DARWIN EU® - Characterisation of acute renal outcomes and diabetic complications among patients with concomitant use of metformin and iodinated contrast agents

First published: 03/07/2025

Last updated: 15/07/2025





## Administrative details

| EU PAS number                  |  |
|--------------------------------|--|
| EUPAS1000000662                |  |
| Study ID                       |  |
| Study ID                       |  |
| 100000662                      |  |
| <b>DARWIN EU® study</b><br>Yes |  |
| Study countries                |  |
| Denmark                        |  |
| Finland                        |  |
| Spain                          |  |

#### Study description

Art.31 CHMP referral in 2016 on metformin and use in patients with reduced kidney function led to PI updates including introduction of a warning and interaction with concomitant use with iodinated agents for patients undergoing imaging procedures.

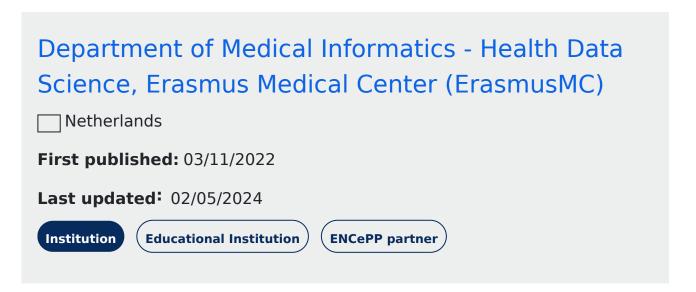
Based on the evidence reviewed in the PSUSA, it was considered premature to delete the warning and interaction in the metformin PIs, at this stage. PRAC suggested the possibility to conduct a RWD study to gather more data on this specific issue and understand better if further regulatory action would be deemed necessary

#### **Study status**

Ongoing

## Research institutions and networks

### **Institutions**



# Networks

| Data Analysis and Real World Interrogation Network |
|--|
| (DARWIN EU®)                                       |
| Belgium  |
| Croatia  |
| Denmark  |
| Estonia  |
| Finland  |
| France   |
| Germany  |
| Greece   |
| Hungary  |
| Italy  |
| ☐ Netherlands                                      |
| Norway   |
| Portugal   |
| Spain  |
| Sweden   |
| United Kingdom                                     |
| First published: 01/02/2024                        |
| Last updated: 30/04/2025                           |
| Network  |
|  |

Contact details

### **Study institution contact**

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**Study contact** 

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### **Primary lead investigator**

Wanning Wang

**Primary lead investigator** 

# Study timelines

### Date when funding contract was signed

Planned: 20/03/2025

Actual: 20/03/2025

#### Study start date

Planned: 26/06/2025

Actual: 26/06/2025

#### **Date of final study report**

Planned: 31/10/2025

## Sources of funding

EMA

# Study protocol

# Regulatory

Was the study required by a regulatory body?

Yes

Is the study required by a Risk Management Plan (RMP)?

Not applicable

# Methodological aspects

# Study type

# Study type list

### **Study topic:**

Human medicinal product

### Study type:

Non-interventional study

### Scope of the study:

Disease epidemiology

#### **Data collection methods:**

Secondary use of data

#### Study design:

Retrospective cohort studies will be conducted using routinely collected health data from 4 databases.

#### Main study objective:

- 1. To characterise patients with type 2 diabetes initiating treatment of metformin in terms of:
- a. Demographics (age, sex)
- b. Recorded comorbidities
- c. Recorded duration from first diabetes diagnosis
- d. Previous procedures with ICA, including phenotyping
- e. CKD stage (most recent in past year), including phenotyping
- 2. To characterise patients with type 2 diabetes with a first procedure requiring ICA with ongoing metformin use in terms of :
- a. Demographics (age, sex)
- b. Comorbidities
- c. Recorded duration from first diabetes diagnosis
- d. CKD stage
- e. ICA type
- f. Time from metformin initiation to first procedure requiring ICA
- 3. To quantify the occurrence of renal dysfunction and of acute diabetes decompensation among patients with type 2 diabetes with a first procedure requiring ICA during metformin use specifically:
- a. AKI, including phenotyping
- b. Lactic acidosis
- c. Diabetic ketoacidosis
- d. Change in eGFR and CKD status before and after date of first procedure requiring ICA

# Study Design

### Non-interventional study design

Cohort

# Study drug and medical condition

### Name of medicine, other

Metformin, iodinated contrast agents

## Study drug International non-proprietary name (INN) or common name

**METFORMIN** 

# Population studied

#### Short description of the study population

- 1) Cohort 1: Patients with type 2 diabetes initiating metformin.
- 2) Cohort 2: Patients with type 2 diabetes on metformin undergoing their first procedure requiring ICA.

#### Age groups

All

In utero

Paediatric Population (< 18 years)

Neonate

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)

Adult and elderly population (≥18 years)

Adults (18 to < 65 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)

## Data management

## **ENCePP Seal**

The use of the ENCePP Seal has been discontinued since February 2025.

The ENCePP Seal fields are retained in the display mode for transparency but are no longer maintained.

## Data sources

### Data source(s)

The Information System for Research in Primary Care (SIDIAP)

Hospital District of Helsinki and Uusimaa patient cohort (FinOMOP)

Danish Health Data Registries

Clinical Practice Research Datalink (CPRD) GOLD

## Use of a Common Data Model (CDM)

| CDM mapping  |
|--|
| Yes  |
| CDM Mappings                                       |
| CDM name   |
| ОМОР   |
| CDM website  |
| https://www.ohdsi.org/Data-standardization/        |
|  |
| CDM version  |
| https://ohdsi.github.io/CommonDataModel/index.html |
|  |
| Data quality specifications                        |
|  |
| Check conformance                                  |
| Unknown  |
| Check completeness                                 |
| Unknown  |
| Check stability                                    |
| Unknown  |
|  |
| Check logical consistency                          |
| Unknown  |
|  |

Data characterisation

### **Data characterisation conducted**

Unknown