

BAs e Resultados DE Navarra

First published: 01/02/2024

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Data source

Human

Other

Administrative details

Administrative details

Data source ID

1111121

Data source acronym

BARDENA

Data holder

[Servicio Navarro de Salud-Osasunbidea](#)

Data source type

Other

Data source type, other

Electronic health records

Main financial support

National, regional, or municipal public funding

Care setting

Hospital inpatient care

Hospital outpatient care

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.

Yes

Description of the qualification

EHDEN project

Data source website

https://www.navarra.es/home_es/Temas/Portal+de+la+Salud/Profesionales/

Contact details

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Main

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Data source regions and languages

Data source countries

Spain

Data source languages

Spanish

Data source establishment

Data source established

15/06/2016

Data source time span

First collection: 01/01/2012

The date when data started to be collected or extracted.

Publications

Data source publications

Jansana A, Domingo L, Ibañez B, et al (2022) Use of health services among long-term breast cancer survivors in Spain: longitudinal study based on real-world data. *J Cancer Surviv* 16:132–141.

Leache L, Gutiérrez-Valencia M, Enguita-Germán M, et al (2022) COVID-19 infection and complications according to ABO blood group in the elderly: A population-based subcohort and meta-analysis. *Vox Sang* 117:1230–1234.

Bretos-Azcona PE, Ibarrola Guillén C, Sánchez-Iriso E, et al (2022) Multisystem chronic illness prognostication in non-oncologic integrated care. *BMJ Support Palliat Care* 12:E112–E119.

Martínez-Baz I, Miqueleiz A, Casado I, et al (2021) Effectiveness of COVID-19 vaccines in preventing SARS-CoV-2 infection and hospitalisation, Navarre, Spain, January to April 2021. *Eurosurveillance* 26:1–7.

Enguita-Germán, M., Tamayo, I., Galbete, A., Librero, J., Cambra, K., & Ibáñez-Beroiz, B. (2021). Effect of Physical Activity on Cardiovascular Event Risk in a Population-Based Cohort of Patients with Type 2 Diabetes. *International Journal of Environmental Research and Public Health*, 18(23), 12370.

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

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

Not Captured

Prescriptions of medicines

Captured

Prescriptions vocabulary

ATC

RxNorm

Dispensing of medicines

Captured

Dispensing vocabulary

ATC

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?

No

Indication for use

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

Captured

Indication vocabulary

ICPC-2

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

ICD-10

ICD-9

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?

Yes

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

ICD-9

ICPC-2

SNOMED CT

Medicinal product information

Captured

Medicinal product information collected

Brand name

Dose

Package size

Medicinal product vocabulary

ATC

SNOMED

Quality of life measurements

Not Captured

Lifestyle factors

Captured

Lifestyle factors

Alcohol use

Tobacco use

Sociodemographic information

Captured

Sociodemographic information collected

Age

Country of origin

Gender

Health area

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 ($\geq$ 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

99%

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)

BARDENA integrates data from a universal public health care system (Spanish National Health System) most of the population of Navarre is included in the database. People with only private care insurance are not included (1%)

Family linkage

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

Ad hoc

Population

Population size

1733338

Active population size

658446

Population by age group

Age group	Population size	Active population size
Paediatric Population (< 18 years)	221125	118405
Term newborn infants (0 – 27 days)	350	318
Infants and toddlers (28 days – 23 months)	29662	9263
Children (2 to < 12 years)	105575	64367
Adolescents (12 to < 18 years)	85538	44457
Adults (18 to < 46 years)	563763	218495
Adults (46 to < 65 years)	455598	186658
Elderly ($\geq$ 65 years)	492852	134888
Adults (65 to < 75 years)	171318	66787
Adults (75 to < 85 years)	152056	45108
Adults (85 years and over)	169478	22993

Median observation time

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

3.50

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

8.07

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?

Yes

Description of data collection

BARDENA is supplied from different clinical and administrative data sources of the SNS-O, which together constitute BARDENA Core in a on premise infrastructure. BARDENA Core is the backbone where the different data sources are stored in the backend and then linked all together in a star schema design, SILNA (laboratory measurements)

Event triggering registration

Event triggering registration of a person in the data source

Insurance coverage start

Practice registration

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

Death

Event triggering creation of a record in the data source

It depends on the kind of record. We extract the data for the different operational programs (Electronic Health Records) transform and load it if they pass the quality filter (eg a datetime must have the right format)

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

Linked data sources

Pre linked

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

Yes

Data source, other

Atenea (Drug prescription and dispensation outside the Hospitals)

Linkage strategy

Deterministic

Linkage variable

BARDENA CORE has a STAR SCHEME between the differnts facts and dimendsion tables based on linkage keys. The main variabels use are: sK_persona (patient), sK-Farmaco (drug prescription&dispensation), sK_diagnostico (condition and procedure occurrence), sk_determinacion (Measurement), sk_caso (visit occurrence)

Linkage completeness

The completnes of linkage is about 95%

Pre linked

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

Yes

Data source, other

Atenea (Electronic Medical History general practice care)

Linkage strategy

Deterministic

Linkage variable

BARDENA CORE has a STAR SCHEME between the differnts facts and dimendsion tables based on linkage keys. The main variabels use are: sK_persona (patient), sK-Farmaco (drug prescription&dispensation), sK_diagnostico (condition and procedure occurrence), sk_determinacion (Measurement), sk_caso (visit occurrence)

Linkage completeness

The completnes of linkage is about 95%

Pre linked

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

No

Data source, other

Drug explosure, visit occurrence, death, condition occurrence, measurement

Pre linked

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

Yes

Data source, other

FarHO (Drug prescription and dispensation in the Hospital)

Linkage strategy

Deterministic

Linkage variable

BARDENA CORE has a STAR SCHEME between the differnts facts and dimendsion tables based on linkage keys. The main variabels use are: sK_persona (patient), sK-Farmaco (drug prescription&dispensation), sK_diagnostico (condition and procedure occurrence), sk_determinacion (Measurement), sk_caso (visit occurrence)

Linkage completeness

The completnes of linkage is about 95%

Pre linked

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

Yes

Data source, other

HCI (Electronic Medical History of hospital care and outpatient specialist care)

Linkage strategy

Deterministic

Linkage variable

BARDENA CORE has a STAR SCHEME between the differnts facts and dimendsion tables based on linkage keys. The main variabels use are: sK_persona (patient), sK-Farmaco (drug prescription&dispensation), sK_diagnostico (condition and procedure occurrence), sk_determinacion (Measurement), sk_caso (visit occurrence)

Linkage completeness

The completnes of linkage is about 95%

Pre linked

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

Yes

Data source, other

Lakora (socio demographic data: age, gender, pharmaceutical co-payment according to income level,..)

Linkage strategy

Deterministic

Linkage variable

BARDENA CORE has a STAR SCHEME between the differnts facts and dimendsion tables based on linkage keys. The main variabels use are:

sK_persona (patient), sK-Farmaco (drug prescription&dispensation),
sK_diagnostico (condition and procedure occurrence), sk_determinacion
(Measurement), sk_caso (visit occurrence)

Linkage completeness

The completeness of linkage is about 95%

Pre linked

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

Yes

Data source, other

Leire (administrative data, contact with Health system, visit occurrence
including mental and obstetrics among others)

Linkage strategy

Deterministic

Linkage variable

BARDENA CORE has a STAR SCHEME between the different facts and
dimension tables based on linkage keys. The main variables used are:
sK_persona (patient), sK-Farmaco (drug prescription&dispensation),
sK_diagnostico (condition and procedure occurrence), sk_determinacion
(Measurement), sk_caso (visit occurrence)

Linkage completeness

The completeness of linkage is about 95%

Pre linked

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

Yes

Data source, other

Minimum Basic Data Set (Hospital Discharge, ambulatory surgery)

Linkage strategy

Deterministic

Linkage variable

BARDENA CORE has a STAR SCHEME between the differnts facts and dimendsion tables based on linkage keys. The main variabels use are: sK_persona (patient), sK-Farmaco (drug prescription&dispensation), sK_diagnostico (condition and procedure occurrence), sk_determinacion (Measurement), sk_caso (visit occurrence)

Linkage completeness

The completnes of linkage is about 95%

Pre linked

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

Yes

Data source, other

Prokirur (surgical procedures)

Linkage strategy

Deterministic

Linkage variable

BARDENA CORE has a STAR SCHEME between the different facts and dimension tables based on linkage keys. The main variables used are: sk_persona (patient), sk-Farmaco (drug prescription&dispensation), sk_diagnostico (condition and procedure occurrence), sk_determinacion (Measurement), sk_caso (visit occurrence)

Linkage completeness

The completeness of linkage is about 95%

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)?

Yes

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?

Yes

Data source last refresh

11/04/2023

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

5.4

Data source ETL frequency

0,25 months

Data source ETL status

In progress