Système National des Données de Santé (French national health system main database)

First published: 01/02/2024

Last updated: 19/05/2025

Data source | Human | Administrative healthcare records (e.g., claims) | Death registry

Administrative details

Administrative details

Data source ID

1111166

Data source acronym

SNDS

Data holder

Health Data Hub (HDH)

Data source type

Administrative healthcare records (e.g., claims)

Death registry

Main financial support

National, regional, or municipal public funding

Care setting

Hospital inpatient care

Hospital outpatient care

Other

Primary care – GP, community pharmacist level

Primary care – specialist level (e.g. paediatricians)

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://health-data-hub.shinyapps.io/dico-snds/

Contact details

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Main

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Data source regions and languages

Data source countries

France

Data source languages

French

Data source establishment

Data source established

15/06/2006

Data source time span

First collection: 01/01/2015

The date when data started to be collected or extracted.

Publications

Data source publications

Semenzato L, Botton J, Drouin J, Cuenot F, Dray-Spira R, Weill A, Zureik M. Chronic diseases, health conditions and risk of COVID-19-related hospitalization and in-hospital mortality during the first wave of the epidemic in France: a cohort study of 66 million people. Lancet Reg Health Eur. 2021 Sep;8:100158. doi: 10.1016/j.lanepe.2021.100158. Epub 2021 Jul 16. PMID: 34308411; PMCID: PMC8282330.

Tuppin P, Rudant J, Constantinou P, Gastaldi-Ménager C, Rachas A, de Roquefeuil L, Maura G, Caillol H, Tajahmady A, Coste J, Gissot C, Weill A, Fagot-Campagna A. Value of a national administrative database to guide public decisions: From the système national d'information interrégimes de l'Assurance Maladie (SNIIRAM) to the système national des données de santé (SNDS) in France. Rev Epidemiol Sante Publique. 2017 Oct;65 Suppl 4:S149-S167. doi:

10.1016/j.respe.2017.05.004. Epub 2017 Jul 27. PMID: 28756037

Scailteux LM, Droitcourt C, Balusson F, Nowak E, Kerbrat S, Dupuy A, Drezen E, Happe A, Oger E. French administrative health care database (SNDS): The value of its enrichment. Therapie. 2019 Apr;74(2):215-223. doi: 10.1016/j.therap.2018.09.072. Epub 2018 Oct 25. PMID: 30392702.

Kivimäki M, Pentti J, Ferrie JE, Batty GD, Nyberg ST, Jokela M, Virtanen M, Alfredsson L, Dragano N, Fransson EI, Goldberg M, Knutsson A, Koskenvuo M, Koskinen A, Kouvonen A, Luukkonen R, Oksanen T, Rugulies R, Siegrist J, Singh-Manoux A, Suominen S, Theorell T, Väänänen A, Vahtera J, Westerholm PJM, Westerlund H, Zins M, Strandberg T, Steptoe A, Deanfield J; IPD-Work consortium. Work stress and risk of death in men and women with and without cardiometabolic disease: a multicohort study. Lancet Diabetes Endocrinol. 2018 Sep;6(9):705-713. doi: 10.1016/S2213-8587(18)30140-2. Epub 2018 Jun 5. PMID: 29884468; PMCID: PMC6105619.

Thereaux J, Lesuffleur T, Czernichow S, Basdevant A, Msika S, Nocca D, Millat B, Fagot-Campagna A. Long-term adverse events after sleeve gastrectomy or gastric bypass: a 7-year nationwide, observational, population-based, cohort study. Lancet Diabetes Endocrinol. 2019 Oct;7(10):786-795. doi: 10.1016/S2213-8587(19)30191-3. Epub 2019 Aug 2. PMID: 31383618.

Bezin J, Duong M, Lassalle R, Droz C, Pariente A, Blin P, Moore N. The national healthcare system claims databases in France, SNIIRAM and EGB: Powerful tools for pharmacoepidemiology. Pharmacoepidemiol Drug Saf. 2017 Aug;26(8):954-962. doi: 10.1002/pds.4233. Epub 2017 May 24. PMID: 28544284.

Studies

List of studies that have been conducted using the data source

Triptan use and serious vascular events in elderly over 65 years (TRUE)

Monitoring prescription drug abuse using doctor shopping behavior (MEGADOSE)

European non-interventional post-authorization safety study related to serious cardiovascular events of myocardial infarction and stroke, and all-cause mortality for romosozumab by the EU-ADR Alliance

Non-Interventional retrospective longitudinal study in the United Kingdom and France to investigate the therapeutic strategies after discontinuation of valproate and related substances in clinical practice (VALSE study - VALNAC09344)

A Drug Utilisation Study extension (DUS ext.) of valproate and related substances, in Europe, using databases (VALNAC09343)

Strengthening Use of Real-World Data in Medicines Development: Metadata for Data Discoverability and Study Replicability (MINERVA)

Safety of Paxlovid During Pregnancy

Safety of Paxlovid Among Patients with Moderate or Severe Hepatic or Renal Impairment

Baricitinib Drug Utilisation Study: Assessment of Effectiveness of New Recommendations for Use Based on Secondary Data Sources in France, Germany, The Netherlands, and Sweden (I4V-MC-B038)

Characterization of neurodevelopmental disorders in children exposed in utero to valproate and/or other antiepileptic drugs with long-term follow-up: retrospective study of multiple European data sources (AVALON)

Long-term real-world safety of ozanimod – A post-authorisation safety study (PASS) in patients diagnosed with ulcerative colitis

A Retrospective Cohort Study for Estimating Incidence Rates of Infusion Site Events for ABBV-951 for the Treatment of Advanced Parkinson's Disease

Effectiveness of SGLT2 Inhibitors in Patients With Heart Failure: Real-World Cohort Study.

A real-world observational study of treatment patterns and outcomes for patients with neuromyelitis optica spectrum disorders (NMOSD) treated with inebilizumab (UPLIZNA) in Europe

An Observational Multi-Country Post-Authorisation Safety Study to Evaluate the Risk of Serious Adverse Cardiovascular Events in Adolescent and Adult Patients with Severe Asthma taking Tezepelumab (TRESPASS)

A Non-Interventional Multi-Database Post-Authorisation Study to Assess Pregnancy-Related Safety Data from Women with Severe Asthma Exposed to Tezepelumab (TREATY)

Prognostic value of Continuous Glucose Monitoring metrics for microvascular and macrovascular complications in diabetes using Freestyle Libre® system records and SNDS French claims database linkage (FACULTY)

SAFETY-VAC: Network of Data Sources for Vaccine Safety Evaluation

Shortening the time to confirm or to rebut Adverse events of interest related to innovative Therapies for immune-mediated inflammATory dIseases: cross-talking between different data sOURces. SATURATIOn study.

SAFETY-VAC: Background incidence estimation of flares of pre-existing chronic diseases using pan-European electronic healthcare data sources. (SAFETY VAC)

A Post-Authorisation Safety Study of the Utilisation and Prescribing Patterns of Xeljanz® (tofacitinib) Using an Administrative Healthcare Database in France

Assessment of trajectories of high-risk drug users: incidence of abuse and impact on morbidity and mortality (METEOR)

Surveillance Dashboard of Doctor Shopping for Psychoactive Prescription Drugs in the French General Population (MONITO)

Assessment of health complications associated with methadone use in the general population in France: incidence of hospitalizations and deaths and the role of drug-drug interactions (METHALICA)

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

SAFETY-VAC: Phenotype proposal and rates of immunocompromised populations in real-world data sources.

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

Initiation of Sodium-Glucose Cotransporter 2 inhibitors after first hospitalization for heart failure: a population-based cohort study

A Post-Authorisation Safety Study (PASS) of ABRYSVO (Respiratory Syncytial Virus Stabilised Prefusion Subunit Vaccine) in Pregnant Women and their Offspring in a Real World Setting in Europe and UK (C3671026)

A post-authorisation safety study of ABRYSVO in immunocompromised, or renally or hepatically impaired adults aged 60 years and older in a real world setting in Europe and UK (C3671038)

An Observational Study Assessing the Long-term Risk of Non-Melanoma Skin Cancer (NMSC) Among New Users of OpzeluraTM (Ruxolitinib) Cream in a Vitiligo Patient Population: Post-Authorization Safety Study (PASS)

REpositioning of Medications IN Dementia (REMIND)

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

Identify the determinants associated with antibiotic prescription in teleconsultation using the French National Health Data System (TELEPRESAGE)

French Observational study on patients’ Characteristics, Utilization and Survival outcomes in Gilteritinib-treated patients (FOCUS)

Antibiotics in primary care: impact of a Clinical Decision Support System (CDSS) in the French, Ile-de-France area – Antibioclic+

Long-term, observational cohort study of adults with plaque psoriasis (PsO), who are new users of deucravacitinib, tumour necrosis factor inhibitor (TNFi) biologics, non-TNFi biologics, or non-biologic therapies in the real-world clinical setting

Impact of SGLT2i on Rates of Heart Failure Hospitalizations in France: an Interrupted Times Series

Epidemiology of the therapeutic management of multiple myeloma in France – EmmY study - Ancillary protocol

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.

Yes

Disease details (other)

information on the long terms diseases, work-related illnesses and work accidents

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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.

Yes

Pregnancy and/or neonates

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

Yes

Hospital admission and/or discharge

Yes

ICU admission

Is information on intensive care unit admission available?

Yes

Cause of death

Captured

Cause of death vocabulary

ICD-10

Prescriptions of medicines

Captured

Prescriptions vocabulary

ATC

other

Prescriptions vocabulary, other

UCD/CIP - french terminologies. there is a CIP/UCD alignment to RxNorm

Dispensing of medicines

Captured

Dispensing vocabulary

ATC

other

Dispensing vocabulary, other

UCD/CIP - french terminologies. there is a CIP/UCD alignment to RxNorm

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)].

No

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?

Not Captured

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)?

Captured

Procedures vocabulary

Other

Procedures vocabulary, other

CCAM (french terminology)

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

Captured

Diagnosis / medical event vocabulary

ICD-10

Medicinal product information

Captured

Medicinal product information collected

Active ingredient(s)

Brand name

Dose

Package size

Route of administration

Medicinal product vocabulary

ATC

Other

If 'other,' what vocabulary is used?

UCD/CIP - french terminologies. there is a CIP/UCD alignment to RxNorm

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Quality of life measurements

Not Captured

Lifestyle factors

Not Captured

Sociodemographic information

Captured

Sociodemographic information collected

Age

Deprivation index

Gender

Other

Sociodemographic information other

affiliation to universal health coverage for persons living in precarious conditions or foreigners who are not legally entitled to reside in France

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

98%

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)

The SNDS covers almost the entire French population (98%), as the number of uninsured persons is marginal.

Family linkage

Family linkage available in the data source permanently or can be created on an ad hoc basis

Permanently

Family linkage available between the following persons

Mother-child

Population

Population size

67000000

Active population size

67000000

Population by age group

Age group	Population size	Active population size
Infants and toddlers (28 days – 23 months)	1400000	1400000
Children (2 to < 12 years)	7800000	7800000

Age group	Population size	Active population size
Adolescents (12 to < 18 years)	5100000	5100000
Adults (18 to < 46 years)	21800000	21800000
Adults (46 to < 65 years)	16500000	16500000
Adults (65 to < 75 years)	7600000	7600000
Adults (75 to < 85 years)	4500000	4500000
Adults (85 years and over)	2300000	2300000

Median observation time

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

8.00

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

8.00

Data flows and management

Access and validation

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

SNDS database contains mainly three databases for which collection and recording of the data differ.

- DCIR (primary care) : data collection by the health insurance plans of the individuals through healthcare reimbursements and gathered and added to the SNDS by the CNAM (National Health Insurance Fund)
- PMSI (hospital data) : data collection by the hospitals on the hospital stays and hospital outpatient care, gathered by the ATIH (Hospital Information Technology Agency) and added to SNDS by the CNAM
- CEPIDC (causes of death) : data collection of death certificates by the CépiDc (Epidemiology Center on the Causes of Death) and added to the SNDS by the CNAM

Event triggering registration

Event triggering registration of a person in the data source

Insurance coverage start

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

Death

Emigration

Event triggering creation of a record in the data source

Reimbursement of either, medicine, visit to a practitioner, hospital visit etc

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

DCIR & PMSI are linked together through direct deterministic linkage on a common patient ID.
CEPIDC is linked to the other sources through an indirect linkage via common variables (age, sex, place of residence, date of death, etc.) with the DCIR patient repository (IR_BEN_R) - linkage for ~80 to 90% of deaths

Linked data sources

Pre linked

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

Yes

Data source, other

CEPIDC

Linkage strategy

Probabilistic

Linkage variable

Indirect linkage with the DCIR patient repository (IR_BEN_R) via common variables (age, sex, place of residence, date of death, etc.)

Linkage completeness

Linkage for ~80 to 90% of deaths

Pre linked

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

Yes

Data source, other

DCIR

Linkage strategy

Deterministic

Linkage variable

Linkage with PMSI via common patient ID

Pre linked

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

Yes

Data source, other

PMSI

Linkage strategy

Deterministic

Linkage variable

Linkage with DCIR via common patient ID

Data management specifications that apply for the data source

Data source refresh

Monthly

Yearly

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)?

Yes

Data source preservation

Are records preserved in the data source indefinitely?

No

Data source preservation length (years)

20 years

Approval for publication

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

No

Data source last refresh

31/12/2024

Common Data Model (CDM) mapping

CDM mapping

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

Yes

CDM Mappings

CDM name

OMOP

CDM website

https://www.ohdsi.org/Data-standardization/

Data source ETL CDM version

5.3 and 5.4

Data source ETL frequency

12,00 months

Data source ETL status

Completed