Influence of safety advisories on drug utilization: an international interrupted time series study

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Study Ongoing

Administrative details

EU PAS number

EUPAS30098

Study ID

41058

DARWIN EU® study

No

Study countries

Australia

Canada

Denmark

Netherlands

Study description

While medicines have a key role in health care to ease symptoms, treat disease and prevent future ill health, many harmful effects of medicines only become known once a medicine is in widespread use. When new safety concerns emerge, national regulatory agencies issue advisories to warn professionals and the public, however, there are disparities and variations amongst national regulatory agencies in how they respond to emergent drug safety concerns. Without effective warnings and communication of medication risks, prescribers may continue to prescribe and patients may continue to use medicines in ways that lead to unnecessary harm. While regulatory warnings differ from country to country, there has been no research thus far that has compared the effectiveness of differing approaches. Using an interrupted-time series design, our study intends to examine and compare the impact of drug safety advisories on drug utilization in Australia, Canada, Denmark, the United Kingdom, and the United States. Through a selection of approximately 30 advisories from each country, we will estimate the impact of drug advisories on drug utilization in comparison to a control country without similar advisories. Additionally, we will evaluate and estimate the impact of each advisory on drug utilization relative to one or more control countries with a similar advisory. Results from this study will inform best practices in regulatory risk communication on medicines, in terms of the effects on medicine prescribing and use. This project is one component of the larger Safety Advisories Framework for Effective Risk-communication (SAFER) project, which is funded by the Canadian Institutes of Health Research (CIHR) in Canada and the National Health and Medical Research Council (NHMRC) in Australia.

Study status

Ongoing

Research institutions and networks

Institutions

University of British Columbia

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Institution

Therapeutics Initiative

Contact details

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Primary lead investigator

Colin Dormuth

Primary lead investigator

Study timelines

Date when funding contract was signed

Actual: 01/04/2017

Study start date
Actual: 15/03/2019

Date of final study report
Planned: 30/09/2021

Sources of funding

- Other

More details on funding

Canadian Institute for Health Research

Regulatory

Was the study required by a regulatory body?

No

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

Not applicable

Other study registration identification numbers and links

Canadian Institute for Health Research (Grant Award): CIHR PJT 153275

Methodological aspects

Study type

Study type list

Study type:

Non-interventional study

Scope of the study:

Drug utilisation

Main study objective:

The primary objective of the study is to evaluate the impact of drug safety advisories on drug utilization, using an interrupted time series approach to compare a country with a given advisory to a control country without a similar advisory.

Study Design

Non-interventional study design

Other

Non-interventional study design, other

Interrupted-time series

Study drug and medical condition

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

ARIPIPRAZOLE

AZITHROMYCIN

CANAGLIFLOZIN

CITALOPRAM

CLOPIDOGREL

DABIGATRAN

DAPAGLIFLOZIN

DENOSUMAB

DRONEDARONE

EMPAGLIFLOZIN

Population studied

Age groups

- 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)
- Adults (65 to < 75 years)
- Adults (75 to < 85 years)
- Adults (85 years and over)

Estimated number of subjects

93000000

Study design details

Outcomes

The primary outcome for analysis in this study will be the monthly rate of drug utilization relevant to the included advisories. The rate of drug utilization will be defined as the number of prescriptions prescribed or dispensed per 100,000

patients with prescription drug coverage in that month. 1.For advisories with specific advice on dosage level: we will measure the rate of drug utilization as the number of defined daily doses prescribed or dispensed per 100,000 patients.

Data analysis plan

For the primary analysis of each index advisory with at least one potential discordant control variable, we will evaluate the impact of the index advisory on drug utilization in comparison to a discordant control country. This will involve:a) Identification of the index advisory and potential discordant controls (with data on drug advisories and drug approval and withdrawal dates)b) Identifying the relevant periods of follow-up for each country and the rate of drug utilization for each of 36 months of follow-up.c) Selecting a discordant control for comparison from among potential discordant controlsd) Modelling drug utilization in the country with the index advisory, and separately for discordant control countrye) Estimating the absolute and relative change in drug utilization due to the advisory

Documents

Study, other information

ENCEPP_Study Drugs Information_Full List.pdf (102.56 KB)

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)

Clinical Practice Research Datalink

Data source(s), other

CPRD

Data sources (types)

Administrative healthcare records (e.g., claims)

Drug dispensing/prescription data

Electronic healthcare records (EHR)

Use of a Common Data Model (CDM)

CDM mapping

No

Data quality specifications

Check conformance

Unknown

Check completeness

Unknown

Check stability

Unknown

Check logical consistency

Unknown

Data characterisation

Data characterisation conducted

No