4 reimbursement categories: 100% for drugs with a barred white label. It corresponds to expensive, irreplaceable medicines; white label (65%) medicines deemed of major or important clinical benefit; blue label (30%) for moderate efficacy medicines; and 15% for medicines with mild clinical benefit assessment; 0% for insufficient value.

**National drug consumption database: ANSM database**

<b>Organisation</b>	Agence Nationale de Sécurité du médicament et des produits de santé (ANSM). National Agency of Medicines and Health Products Safety.
<b>Web</b>	<a href="http://www.anism.sante.fr">www.anism.sante.fr</a>
<b>Source</b>	Sales of medicines from pharmaceutical companies' turnovers.
<b>Setting</b>	Out- and inpatient
<b>Accessibility</b>	Application to data provider <a href="mailto:communication@anism.sante.fr">communication@anism.sante.fr</a>
<b>Population coverage</b>	100%
<b>Drug codification</b>	ATC (all levels, except for those medicines with a single trademark grouped at ATC level 4).
<b>Data</b>	Units of measurement: DDD, DDD/1000 inhabitants/year, DDD/100 admissions in in-patient, sales of packages. Drug-based data: Package size, strength, form of dosage.
<b>Record period</b>	Reports available since 1993
<b>Language</b>	French
<b>Record linkage</b>	No

### National drug consumption database: Extraction, Recherches, Analyses pour un Suivi Médico-Economique database (ERASME)

<b>Organisation</b>	Caisse Nationale d'Assurance Maladie des Travailleurs Salariés (CNAMTS). National Insurance Fund for salaried employees.
<b>Web</b>	<a href="http://www.ameli.fr/index.php">http://www.ameli.fr/index.php</a>
<b>Source</b>	Prescribed drugs dispensed by community pharmacies and reimbursed by the CNAMTS.
<b>Setting</b>	Outpatient
<b>Population coverage</b>	87%
<b>Accessibility</b>	Application to data provider through their contact formulary. <a href="http://www.ameli.fr/l-assurance-maladie/formulaire-de-contact.php">http://www.ameli.fr/l-assurance-maladie/formulaire-de-contact.php</a>
<b>Drug codification</b>	ATC
<b>Data</b>	Patient-based data: Identification number, registration date, date of transfer, date of birth, address, gender, marital status. Prescriber-based data: prescriber identification number, speciality, age, gender, year of graduation, year started work, geographical location of workplace, consultations performed, prescription performed, acts performed. Pharmacy-based data: pharmacy identification number. Drug-based data: ATC, date dispensed, date prescribed, number of boxes delivered, unique identification number for every pharmaceutical form (national pharmaceutical form code), drug name, amount claimed. Death information: date of death. Clinical Laboratory Data: date of prescription, date of results, code of the exam (specific nomenclature). Other medical acts: date of prescription, date of purchase, date of reimbursement, code.
<b>Record period</b>	Since 2001
<b>Language</b>	French
<b>Record linkage</b>	Yes System of Inter-Program Health Insurance Information (SNIIR-AM) database: anonymised medical information of a sample of patients from all French health insurances. It collects information from the local health insurance offices (individual data). Patient data: age, gender, region, date of death. Outpatient data: date of cure and date of reimbursement. Medical cures with CCAM code, analysis, medical devices, CIP code of drugs. Disease information: ICD-10 code for chronic diseases, ICD-10 codes issued by Program Medicalization Systems Information (PMSI) for hospital stays: main and related diagnoses, insured). Other medical information: Homogeneous Group of Patients (GHM), tracer drugs, technical acts, biological samples, medical devices). It includes medicines dispensed in hospitals at aggregated level. Data is available since 2004. This database stores data for the current year and 2 previous years, therefore they have drawn a Permanent Sample containing a standard sample of 1/100 patients. The Ministry of health determines which research institutions have access to this database. Through the IDS other research institutions may have access to the permanent sample. <a href="http://www.piperska.org/sites/default/files/Day_3_Fagot.pdf">http://www.piperska.org/sites/default/files/Day_3_Fagot.pdf</a> (accessed on 10/2013).

### Other databases

There are two additional databases: The Régime Social des Indépendants (RSI) database: <http://www.le-rsi.fr/> (covers 3.3 million individuals) and The Mutuelle Sociale Agricole (MSA) database: <http://www.msa.fr/> (covers 3.6 million individuals), corresponding to the other 2 national insurance schemes, which contain similar information as ERASME database.

### List of national website of interest

National Medicine Agency	Agence nationale de sécurité du médicament et des produits de santé (ANSM). National Agency for the Safety of Medicines and Healthcare Products.	<a href="http://www.ansm.sante.fr">www.ansm.sante.fr</a>
Pricing Agency	Comité d'Economie de Produits de Santé (CEPS). Economic Committee of Health Products.	<a href="http://www.sante.gouv.fr/comite-economique-des-produits-de-sante-ceps.html">www.sante.gouv.fr/comite-economique-des-produits-de-sante-ceps.html</a>
Reimbursement Agency	Commission d'Evaluation des Médicaments. Ministry of Health and Sports.	<a href="http://www.sante.gouv.fr">www.sante.gouv.fr</a>
	Ministère du Travail, de l'Emploi et de la Santé Union Nationale des Caisses d'Assurance Maladie (UNCAM). National Union of Health Insurance Funds.	<a href="http://www.unocam.fr">www.unocam.fr</a>
Pharmaceutical data source	Dictionnaire Vidal. Information on drugs for healthcare professionals and patients.	<a href="http://www.vidal.fr/lesproduitsprofessionnels/dictionnaire-vidal">http://www.vidal.fr/lesproduitsprofessionnels/dictionnaire-vidal</a> (No free access)
	Centre National Hospitalier d'Information sur le Médicament (CNHIM). A database for Health care professionals has been developed with information on all drugs available in France.	<a href="http://www.cnhim.org/">http://www.cnhim.org/</a> <a href="http://www.theriaque.org">http://www.theriaque.org</a> (No free access)
	Agence Nationale du Sécurité du Médicament. French National ECODEx database with information on all drugs marketed in France.	<a href="http://agence-prd.ansm.sante.fr/php/ecodex/index.php">http://agence-prd.ansm.sante.fr/php/ecodex/index.php</a>

## GERMANY

<b>Population</b>	80,523,700 inhabitants (31/12/2012) <a href="https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/Bevoelkerung/Bevoelkerungsvorausberechnung/Bevoelkerungsvorausberechnung.html">https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/Bevoelkerung/Bevoelkerungsvorausberechnung/Bevoelkerungsvorausberechnung.html</a>
<b>Health care provider</b>	Public Statutory Health Insurance system (SHI), compulsory for all German citizens. Universal access to health care services.
<b>Population coverage</b>	The SHI covers around 85% of population. Private Health Insurance covers 10% of the population. About 5% of population fall under special regimes
<b>Model of health care financing</b>	Uniform wage-related contribution plus taxes.



### Reimbursement characteristics

<b>Method of payment</b>	The Statutory Health Insurance (SHI) directly pays costs of drugs to the pharmacist.
<b>The beneficiaries</b>	Reimbursement schemes differ by age group. For some medicines, only approved indications are reimbursed. Children < 12 years exempt of copayment.
<b>Categories of reimbursable drugs</b>	All medicines that hold a market authorisation are reimbursed by the SHI. However, the Ministry of Health, through the Quality Assessment Institute may exclude those medicines deemed not to be cost-effective or that do not provide additional benefit.
<b>Structure of reimbursement to the patient (patient copayment)</b>	The patient pays 10% of the price of medicines with a minimum of €5 and a maximum of €10 per prescription up to an annual upper limit based on patient's income. Exception: For those drugs with a price below 30% of the reference price.
<b>Reimbursement level for drugs</b>	Adults: Prescribed-Only Medicines (POM) and for few OTC with specific indications: fully reimbursed (100%) except general copayment. Children <12 years POM and OTC are fully reimbursed. Children < 18 years POM, and OTC for few indications are fully reimbursed (100%).



**National drug consumption database: WidO database**

<b>Organisation</b>	Wissenschaftliches Institut der Allgemeinen Ortskrankenkassen AOK (WIdO). The Research Institute of the AOK (AOK is the General Medical Insurance Plan).
<b>Web</b>	<a href="http://wido.de/arzneiverordnungs-rep.html">http://wido.de/arzneiverordnungs-rep.html</a>
<b>Source</b>	Reimbursed drugs within the public sickness fund system
<b>Setting</b>	Outpatient
<b>Population coverage</b>	85%
<b>Accessibility</b>	Application to data provider. <a href="mailto:valentina.coca@wido.bv.aok.de">valentina.coca@wido.bv.aok.de</a> <a href="mailto:helmut.schroeder@wido.bv.aok.de">helmut.schroeder@wido.bv.aok.de</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Patient-based data: Subject identification number assigned by the statutory health insurance. Drug-based data: central pharmaceutical number (CPN), prescription number, date of prescription, and date of delivery, amount prescribed, generic name, brand, packaging size, strength, DDD, pharmaceutical formulation, cost.
<b>Record period</b>	Since 1980, a report is published every year (no free access).
<b>Language</b>	German
<b>Record linkage</b>	Yes. To other data files within statutory health insurance (SHI): socio-demographic variables, hospital and outpatient data. Patient's change of SHI means that a new identification number is assigned and previous information is lost.
<b>Other databases</b>	German Pharmacoepidemiological Database (GePaRD database). It includes records of 4 statutory health insurances covering approximately 17% of German population with information on prescriptions, developed by the University of Bremen.

**List of national website of interest**

National Medicine Agency	Bundesinstitut für Arzneimittel und Medizinprodukte - BfArM. Federal Institute for Drugs and Medical Device.	<a href="http://www.bfarm.de">www.bfarm.de</a>
Pricing Agency	Bundesministerium für Gesundheit. Federal Ministry of Health. Manufacturers are free to set the price for the first year of a new pharmaceutical product.	<a href="http://www.bmg.bund.de">www.bmg.bund.de</a>
	Gemeinsamer Bundesausschuss (G-BA). Federal Joint Committee.	<a href="http://www.g-ba.de">www.g-ba.de</a>
Reimbursement Agency	Gemeinsamer Bundesausschuss (G-BA). Federal Joint Committee	<a href="http://www.g-ba.de">www.g-ba.de</a>
	Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen. Institute for Quality and Efficiency in Health Care.	<a href="http://www.iqwig.de">www.iqwig.de</a>
	Gesetzliche Krankenversicherung (GKV). Statutory Health Insurance.	<a href="http://www.g-k-v.de/gkv/">http://www.g-k-v.de/gkv/</a>
Pharmaceutical data source	Rote list. Information on drugs for pharmacists and medical doctors.	<a href="http://www.rote-liste.de">http://www.rote-liste.de</a> (No free access)
	Summary of Product Characteristics in Germany Fachinfo. Information on drugs for medical doctors and pharmacists.	<a href="http://www.fachinfo.de">www.fachinfo.de</a> (No free access)
	Fachinformationsverzeichnis Deutschland. Federal and State governments' portal for drug information (in collaboration with the Ministry of Health). Information on medicinal products. Sections of this information are public and can be accessed by the public. It contains administrative data (Authorisation of medicinal products, SPC and PIL).	<a href="http://www.pharmnet.bund.de/am-info-system/index.htm">www.pharmnet.bund.de/am-info-system/index.htm</a>

# HUNGARY

<b>Population</b>	9,908,798 inhabitants(1/1/2013) <a href="http://www.ksh.hu/">http://www.ksh.hu/</a>
<b>Health care provider</b>	Public Statutory Health Insurance System. Universal access for all residents in Hungary.
<b>Population coverage</b>	96% of population covered by the National Health Insurance Fund Administration (NHFIA). 4% of the population unclear.
<b>Model of health care financing</b>	Compulsory contributions to the SHI and general and local tax revenues. 23.7% is financed by out-of-pocket payments (including informal payments).



## Reimbursement characteristics

<b>Method of payment</b>	Cost of drugs paid by the National Health Insurance Fund Administration (NHFIA).
<b>The beneficiaries</b>	Participation in the NHFIA is compulsory for all Hungarian citizens. Certain individuals are exempted (abandoned children, disability pensions, people receiving regular cash benefits) and means-tested which is determined by the patient household income and pharmaceutical expenditure.
<b>Categories of reimbursable drugs</b>	Positive and negative reimbursable list. Medicines are reimbursed depending on the severity of condition and the indication and type of a prescription. The first requires a specialist confirmation. The second, known as fixed reimbursement type, is valid for all indications licensed for a drug up to a fixed amount or on a percentage basis.
<b>Structure of reimbursement to the patient (patient copayment)</b>	For the fixed reimbursement type, copayment may be of 20%, 45% or 75% or up to a fixed amount of €1.2/prescription (valid for generic medicines and to different products with different active ingredients with similar treatment effects). For the indication-related reimbursement, copayment is 0% for more severe diseases with a package fee of €1. For less severe diseases, the copayment is 10%, 30% or 50%.
<b>Reimbursement level for drugs</b>	There are 5 reimbursement categories (reimbursement rate): Non-reimbursable drugs (0%); General or fixed reimbursement valid for any prescription medicine and indication (25%, 55%, and 80%); Indication-based reimbursement medicines (50%, 70%, 90%, and 100%); reimbursement based on social needs: NHIFA provides a maximum budget for chronic illnesses and acute illness/month to avoid abuse of the system.

**National drug consumption database of the Directorate General of National Institute of Pharmacy**

<b>Organisation</b>	Directorate General of National Institute of Pharmacy.
<b>Web</b>	<a href="http://www.ogyi.hu">www.ogyi.hu</a>
<b>Source</b>	Sales from wholesalers
<b>Setting</b>	Out-and inpatient
<b>Population coverage</b>	>90%
<b>Accessibility</b>	Application to data provider <a href="mailto:ogyi@ogyi.hu">ogyi@ogyi.hu</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Drug-based data: ATC code, quantity of drug dispensed, package size, date dispensed and number of packages dispensed, dose, strength and dosage form. For inpatient DU: number of beds, number of admissions and average length of stay is available.
<b>Record period</b>	Not available
<b>Language</b>	Hungarian and English
<b>Record linkage</b>	No
<b>Other databases</b>	Hungarian National Health Fund Administration (HNHFA) provides data on dispensed medicines by all pharmacies with a contract with the National Health System. Information: patients age and gender, unique identification number, dispensing pharmacy, and prescribing doctor; dispensing date, ATC code, code of the medicines specific for trade name, pharmaceutical form, strength, and package size; number of packages, amount paid by the patient and amount reimbursed by the NHFA.

**List of national websites of interest**

National Medicine Agency	Országos Gyógyszerészeti Intézet Főigazgatóság. Directorate General of National Institute of Pharmacy	<a href="http://www.ogyi.hu">www.ogyi.hu</a>
Pricing Agency	Országos Egészségbiztosítási Pénztar. The National Health Insurance Fund Administration	<a href="http://www.oep.hu">www.oep.hu</a>
Reimbursement Agency	Országos Egészségbiztosítási Pénztar The National Health Insurance Fund Administration	<a href="http://www.oep.hu">www.oep.hu</a>
Pharmaceutical data source	Directorate General of the National Institute of Pharmacy It is a drug database with information on the active substance and date of authorisation/withdrawal of a medicine.	<a href="http://www.ogyi.hu/drug_database/">http://www.ogyi.hu/drug_database/</a>

## ICELAND

<b>Population</b>	321,857 inhabitants (2013) <a href="http://www.statice.is/Statistics/Population/Overview">http://www.statice.is/Statistics/Population/Overview</a>
<b>Health care provider</b>	Public. It is covered by the State. Private health insurance hardly exists.
<b>Population coverage</b>	Universal. All residents in Iceland for at least six months are entitled to health care.
<b>Model of health care financing</b>	The healthcare system is largely paid by taxes (85%) and to some extent by service fees (15%).



### Reimbursement characteristics

<b>Method of payment</b>	The patient pays part of the medicines and the remainder is reimbursed by the state outpatient health plan.
<b>The beneficiaries</b>	Residents in Iceland.
<b>Categories of reimbursable drugs</b>	Positive list. Medicines are generally reimbursed for up to a 3-month or 100 day-supply at each dispensing for which the patient pays the price up to a fixed maximum amount. Reimbursement is based on clinical and economical value of the drug to its comparator together with the forecasted budget impact.
<b>Structure of reimbursement to the patient (patient copayment)</b>	The level of co-payment depends on the 12-month pharmaceutical expenditure for the individual, which starts with the first drug purchased. Step 1: ≤ISK24,045:100% co-payment. Step2 ISK10,883: 15% co-payment. Step 3: ISK34,507: 7.5% co-payment. Total: ISK69,415. Above that amount the patient's co-payment is ISK0
<b>Reimbursement level for drugs</b>	From 4May2013, contributions to drugs are G-mark or 0-labeled. Exception for medicines with 100% coverage in palliative care at home, end stage of renal disease or severe psychotic illness.

**National drug consumption database of the Icelandic Medicines Agency**

Organisation	Icelandic Medicines Agency
Web	<a href="http://www.lyfjastofnun.is">http://www.lyfjastofnun.is</a> <a href="http://www.imca.is/imca/">http://www.imca.is/imca/</a>
Source	Sales from wholesalers.
Setting	Out-and inpatient (they report data at the wholesale level, which includes the distribution of the medicines at both healthcare settings without distinguishing the destination)
Population coverage	99%
Accessibility	Free
Drug codification	ATC
Data	Available free online [ <a href="http://www.lyfjastofnun.is/Tolfraedi/">http://www.lyfjastofnun.is/Tolfraedi/</a> <a href="http://www.imca.is/imca/statistics/nr/235">http://www.imca.is/imca/statistics/nr/235</a> ]: ATC code (updated yearly in January), DDD, DID, retail price. For inpatient DU, number of beds and average length of stay is available.
Record period	2000?
Language	Icelandic and English
Record linkage	No

**The Icelandic Medicines Registry**

Organisation	Directorate of Health (Landlæknir)
Web	<a href="http://www.landlaeknir.is/english/">http://www.landlaeknir.is/english/</a>
Source	All dispensed prescription drugs. Reimbursed and non-reimbursed
Setting	Outpatient
Population coverage	93%
Accessibility	Application to data provider through contact formulary: <a href="http://www.landlaeknir.is/um-embattid/abendingar/">http://www.landlaeknir.is/um-embattid/abendingar/</a>
Drug codification	ATC
Data	<b>Dispensed drugs:</b> ATC code, DDD, number of package, prescribed dose (free text), date of prescription, dispensing date. <b>Patient:</b> unique identifier, age, sex, place of residence. <b>Prescriber:</b> unique identifier, age, gender, profession, speciality. <b>Pharmacy:</b> unique identifier, location.
Record period	January 1, 2003
Language	Icelandic and English
Record linkage	Yes, national registries such as the cancer registry and mortality registry.

**List of national websites of interest**

National Medicine Agency	Lyfjastofnun Icelandic Medicines Agency	<a href="http://www.lyfjastofnun.is">www.lyfjastofnun.is</a> <a href="http://www.imca.is">www.imca.is</a>
Pricing Agency	Pricing and Reimbursement Committee Ministry of Welfare	<a href="http://eng.velferdarraduneyti.is/agencies/nr/33953">http://eng.velferdarraduneyti.is/agencies/nr/33953</a>
Reimbursement Agency	Pricing and Reimbursement Committee Ministry of Welfare	<a href="http://eng.velferdarraduneyti.is/agencies/nr/33953">http://eng.velferdarraduneyti.is/agencies/nr/33953</a>
Pharmaceutical data source	Lyfjastofnun Icelandic Medicines Agency	<a href="http://serlyfjaskra.is/">http://serlyfjaskra.is/</a>

## IRELAND

<b>Population</b>	4,593,100 inhabitants (2013) <a href="http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA15&amp;PLanguage=0">http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA15&amp;PLanguage=0</a>
<b>Health care provider</b>	Public: managed by the Health and Safety Executive who are accountable to the Department of Health Private: private health insurance or co-payment.
<b>Population coverage</b>	All persons resident in Ireland are entitled to receive health care through the public health care system.
<b>Model of health care financing</b>	Predominantly tax funded (78%). Although approximately 50% of the population had private health insurance and around two thirds may a co-payment towards public healthcare. Approximately one third has free access to public services.



### Reimbursement characteristics

<b>Method of payment</b>	The Health Service Executive Primary Care Reimbursement pays totally or partially the cost of the drugs under the Drug Payment Scheme.
<b>The beneficiaries</b>	Residents in Ireland.
<b>Categories of reimbursable drugs</b>	Depending on income and other eligibility criteria, Irish fall into two categories: Category I: People who under the "Medical Card Scheme" with free medicines. Category II: people charged the monthly threshold amount of a medicine.
<b>Structure of reimbursement to the patient (patient copayment)</b>	There are 4 schemes: General Medical Services Scheme: the patient has to pay €2.50 per item prescription (up to a maximum charge of €25 per family/ month). Drug Payment Scheme: the patient pays a maximum of €144/month for approved medicines. Long Term Illness Scheme (LTI): free of charge for specific conditions. Hi-Tech Scheme: free of charge. Medicines are generally initiated or only prescribed in hospital.
<b>Reimbursement level for drugs</b>	No reimbursable levels.



**The Irish Health Service Executive Primary Care Reimbursement Services (HSE-PCRS) national primary care prescribing database**

<b>Organisation</b>	Department of Health and Children and administered through The Health Service Executive (HSE)
<b>Web</b>	<a href="http://www.hse.ie/eng/staff/PCRS/">http://www.hse.ie/eng/staff/PCRS/</a>
<b>Source</b>	Prescriptions dispensed by pharmacists and reimbursed by the GMS scheme
<b>Setting</b>	Outpatient.
<b>Population coverage</b>	37%: This database covers only the population eligible for the General Medical Scheme. It depends on the people's income for those <70 years and free for all ≥70 years. The scheme over represents females, socio-economically deprived and elderly people.
<b>Accessibility</b>	Application to data provider: <a href="mailto:pcrs@hse.ie">pcrs@hse.ie</a>
<b>Drug codification</b>	ATC.
<b>Data</b>	Provides details on monthly dispensed medications for each individual within the scheme. Including prescriber information, brand name, ATC code, DDD, strength, quantity, method and unit of administration, ingredient cost, pharmacist dispensing fees per item dispensed. Drugs are categorised into four classes: unbranded generic, branded generic, proprietary drug with a generic equivalent and proprietary drug with no generic equivalent. Gender, age group and health board region is also recorded. No information on diagnosis.
<b>Record period</b>	1990
<b>Language</b>	English
<b>Record linkage</b>	Yes To other Irish databases like The National Cancer Registry and other smaller hospital datasets.

**List of national websites of interest**

National Medicine Agency		
Pricing Agency	The Department of Health The Health Services Executive (HSE). Corporate Pharmaceutical Unit.	<a href="http://www.dohc.ie">www.dohc.ie</a> <a href="http://www.hse.ie">www.hse.ie</a>
Reimbursement Agency	The Department of Health The Health Services Executive (HSE). Corporate Pharmaceutical Unit.	<a href="http://www.dohc.ie">www.dohc.ie</a> <a href="http://www.hse.ie">www.hse.ie</a>
Pharmaceutical data source	Irish Medicines Board Human Medicines Listing with information on SPC, PIL and Product Assessment Reports Irish Pharmaceutical Healthcare Association SPC and PIL information	<a href="http://www.imb.ie/EN/Medicines/HumanMedicines/HumanMedicinesListing.aspx">http://www.imb.ie/EN/Medicines/HumanMedicines/HumanMedicinesListing.aspx</a> <a href="http://www.medicines.ie">www.medicines.ie</a>

## ITALY

Population	59,704,067 (1/1/2013) <a href="http://demo.istat.it/bilmens2013gen/index.html">http://demo.istat.it/bilmens2013gen/index.html</a>
Health care provider	Public. All residents have access to essential level of care defined by the government and provided by the regions. Regions are at liberty of providing other health services to their residents, but must finance these with own-source revenues.
Population coverage	100% Around 15% of the population have private health insurance
Model of health care financing	National and regional taxes (77.9%) and by patient copayments (19.7%).



### Reimbursement characteristics

Method of payment	The Sistema Sanitario Nazionale (SSN) pays cost of drugs.
The beneficiaries	All Italian citizens.
Categories of reimbursable drugs	Positive list of potential reimbursable drugs. Class A drugs: essential drugs, drugs for chronic diseases, expensive drugs explicitly prescribed by the GP as part of a therapeutic plan initialized at the hospital; class H which are hospital-only-medicines and class C which correspond to OTC medicines.
Structure of reimbursement to the patient (patient copayment)	Class A drugs are fully reimbursed and patient does not pay. Class C are not reimbursed in the outpatient sector except for war veterans (100% copayment). Medicines in the inpatient sector (A/H) are fully reimbursed. Regional variations in the reimbursement scheme.
Reimbursement level for drugs	Class A 100% reimbursed by SSN, class H Hospital-only-medicines 100% reimbursed, and class C 0% reimbursement rate.

**National drug consumption database: OsMed database**

<b>Organisation</b>	Agenzia Italiana del Farmaco. Osservatorio Nazionale sull'impiego dei medicinali (OsMed). The Italian Medicines Agency. The Medicines Utilisation Monitoring Centre.
<b>Web</b>	<a href="http://www.agenziafarmaco.gov.it/it/content/consumi-e-spesa-farmaceutica-e-attivita%3%A0-hta">http://www.agenziafarmaco.gov.it/it/content/consumi-e-spesa-farmaceutica-e-attivita%3%A0-hta</a>
<b>Source</b>	Dispensed medicines (reimbursed and non-reimbursed) by public and private pharmacies. Two sources of data: All prescribed and dispensed medicines covered by the National Health System (it excludes direct and "per conto" distribution and medicines dispensed at the time of discharge), and dispensed medicines (with or without prescription) purchased privately by the patient. The data is provided by the regional databases through Assofarm (Association of Public Pharmacies) and FEDERFARMA (Association of the Private Pharmacies with an agreement with the Italian Health System), and by IMS Health, respectively. In addition, there is a central databank that collects information on the traceability of medicines, which allows following a medicines package sold alongside the chain distribution up to the final user (community pharmacies, hospital, primary healthcare centres, etc) within the public health system.
<b>Population coverage</b>	100%
<b>Setting</b>	Out- and inpatient
<b>Accessibility</b>	Application to data provider <a href="mailto:farmaciline@aifa.gov.it">farmaciline@aifa.gov.it</a>
<b>Drug codes</b>	ATC (all levels)
<b>Data</b>	Full account of the medicine dispensed, date of purchase, patient identification code(age and sex) and prescriber's code. Number of people who have received at least one prescription, turnover, DDD. Indicators of drug consumption published every year by OsMED: DDD/1000 inhabitants/day; DDD average cost; DDD per user (DDD/Ut): average number of days of treatment per user (Total DDD consumption/Total number of people who have received one prescription); Compound annual growth rate (CAGR); Prevalence of use: Proportion of individuals who have been prescribed one drug over all potential users, gross cost, net cost, cost/capita.
<b>Record period</b>	Reports are available on the web from 2000 onwards.
<b>Language</b>	Italian and English
<b>Record linkage</b>	Yes (at regional level). No, for the OsMed database. Demographic data on patients (sex, date of birth, place of residence) and on physicians (sex, age, place of residence and year of graduation) is available on other databases which can be linked through patient and physician keys present in the prescription.

**List of national website of interest**

National Medicine Agency	Agenzia Italiana del Farmaco - AIFA. The Italian Medicines Agency.	<a href="http://www.agenziafarmaco.gov.it">www.agenziafarmaco.gov.it</a>
Pricing Agency	Agenzia Italiana del Farmaco (AIFA). Comitato Prezzi e Rimborso. Italian Medicines Agency. Pricing and Reimbursement Committee.	<a href="http://www.agenziafarmaco.gov.it">www.agenziafarmaco.gov.it</a>
Reimbursement Agency	Agenzia Italiana del Farmaco (AIFA). Comitato Prezzi e Rimborso. Italian Medicines Agency. Pricing and Reimbursement Committee.	<a href="http://www.agenziafarmaco.gov.it">www.agenziafarmaco.gov.it</a>
Pharmaceutical data source	Elsevier editorial. Information on drugs marketed in Italy. The information is available online and as a book.	<a href="http://www.prontuario.it">www.prontuario.it</a> (No free access)
	Repertorio Farmaceutico Italiano (ReFI). L'Informatori farmaceutico (updated yearly).	No online
	Italian Medicines Agency. It is a database containing all medicines commercialised in Italy, either reimbursed by the NHS (class A-H) or paid by the patient (class C, OTC), price and delivery system.	<a href="http://farmaco.agenziafarmaco.it/index.php">http://farmaco.agenziafarmaco.it/index.php</a>
	Farmadati Italia. It collaborates with AIFA in maintaining the drugs database.	<a href="http://www.farmadati.it">www.farmadati.it</a> (No free access)

## LATVIA

Population	2,023,825 (2013) <a href="http://www.csb.gov.lv/en/category/tagi/population">http://www.csb.gov.lv/en/category/tagi/population</a>
Health care provider	Public social insurance system. Universal access to healthcare
Population coverage	100%
Model of health care financing	It is a tax-funded social insurance system. Money from income, consumption and the social insurance taxes is collected centrally, and through the Social Insurance Organisation (SCHIA) is redistributed to several regional branches.  Private voluntary health insurance to cover state user charge services or services not covered by SCHIA.



### Reimbursement characteristics

Method of payment	The National Health Service through their regional branches pays partially the costs of drugs.
The beneficiaries	All Latvian residents.
Categories of reimbursable drugs	Positive reimbursable list of medicines with 3 sub-lists included in the general reimbursable scheme: List A: reference product list with interchangeable drugs; list B: non-interchangeable drugs; list C: expensive drugs with special reimbursement conditions. There is an additional individual reimbursement scheme upon patient status and medicines indication for use.
Structure of reimbursement to the patient (patient copayment)	For most severe diagnoses patients do not pay for the medicines. Otherwise, there are 4 different levels of co-payment: 0%, 25%, 50%, and 100%. In addition, generic substitution is compulsory: if a patient refuses, it is added 10%.
Reimbursement level for drugs	Medicines are reimbursed 100%, 75%, 50%, and 0% either in the general or individual reimbursement scheme.

**National drug consumption database of the State Agency of Medicines of Latvia**

<b>Organisation</b>	State Agency of Medicines of Latvia
<b>Web</b>	<a href="http://www.vza.gov.lv/index.php?id=305&amp;sa=305&amp;top=298">http://www.vza.gov.lv/index.php?id=305&amp;sa=305&amp;top=298</a>
<b>Source</b>	Sales of medicines from wholesalers
<b>Setting</b>	Out-and inpatient all together (not separated databases)
<b>Population coverage</b>	100%
<b>Accessibility</b>	Free online in portable document format (pdf). Application to data provider <a href="mailto:info@zva.gov.lv">info@zva.gov.lv</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Drug-based data: Medicinal product identification number, number of packages sold, package price. Patient-related data: consumer group to which the medicinal product is sold (defined by law): inpatient sector, medical treatment institution included in a specific register for these institutions, community pharmacies, and doctor's practices.
<b>Record period</b>	Since 2003 (on the website)
<b>Language</b>	Latvian and English
<b>Record linkage</b>	No
<b>Other databases</b>	National Health Service (Nacionālais veselības dienests). It provides information for the outpatient prescribed and reimbursed medicines, in Latvian. Information is available on the website since 2004 ( <a href="http://www.vmnvd.gov.lv/lv/kompensejamie-medikamenti/statistika">http://www.vmnvd.gov.lv/lv/kompensejamie-medikamenti/statistika</a> ).

**List of national website of interest**

National Medicine Agency	Zāļu valsts aģentūra (ZVA) State Agency Medicines (SAM)	<a href="http://www.vza.gov.lv">http://www.vza.gov.lv</a>
Pricing Agency	Nacionālais Veselības Dienests National Health Service (established 1st November 2011)	<a href="http://www.vmnvd.gov.lv/lv">http://www.vmnvd.gov.lv/lv</a>
Reimbursement Agency	Nacionālais Veselības Dienests National Health Service (established 1st November 2011)	<a href="http://www.vmnvd.gov.lv/lv">http://www.vmnvd.gov.lv/lv</a>
Pharmaceutical data source	Latvijas Republikas zāļu reģistrs (oficiālais izdevums) Latvian Republic's annual Register of Medicinal Products The Register of Medicinal Products which contains information on 6506 products.	<a href="http://www.zva.gov.lv/?id=377&amp;sa=377&amp;top=112">http://www.zva.gov.lv/?id=377&amp;sa=377&amp;top=112</a> CD with an electronic version and book (not free).

# LITHUANIA

<b>Population</b>	2,971,905 inhabitants (1/01/2013) <a href="http://www.osp.stat.gov.lt/en/web/guest/statistiniu-rodikliu-analize?id=1353&amp;status=A">http://www.osp.stat.gov.lt/en/web/guest/statistiniu-rodikliu-analize?id=1353&amp;status=A</a>
<b>Health care provider</b>	Public, funded by the National Health Insurance Fund (NHIF) through a national health insurance scheme and based on compulsory participation.
<b>Population coverage</b>	Entire population
<b>Model of health care financing</b>	NHIF has been the main financing agent for the health system, accounting for 61% of the total expenditure on health in 2010. National budget (11%), out-of-pocket payments (27%) and private insurance (1%).



## Reimbursement characteristics

<b>Method of payment</b>	The Lithuanian Compulsory Health Insurance Fund.
<b>The beneficiaries</b>	Lithuanian residents.
<b>Categories of reimbursable drugs</b>	Only prescription-only medicines registered in Lithuania or the EU according to a positive list can be reimbursed by the NHIF on the basis of individual prescriptions.
<b>Structure of reimbursement to the patient (patient copayment)</b>	Free of payment: children $\leq 18$ years, disabled and/or elderly people with a large need for specific care. Partially payment (90%, 80% and 50%) for specific diseases. 50% payment for pensioners and the disabled unless they fall into any of the prior categories. The rest of insured adults must pay the full cost of prescribed and OTC drugs. When the pharmaceutical price is higher than the reference price, the patient pays the difference.
<b>Reimbursement level for drugs</b>	Full reimbursement of the reference price (for children 18 years or younger, the disabled and/or elderly people with a large need for specific care). Full or partial (90%, 80% or 50% of cost) reimbursement for patients diagnosed with specific diseases. 50% reimbursement for pensioners and the disabled unless they fall into any of the prior categories.

**National Health Insurance Fund database**

<b>Organisation</b>	National Health Insurance Fund under the Ministry of Health.
<b>Web</b>	<a href="http://www.vlk.lt/">http://www.vlk.lt/</a>
<b>Source</b>	Reimbursed prescriptions.
<b>Setting</b>	Outpatients.
<b>Population coverage</b>	98%
<b>Accessibility</b>	Application data provider ( <a href="mailto:Kristina.Garuoliene@vlk.lt">Kristina.Garuoliene@vlk.lt</a> )
<b>Drug codification</b>	ATC
<b>Data</b>	<b>Prescribed medicines:</b> ATC code, drug name, dose, number of doses in each prescription; DDD, diagnosis. <b>Patient:</b> date of birth, gender, sex, place of living. Prescriber and pharmacy data.
<b>Record period</b>	1998
<b>Language</b>	Lithuanian and English
<b>Record linkage</b>	No
<b>Other databases</b>	The data on total sales in Lithuania could be obtained from IMS Health.

**List of national website of interest**

National Medicine Agency	Valstybinė vaistų kontrolės tarnyba Prie Lietuvos Respublikos Sveikatos Apsaugos Ministerijos The State Medicines Control Agency	<a href="http://www.vvkt.lt">www.vvkt.lt</a>
Pricing Agency	Valstybinė ligonių kasa prie Sveikatos apsaugos ministerijos The National Health Insurance Fund (NHIF) under the Ministry of Health	<a href="http://www.vlk.lt">www.vlk.lt</a>
Reimbursement Agency	Valstybinė ligonių kasa prie Sveikatos apsaugos ministerijos The National Health Insurance Fund (NHIF) under the Ministry of Health	<a href="http://www.vlk.lt">www.vlk.lt</a>
Pharmaceutical data source	The State Medicines Control Agency (SMCA)	<a href="http://extranet.vvkt.lt/paieska/">http://extranet.vvkt.lt/paieska/</a>



## NORWAY

Population	5, 063, 709 (April 2013) <a href="http://www.ssb.no">www.ssb.no</a> (accessed on 11/2013)
Health care provider	Public. Universal access to health care.
Population coverage	All inhabitants covered by the National Insurance System. In 2006, 0.65% Norwegians covered by private health system.
Model of health care financing	Predominantly tax based. Patient copayment of treatment by a general practitioner or for specialist treatment as outpatient, visit psychologist/psychiatrist, prescription of certain drugs and travel expenses. Private health care: Voluntary Health Insurance: barely plays any role. A small number of private health care centres are opening up in urban areas, services only available to members.

### Reimbursement characteristics

Method of payment	The National Insurance Scheme (NIS) pays fully or partially the costs of drugs.
The beneficiaries	All Norwegian residents.
Categories of reimbursable drugs	Several positive lists of reimbursable drugs. General, individual reimbursement (specific patient application for medicines not included in the general reimbursement list or for other indications), and reimbursement scheme for medicines used to treat serious infectious diseases. The categorisation depends upon a predefined list of medical diagnoses and medicines used to treat them for more than 3 months (long-term medication for chronic diseases). There is a negative list.
Structure of reimbursement to the patient (patient copayment)	Patient copayment is always 38% of the medicines price, up to a ceiling above which the NIS reimburses 90% of further expenditures. This ceiling includes all healthcare out-of-pocket expenditure. If patient refuses generic substitution, there is additional copayment.
Reimbursement level for drugs	There are 4 reimbursement categories (reimbursement rate): <i>schedule 2</i> (62%): specified diagnoses in the list and for long-term treatment (LTT); <i>schedule 3a</i> (62%): granted upon submission of an individual application and only for LTT. Medicines not under schedule 2, 3b and 4. <i>Schedule 3b</i> : for rare diseases (62%). <i>Schedule 4</i> : medicines used to treat serious contagious diseases (100%).

**National drug consumption database: Norwegian Prescription Database (NorPD)**

<b>Organisation</b>	Norwegian Institute of Public Health.
<b>Web</b>	<a href="http://www.norpd.no">http://www.norpd.no</a>
<b>Source</b>	All prescribed drugs, reimbursed or not, dispensed at Norwegian pharmacies to individual patients outside institutions. Regarding patients in nursing homes and hospitals, the register receives figures on drug use at aggregate level.
<b>Setting</b>	Outpatient
<b>Population coverage</b>	100 %
<b>Accessibility</b>	Online free. Further data can be applied for ( <a href="mailto:datatilgang@fhi.no">datatilgang@fhi.no</a> or <a href="mailto:dataaccess@fhi.no">dataaccess@fhi.no</a> )
<b>Drug codification</b>	ATC (all levels)
<b>Data</b>	Patient-based data: person-identifier (encrypted), month/year of birth, month/year of death, gender, place of residence (municipality and county). Prescriber-based data: person-identifier (encrypted) month/year of birth, gender, profession, speciality; Drug-based data: Nordic article number (brand name or generic substitution, strength, package size), number of packages, DDD, category of prescription, code of reimbursement, area of application and prescribed doses (free-text), dispensing date, price (pharmacy retail price). Pharmacy-based data: name, license number, municipality and county.  Free online: number of users/1000 inhabitants, population figures used to calculate number of users per 1000 inhabitants, turnover by value, turnover by dosage (DDD).
<b>Record period</b>	2004-onwards
<b>Language</b>	Norwegian and English
<b>Record linkage</b>	Yes. Medical Birth Registry of Norway, cancer register, causes of death register, central tuberculosis surveillance register, system for immunization surveillance of infectious diseases, Norwegian patient register, health surveys, bio-banks, patient records, data from statistics Norway.

**National drug consumption database: Norwegian Drug Wholesales- statistics Database**

<b>Web</b>	<a href="http://www.fhi.no">www.fhi.no</a>
<b>Source</b>	Sales of drugs from wholesalers to pharmacies, hospitals/nursing homes and non-pharmacy outlets with permission to sell drugs. All sales of drugs both on prescription and OTC.
<b>Sectors</b>	Out- and inpatient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Application to data provider ( <a href="mailto:lmfin@fhi.no">lmfin@fhi.no</a> ).
<b>Drug codification</b>	ATC code
<b>Data</b>	Number of packages, wholesales price (wholesaler purchasing price and retailer purchasing price), pharmaceutical product number, wholesaler intern number, municipality number, pharmacy license number, municipality, wholesaler's license number.
<b>Record period</b>	1977-onwards. Monthly updated.
<b>Language</b>	Norwegian and English
<b>Record linkage</b>	No

**List of national website of interest**

National Medicine Agency	Statens legemiddelverk Norwegian Medicines Agency	<a href="http://www.legemiddelverket.no">www.legemiddelverket.no</a>
Pricing Agency	Statens Legemiddelverk. Norwegian Medicines Agency	<a href="http://www.legemiddelverket.no">www.legemiddelverket.no</a>
Reimbursement Agency	Statens Legemiddelverk Norwegian Medicines Agency	<a href="http://www.legemiddelverket.no">www.legemiddelverket.no</a>
	Helse-og omsorgsdepartementet Ministry of Health and Care Services	<a href="http://www.regjeringen.no">www.regjeringen.no</a>
Pharmaceutical data source	Statens Legemiddelverk. Norwegian Medicines Agency. It provides information on the summary of product characteristics of pharmaceuticals approved and marketed in Norway. It is also possible to get information on products temporarily discontinued.	<a href="http://www.legemiddelverket.no/custom/Preparatsok/prepSearch_80333.aspx">http://www.legemiddelverket.no/custom/Preparatsok/prepSearch_80333.aspx</a>

## POLAND

Population	38,533,299 (31/12/2012) <a href="http://www.stat.gov.pl/gus/5840_655_ENG_HTML.htm">http://www.stat.gov.pl/gus/5840_655_ENG_HTML.htm</a> (accessed on 11/2013)
Health care provider	Public social insurance system
Population coverage	98%
Model of health care financing	State budget covering mainly vulnerable groups. Private financing in form of out-of-pocket payments reaching 30%. Compulsory health insurance contributions at a percentage rate of the employee income. Unclear the market share of the private health insurance.

### Reimbursement characteristics

Method of payment	The National Health Insurance Fund (NFZ) partially pays the medicines direct to the pharmacist.
The beneficiaries	All Polish residents. Special reimbursement privileges apply to certain groups (e.g. war veterans, honorary blood and organ donors).
Categories of reimbursable drugs	Positive reimbursable list of drugs. Free of charge: proven effectiveness in cancer treatments, some psychiatric conditions, and severe infections. Other reimbursement categories established according to the length of treatment (fixed at 30 days), and a basic list of drugs reimbursable.
Structure of reimbursement to the patient (patient copayment)	Patient copayment may be 0% for drugs free of charge; a flat fee per package prescribed for drugs on the basic drug list and for drugs requiring 30-50% copayment when treatment lasts longer than 30 days and the monthly cost of treatment exceeds 5% or 30% of the minimum wage. If treatment lasts less than 30 days, copayment is of 50%. Other cases, copayment is up to 70%.
Reimbursement level for drugs	There are 4 reimbursement categories (reimbursement rate): 100%, 50%, 30%, and between 30 & 50%.

**National drug consumption database: National Health Fund database**

<b>Organisation</b>	Narodowy Fundusz Zdrowia (National Health Fund, NFZ).
<b>Web</b>	<a href="http://www.nfz.gov.pl">www.nfz.gov.pl</a>
<b>Source</b>	Reimbursed medication. Information provided by pharmacies to the National Health Fund.
<b>Setting</b>	Outpatient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Barbara Wójcik-Klikiewicz. Pokój 3.14. Sekretariat. Phone: 22 572 61 89. Fax 22 572 63 43
<b>Drug codification</b>	ATC code
<b>Data</b>	Prescriber-based data: Prescribing doctor. Pharmacy-based data: identification number of the pharmacy, prescription number assigned to the prescription filled and number of repeated prescriptions. Patient-related data: patient identifier, type of patient (e.g. military war invalid). Drug-based data: medicine identification number, number of packages issued, reimbursement code (free of charge, flat rate, 30% or 50%), date of prescription, provincial branch of the NHF identifier, the ID of the branch. Turnovers, code of reimbursement, number of packages, package size, strength, dosage form, total-DDD, DDD/1000 inhabitants/day.
<b>Record period</b>	Information available for 2 years 2004 and 2005. A report for these 2 years is available on the website.
<b>Language</b>	Polish
<b>Record linkage</b>	No

**List of national website of interest**

National Medicine Agency	Urząd Rejestracji Produktów Leczniczych, Wyrobów Medycznych i Produktów Biobójczych. The Office for Registration of Medicinal Products, Medical Devices and Biocidal Products. Ministerstwo Zdrowia (Ministry of Health)	<a href="http://www.urpl.gov.pl">www.urpl.gov.pl</a> <a href="http://www.mz.gov.pl">www.mz.gov.pl</a>
Pricing Agency	Ministerstwo Zdrowia. Zespół zarządzający narkotyków. Ministry of Health. The Drug Management Team.	<a href="http://www.mzios.gov.pl">www.mzios.gov.pl</a>
Reimbursement Agency	Narodowy Fundusz Zdrowia (NFZ) (National Health Fund)	<a href="http://www.nfz.gov.pl/new/">http://www.nfz.gov.pl/new/</a>
Pharmaceutical data source	No information found.	

## PORTUGAL

Population	10,487,289 (2012) <a href="http://www.ine.pt">www.ine.pt</a> (accessed on 11/2013)
Health care provider	Three coexisting systems: universal national health system (SNS, Serviço Nacional Saúde). Special public and private insurance schemes known as health subsystems; and private voluntary health insurance (VHI).  Universal access to health services.
Population coverage	The SNS covers all residents in Portugal. The Health subsystem covers 25% of the population; private VHI covers 10-20%. The majority of the population can choose between 3 health systems.
Model of health care financing	The NHS is covered by general taxation. Health subsystems –which for some professions are compulsory-, are financed with employee/employer contributions. Out-of-pocket payments represent about 30% of the healthcare expenditure in Portugal.

### Reimbursement characteristics

Method of payment	There are 3 coexisting health systems in Portugal (public and private). In all of them patient partially pays the medicines and the rest is paid directly to the pharmacy by the health system.
The beneficiaries	All Portuguese residents. Pensioners with a maximum annual income and patients chronically ill have a reduced rate of copayment or are exempt from the cost of some courses of medication.
Categories of reimbursable drugs	Positive list of reimbursable drugs. General scheme, with 4 categories according to the therapeutic value of the drug. Specific scheme for specific groups or diseases. Compound medicines are listed, annually updated, and have a specific level of reimbursement.
Structure of reimbursement to the patient (patient copayment)	There are no flat fee charges for prescriptions in Portugal. General scheme: medicines categories (copayment rate): A (10%), B (31%); C (67%); D (95%). Specific scheme: pensioners can get an extra percentage reduction of 5% for A drugs and 15% for B, C, and D drugs. Compound drugs 50% copayment.
Reimbursement level for drugs	4 levels of reimbursement for the general scheme: A (90%), B (69%), C (37%), D (5%). 5-15% extra reimbursement for pensioners. Some disease specific reimbursement is 100%. For compound drugs, reimbursement is 50% of their price.

**National drug consumption database: INFARMED's database**

<b>Organisation</b>	Autoridade Nacional do Medicamento e Productos de Saúde I.P. National Authority of Medicines and Health Products, I.P.
<b>Web</b>	<a href="http://www.infarmed.pt/portal/page/portal/INFARMED">http://www.infarmed.pt/portal/page/portal/INFARMED</a>
<b>Source</b>	Prescribed and dispensed in community pharmacies. The inpatient database also includes those hospital-only-medicines dispensed to outpatients. It is possible to get sales from wholesalers from the same data provider. OTC sales available. Nursing homes, dental care or other healthcare institutions are not included specifically in the database.
<b>Setting</b>	Out-and inpatient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Application to the data provider: <a href="mailto:demps-omps@infarmed.pt">demps-omps@infarmed.pt</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Manual and electronic prescriptions, date of dispensation, quantity of drug dispensed, package size, number of packages dispensed, dose, strength, dosage form, DDD. Database is updated retrospectively every year. Current version 2012. No information on other hospital variables, no sociodemographic variables.
<b>Record period</b>	Information not found
<b>Language</b>	Portuguese and English
<b>Record linkage</b>	No

**List of national website of interest**

National Medicine Agency	INFARMED - Autoridade Nacional do Medicamento e Produtos de Saúde, I.P. The National Authority of Medicines and Health Products (INFARMED, I.P.).	<a href="http://www.infarmed.pt">www.infarmed.pt</a>
Pricing Agency	Direcção Geral das Actividades Económicas. Directorate General of Economic Activities.	<a href="http://www.dgae.min-economia.pt">www.dgae.min-economia.pt</a>
Reimbursement Agency	Ministerio da Saúde (Ministry of Health) INFARMED. Autoridade Nacional do Medicamento e Produtos de Saúde, I.P. National Authority of Medicines and Health Products, I.P.	<a href="http://www.min-saude.pt">www.min-saude.pt</a> <a href="http://www.infarmed.pt/portal/page/portal/INFARMED">www.infarmed.pt/portal/page/portal/INFARMED</a>
Pharmaceutical data source	INFOMED database. Access to information on all drugs marketed in Portugal.	<a href="http://www.infarmed.pt/infomed/inicio.php">http://www.infarmed.pt/infomed/inicio.php</a>

## SLOVENIA

<b>Population</b>	2,060,533 inhabitants (march 2013) <a href="http://www.stat.si/eng/interaktivno.asp">http://www.stat.si/eng/interaktivno.asp</a>
<b>Health care provider</b>	Public, funded mainly by the Health Insurance Institute of Slovenia (HIIS) based in compulsory participation.
<b>Population coverage</b>	99% population.
<b>Model of health care financing</b>	HIIS major source of financing 61,7%. Other sources: general national and municipal taxation (5.2%), voluntary health insurance (27.8%) [data from 2006].



### Reimbursement characteristics

<b>Method of payment</b>	The Health Insurance Institute pays medicines according with reimbursement scheme. Patients pay the rest.
<b>The beneficiaries</b>	All Slovenian residents. There are no differences between different social groups of the Slovene society.
<b>Categories of reimbursable drugs</b>	Limitations in terms of coverage by compulsory health insurance for expenditure on medicines are regulated by means of a positive list.
<b>Structure of reimbursement to the patient (patient copayment)</b>	Free of co-payment: Children under 18 years, students, pregnancy and motherhood who take medicine from positive list. Specific diseases (most important contagious including AIDS and STDs, diabetes mellitus, major psychiatric diseases, epilepsy, muscular dystrophy, multiple sclerosis and psoriasis). 75% of payment: other people not specified in the above groups. If the price of drug is higher than the reference price, the difference will have to be paid by the patient.
<b>Reimbursement level for drugs</b>	Positive list: 75%-100% reimbursable of the price of the medicine. Intermediate list: 25% reimbursable of the medicine. There is also a negative pharmaceutical list, with products completely excluded from any kind of public reimbursement scheme.



**National drug consumption database of Slovenia**

<b>Organisation</b>	The National Institute of Public Health (NIPH)
<b>Web</b>	<a href="http://www.ivz.si/">http://www.ivz.si/</a>
<b>Source</b>	Dispensed prescription medicines
<b>Setting</b>	Outpatients
<b>Population coverage</b>	99%
<b>Accessibility</b>	Application to data provider: <a href="mailto:marjetka.jelenc@ivz-rs.si">marjetka.jelenc@ivz-rs.si</a>
<b>Drug codification</b>	ATC
<b>Data</b>	<b>Prescribed medicines:</b> data dispensed, quantity of drug dispensed, package size, number of packages dispensed, dose, strength, dosage form, DDD, ATC code (last version). <b>Prescriber:</b> ID of doctor and his/her speciality. <b>Patient:</b> unique patients identification number, age, gender, place of residence (down to municipalities)
<b>Record period</b>	Since 1976. Since 1998 prescriptions are reported in ATC/DDD methodology.
<b>Language</b>	Slovenian
<b>Record linkage</b>	No

**List of national website of interest**

National Medicine Agency	Javna agencija Republike Slovenije za zdravila in medicinske pripomočke Agency for medicinal products and medical devices of the Republic of Slovenia	<a href="http://www.jazmp.si">www.jazmp.si</a>
Pricing Agency	Agency for medicinal products and medical devices, a department of the Ministry of Health.	<a href="http://www.mz.gov.si">www.mz.gov.si</a>
Reimbursement Agency	The Health Insurance Institute	<a href="http://www.zzzs.si">www.zzzs.si</a>
Pharmaceutical data source	The Health Insurance Institute of Slovenia	<a href="http://www.cbz.si/cbz/bazazdr2.nsf/Search/\$searchForm?SearchView">http://www.cbz.si/cbz/bazazdr2.nsf/Search/\$searchForm?SearchView</a>

## SPAIN

Population	46,704,314 inhabitants (1/1/2013) <a href="http://www.ine.es/welcoing.htm">http://www.ine.es/welcoing.htm</a> (accessed on 1/2013)
Health care provider	Public health sector. Universal access to health services.
Population coverage	In 2005, 99.5% including low-income inhabitants. Civil servants can opt out of the public financed system. 88% of this population and their beneficiaries are covered for-non-for-profit private sector. 13% of the Spanish population are covered by private-for-profit voluntary health insurance, with an important regional variation.
Model of health care financing	Highly decentralised model with the allocation of block grants –obtained through taxation-, from the central government to the autonomous communities, except for Navarre and the Basque Country with high autonomy taxation. Taxation represents 94.1% of the funding of the social security system.

### Reimbursement characteristics

Method of payment	The National Health System (SNS) partially pays reimbursed medicines. Patients pay the rest.
The beneficiaries	All Spanish residents. Exemptions to copayment for people with specific diseases, with low income, or for treatments due to a job injury or occupational disease.
Categories of reimbursable drugs	Based on negative lists that exclude pharmaceuticals with low treatment value or not proved to have adequate increased cost-effectiveness. Reimbursement of medicines depends upon the age and income of the patient. Special reimbursement category for people with specific treatments.
Structure of reimbursement to the patient (patient copayment)	<i>Retired people</i> pay 10% of the medicines price with a monthly maximum depending on annual income : > €100,000, copayment is 60%; < €18,000 (max per month €8), between ≥€18,000-<€100,000 (max per month €18), ≥€100,000 (max per month €60). <i>Employees and beneficiaries</i> copayment rate based on their annual income: < €18,000 40% of the medicines price; >€18,000-<€100,000 50%; >€100,000 (60%). Exemptions for people with toxic syndrome and other disabilities, on social cash aid, retired with non-contributory pensions, unemployed not receiving any social aid, work derived diseases or injuries. For specific treatments copayment is 10% up to a maximum of €4.13/package dispensed. Some food products no copayment after a medical application and approval. There are regional variations in flat-fees per prescription. Reimbursable scheme applied in 2012.
Reimbursement level for drugs	There are 4 main reimbursement levels: For employed and their beneficiaries between 40 to 60% of the medicines are reimbursed depending on their annual income. For pensioners between a 40-90% is reimbursed depending on their annual income and up to a maximum expenditure per month fixed also by population's level of annual income. For specific treatments, reimbursement is 90%.

**National drug consumption database: DGFPS database**

<b>Organisation</b>	Ministry of Health, Social Policy, and Equity. DGFPS: Dirección General de Farmacia y Productos Sanitarios (General Directorate of Pharmacy and Health Products)
<b>Web</b>	<a href="http://www.msc.es/profesionales/farmacia/organizacion.htm">www.msc.es/profesionales/farmacia/organizacion.htm</a>
<b>Source</b>	Drugs dispensed by community pharmacies reimbursed by the National Health System. Data is collected at regional level and centralised in the Ministry of Health. Not included are medicines consumption reimbursed by other health insurances that specifically cover civil servants or military personnel.
<b>Setting</b>	Outpatient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Application to data provider <a href="mailto:farmacoeppi@aemps.es">farmacoeppi@aemps.es</a> (If of interest, data may be applied for at regional level with a list of the regional health authorities available on the website).
<b>Drug codification</b>	ATC
<b>Data</b>	Region, DDD, turnover, prescriber's code, national pharmaceutical code, pharmacist's code, strength, dosage form. Some regions collect data on age and gender.
<b>Record period</b>	Since 1985 (computerised data)
<b>Language</b>	Spanish
<b>Record linkage</b>	No

**List of national website of interest**

National Medicine Agency	Agencia Española de Medicamentos y Productos Sanitarios-AEMPS. Spanish Agency for Medicines and Medical Devices.	<a href="http://www.aemps.gob.es">www.aemps.gob.es</a>
Pricing Agency	Ministerio de Sanidad , Política Social e Igualdad. Dirección General de Farmacia y Productos Sanitarios. Ministry of Health and Social Policy. Directorate of Pharmacy and Health Products.	<a href="http://www.msc.es/profesionales/farmacia/organizacion.htm">www.msc.es/profesionales/farmacia/organizacion.htm</a>
Reimbursement Agency	Ministerio de Sanidad, Política Social e Igualdad. Dirección General de Farmacia y Productos Sanitarios. Ministry of Health and Social Policy. Directorate of Pharmacy and Health Products.	<a href="http://www.msc.es/profesionales/farmacia/organizacion.htm">www.msc.es/profesionales/farmacia/organizacion.htm</a>
Pharmaceutical data source	Consejo General de Colegios Oficiales de Farmacéuticos Catálogo de Especialidades Farmacéuticas. Edited reference drug information book.	No online information.
	Agencia Española de medicamentos y productos sanitarios (AEMPS).CIMA database.	<a href="http://www.aemps.gob.es/cima/fichasTecnicas.do?metodo=detalleForm">http://www.aemps.gob.es/cima/fichasTecnicas.do?metodo=detalleForm</a>

## SWEDEN

Population	9,647,695 inhabitants (2013) <a href="http://www.scb.se">www.scb.se</a> (accessed on 11/2013)
Health care provider	Public: Universal access to health care.
Population coverage	All residents in Sweden regardless of their nationality. Around 2.3% of Swedes have a private medical insurance.
Model of health care financing	Mainly proportional income taxes (80%), supplemented by Government grants and patient copayment (17%).

### Reimbursement characteristics

Method of payment	The county councils partially pay the medicines direct to the pharmacists.
The beneficiaries	All Swedish residents. All children <18 years in a family unit are considered a single patient and the costs pooled together.
Categories of reimbursable drugs	Positive list of reimbursable drugs with 3 exceptions: antismoking medicines, herbal remedies and certain medicines for external application are excluded. Medicines are granted a general reimbursement or a conditional reimbursement, according to specific indication for use or for specific group of patients. It is the doctor's obligation to make sure that the patient fulfils the conditions for reimbursement.
Structure of reimbursement to the patient (patient copayment)	Patients pay the full cost for prescribed and reimbursed medicines up to a ceiling. Thereafter the copayment is progressively reduced according to his/her pharmaceutical expenditure. 50%, 25%, and 10%. The patient will pay for prescribed drugs a maximum of €244 annually.
Reimbursement level for drugs	There are 5 levels of reimbursement: 0% up to a ceiling; above the ceiling the reimbursement is 50%, 75%, and 90% depending on patient's pharmaceutical expenditure. 100% reimbursement above a pharmaceutical expenditure of €244. Several OTC medicines may also be reimbursed. For prescription drugs not reimbursed, and OTC drugs, patients pay full price.

**National drug consumption database: Swedish Prescribed Drug Register**

<b>Organisation</b>	The National Board of Health and Welfare (Socialstyrelsen.se).
<b>Web</b>	<a href="http://192.137.163.49/sdb/lak/val.aspx">http://192.137.163.49/sdb/lak/val.aspx</a>
<b>Source</b>	Prescribed medicines dispensed by community pharmacies.
<b>Setting</b>	Outpatient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Free online. Specific data may be delivered on request for statistics or research. Approval from ethical committee is needed when data is used for research.
<b>Drug codification</b>	ATC code
<b>Data</b>	Patient-based data: personal identification number, age, gender, residency (county, municipality and parish). Prescriber-based data: workplace code, prescriber's profession, prescriber's speciality, characteristics of workplace (ownership, type of healthcare institution). The prescriber and the health care institution cannot be identified. Drug-based data: prescribed and dispensed drug, date of prescription and dispensing, generic substitution, dosage, DDD, expenditures total and reimbursed, and parallel import. Annual period prevalence available on the website by age, sex and region down to ATC5th level.
<b>Record period</b>	July 2005-ongoing (online). Prescribing records kept since 1974.
<b>Language</b>	Swedish and English.
<b>Record linkage</b>	Yes. Cancer register, medical birth and congenital malformations register, cause of death register, national patient register and other registers (e.g. migration, taxation, education and sick-leave) as well as national healthcare quality registers for certain diseases.

**National drug consumption database: Apotek AB database**

<b>Organisation</b>	Apotek AB (The National Corporation of Swedish Pharmacies)
<b>Web</b>	<a href="http://www.apotekensservice.se">www.apotekensservice.se</a>
<b>Source</b>	All sales of medicines from pharmacies to individuals and medicines supplied to hospitals by manufacturers.
<b>Setting</b>	Out- and inpatient
<b>Population coverage</b>	100%
<b>Accessibility</b>	Free online for OTC and total sales per county <a href="http://www.apotekensservice.se/lakemedelsstatistik/sok_statistik/sok_statistik_databaser/">http://www.apotekensservice.se/lakemedelsstatistik/sok_statistik/sok_statistik_databaser/</a> Further information: application to data provider <a href="mailto:servicedesk@apotekensservice.se">servicedesk@apotekensservice.se</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Turnover, wholesale price (wholesaler purchasing price and retailer purchasing price), national pharmaceutical code number, DDD, manufacturer's organisation and identification number, type of transaction, organisation's code receiving the supplies, code of type of health care institution, date of sales, number of packages, total turnover in Swedish crowns/national pharmaceutical package code.
<b>Record period</b>	2006 (online)
<b>Language</b>	Swedish and English
<b>Record linkage</b>	No

**List of national website of interest**

National Medicine Agency	<a href="http://www.lakemedelsverket.se">Läkemedelsverket</a> (Medical Products Agency)	<a href="http://www.lakemedelsverket.se">www.lakemedelsverket.se</a>
Pricing Agency	Tandvård-och Läkemedelsförmånsverket. Dental and Pharmaceutical Benefits Agency.	<a href="http://www.tlv.se">www.tlv.se</a>
Reimbursement Agency	Tandvård-och Läkemedelsförmånsverket. Dental and Pharmaceutical Benefits Agency.	<a href="http://www.tlv.se">www.tlv.se</a>
Pharmaceutical data source	FASS. Information on drugs marketed in Sweden for the general public (PIL) and health care professionals (SPC). <a href="http://www.lakemedelsverket.se">Läkemedelsverket</a> (Swedish Medical Products Agency) Basic information on a medicinal product.	<a href="http://www.fass.se">www.fass.se</a> <a href="http://www.lakemedelsverket.se/malgrupp/Halso--sjukvard/Sok-lakemedelsfakta/">http://www.lakemedelsverket.se/malgrupp/Halso--sjukvard/Sok-lakemedelsfakta/</a>

## THE NETHERLANDS

<b>Population</b>	16,779,575 inhabitants (1/1/2013) <a href="http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&amp;PA=03759ned&amp;D1=0,3,6,9,12&amp;D2=129-132&amp;D3=0-4&amp;D4=24-25&amp;VW=T">http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&amp;PA=03759ned&amp;D1=0,3,6,9,12&amp;D2=129-132&amp;D3=0-4&amp;D4=24-25&amp;VW=T</a> (accessed on 11/2013)
<b>Health care provider</b>	Private. All residents have to purchase a basic benefit package which might be complemented by a voluntary supplementary health insurance. In addition to the standard benefit package, all citizens are covered by the statutory Exceptional Medical Expenses Act scheme for a wide range of chronic and mental health illnesses.
<b>Population coverage</b>	97% Population. It is calculated that in 2008 approx 1% of Dutch population were not insured and that another 1.5% were defaulters (premium not paid for 6 months). Exemptions for those who refuse on grounds of religious beliefs or their philosophy of life and the armed forces as health care is organised by the Ministry of Defence.
<b>Model of health care financing</b>	Government funds (14%) and percentage compulsory contributions of taxable income (66%). Out-of-pocket payments 10% and 4%. Private voluntary health insurance. It is a free market controlled by the government. Of the 4 largest health insurers, only 1 has become a for-profit health insurance.



### Reimbursement characteristics

<b>Method of payment</b>	Reimbursement of healthcare services in Netherlands is a patient's choice between in-kind (the patient pays the deductible to the health insurer and the health insurer directly reimburses the providers) or restitution (the patient pays the bill directly to the provider; the health insurer reimburses the patient, after deducting the out-
<b>The beneficiaries</b>	All Dutch residents and residents with a Dutch employer. Children <18 years may be insured free of charge but they may have to be included in one of the parents' policies.
<b>Categories of reimbursable drugs</b>	Positive list of reimbursement. Reimbursement of medicines is based on a reference pricing system: the Medicines Reimbursement System (GVS) that categorizes pharmaceuticals into groups of treatment equivalents.
<b>Structure of reimbursement to the patient (patient copayment)</b>	If the price of a medicine is above the level of the reference price, the patient pays the difference between the reimbursement price and the pharmacy retail price. Since 2009, benzodiazepines are not reimbursed anymore.
<b>Reimbursement level for drugs</b>	Drugs <i>fully</i> reimbursed: unique medicines, proven clinical benefit and high cost-effectiveness; <i>limited</i> , for therapeutically interchangeable medicines; and <i>optionally</i> , reimbursed for specific indications for use. Most OTC is not reimbursed.

**National drug consumption database: GIP Database**

<b>Organisation</b>	Health Care Insurance Board.
<b>Web</b>	<a href="http://www.gipdatabank.nl/">http://www.gipdatabank.nl/</a>
<b>Source</b>	Drugs prescribed by general practitioners and specialists and dispensed by pharmacists, as well as dispensing general practitioners and other outlets being reimbursed under The Health Care Insurance Act.
<b>Setting</b>	Outpatient
<b>Population coverage</b>	95%
<b>Accessibility</b>	Free online. Further data can be applied for.
<b>Drug codification</b>	ATC code
<b>Data</b>	<p>Patient-based data: insurance identification, gender, age and region. Drug-based data: name, dosage form, ATC-code, DDD. Prescriber-related information: type of prescriber (general practitioner, type of specialist). Dispenser-based data: pharmacists, dispensing general practitioners, other outlets. Other information: date of prescription, dispensed amount and prescribed daily dose (PDD), pharmacy price, dispensing fee, VAT, reimbursement and personal contribution.</p> <p>Output freely available online : total cost reimbursed, number of patients receiving at least one prescription, DDD, number of prescriptions, total costs per patient receiving at least one prescription, number of DDD/patient, number of prescriptions/patient, total costs/prescription, number of DDD/prescription.</p>
<b>Record period</b>	2004-onwards
<b>Language</b>	Dutch and English
<b>Record linkage</b>	No



**National drug consumption database: Database of the Foundation for Pharmaceutical Statistics**

<b>Organisation</b>	Foundation for Pharmaceutical Statistics (SFK).
<b>Web</b>	<a href="http://www.sfk.nl">http://www.sfk.nl</a>
<b>Source</b>	Drug dispensed data
<b>Setting</b>	Outpatient
<b>Population coverage</b>	92.2% SFK directly gathers its data from a panel of pharmacies (1836 of 1981 community pharmacies).
<b>Accessibility</b>	Application to data provider: <a href="mailto:info@sfk.nl">info@sfk.nl</a>
<b>Drug codification</b>	ATC code
<b>Data</b>	Patient-based data: age, gender. Prescriber-based data: specialist, general practitioner or others. Pharmacy-based data: department, province, urbanization rate. Drug-based data: ATC, cost, DDD, number of prescriptions, cost/DDD, and gross profit, degree of substitution, claw back, parallel import. Insurer-based data: health insurance sector, private insurance sector, insurer, and institution.
<b>Record period</b>	From 1990 and upwards
<b>Language</b>	Dutch and English
<b>Record linkage</b>	No

**List of national websites of interest**

National Medicine Agency	College ter Beoordeling van Geneesmiddelen. Medicines Evaluation Board.	<a href="http://www.cbg-meb.nl">www.cbg-meb.nl</a>
Pricing Agency	Ministerie van Volksgezondheid, Welzijn en Sport. Ministry of Health, Welfare and Sport.	<a href="http://www.rijksoverheid.nl/onderwerpen/geneesmiddelen">www.rijksoverheid.nl/onderwerpen/geneesmiddelen</a>
Reimbursement Agency	Ministerie van Volksgezondheid, Welzijn en Sport (Ministry of Health, Welfare and Sport)	<a href="http://www.rijksoverheid.nl/onderwerpen/geneesmiddelen">www.rijksoverheid.nl/onderwerpen/geneesmiddelen</a>
	College voor Zorgverzekeringen (Health Care Insurance Board)	<a href="http://www.cvz.nl">www.cvz.nl</a>
Pharmaceutical data source	College ter Beoordeling van Geneesmiddelen Medicines Evaluation Board. Database on information about all drugs marketed in The Netherlands.	<a href="http://www.cbg-meb.nl/CBG/nl/humane-geneesmiddelen/geneesmiddeleninformatiebank/default.htm">http://www.cbg-meb.nl/CBG/nl/humane-geneesmiddelen/geneesmiddeleninformatiebank/default.htm</a>

## THE UNITED KINGDOM

<b>Population</b>	63,705,000 inhabitants (mid-2012) <a href="http://www.ons.gov.uk/ons/index.html">http://www.ons.gov.uk/ons/index.html</a> (accessed on 11/2013)
<b>Health care provider</b>	Public. Universal access to health care. About 11% of the population is covered by a private health insurance.
<b>Population coverage</b>	All residents in the United Kingdom (UK) are eligible for the National Health System (NHS).
<b>Model of health care financing</b>	Predominantly the government through general taxation, compulsory contributions to the NHS by employers, employees, self-employed and some local taxation. The first 2 sources of financing represent 94.6% of the NHS financing. The rest is financed through out-of-pocket payments and private health insurance.

### Reimbursement characteristics

<b>Method of payment</b>	The National Health System pays the cost of medicines.
<b>The beneficiaries</b>	All residents in the UK.
<b>Categories of reimbursable drugs</b>	Medicines in the UK are fully reimbursed, except OTC medicines.
<b>Structure of reimbursement to the patient (patient copayment)</b>	The patient pays a flat fee per prescription. There is the possibility to buy a prescription pre-payment certificate for 3 or 12 months to get a discount on the fee per prescription. Medicines free of charge are exempted to the flat-fee per prescription: prescribed contraceptives, medication personally administered by a general practitioner, medication supplied at a hospital or Primary Care Trust for sexually transmitted infections or Tuberculosis. People aged $\geq 60$ years, $\leq 16$ years, or between 16-18 years and in full-time education. Conditions that grant a maternity exemption certificate or a medical exemption certificate. People with a valid war pensions exemption certificate and the prescription is for the accepted disability. People entitled to an NHS tax credit exemption certificate, or a valid HC2 certificate or if they receive income support
<b>Reimbursement level for drugs</b>	No reimbursable levels

**National drug consumption database: Electronic Prescribing Database-England (ePACT)**

<b>Organisation</b>	NHS Business Services Authority. Prescription Services. Electronic Prescribing Analysis and Cost (ePACT).
<b>Web</b>	<p><a href="http://www.nhsbsa.nhs.uk/PrescriptionServices.aspx">http://www.nhsbsa.nhs.uk/PrescriptionServices.aspx</a>.</p> <p><a href="http://www.ic.nhs.uk/statistics-and-data-collections/primary-care/pharmacies">http://www.ic.nhs.uk/statistics-and-data-collections/primary-care/pharmacies</a> (it provides public information on quarterly prescription cost analysis statistics).</p> <p>For hospital, public available information at <a href="http://www.ic.nhs.uk/statistics-and-data-collections/primary-care/prescriptions/hospital-prescribing-england-2010">http://www.ic.nhs.uk/statistics-and-data-collections/primary-care/prescriptions/hospital-prescribing-england-2010</a>. Source IMS Health Hospital Pharmacy Audit Index database and databases maintained by the Prescription Services Division of the Business Service Authority (EphMRA classification).</p> <p>Resources from epact for the rest of Scotland: <a href="http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/Community-Dispensing/Prescription-Cost-Analysis/">http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/Community-Dispensing/Prescription-Cost-Analysis/</a></p> <p>Wales: <a href="http://new.wales.gov.uk/topics/statistics/headlines/health2010/1003301/?lang=en">http://new.wales.gov.uk/topics/statistics/headlines/health2010/1003301/?lang=en</a></p> <p>Northern Ireland: <a href="http://www.hscbusiness.hscni.net/services/1806.htm">http://www.hscbusiness.hscni.net/services/1806.htm</a></p>
<b>Source</b>	Prescribed drugs
<b>Accessibility</b>	Application to data provider. Data also available online. <a href="mailto:help@ppa.nhs.uk">help@ppa.nhs.uk</a>
<b>Setting</b>	Outpatient. It does not include prescriptions dispensed in mental health units, or private prescriptions.
<b>Population coverage</b>	100%
<b>Drug codification</b>	British National Formulary (BNF) ATC provided upon request
<b>Data</b>	Free online: number of packages dispensed for each chemical substance, strength, dosage form and trademark. Upon request: Reporting period. Prescribing organisation (GP practice, health trust). BNF (from chapter to presentation level). Controlled drugs tag. Budget and expenditure forecasts. Costs and volumes of prescribing. Prescribing totals by prescribers at all BNF levels. Prescribing from non-medical prescribers (independent pharmacists, nurses, optometrists). Working environment for nurses and supplementary prescribers (i.e. community or practice). Patient list sizes. ADQ (Average Daily Quantities) and DDD. Low Income Scheme Index scores for practices.
<b>Record period</b>	Since 1988 (computerised)
<b>Language</b>	English
<b>Record linkage</b>	No

**Northern Ireland drug consumption databases**

	ePACT database-North Ireland	HSC BSO Enhanced Prescribing Database (EPD)
<b>Organisation</b>	Health and Social Care. Business Services Organisation. General Pharmaceutical Services <a href="http://www.hscbusiness.hscni.net/services/1944.htm">http://www.hscbusiness.hscni.net/services/1944.htm</a>	NI's Department of health. Social Services and Public Safety. Business Services Organisation (NHS BSO). Electronic prescribing and eligibility system (EPES) project
<b>Web</b>	Business Services Organisation. <a href="http://www.hscbusiness.hscni.net/services/1806.htm">http://www.hscbusiness.hscni.net/services/1806.htm</a> (accessed on 7/2012).	---
<b>Accessibility</b>	Some data free online. Further data may be purchased. ( <a href="mailto:Jacqueline.Sheridan@hscni.net">Jacqueline.Sheridan@hscni.net</a> ).	---
<b>Setting</b>	Outpatient	Outpatient
<b>Population coverage</b>	100%	85-90% of all prescriptions have incorporated these 2 barcodes.
<b>Drug codification</b>	BNF	BNF
<b>Source</b>	All dispensed prescriptions by community pharmacists, dispensing doctors and personally administered by GPs.	Prescribed by GP and dispensed by community pharmacies.
<b>Data</b>	Name, strength and form of the drug dispensed. Quantity of the drug dispensed (number of items). DDD. Cost of the drug dispensed. The month and year in which the drug was dispensed. Prescriber information (GP, Practice, Area Health Board). It <b>does not</b> collect patient information (age, sex, name or address), dosage or duration of treatment, or the indication.	The NHS BSO in NI implemented in 2008 an electronic prescribing system that adds a two-dimensional barcode to paper prescriptions issued by the GP. It codes the patient's Health and Care number: a unique identifier which can track their dispensed prescriptions and details of the prescribed medication and prescriber. It is scanned at the end of each calendar month and held in the EPD. 85-90% of all prescriptions result in usable data. BNF, dispensed drug item codes, drug name (brand and generic) strength, form, prescribed quantity, pack size and price, gross cost and prescriber practice information. Other demographic details can be retrieved through linkage. Diagnostic and other clinical outcomes are not recorded in the EPD.
<b>Record period</b>	From 2000 and onwards (online)	2008
<b>Language</b>	English	English
<b>Record linkage</b>	No	Yes, through the patients' unique identity number to other datasets in the NHS BSO.

**Scotland drug consumption databases**

	ePACT database-Scotland	HMUD database
<b>Organisation</b>	NHS National Services Scotland. Information Services Division (ISD) Scotland. Scottish Prescribing Analyses (SPA).	NHS Scotland. Information Services Division (ISD). National Medicines Utilisation Unit (NMUU): Hospital Medicines Utilisation Database (HMUD).
<b>Web</b>	<a href="http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/">http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/</a>	<a href="http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/National-Medicines-Utilisation-Unit/">http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/National-Medicines-Utilisation-Unit/</a>
<b>Accessibility</b>	Application to data provider <a href="mailto:nss.isdprescribing@nhs.net">nss.isdprescribing@nhs.net</a> Free online <a href="http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/Community-Dispensing/Prescription-Cost-Analysis/">http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/Community-Dispensing/Prescription-Cost-Analysis/</a>	Accessible only to NHS staff. Quiries NMUU: <a href="mailto:Sharon.hems@nhs.net">Sharon.hems@nhs.net</a> HMUD: <a href="mailto:nss.isdhmud@nhs.net">nss.isdhmud@nhs.net</a>
<b>Setting</b>	SPA: Outpatient	HMUD: Inpatient aggregated at hospital level
<b>Population coverage</b>	100%	?
<b>Drug codification</b>	SPA: BNF	HMUD: BNF and ATC codification
<b>Source</b>	SPA: All prescriptions from GP, nurses, dentists and pharmacists dispensed by community pharmacists in Scotland. Private prescriptions and dispensed in hospitals excluded. Prescriptions prescribed elsewhere in UK, but dispensed in Scotland included.	HMUD: All drugs dispensed by a hospital pharmacy with an end patient use (no drugs purchased).
<b>Data</b>	SPA: Costs and volumes of prescribing. ADQ (Average Daily Quantities) and DDD. BNF. Drug name. Number of dispensed items. Gross Ingredient Cost. Dispensed quantity measured in units depending upon the formulation of the product	HMUD: Hospital setting and location. Dates (financial and calendar). BNF code. DMD or NHS Dictionary of Medicines and Devices: unique identifier for the majority of products used in both Primary and Secondary care. DDD. Route of administration. ATC code. Formulary status. Cost. Hospital activity (occupied bed days, number of episodes, number of patients for a particular hospital). In-patient or day case code. Estimated population for the health board.
<b>Record period</b>	SPA: Since 1993	NMUU set up in 2005. HMUD database 2007
<b>Language</b>	English	English
<b>Record linkage</b>	No	?

**List of national website of interest**

National Medicine Agency	Medicines and Healthcare products Regulatory Agency - MHRA	<a href="http://www.mhra.gov.uk">www.mhra.gov.uk</a>
Pricing Agency	National Health Service (NHS)	<a href="http://www.nhs.uk">www.nhs.uk</a>
	Department of Health	<a href="http://www.dh.gov.uk">www.dh.gov.uk</a>
Reimbursement Agency	National Health Service (NHS)	<a href="http://www.nhs.uk">www.nhs.uk</a>
	Department of Health	<a href="http://www.dh.gov.uk">www.dh.gov.uk</a>
Pharmaceutical data source	The electronic Medicines Compendium (eMC). Information about the UK licensed medicines (SPC and PIL)	<a href="http://www.medicines.org.uk/emc/">http://www.medicines.org.uk/emc/</a>
	NHS Business Services Authority, NHS Prescription Services NHS Electronic Drug Tariff (for England and Wales). Information on prices of drugs for GPs, pharmacy contractors and appliance contractors. Updated monthly.	<a href="http://www.ppa.org.uk/edt/May_2011/mindex.htm">http://www.ppa.org.uk/edt/May_2011/mindex.htm</a>
	British Medical Association and the Royal Pharmaceutical Society. Information about the clinical use of medicines	<a href="http://www.bnf.org">www.bnf.org</a> (No free access, except for UK residents and residents of low-and middle-income countries listed on the web).
	National electronic Library for Medicines (NeLM). Content provided by NHS pharmacy medicines information service (UKMi). Medicines information portal in the NHS. It includes news, evidence-based reviews on drugs and drug therapy and health promotion material.	<a href="http://www.nelm.nhs.uk">www.nelm.nhs.uk</a>