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An evaluation of the Junior Doctors' Dashboard

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Registration date 05/09/2012	**Overall study status** Completed	
Last Edited 26/06/2013	**Condition category** Other	

Plain English summary of protocol

Background and study aims:
Research has shown how preventable medication errors have contributed to deaths within the healthcare system. Computerised systems have been proposed and developed to help reduce these errors these can be called clinical decision support systems. Even though electronic prescribing and clinical decision support systems are widely used in England now there is still a need to monitor the use of these systems to aid successful implementation and adoption. Performance measurement and feedback are key elements in identifying problems and helping individuals improve their performance. Providing feedback to junior doctors can offer insight into their clinical practice and prescribing behaviours, giving them the opportunity to learn from potential near misses that are indicated by warnings and alerts generated by a clinical decision support system. Making doctors aware of how they compare with safe levels of prescribing competence can be the catalyst needed to modify their behaviour.

This study will recruit junior doctors within the University Hospitals Birmingham NHS Foundation Trust who use the Prescribing, Information and Communication System on the wards in the trust. The doctors will be randomly allocated to the experiment or control group. The intervention is the Junior Doctors' Dashboard (JDD); a web enabled application that displays graphical information in the form of dials portraying a doctor's prescribing activity for the past 4 months. The dials show whether doctors ignore or acknowledge the warnings, alarms and alerts generated by the system when they prescribe or when they receive laboratory results. These could be warnings for entering excessive doses or for potentially serious drug interactions, alarms and alerts for laboratory results displayed on the system.

The main study aims are to determine:
1. If personalised electronic feedback can change the way junior doctors use the electronic Prescribing Information and Communication System.
2. If the JDD can improve professional performance and enhance patient safety practice.
3. The views of junior doctors to feedback given via a clinical dashboard (JDD) and automated email alerts.
4. What importance junior doctors place on alerts and warnings generated by such systems in healthcare and specifically within their work setting.
5. The characteristics/components of the feedback that influenced the junior doctors behaviour.

Who can participate?
Doctors working in the University Hospitals Birmingham NHS Foundation Trust below specialist trainee level 3 (within about four years of graduation and equivalent to junior residents) who have used PICS for four months before the trial, and who would be using the system during the trial period.

What does the study involve?
The eligible doctors will be randomly allocated to the intervention or control group. In addition to having access to the JDD, the intervention group will also receive weekly emails on their prescribing performance. These emails will have a link to the JDD and it is envisaged that accessing the JDD will take 3-4 minutes, once a week.
The control group will not receive this specific feedback and will not have access to the JDD. A random sample of participants from both groups will be invited to take part in a one-to-one interview, with others invited to take part in focus group interviews.

What are the possible benefits and risks of participating?
This research may provide some individual benefits in the longer term including improving the prescribing skills of junior doctors. Additional benefits include the potential reduction of prescription errors, improved professional performance and increased patient safety practice. There are no risks to participants identified for this study, although the time involved in participating in the interview could be a burden to some participants.

Where is the study run from?
Queen Elizabeth Hospital Birmingham, part of the University Hospitals Birmingham NHS Foundation Trust

When is study starting and how long is it expected to run for?
The study ran for 6 months from 1st April to the 30th October 2011.

Who is funding the study?
The National Institute for Health Research through its Collaborations for Leadership in Applied Health Research and Care (CLAHRC) for Birmingham & Black Country.

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
11/EM/0007

Study information

Scientific Title
Effects of computerised feedback intervention on performance: An evaluation of the JDD (Junior Doctors' Dashboard

Study objectives
Junior doctors will change their prescribing habits when the dashboard shows that they are performing poorly compared to their cohort.

Ethics approval required
Old ethics approval format

Ethics approval(s)
East Midlands - Nottingham Research Ethics Committee, 21 February 2011 ref: 11/EM/0007

Primary study design
Interventional

Study design
A single-site parallel group randomised controlled trial with individual and focus group interviews to evaluate the impact of a web-based feedback tool on the prescribing behaviour of junior doctors.

Study type(s)
Quality of life

Health condition(s) or problem(s) studied
This study evaluates the impact of a feedback tool which measures performance and evaluates the effect to prescribing behaviour when performance is fedback to junior doctors prescribing using the Prescribing Information and Communication System in a university teaching hospital.

Interventions
The intervention for the experiment group is access to the Junior Doctors Dashboard (JDD). The JDD is an automated computerised performance feedback tool with 8 dials. Six dials show prescription warning information and 2 dials show laboratory alerting and acceptance rates. For 4 months from the beginning of April 2011, we sent each participant in the intervention group weekly e-mails with a link to his or her unique individual dashboard. Each individual dashboard compared the doctor's performance with the rest of the intervention group.

Intervention Type

Other

Phase
Not Applicable

Primary outcome(s)
1. A difference in responses (on the dials identified in the primary outcome)to warnings, alarms and alerts between the months before and the months after the intervention
2. A difference in performance between participants receiving feedback and the control group
3. Differences between the following dials:
3.1. Disallow warnings for excessive dosing
3.2. Password warnings for excessive dosing and interactions
3.3. Laboratory alarms and alerts.

Key secondary outcome(s)
The differences between the following dials:
1. Disallow warnings for contraindications
2. Allergies and interactions / password warnings for contraindications and allergies

Completion date
31/10/2011

Eligibility

Key inclusion criteria
Any doctor within the Trust who is below ST3 level (i.e. below specialty / specialist registrar level) and not within the exclusion criteria who had used PICS for four months preceding the trial, and who
would be using the system during the trial period.

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
1. Doctors who are not actively using the PICS system (those who have issued fewer than 10 prescriptions in the baseline period).
2. Doctors who had only recently joined the hospital and for whom no baseline data were available.

Date of first enrolment
01/04/2011

Date of final enrolment
31/10/2011

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Clinical and Experimental Medicine
Birmingham
United Kingdom
B15 2TT

Sponsor information

Organisation
University Hospitals Birmingham NHS Foundation Trust (UK)

ROR
https://ror.org/014ja3n03

Funder(s)

Funder type
Government

Funder Name
National Institute for Health Research - Birmingham and Black Country CLAHRC (UK)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	04/06/2013		Yes	No