Estimating Oral Anticoagulant Comparative Effectiveness in the Setting of Effect Heterogeneity: Comparing Clinical Trial Transport and Observational Epidemiologic Methods

First published: 21/09/2018

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Study Ongoing

Administrative details

EU PAS number

EUPAS25659

Study ID

35097

DARWIN EU® study

No

Study countries

☐ United States

Study description

This study will estimate the effect of treating patients with atrial fibrillation with dabigatran versus warfarin on the 1- and 2-year risks of death, stroke, and major bleeding in a Medicare population using two distinct methods: 1) using traditional observational methods in claims data estimating the probability of treatment and reweighting accordingly and 2) using inverse odds of sampling weights to standardize the trial population to appear similar to the target Medicare populations with respect to baseline covariates that may modify treatment effect. These two estimates will be compared in magnitude and precision. There will also be additional analyses concerning individuals that switch to dabigatran, as well as analyses comparing weighted trial outcome to observed target population outcomes.

Study status

Ongoing

Research institutions and networks

Institutions

University of North Carolina at Chapel Hill

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Institution

Contact details

Study institution contact

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Study contact

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Primary lead investigator

Michael Webster-Clark

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 05/04/2018

Actual: 05/04/2018

Study start date

Planned: 20/09/2018

Actual: 20/09/2018

Data analysis start date

Planned: 28/09/2018

Actual: 01/09/2018

Date of interim report, if expected

Planned: 31/12/2018

Date of final study report

Planned: 30/09/2020

Sources of funding

- Other

More details on funding

Doctoral Fellowship

Study protocol

ENCePP format protocol 9.21.pdf(642.31 KB)

Regulatory

Was the study required by a regulatory body?

No

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

Not applicable

Methodological aspects

Study type

Study type list

Study type:

Non-interventional study

Scope of the study:

Drug utilisation

Main study objective:

The primary objective is estimation of the effect of dabigatran initiation versus warfarin initiation on the 1- and 2-year risk of death, stroke, and major bleeding in the Medicare population of older adults with atrial fibrillation. This will be accomplished both through methods reweighting trial populations and methods relying entirely on observational data, and the results contrasted.

Study Design

Non-interventional study design

Cohort

Study drug and medical condition

Anatomical Therapeutic Chemical (ATC) code

(B01AA03) warfarin

warfarin

(B01AE07) dabigatran etexilate

dabigatran etexilate

Medical condition to be studied

Atrial fibrillation

Population studied

Age groups

Adults (65 to < 75 years)

Adults (75 to < 85 years)

Adults (85 years and over)

Estimated number of subjects

150000

Study design details

Outcomes

Death, major bleeding, and stroke. Gastrointestinal bleeding and ischemic stroke.

Data analysis plan

In the analyses using trial weighting methods, we will use inverse odds of sampling weights to make the trial representative of the target population of Medicare beneficiaries with respect to measured covariates that may modify treatment effects. We will then use this weighted trial population to estimate risks of each outcome at 1- and 2-years of follow-up, using Aalen-Johansen methods to account for the competing risk of death. These risks and the difference between them will be bootstrapped. We will also estimate these risk differences from the observational population by estimating the probability of treatment initiation with dabigatran and then reweighting to create exchangeable populations that resemble various potential target populations. Similar Aalen-Johansen methods will be applied to estimate risks of each our outcomes at 1- and 2-years.When ending follow-up at drug discontinuation, we will explore the impact of implementing inverse probability of censoring weights.

Data management

Data sources

Data sources (types)

Administrative healthcare records (e.g., claims)

Other

Data sources (types), other

Clinical Study Data Request will be providing access to the analysis-ready dataset from the RE-LY trial of dabigatran.

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