DARWIN EU® - Drug utilisation study of intramuscular depot olanzapine

First published: 14/04/2026

Last updated: 16/11/2026

Study Finalised

Administrative details

EU PAS number

EUPAS1000000980

Study ID

1000000980

DARWIN EU® study

Yes

Study countries

- Croatia
- Denmark
- Germany
- Hungary
- Sweden

Study description

Since 2024, there has been a critical and prolonged shortage of intramuscular depot olanzapine preparation (brand name: Zypadhera®), with the shortage affecting all marketed strengths in the European Union (210 mg, 300 mg, and 405 mg).

Intramuscular depot olanzapine is indicated for the maintenance treatment of schizophrenia in patients stabilised on oral olanzapine, and its prolonged-release formulation results in sustained exposure that may persist for up to 6–8 months after injection. In the context of the ongoing shortage, patients previously treated with intramuscular depot olanzapine may need to discontinue treatment and switch to another antipsychotic medication. Treatment switching options could be either alternative long-acting intramuscular antipsychotics or oral antipsychotics.

However, there is a lack of real-world evidence specifically addressing switching patterns following discontinuation of intramuscular depot olanzapine preparation.

Understanding the prescribing trend and switching patterns during this prolonged shortage period is essential to inform clinical decision-making, healthcare planning, and future regulatory guidance.

Study status

Finalised

Research institutions and networks

Institutions

Department of Medical Informatics - Health Data Science, Erasmus Medical Center (ErasmusMC)

Netherlands

First published: 03/11/2022

Last updated: 02/05/2024

Institution | Educational Institution | ENCePP partner

Networks

Data Analysis and Real World Interrogation Network (DARWIN EU®)

- Belgium
- Croatia
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Italy
- Lithuania
- Netherlands
- Norway

Poland
Portugal
Spain
Sweden
United Kingdom
United States

First published: 01/02/2024

Last updated: 05/11/2026

Network

Contact details

Study institution contact

Natasha Yefimenko study@darwin-eu.org

Study contact

study@darwin-eu.org

Primary lead investigator

Amy Lam

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 20/01/2026

Actual: 20/01/2026

Study start date
Planned: 08/04/2026

Actual: 08/04/2026

Date of final study report
Planned: 30/06/2026

Actual: 04/11/2026

Sources of funding

- EMA

Study protocol

DARWIN EU_Protocol_P4-C1-026_DUS Zypadhera_V5.0.pdf (2.27 MB)

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:

Drug utilisation

Data collection methods:

Secondary use of data

Main study objective:

1. To estimate monthly incidence of intramuscular depot olanzapine use since 2018
2. To estimate the initial dose and maintenance dose of intramuscular depot olanzapine use
3. To estimate monthly prevalence of intramuscular depot olanzapine discontinuation
4. To describe treatment switching pattern among those who discontinued intramuscular depot olanzapine

Study Design

Non-interventional study design

Cohort

Study drug and medical condition

Medicinal product name

ZYPADHERA

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

OLANZAPINE

Anatomical Therapeutic Chemical (ATC) code

(N05AH03) olanzapine

olanzapine

Population studied

Short description of the study population

Inclusion criteria

• Present between 01/01/2018 to 6 months before study period ends within each data source

• Minimum 365 days of available history before index date

Exclusion criteria

• Missing information on age or sex

Objective 2 and 3: Initial dose and maintenance dose of intramuscular depot olanzapine use, and monthly prevalence of intramuscular depot olanzapine discontinuation

Inclusion criteria

• Start of intramuscular depot olanzapine treatment era between 01/01/2018 to 6 months before study period ends within each data source

Exclusion criteria

• Presence of another intramuscular depot olanzapine treatment era within the prior 365 days

Objective 4: Report switching patterns for intramuscular depot olanzapine

Inclusion criteria

• End of intramuscular depot olanzapine new user treatment era between 01/01/2018 and 31/12/2025 (or the latest available date), of which the new user treatment era starts between 01/01/2018 to 6 months before study period ends within each data source

• With at least 42 [PV1.1][DM1.2][SL1.3]days individual’s future observation period after the end of treatment era

Exclusion criteria

• Presence of another intramuscular depot olanzapine treatment era within the 365 days prior to the start of treatment era under assessment

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Age groups

- **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)

Study design details

Setting

This study will be conducted using routinely collected data from 5 data sources in the DARWIN EU® network of data partners from 5 EU member states. All data were a priori mapped to the Observational Medical Outcomes Partnership common data model (OMOP CDM).

Summary results

CONCLUSION

Observed IM depot olanzapine use was uncommon, with reduced initiation and increased discontinuation observed during 2024–2025. These changes in the trends coincided with the period of IM depot olanzapine shortage. A substantial proportion of records had no observed IM depot olanzapine use by day 120. Among individuals who remained on depot olanzapine treatment, most continued with their initial dose. Following discontinuation, initiation of AP treatment was uncommon, whereas overall AP use was more frequent when continued use was also considered, with olanzapine being the most commonly observed ingredient.

Differences in drug exposure duration and the granularity of drug records across data sources should be considered while interpreting the results in discontinuation and the subsequent treatment patterns.

Overall, the findings indicate changes in the temporal trends of IM depot olanzapine use and discontinuation coinciding with the shortage period.

Documents

Study report

DARWIN EU_Report_P4-C1-026.pdf (2.22 MB)

Shiny App

Data management

Data sources

Data source(s)

Croatia National Public Health Information System (Nacionalni javnozdravstveni informacijski sustav)

Danish Health Data Registries

IQVIA Disease Analyzer Germany

Semmelweis University Clinical Data

Health Impact - Swedish Population Evidence Enabling Data-linkage

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Data sources (types)

Electronic healthcare records (EHR)

Population registry

Use of a Common Data Model (CDM)

CDM mapping

Yes

CDM Mappings

CDM name

OMOP

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

No