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Study to test the content of the most effective SMS reminder message to reduce missed appointments in hospital outpatient clinics

Submission date
21/03/2014

Recruitment status
No longer recruiting

Registration date
03/04/2014

Overall study status
Completed

Last Edited
06/02/2017

Condition category
Other

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

Plain English summary of protocol

Background and study aims
Over 6 million hospital appointments are missed each year in the NHS, about 8.5% of the total number. Non-attendance results in wasted money and wasted doctors and nurses time, administrative problems and poor patient care. In 2008 it was estimated that missed outpatient appointments cost the NHS around £600 million a year. The aim of this study is to apply learning from a relatively new area of science, called behavioural economics, to see if the NHS can reduce the number of missed appointments. This can potentially save the NHS a lot of money and improve patient care. The research team thinks it can reduce missed appointments without spending any more money, simply by improving the text message reminders that hospitals often send to patients before their appointments. The study will compare four different text messages (current one and three new ones).

Who can participate
10,000 patients at clinics at Barts Hospital in London, who have agreed to receive text message reminders about their appointment.

What does the study involve?
The research team only sends text messages to patients who have already agreed with the hospital that the hospital can send them text message reminders. The research team does not access any part of a patients personal identifiable information, nor their clinical records. Participants are randomly allocated one of four groups corresponding to four different messages:
1. Appt at <clinic> on <date> at <time>. To cancel or rearrange call the number on your appointment letter. (this is the current text message used at Barts Hospital).
2. Appt at <clinic> on <date> at <time>. To cancel or rearrange call 0207389471.
3. We are expecting you at <clinic> on <date> at <time>. Nine out of ten people attend. Please call 0207389471 if you need to cancel or rearrange.
4. We are expecting you at <clinic> on <date> at <time>. Not attending costs NHS £160 on average, so call 0207389471 if you need to cancel or rearrange.

What are the possible benefits and risks of participating?
The benefits of participating are that patients are more likely to attend a medical appointment that they, and their doctor, have agreed they should attend. This also reduces waste in the NHS. Interim results from the first part of the research suggest that all of the new messages being tested are better than the current message used. The research team thinks there are minimal risks to patients; this has no impact on patient care, does not compel patients, nor seek to persuade them to do anything. Access to treatment and to the work of doctors and nurses is unaffected. The research team does not access a patients personally identifiable information; the research team only looks at the aggregated data.

Where is the study run from?
Bart's Hospital (UK)

When is the study starting and how long is it expected to run for?
November 2013 to May 2014

Who is funding the study?
Imperial College London and the Department of Health (UK).

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title
Study to test the content of the most effective SMS reminder message to reduce missed appointments in hospital outpatient clinics: a between groups randomised controlled trial

Study objectives
This study is to test the content of the most effective SMS reminder message to reduce missed appointments in outpatient clinics.

A systematic review of telephone and SMS reminders found that they significantly improved attendance. A Cochrane Review on the topic found relatively little robust evidence so far, but that which does exist indicates that SMS reminders offer a flexible, effective, cost-effective means of increasing appointment attendance.

While many NHS organisations already use SMS reminders, we believe they can be made more effective by improving the messages they contain. However, there is currently no evidence for which text messages are most effective

We are collaborating with Barts Hospital to test different text message invites and reminders to reduce missed appointments.

These messages draw on the latest evidence fro the behavioural sciences of how message content can influence behaviour. For example, messages drawing on social norms, salient costs and benefits, and simplicity. We believe this is an opportunity for Barts Hospital and other hospitals to improve outcomes at little or no additional cost.

Ethics approval required
Old ethics approval format

Ethics approval(s)
NHS Research Ethics Committee, 28/06/2013, ref: 13/NW/0508

Study design
Between groups randomised controlled trial

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
N/A

Interventions
The study involves 10,000 patients at clinics at Barts Hospital who have agreed to receive text message reminders about their appointment. Patients are allocated to receive one of four different messages at random (randomised using the Mersenne twister method). The messages are as follows:

Control: Appt at <clinic> on <date> at <time>. To cancel or rearrange call the number on your appointment letter.

We propose to retain this current SMS message as a control while introducing the following variants

Trial arm A: Appt at <clinic> on <date> at <time>. To cancel or rearrange call 0207389471.

Reducing even apparently minor barriers to carrying out a behaviour can significantly increase the incidence of that behaviour. For example, a seminal study from the field of social psychology found that vaccination uptake was low even after education had been provided and broad intentions formed. However, uptake increased from 3% to 28% by simply providing a map and asking participants to think about an appointment time: these small 'channel factors' made a large difference (Leventhal, Singer, and Jones, 1965).

Similarly, it is likely that the process of having to locate the appointment letter reduces the effectiveness of the control message. We have been advised that it is possible to include the specific telephone number, and we would like to test the impact of doing so:

Trial arm B: We are expecting you at <clinic> on <date> at <time>. Nine out of ten people attend. Please call 0207389471 if you need to cancel or rearrange.

There is much evidence that even short messages based on social norms saying what other people do in the same situation - can have a significant effect on compliance (e.g. Hallsworth et al., 2013). Given that only around 10% of patients do not attend, there is a clear opportunity to leverage social norms:

Trial arm C: We are expecting you at <clinic> on <date> at <time>. Not attending costs NHS £160 on average, so call 0207389471 if you need to cancel or rearrange.

Given that people are exposed to a great amount of information every day, a message must be framed in a salient way to have the best chance of being effective (Dolan et al., 2010). The costs of missing an appointment are likely to be unknown to the patient. Alternatively, he/she may have some awareness of the 'opportunity cost' incurred by a missed appointment, but this is likely to be of very low salience (Frederick et al., 2009). Therefore, stating these costs in a salient way is likely to improve the effectiveness of the message. Costs vary, but we have established £160 as the average cost for the clinics we propose to work with at Barts.

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)
Number of patients who attend their outpatient appointment

Key secondary outcome(s))
N/A

Completion date
30/04/2014

Eligibility

Key inclusion criteria

All patients over the age of 18 at five clinics at Barts Hospital who have already provided their mobile phone number to Barts Hospital, for the duration of the trial

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
All other patients

Date of first enrolment
01/12/2013

Date of final enrolment
30/04/2014

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Department of Health
London
United Kingdom
SW1A 2NS

Sponsor information

Organisation
Department of Health (UK)

ROR
https://ror.org/03sbpja79

Funder(s)

Funder type
Government

Funder Name
Department of Health (UK)

Funder Name
Imperial College London (UK)

Alternative Name(s)
Imperial College of Science, Technology and Medicine, Imperial College London, UK, Imperial College London, London, England, Imperial College London in United Kingdom, imperialcollege, ICL

Funding Body Type
Government organisation

Funding Body Subtype
Universities (academic only)

Location
United Kingdom

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	14/09/2015		Yes	No
HRA research summary			28/06/2023	No	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes