# Longitudinal Analyses of Blood Pressure and Risk of Alzheimer's disease and Vascular Dementia in 2.6 million people over 2 decades (BP and Dementia)

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# Administrative details

EU PAS number	
EUPAS23753	
Study ID	
23963	
DARWIN EU® study	
No	
Study countries	
Spain	
United Kingdom	

### Study description

Establishing modifiable risk factors of dementia risk is a global priority. The relationship of blood pressure to the risk of developing dementia is unclear. Previous research based on small studies suggests that people who have raised blood pressure in midlife may have a higher chance of developing dementia some 20 years later than people with lower blood pressure. The proposed study will use information from a large number of people in the UK to investigate the relationship between blood pressure and the future risk of developing dementia. People aged 40 years or older with a blood pressure reading between 1992 and 2009 will be selected from the CPRD primary care database. Their recorded development of dementia will be investigated, whilst accounting for differences in characteristics (e.g. age, gender, etc.). This study will provide information from a very large number of people with a sizeable amount of follow-up data which will be representative of the UK population. The findings will therefore provide important information to help clarify the relationship between blood pressure and dementia. The findings will help to inform preventative strategies for dementia.

### Study status

Planned

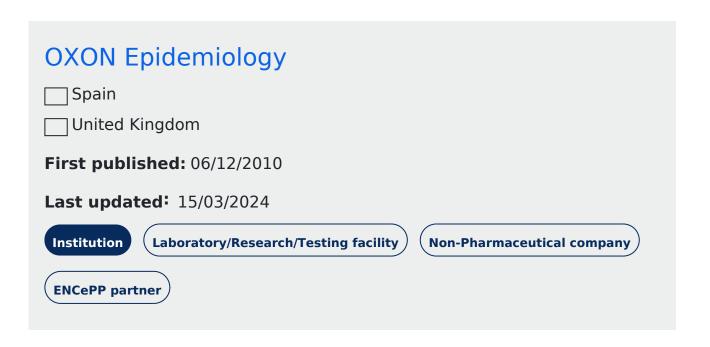
# Research institutions and networks

# Institutions

OXON Epidemiology
Spain
United Kingdom

First published: 06/12/2010
<b>Last updated:</b> 15/03/2024
Institution
ENCePP partner

# Electronic Health Records (EHR) Research Group, London School of Hygiene & Tropical Medicine (LSHTM) United Kingdom First published: 19/04/2010 Last updated: 30/10/2024 Institution Educational Institution ENCePP partner



# Contact details

### **Study institution contact**

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### **Primary lead investigator**

Nawab Qizilbash MBChB MRCP(UK) BSc MSc DPhil(Oxon.)

**Primary lead investigator** 

# Study timelines

### Date when funding contract was signed

Planned: 20/07/2016 Actual: 20/07/2016

### Study start date

Planned: 13/09/2017

### Date of final study report

Planned: 19/07/2018

# Sources of funding

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

# More details on funding

# 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:

Assessment of risk minimisation measure implementation or effectiveness Disease epidemiology

### Main study objective:

The primary objectives of the analysis is to estimate the age-specific association between systolic blood pressure (SBP) and diastolic blood pressure (DBP) and future risk of Alzheimer´disease, vascular dementia and all dementia

# Study Design

### Non-interventional study design

Cohort

# Study drug and medical condition

### Medical condition to be studied

Hypertension

Blood pressure decreased

Dementia Alzheimer's type

Vascular dementia

# Population studied

### Age groups

Adults (46 to < 65 years)

Adults (65 to < 75 years)

Adults (75 to < 85 years)

Adults (85 years and over)

# **Estimated number of subjects**

2600000

# Study design details

### **Outcomes**

Alzheimer's disease, Vascular dementia, All dementia, Stroke, All-cause death

### Data analysis plan

To relate blood pressure (BP) to risk of dementia, Poisson regression models will be used to estimate incidence rates and rate ratios. Adjustment for age (in 5-year bands), sex, and baseline date (at index). To update age at risk as people move through the age categories. Adjustment of rate ratios for additional baseline cardiovascular covariates. To fit separate Poisson regression models in each category for follow intervals and age-at-risk. Correction for regression dilution bias using serial BP measurements. To assess selective mortality bias, a simulation study to investigate the size of competing risk of mortality, with 'joint frailty' models. To confirm well-established association of BP with stroke and all mortality

# **Documents**

### Study, other information

BP vas and AD ICPE 2017 LSHTM & OXON.pdf(119.11 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 savusas (turas)
Data sources (types)
Electronic healthcare records (EHR)
Use of a Common Data Model (CDM)
Use of a Common Data Model (CDM)
CDM manning
CDM mapping
No
Data quality specifications
Data quality specifications
Check conformance
Unknown
Check completeness
Unknown
Check stability
Unknown

# **Check logical consistency**

Unknown

# Data characterisation

# **Data characterisation conducted**

No