Sweden National Prescribed Drugs Register / Läkemedelsregistret

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Data source | Human | Pharmacy dispensing records

Administrative details

Administrative details

Data source ID

2291

Data source acronym

NPDR

Data holder

The Swedish National Board of Health and Welfare

Data source type

Pharmacy dispensing records

Main financial support

National, regional, or municipal public funding

Care setting

Hospital outpatient care

Primary care – GP, community pharmacist level

Secondary care – specialist level (ambulatory)

Data source qualification

If the data source has successfully undergone a formal qualification process (e.g., from the EMA, ISO or other certifications), this should be described.

No

Data source website

https://www.socialstyrelsen.se/en/statistics-and-data/registers/national-prescribed-drug-register/

Contact details

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Data source regions and languages

Data source countries

Sweden

Data source languages

Swedish

Data source establishment

Data source established

01/07/2005

Data source time span

First collection: 01/07/2005

The date when data started to be collected or extracted.

Publications

Data source publications

https://pubmed.ncbi.nlm.nih.gov/16897791/

https://pubmed.ncbi.nlm.nih.gov/27112967/

Studies

List of studies that have been conducted using the data source

Strattera patient exposures and adherence in the United Kingdom, Germany, the Netherlands, and Sweden: 2016 Bi-annual assessment report. (B4Z-MC-B025)

A population-based cohort study using an existing database to evaluate the association between latanoprost use and primary malignant ocular melanoma and facial cutaneous melanoma

Use of Nalmefene (Selincro®) in European databases: Cohort design using longitudinal electronic medical records or claims databases

Incidence and outcome of paracetamol poisoning

An Observational Post-Authorization Safety Study (PASS) of MOVENTIG® (Naloxegol) Drug Utilization in Selected European Populations

Pan European Multi-Database Bladder Cancer Risk Characterisation Study

Strattera patient exposures and adherence in the United Kingdom, Germany, the Netherlands, and Sweden: 2014 Bi-annual assessment report

A pharmacoepidemiological study to examine patient characteristics, drug utilization pattern and crude incidence rates of selected outcomes in new users of ticagrelor,clopidogrel and prasugrel in national Swedish registries.

RRA-17425, Risperidone Exposure and the Risk of Osteoporosis-related Fractures – Sweden

A multinational active safety surveillance study of crizotinib in Europe and the United States

Cilostazol Drug Utilisation Study

An observational cohort study to evaluate the risk of adverse pregnancy outcomes in patients treated with etanercept compared to those not treated with etanercept or other biologics using merged data from Sweden, Denmark and Finland

Treatment and outcomes among patients with atrial fibrillation and acute coronary syndrome in Sweden

Safety Data on Etoricoxib From Swedish Registries of Spondyloarthropathy/Ankylosing Spondylitis Patients (MK-0663-159; EP07013.013.11.082)

Strattera patient exposures and adherence in the United Kingdom, Germany, the Netherlands, and Sweden: 2018 Bi-annual assessment report (B4Z-MC-B026)

A Drug Utilization Study of Xofigo Use in Sweden

Post-authorization Safety Program Using the Swedish National Registers—A Validation Study of Cardiovascular and Neoplasm Events in Users of PharmacologicalTreatments for Overactive Bladder

A Nationwide Post-Marketing Study on the Safety of Abatacept Treatment in Sweden Using the SRQ Register

Comparative Assessment of VTE and Other Risks among Patients with Rheumatoid Arthritis treated with Baricitinib versus Tumor Necrosis Factor Inhibitors: A Multi-database Observational Cohort Study

Post-authorization Safety Study Evaluation of Neoplasm Events in Users of Mirabegron and Other Treatments for Overactive Bladder : Core Common Protocol

A Joint Drug Utilisation Study (DUS) of valproate and related substances, in Europe, using databases

Beyond Pooled – Part of the BEYOND study program (Benefit of NOACs study of non-valvular AF patients in nordic countries) (BEYOND Pooled (Denmark, Norway, Sweden))

Pharmacoepidemiological study (Drug Utilization Study) of JAYDESS use in routine clinical practice in Sweden (Jaydess DUS)

Linaclotide Utilisation Study in Selected European Populations

Post-authorization Safety Study Evaluation of Cardiovascular Events in Users of Mirabegron and Other Treatments for Overactive Bladder

Drug Utilisation Study of conjugated oestrogens/bazedoxifene (CE/BZA) in the European Union (EU)

A Population-based Cohort Study of Pregabalin to Characterize Pregnancy Outcomes

Extrapyramidal symptoms in patients treated with Abilify Maintena®: Cohort study with a 2-year follow-up using European automated healthcare databases

Post-authorization Safety Surveillance Program for Sarilumab using existing European Rheumatoid Arthritis Registries in Germany, Spain, Sweden and United Kingdom

Utilisation of dulaglutide in European countries: A cross-sectional, multi-country and multi-source drug utilisation study using electronic health record databases (H9X-MC-B010)

The use of NOAC for atrial fibrillation in patients after biologic valvular replacement or valvuloplasty

Post-Authorisation Safety Study of Agomelatine and the Risk of Hospitalisation for Acute Liver Injury

Linaclotide Safety Study for the Assessment of Diarrhoea—Complications and Associated Risk Factors in Selected European Populations with IBS-C

Retrospective registry study evaluating the safety of melatonin use in children and adolescents with attention deficit hyperactivity disorder (ADHD) in Sweden (Safety of melatonin in children with ADHD)

Pancreatic Cancer and Thyroid Cancer Risks with Dulaglutide Treatment

A Retrospective Cohort Study to Assess the Safety of Baricitinib Compared with Other Therapies Used in the Treatment of Rheumatoid Arthritis in Nordic Countries (I4V-MC-B011)

Cohort Study of the Relative Incidence of Major Cardiovascular Events Among Patients Initiating Prucalopride Versus a Matched Comparator Cohort

A pharmacoepidemiological study of rivaroxaban use and potential adverse outcomes in routine clinical practice in Sweden

Cohort Study of the Incidence of Major Cardiovascular Events in New Adult Users of Lisdexamfetamine and Remote Adult Users of Other ADHD Treatments

The BRodalumab Assessment of Hazards: A Multinational Safety (BRAHMS) study in electronic healthcare databases

Association between androgen deprivation therapy and excess mortality after covid-19 in patients with prostate cancer

Drug utilization study for Elvanse® / Tyvense® / Elvanse® Adult in Europe

Real-world evidence for non-valvular atrial fibrillation patients treated with oral anticoagulation in the Nordics (REATTAIN)

Observational Studies in Cancer Associated Thrombosis for Rivaroxaban in SwEden (OSCAR-SE)

A Comparative Observational Study Evaluating the Incidence Rate of Endometrial Cancer in Women aged 50 Years and Over Who Use Low dose Vaginal Estrogen Unopposed by a Progestogen: A Post-authorization Safety Study in the United States and Sweden (Low dose vaginal estrogen and endometrial cancer)

Venous Thromboembolism Treatment (VOLT)

EPID Multiple Sclerosis Pregnancy study - Pregnancy outcomes in Multiple Sclerosis populations exposed and unexposed to interferon beta - a register-based study in the Nordic countries

A Post-Authorisation Safety Study of the Utilisation and Prescribing Patterns of Xeljanz® (tofacitinib) in the European Union Using Secondary Data Sources

A post-authorisation safety study (PASS) to evaluate the long-term cardiovascular and psychiatric safety profile of methylphenidate (MPH) in adult patients with attention deficit/hyperactivity disorder (ADHD) in European Countries (PASS on methylphenidate in adults)

Post-authorisation safety study of NOCDURNA for the symptomatic treatment of nocturia due to idiopathic nocturnal polyuria: A multi-country cohort study using secondary data. (NOCDURNA PASS)

A post-marketing registry-based prospective cohort study of long-term safety of risankizumab in Denmark and Sweden

Drug Utilisation Study of Intuniv® (guanfacine extended release) in European Countries, Study protocol I: Database study (Intuniv data base study Europe)

Post-authorisation safety study to assess the risk of urinary tract malignancies in relation to empagliflozin exposure in patients with type 2 diabetes: a multi-database European study (PASS DiabCancer)

Dulaglutide and Potential Risks of Pancreatic Cancer and Thyroid Cancer: A Non-Interventional PASS (H9X-MC-B013)

A non-interventional register-based comparative effectiveness study of rhFSH-alfa reference product vs. highly purified human menopausal gonadotropin or rhFSH-alfa biosimilar products for ovarian stimulation in in vitro fertilization or intracytoplasmic sperm injection treatment in Denmark and Sweden – The Nordic Follitropin Alfa Comparative Effectiveness Study (NORD-FACE)

Prospective observational study to assess the long term safety profile of venetoclax in a Swedish cohort of Chronic Lymphocytic Leukaemia (CLL) patients

Establish an EU catalogue of sources of real-world data, characterised by a common set of metadata and data quality measurements

A Pan-European Post-Authorisation Safety Study: Risk of Pancreatic Cancer Among Type 2 Diabetes Patients who Initiated Exenatide as Compared with those who Initiated Other non-Glucagon-Like Peptide 1 Receptor Agonists based Glucose Lowering Drugs (EXCEED)

An Active Surveillance, Post Authorization Safety Study (PASS) of Serious Infection, Malignancy, Cardiovascular (CV) and Other Safety Events of Interest among Patients Treated with Tofacitinib for Moderately to Severely Active Rheumatoid Arthritis (RA) within the Swedish, Population based, Anti Rheumatic Treatment in Sweden (ARTIS) register. (Safety of tofacitinib in ARTIS)

A Population-based Study of the Safety of Gabapentin Use During Pregnancy

Persistence and adherence to novel systemic pharmacological treatment of moderate to severe psoriasis vulgaris and psoriatic arthritis – A register-based cohort study in Finland and Sweden

Adherence to the major classes of anthypertensive theraphy (AMCA)

Population-based retrospective nested case-control study evaluating effectiveness of GARDASIL™ /GARDASIL™9 against adult-onset recurrent respiratory papillomatosis (AoRRP) in Sweden, Denmark, and Norway (V503-088)

A Non-interventional Observational Longitudinal Post-Authorization Safety Study (PASS) of SIMPONI® in Treatment of Ulcerative Colitis using Nordic National Health Registries (MK-8259-013)

Long-Term Post-Marketing Observational Study of the Safety of Roflumilast

Evaluation of the effectiveness of pregnancy prevention programme (PPP) for oral retinoids (acitretin, alitretinoin, and isotretinoin): a European before-after drug utilization study (DUS) using secondary data

Multi-country non-interventional study on the effectiveness and safety of Empagliflozin in adult patients with type 2 diabetes in Europe and Asia

An Observational Longitudinal Post-authorization Safety Study of STELARA® in the Treatment of Psoriasis and Psoriatic Arthritis: Analysis of Major Adverse Cardiovascular Events (MACE) using Swedish National Health Registers

(QUANTIFY STELARA MACE)

DRUG UTILISATION AND SAFETY STUDY OF MYSIMBA/CONTRAVE IN EUROPE AND THE UNITED STATES (NB-451 DUS)

Xarelto Paediatric VTE PASS Drug Utilization Study: An observational, longitudinal, multi-source drug utilization safety study to evaluate the drug use patterns and safety of rivaroxaban oral suspension in children under two years with venous thromboembolism (XAPAEDUS)

Kesimpta (ofatumumab) pregnancy and infant safety study using real world data

Cohort Study of Long-term Safety of Upadacitinib in the Treatment of Atopic Dermatitis in Denmark and Sweden

Cohort Study of Long-term Safety of Upadacitinib for the Treatment of Ulcerative Colitis and Crohn’s Disease in a Real-world Setting in Europe

Post-Authorisation Active Safety Surveillance Program Among Patients Treated With Tofacitinib for Polyarticular Juvenile Idiopathic Arthritis (pJIA) and Juvenile Psoriatic Arthritis (PsA) Using Nationwide Swedish Healthcare Registers

An Active Surveillance Study to Monitor the Real-World Long-term Safety of Somatrogon Among Paediatric Patients in Europe

Drug Utilization Study Evaluating Additional Risk Minimisation Measures for Upadacitinib in the Treatment of Ulcerative Colitis in Europe

Comparative Cohort Study of Long-term Safety Outcomes of Risankizumab Compared to Biologic Treatments for Ulcerative Colitis and Crohn’s Disease in a Real-world Setting in Sweden and Denmark

Drug Utilization Study Evaluating Additional Risk Minimization Measures for Upadacitinib in the Treatment of Atopic Dermatitis in Europe

An Active Surveillance Study to Monitor the Safety of Abrocitinib Among Real-World Patients with Atopic Dermatitis (AD) in the European Union (EU) (B7451084)

Nested case-control study evaluating effectiveness of immunization of girls and women of childbearing potential with GARDASIL(TM)/GARDASIL(TM) 9 against juvenile-onset recurrent respiratory papillomatosis (JoRRP) in Sweden, Denmark, and Norway (V503-095)

Postauthorisation Safety Study (PASS) of Avatrombopag and Haematological Malignancies in Patients With Primary Immune Thrombocytopaenia

A Drug Utilization Study to Evaluate the Effectiveness of Risk Minimization Measures (RMMs) for Abrocitinib in the EU Using Electronic Healthcare Data (B7451085)

Beta-blockers in patients with heart failure with reduced ejection fraction and concomitant chronic obstructive pulmonary disease: cardiovascular and respiratory outcomes

Brand-specific influenza vaccine effectiveness in the Nordic countries

Post-Authorization Safety Study to Assess the Effectiveness of the Newly Implemented Risk Minimization Measures for Topiramate: Drug Utilization Study

Applicability of past and ongoing steroidal and non-steroidal mineralocorticoid receptor antagonist trials in real-world patients with heart failure with reduced, mildly reduced, and preserved ejection fraction

Associations between Cardiac Resynchronization Therapy and Clinical Outcomes According to the Atrial Fibrillation Status in Patients with Heart Failure with Reduced Ejection Fraction

PaTernal exposure to vAlproate, further iNvestiGation on the risk of NeuroDevelopmental Disorders (NDD) and Major Congenital Malformation

(MCM) in Offspring: A Non-Interventional Post-Authorization Safety Study (TANGO)

Semaglutide in patients with heart failure with reduced ejection fraction: safety and effectiveness – a target trial emulation

Data elements collected

The data source contains the following information

Disease information

Does the data source collect information with a focus on a specific disease? This might be a patient registry or other similar initiatives.

No

Rare diseases

Are rare diseases captured? In the European Union a rare disease is one that affects no more than 5 people in 10,000.

No

Pregnancy and/or neonates

Does the data source collect information on pregnant women and/or neonatal subpopulation (under 28 days of age)?

No

Hospital admission and/or discharge

No

ICU admission

Is information on intensive care unit admission available?

No

Cause of death

Not Captured

Prescriptions of medicines

Captured

Prescriptions vocabulary

ATC

Dispensing of medicines

Captured

Dispensing vocabulary

ATC

Advanced therapy medicinal products (ATMP)

Is information on advanced therapy medicinal products included? A medicinal product for human use that is either a gene therapy medicinal product, a somatic cell therapy product or a tissue engineered products as defined in Regulation (EC) No 1394/2007 [Reg (EC) No 1394/2007 Art 1(1)].

Yes

Contraception

Is information on the use of any type of contraception (oral, injectable, devices etc.) available?

Yes

Indication for use

Does the data source capture information on the therapeutic indication for the use of medicinal products?

Captured

Indication vocabulary

SNOMED CT

Medical devices

Is information on medicinal devices (e.g., pens, syringes, inhalers) available?

Yes

Administration of vaccines

Yes

Procedures

Does the data source capture information on procedures (e.g., diagnostic tests, therapeutic, surgical interventions)?

Not Captured

Healthcare provider

Is information on the person providing healthcare (e.g., physician, pharmacist, specialist) available? The healthcare provider refers to individual health professionals or a health facility organisation licensed to provide health care diagnosis and treatment services including medication, surgery and medical devices.

Yes

Clinical measurements

Is information on clinical measurements (e.g., BMI, blood pressure, height) available?

No

Genetic data

Are data related to genotyping, genome sequencing available?

Not Captured

Biomarker data

Does the data source capture biomarker information? The term “biomarker” refers to a broad subcategory of medical signs (objective indications of medical state observed from outside the patient), which can be measured accurately and reproducibly. For example, haematological assays, infectious disease markers or metabolomic biomarkers.

Not Captured

Patient-reported outcomes

Is information on patient-reported outcomes (e.g., quality of life) available?

No

Patient-generated data

Is patient-generated information (e.g., from wearable devices) available?

No

Units of healthcare utilisation

Are units of healthcare utilisation (e.g., number of visits to GP per year, number of hospital days) available or can they be derived? Units of healthcare utilisation refer to the quantification of the use of services for the purpose of preventing or curing health problems.

Yes

Unique identifier for persons

Are patients uniquely identified in the data source?

Yes

Diagnostic codes

Not Captured

Medicinal product information

Captured

Medicinal product information collected

Brand name

Dosage regime

Dose

Formulation

Package size

Route of administration

Strength

Medicinal product vocabulary

Not coded (Free text)

Quality of life measurements

Not Captured

Lifestyle factors

Not Captured

Sociodemographic information

Captured

Sociodemographic information collected

Age

Gender

Health area

Other

Pharmaceutical copayment

Quantitative descriptors

Population Qualitative Data

Population age groups

Paediatric Population (< 18 years)

Preterm newborn infants (0 – 27 days)

Term newborn infants (0 – 27 days)

Infants and toddlers (28 days – 23 months)

Children (2 to < 12 years)

Adolescents (12 to < 18 years)

Adults (18 to < 46 years)

Adults (46 to < 65 years)

Elderly (≥ 65 years)

Adults (65 to < 75 years)

Adults (75 to < 85 years)

Adults (85 years and over)

Estimated percentage of the population covered by the data source in the catchment area

95%

Description of the population covered by the data source in the catchment area whose data are not collected (e.g., people who are registered only for private care)

All prescribed drugs dispensed at pharmacies in Sweden are included in the register. Drugs administered at hospital settings or nursing homes are not included in the register. Vaccination programmes and over-the-counter medicines are not included in the register.

Population

Population size

11819739

Active population size

10249813

Population by age group

Age group	Population size	Active population size
Neonate	9891	9834
Infants and toddlers (28 days – 23 months)	247156	246106
Children (2 to < 12 years)	1313370	1311782
Adolescents (12 to < 18 years)	621863	619888
Adults (18 to < 46 years)	3711072	3675091
Adults (46 to < 65 years)	2461690	2308438
Adults (65 to < 75 years)	1273536	1028599
Adults (75 to < 85 years)	1235443	780496
Adults (85 years and over)	945718	269144

Median observation time

Median time (years) between first and last available records for unique individuals captured in the data source

0.39

Median time (years) between first and last available records for unique active individuals (alive and currently registered) capt

0.39

Data flows and management

Access and validation

Governance details

Documents or webpages that describe the overall governance of the data source and processes and procedures for data capture and management, data quality check and validation results (governing data access or utilisation for research purposes).

https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/statistik/2021-9-7548.pdf

Biospecimen access

Are biospecimens available in the data source (e.g., tissue samples)?

No

Access to subject details

Can individual patients/practitioners/practices included in the data source be contacted?

No

Description of data collection

For a description of data collection, please see https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/statistik/2021-9-7548.pdf or https://www.socialstyrelsen.se/en/statistics-and-data/registers/national-prescribed-drug-register/

Event triggering registration

Event triggering registration of a person in the data source

Birth

Immigration

Event triggering de-registration of a person in the data source

Death

Emigration

Event triggering creation of a record in the data source

Dispensation of a medical product

Data source linkage

Linkage

Is the data source described created by the linkage of other data sources (prelinked data source) and/or can the data source be linked to other data source on an ad-hoc basis?

Yes

Linkage description, pre-linked

Linkage to all Other Swedish national registers (e.g. National patient register, Medical birth register, Cancer register and Cause of death register) using a personal indentification number id as well as Other Swedish using the same indientifer

Linked data sources

Pre linked

Is the data source described created by the linkage of other data sources?

Yes

Data source, other

ARKO(Work place code)

Linkage strategy

Deterministic

Linkage variable

Personal identification number

Linkage completeness

All records with valid personal identification numbers can be deterministically linked on demand.

Pre linked

Is the data source described created by the linkage of other data sources?

Yes

Data source, other

EXPO (power of attorney)

Linkage strategy

Deterministic

Linkage variable

Personal identification number

Linkage completeness

All records with valid personal identification numbers can be deterministically linked on demand.

Pre linked

Is the data source described created by the linkage of other data sources?

Yes

Data source, other

FORS(Legitimation information)

Linkage strategy

Deterministic

Linkage variable

Personal identification number

Linkage completeness

All records with valid personal identification numbers can be deterministically linked on demand.

Pre linked

Is the data source described created by the linkage of other data sources?

Yes

Data source, other

FOTA (Sales transaction)

Linkage strategy

Deterministic

Linkage variable

Personal identification number

Linkage completeness

All records with valid personal identification numbers can be deterministically linked on demand.

Pre linked

Is the data source described created by the linkage of other data sources?

Yes

Data source, other

RTB (population registration Data)

Linkage strategy

Deterministic

Linkage variable

Personal identification number

Linkage completeness

All records with valid personal identification numbers can be deterministically linked on demand.

Pre linked

Is the data source described created by the linkage of other data sources?

Yes

Data source, other

VARA (Product information)

Linkage strategy

Deterministic

Linkage variable

Personal identification number

Linkage completeness

All records with valid personal identification numbers can be deterministically linked on demand.

Data management specifications that apply for the data source

Data source refresh

Monthly

Informed consent for use of data for research

Not Required

Possibility of data validation

Can validity of the data in the data source be verified (e.g., access to original medical charts)?

No

Data source preservation

Are records preserved in the data source indefinitely?

Yes

Approval for publication

Is an approval needed for publishing the results of a study using the data source?

No

Data source last refresh

12/09/2022

Common Data Model (CDM) mapping

CDM mapping

Has the data source been converted (ETL-ed) to a common data model?

No