

# Evaluating the effectiveness of a pharmacist-led IT-based intervention when widely implemented

<b>Submission date</b> 21/12/2020	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 11/03/2021	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 13/04/2023	<b>Condition category</b> Other	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

This study will evaluate the effectiveness and cost-effectiveness of a pharmacist-led IT-based intervention (PINCER) to reduce hazardous prescribing when widely implemented in general practices. The hypothesis is PINCER reduces exposure to hazardous prescribing, reduces the incidence of serious avoidable harm, and represents value for money for the NHS.

### Who can participate?

Practices in the East Midlands who implemented PINCER as part of the Health Foundation Scaling Up PINCER project, between September 2015 and April 2017.

### What does the study involve?

This study involves a single remote extraction of de-identified medical record data by PRIMIS, a health informatics service within the University of Nottingham who are specialists in the extraction of primary care data. The researchers plan to extract general practice data covering a period of up to 72 months from 28 February 2013 to 31 August 2019.

### What are the possible benefits and risks of participating?

The GP practice involvement is to facilitate a single secure remote data extraction, for this the practices will be paid £120 to cover the costs of participating in the study. Any risks of data extraction have been minimised by only extracting deidentified patient data. Additionally, PRIMIS, a health informatics service within the University of Nottingham who are specialists in the extraction of primary care data, will use the 'Away From My Desk' software to 'dial into' the practice clinical system and run the queries on the practice clinical system MIQUEST interpreter and transfer the data output to a server hosted by the University of Nottingham.

### Where is the study run from?

University of Nottingham (UK)

### When is the study starting and how long is it expected to run for?

July 2016 to April 2021

Who is funding the study?  
National Institute for Health Research (NIHR) (UK)

Who is the main contact?  
Dr Amy Taylor  
Protect@nottingham.ac.uk

**Study website**

<https://www.nottingham.ac.uk/research/groups/medicinesafetyeffectivehealthcare/protect-study/index.aspx>

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Dr Amy Taylor

**Contact details**  
University of Nottingham  
Division of Primary Care, 13th floor  
Tower Building  
University Park  
Nottingham  
United Kingdom  
NG7 2RD  
+44 (0)115 846 7845  
amelia.taylor@nottingham.ac.uk

## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**  
243026

**ClinicalTrials.gov number**

**Secondary identifying numbers**  
CPMS 43153, IRAS 243026, sponsor ref: 19057

## Study information

**Scientific Title**  
Evaluating the effectiveness, and cost-effectiveness, of a pharmacist-led IT-based intervention (PINCER) when widely implemented in general practices to reduce the prevalence of patient exposure to hazardous prescribing, and the incidence of serious harm

**Acronym**

PRoTeCT

**Study objectives**

The PINCER intervention will reduce exposure to hazardous prescribing, reduce the incidence of serious harm, and represent value for money to the NHS.

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Approved 02/12/2019, East Midlands - Leicester Central Research Ethics Committee (The Old Chapel, Royal Standard Place, Nottingham, NG1 6FS, UK; +44 (0)207 104 8070, +44 (0)207 104 8107, +44 (0)207 104 8388; leicestercentral.rec@hra.nhs.uk, nrescommittee.eastmidlands-leicestercentral@nhs.net), REC ref: 19/EM/0283

**Study design**

Observational; Design type: Cohort study

**Primary study design**

Observational

**Secondary study design**

Cohort study

**Study setting(s)**

GP practice

**Study type(s)**

Treatment

**Participant information sheet**

Not available in web format, please use the contact details below to request a participant information sheet

**Health condition(s) or problem(s) studied**

Hazardous prescribing

**Interventions**

This is a multi-centre, primary care observational study utilising routinely recorded primary care data linked to other national datasets.

Up to 350 general practices known to the study team as previously participating in the Health Foundation Scaling Up PINCER project will be contacted by email and/or by post directly by a member of the research team. Practices will be provided with a covering email/letter about the study, a practice information sheet, organisation information document and a Remote Access Agreement, supplied by PRIMIS. Up to three follow-up telephone calls and/or emails will be sent.

Practices wishing to take part will complete the organisation information document and return the completed form to the research team.

The research team will confirm with PRIMIS that the practice has agreed to participate and will provide a copy of the organisation information document. The study team (or PRIMIS) will

contact the practice to conduct the remote data extraction as per their data extraction protocol. This process includes digitally signing the Remote Access Agreement for the extraction. De-identified routinely recorded data will be collected from general practice clinical systems (TPP SystemOne and EMIS) by Primary Care Information Systems (PRIMIS) using Morbidity Information and Query Export Syntax (MIQUEST) software. The data searches have been designed to ensure that 1) no patient-identifiable data are extracted, and 2) no data are extracted on patients with a computer code in their clinical records indicating that they do not wish for their medical records to be used for research or secondary purposes. The de-identified data will be transferred by Secure File Transfer Protocol to secure computer servers at the University of Nottingham. Named staff in the PRIMIS team will undertake initial processing of the data. It will then be further processed by named staff within the Advanced Data Analysis Centre (ADAC) at the University of Nottingham so that it is in a format suitable for statistical analysis. The de-identified datasets, held on secure servers at the University of Nottingham, will then be made available to named members of the research teams at the University of Nottingham and University of Manchester for statistical analysis. If any data are transferred to the University of Manchester, they will be transferred securely and will continue to be stored on secure local University servers. The Universities will not hold any personal identifiable data of patients at any time, but will hold contact details for participating general practices.

## **Intervention Type**

Other

## **Primary outcome measure**

The number and proportion of patients in each general practice exposed to at least one type of hazardous prescribing; the deidentified data for all outcome measures will be extracted from routinely recorded primary care data for a maximum of 27 audit dates over a 78-month period (28/02/2013 to 31/08/2019) and analysed quarterly.

## **Secondary outcome measures**

The number and proportion of patients within each general practice:

1. With 11 specific types of hazardous prescribing
2. With serious harm (composite measure), and the following types of serious harm (associated with particular types of hazardous prescribing):
  - 2.1. Gastrointestinal bleeding
  - 2.2. Exacerbation of asthma
  - 2.3. Heart failure
  - 2.4. Stroke
  - 2.5. Acute kidney injury
3. With a hospital admission
4. With death
5. Exposed to specific types of hazardous prescribing

The deidentified data for all outcome measures will be extracted from routinely recorded primary care data extracted for a maximum of 27 audit dates over a 78-month period (28/02/2013 to 31/08/2019) and analysed quarterly.

## **Overall study start date**

27/07/2016

## **Completion date**

30/04/2021

# Eligibility

## Key inclusion criteria

Inclusion criteria for general practices:

1. Agree to take part and sign the organisation information document
2. Practices within the East Midlands who have taken part in the Health Foundation Scaling Up PINCER project

Inclusion criteria for patients:

1. All patients in the general practices taking part in the study

## Participant type(s)

Patient

## Age group

Adult

## Sex

Both

## Target number of participants

Planned Sample Size: 350; UK Sample Size: 350

## Total final enrolment

115

## Key exclusion criteria

Exclusion criteria for general practices:

1. Practices who have not taken part in the Health Foundation Scaling Up PINCER project

Exclusion criteria for patients:

2. Patients with a computer code in their clinical records indicating that they do not wish for their medical records to be used for research or secondary purposes

## Date of first enrolment

08/09/2020

## Date of final enrolment

18/03/2021

# Locations

## Countries of recruitment

United Kingdom

## Study participating centre

Invitation only to 331 practices across East Midlands – Nottinghamshire, Leicestershire and Derbyshire. Practices identified for invite were originally one of c350 practices in the East

Midlands that participated in the Health Foundation Scaling Up PINCER project, a pharmacist-led IT-based intervention to reduce hazardous prescribing.

United Kingdom

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## Sponsor information

### Organisation

University of Nottingham

### Sponsor details

c/o Mrs Angela Shone

Research and Innovation

East Atrium

Jubilee Conference Centre

Jubilee Campus

Triumph Road

Nottingham

England

United Kingdom

NG7 2TU

+44 (0)1159515679

sponsor@nottingham.ac.uk

### Sponsor type

University/education

### Website

<http://www.nottingham.ac.uk/>

### ROR

<https://ror.org/01ee9ar58>

## Funder(s)

### Funder type

Government

### Funder Name

NIHR Central Commissioning Facility (CCF); Grant Codes: RP-PG-1214-20012

## Results and Publications

## Publication and dissemination plan

1. Protocol is available on request from [protect@nottingham.ac.uk](mailto:protect@nottingham.ac.uk)
2. Planned publication in a high-impact peer-reviewed journal from March 2023

## Intention to publish date

01/03/2024

## Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are not expected to be made available due to confidentiality for the GP practices involved. They are stored at the secure data storage facility at the University of Nottingham. Only data with anonymised patient IDs will be stored.

## IPD sharing plan summary

Not expected to be made available

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">HRA research summary</a>			28/06/2023	No	No