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How effective is a computer tool for predicting patients' risk of emergency admission to hospital?

Submission date
18/04/2013

Recruitment status
No longer recruiting

Registration date
30/05/2013

Overall study status
Completed

Last Edited
17/12/2020

Condition category
Other

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
The population has increasing numbers of older people and people who have one or more long-term conditions. This places greater demands on health and social care services. It is recognised that patients with long term conditions are not always managed and treated effectively. Too many are admitted to hospital as emergencies. Also, community services are not always available or don't work well together. To help improve services, general practitioners (GPs) in Wales are starting to use a scoring system (called Prism) to predict people's risk of having an emergency hospital admission in the coming year. The system will provide GPs with risk scores for all patients in their practice, with scores ranging from 1 to 100 (very low to very high risk). It is not known how a scoring system which predicts people's risk of needing emergency treatment will be used in Wales and if it will help patient care. This study aims to find out whether GPs and other health professionals use it and how it affects the way people are cared for. The study has a number of different parts, including discussion groups with health professionals and collecting information about the cost of using the system.

Who can participate?
A random selection of patients from GP patient lists from those practices who have agreed to participate in the study. Any patient who is between the ages of 18 and 100 is eligible to take part. Patients with long-term conditions and those without any diagnosis are being included, so information can be gathered about different experiences. Users of Prism (GPs, practice managers etc), policy makers and commissioners are also invited to take part in interviews or focus groups.

What does the study involve?
The intervention being tested is made up of: Prism software; training for participating practices; clinical support for participating practices provided by two locally appointed 'GP champions', a telephone 'help desk' during working hours; and a user-friendly handbook of guidance on using Prism including links to available Community Resource Teams which work at locality level to provide multi-disciplinary health and social care support for managing patients. Practices that are recruited begin as 'controls', delivering usual care without Prism. Practices receive Prism and

training randomly; after which they are able to use Prism with clinical and technical support. The costs, processes of care, patient satisfaction and patient outcomes measured at the beginning of the study and after 6 and 18 months using routinely collected data health and postal questionnaires. To determine how well Prism works, predicted and actual emergency admissions are compared. Qualitative focus groups and interviews are undertaken to understand how Prism is perceived and adopted by practitioners and policy makers.

What are the possible benefits and risks of participating?
This information gained from this study may help improve the way scoring systems are used in the future to benefit patients. The way participants receive their care should not change as a result of being part of the study. The GP surgery may manage patients differently and may select certain patients for referral to specialist services, such as smoking cessation programmes. It is not known at this stage if the Prism system will help to manage patients better and will only know this when the study is complete.

Where is the study run from?
The research is being undertaken by a team from the College of Medicine, Swansea University. The main part of the study will be carried out within the Abertawe Bro Morgannwg NHS Health Board area (Swansea, Bridgend, Neath Port Talbot). In addition professionals will also be interviewed throughout Wales and from outside Abertawe Bro Morgannwg who will not be using Prism, but may have views about it.

When is the study starting and how long is it expected to run for?
Discussion groups with general practitioners and other professionals began in October 2012, with the first recruitment of patients beginning May 2013. Recruitment continued until February 2014. The study ended in March 2016.

Who is funding the study?
Health Services and Delivery Research Programme (UK)

Who is the main contact?
Mark Rhys-Kingston
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Study website
http://www.trustresearch.org.uk/prismatic

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
Version 6

Study information

Scientific Title
Predictive RIsk Stratification Model: A progressive cluster randomised Trial In Chronic conditions management (PRISMATIC)

Acronym
PRISMATIC

Study objectives
Predictive risk stratification tool with support improves the management of patients attending general practice and reduces emergency admissions.

Ethics approval required
Old ethics approval format

Ethics approval(s)

1. Research Ethics Committee for Wales, approval 11/10/2010, 31/08/2011 (amendment), 26/07/2012 (amendment), 15/01/2013 (amendment), ref: 10/MRE09/25
2. Full R&D approvals received, RMG ref no: 20101214/001

Study design
Mixed methods progressive cluster randomised trial

Primary study design
Interventional

Secondary study design
Cluster randomised trial

Study setting(s)
GP practice

Study type(s)
Diagnostic

Participant information sheet
Patient information can be found at http://www.trustresearch.org.uk/en/PRISMATIC_Patient.htm

Health condition(s) or problem(s) studied
All patients from participating GP practices

Interventions
Practices that are recruited will begin as 'controls', delivering usual care without Prism. Practices will receive Prism and training randomly; after which they will be able to use Prism with clinical and technical support.

The intervention being tested is made up of: Prism software; training for participating practices; clinical support for participating practices provided by two locally appointed 'GP champions', a telephone 'help desk' during working hours; and a user-friendly handbook of guidance on using Prism including links to available Community Resource Teams which work at locality level to provide multi-disciplinary health and social care support for managing patients.

Intervention Type
Other

Phase
Not Applicable

Primary outcome measure
Number of emergency admissions per patient and time to first admission

Secondary outcome measures
1. Primary care service use - GP practice events/event days
2. Accident and emergency attendances
3. Community care service use
4. Secondary care inpatient and outpatient episodes (including length of stays)

5. NHS implementation costs
6. Number of Prism users
7. Pattern (including frequency) of Prism use
8. Patient satisfaction
9. Predicted emergency admissions
10. Health related quality of life (SF-12)
11. Within the intervention group and at other sites:
11.1. Technical performance of the Prism tool predicted compared to actual emergency admissions
11.2. Practitioner, commissioner and policy maker views about Prism implementation, adoption and effects

Overall study start date
01/09/2010

Completion date
18/03/2016

Eligibility

Key inclusion criteria
Patients: All patients from participating general practices between the ages of 18 and 100 years.
Professionals: Prism users (GPs, practice managers) from participating practices, NHS policy makers, NHS commissioners.

Participant type(s)
Mixed

Age group
Adult

Lower age limit
18 Years

Upper age limit
100 Years

Sex
Both

Target number of participants
Patients: 2400; Professionals: up to 70

Key exclusion criteria
Patients:
1. Patients from participating practices less than 18 or more than 100 years of age.
2. Patients screened out by GPs as not to received questionnaires (e.g.patients that lack capacity, those who do not have support to help them complete the questionnaire and patients who may be caused distress by completing the questionnaire).

Professionals: Outside study area.

Date of first enrolment
30/05/2013

Date of final enrolment
25/02/2014

Locations

Countries of recruitment
United Kingdom

Wales

Study participating centre
Swansea University
Swansea
United Kingdom
SA2 8PP

Sponsor information

Organisation
Swansea University (UK)

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Sponsor type
University/education

Website
http://www.swansea.ac.uk/business-and-industry/r-and-i/

ROR
https://ror.org/053fq8t95

Funder(s)

Funder type
Government

Funder Name
Health Services and Delivery Research Programme (Project number: 09/1801/1054)

Alternative Name(s)
Health Services and Delivery Research (HS&DR) Programme, NIHR Health Services and Delivery Research (HS&DR) Programme, NIHR Health Services and Delivery Research Programme, HS&DR Programme, HS&DR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Publication and dissemination plan
An NIHR HS&DR full report is planned for publication in autumn/winter 2017. The trialists plan to publish a clinical effectiveness paper in a high-impact peer reviewed journal at the same time. They also plan a journal publication of qualitative results, and a methodology paper on the use of routine and patient reported data – both winter 2017/2018.

Intention to publish date
01/09/2017

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be stored in the SAIL repository at Swansea University. Access to data is subject to approval from an independent Information Governance Review Panel (IGRP). Please contact C.L.Mcnerney@swansea.ac.uk.

IPD sharing plan summary
Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article	protocol	18/09/2013		Yes	No

Results article	results	06/01/2016	Yes	No
Results article	results	01/03/2016	Yes	No
Results article	results	01/01/2018	Yes	No
Results article	main results	01/09/2019	Yes	No