

# Exposure to beta-blockers and survival in breast cancer patients: A cohort study using the UK General Practice Research Database.

**First published:** 25/04/2012

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Study

Ongoing

## Administrative details

### EU PAS number

EUPAS2572

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### Study ID

2573

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### DARWIN EU® study

No

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### Study countries

 United Kingdom

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### Study description

New therapeutic strategies are needed to reduce mortality in breast cancer patients. Recently, it has been proposed that cancer progression may be prevented by medicines in current use including beta-blockers (used to treat hypertension). We previously demonstrated that beta-blockers inhibit migration in breast and prostate cancer cells and in an observational study showed marked reductions in cancer-associated mortality and metastasis in breast cancer patients using beta-blockers. This study will be the largest yet to investigate beta-blockers and cancer progression in breast cancer patients. GPRD data allow detailed analysis of the timing of drug exposure and the effect on various outcome measures including mortality, cancer-specific mortality and cancer recurrence. Importantly, an analysis will use robust cancer data from UK cancer registries and robust death data (from the Office of National Statistics).

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### Study status

Ongoing

## Research institutions and networks

### Institutions

#### Queen's University Belfast

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Institution

Educational Institution

### Contact details

**Study institution contact**

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Study contact

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**Primary lead investigator**

Powe Des

Primary lead investigator

## Study timelines

**Date when funding contract was signed**

Planned: 01/12/2011

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**Study start date**

Actual: 01/03/2012

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**Date of final study report**

Planned: 28/02/2013

## Sources of funding

- Non-for-profit organisation (e.g. charity)

## More details on funding

Cancer Research UK

# Study protocol

[Protocol beta blocker for ENCEPP\\_final.pdf](#) (235.7 KB)

## Regulatory

**Was the study required by a regulatory body?**

No

## Methodological aspects

### Study type

### Study type list

**Study type:**

Non-interventional study

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**Scope of the study:**

Disease epidemiology

**Main study objective:**

The primary objectives of the proposed research are to examine whether female breast cancer patients who are exposed to beta-blockers have reduced cancer-specific mortality rates, all-cause mortality rates and recurrence rates.

## Study Design

## **Non-interventional study design**

Case-control

# Study drug and medical condition

## **Medical condition to be studied**

Breast cancer female

# Population studied

## **Age groups**

- 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)

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## **Estimated number of subjects**

46000

# Study design details

## **Outcomes**

Breast-cancer specific death, All cause mortality Breast cancer recurrence

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## **Data analysis plan**

In the primary analysis the main exposure will be beta-blocker usage determined from GP prescribing data. The main analysis will be conducted on

beta-blocker prescriptions in the period following diagnosis of cancer excluding the year prior to cancer death (or censoring). Packages and tablets of prescriptions for beta-blockers will be converted to daily defined doses (DDDs). Separate analyses will be conducted by type of beta-blockers based upon cardioselectivity and ISA activity (categorisations of beta-blockers shown in Appendix 1). A secondary analysis will be conducted on beta-blocker prescriptions in the period prior to cancer diagnosis (in patients registered for at least one year at their GP practice, to ensure prescriptions are recorded).

## 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

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### Data sources (types)

[Disease registry](#)

[Electronic healthcare records \(EHR\)](#)

[Other](#)

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### Data sources (types), other

Prescription event monitoring

## Use of a Common Data Model (CDM)

### **CDM mapping**

No

## Data quality specifications

### **Check conformance**

Unknown

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### **Check completeness**

Unknown

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### **Check stability**

Unknown

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### **Check logical consistency**

Unknown

## Data characterisation

### **Data characterisation conducted**

No