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Impact of pre-alerts on patients, ambulance service and emergency department staff

Submission date
01/03/2022

Recruitment status
No longer recruiting

Registration date
05/04/2022

Overall study status
Completed

Last Edited
27/01/2025

Condition category
Other

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

Plain English summary of protocol

Background and study aims
When a patient is seriously ill, ambulance staff may call the Emergency Department (ED) to let them know the patient is on their way. This is known as a 'pre-alert' and can help the ED to free up a trolley space or bed and get specialist staff ready to treat the patient as soon as they arrive. If used correctly, pre-alerts can help to provide better care, earlier access to time-critical treatment and improved outcomes for patients. However, if used too often, or for the wrong patients, then the ED staff may not be able to respond properly and may stop taking them seriously. This has important risks for patient safety. The aim of this study is to find out how pre-alerts are being used and how this can be improved.

Who can participate?
Ambulance clinicians, Emergency Department (ED) staff, including senior clinicians, ED co-ordinators and other roles that are identified as being key to understanding pre-alerts, patients and their carers who were pre-alerted on their journey to hospital

What does the study involve?
The researchers will look at existing ambulance service policies and data from three Ambulance Services to understand how pre-alerts are currently being done, and what may be causing variation. They will talk to ambulance staff to understand how they decide to make pre-alert calls and what information they give to ED staff. They will also use a national online survey of ambulance staff to identify areas where improved guidance is needed. They will talk to ED staff and watch them taking pre-alert calls. This will help them to understand how they use the pre-alert information to change what they do, and to understand what makes a useful pre-alert. The researchers will talk to patients and carers to find out what they feel about pre-alerts. They will discuss their findings in a national workshop of key people to identify how pre-alerts can be improved and produce short, written guidance to help ED and ambulance staff understand how to manage pre-alerts in future.

What are the possible benefits and risks of participating?
The overall benefit of the study will be an improved understanding of pre-alerts and identification of where further national guidance is required. Further benefits for participating centres include:

1. Raising the profile of pre-alerts management within participating centres and sharing understanding of potential benefits and unintended consequences of pre-alerts
2. Participating centres will receive a summary of findings relating to their department, which they may find helpful in reviewing pre-alert practices.
3. There will be opportunity for representatives from participating trusts to be involved in a national multi-stakeholder feedback workshop.
4. Participating centres will contribute to the development of good pre-alert practice recommendations and guidance and opportunities for staff to take part in important research.

Where is the study run from?
University of Sheffield (UK)

When is the study starting and how long is it expected to run for?
April 2021 to September 2023

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

Who is the main contact?
Fiona Sampson
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Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Integrated Research Application System (IRAS)
298888

Central Portfolio Management System (CPMS)
49986

Study information

Scientific Title
Exploring the use of pre-hospital pre-alerts and their impact on patients, ambulance service and emergency department staff

Study objectives
This study aims to understand how pre-alert decisions are made and implemented by pre-hospital staff, and the impact of these on receiving EDs and patients, in order to identify principles of good practice, areas of uncertainty and areas for improvement.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 28/07/2021, North East- Newcastle and North Tyneside 2 Research Ethics Committee (NHS BT Blood Donor Centre, Holland Drive, Newcastle upon Tyne, Tyne and Wear, NE2 4NQ, UK; +44 (0)207 1048091; newcastlenorthtyneside2.rec@hra.nhs.uk), REC ref: 21/NE/0132

Primary study design
Observational

Study design
Observational; Design type: Qualitative

Study type(s)
Other

Health condition(s) or problem(s) studied
Trauma and emergency care

Interventions
The purpose of this study is to understand the impact of pre-hospital pre-alerts on patients, ambulance and Emergency Department staff and to identify principles of good practice, areas of uncertainty and areas for improvement. To answer this question the researchers have designed an observational mixed methods study with five inter-related work packages. WP1 is a review of published guidance and analysis of fully anonymised data that was collected during the course of routine care with no intention for it to be used for research purposes at the time of the collection. WP5 is a national feedback workshop of ED and ambulance staff, national stakeholders and PPI.

WP 1: The researchers will map current existing policies and guidance from ambulance services to identify areas where guidance is unclear or inconsistent. They will analyse 12 months' (July 2020-June 2021) ambulance routine data from three ambulance services (Yorkshire Ambulance Service (YAS), East Midlands Ambulance Service (EMAS) and West Midlands Ambulance Service (WMAS)) to understand how pre-alerts are currently being used and to identify any factors that may explain variation in pre-alert use. Each participating ambulance service will provide a linked routine dataset of all conveyances within the 12 month sampling time frame, consisting of electronic patient report form (ePRF) information from the clinical assessment, sequence of event log data and shift information from the Global Rostering system. Data will be linked using

the Computer-aided Dispatch (CAD) ID, which is a unique incident identifier. The dataset will be produced by a research paramedic from Yorkshire Ambulance Service and will be sent to the research team at the University of Sheffield using anonymised clinician identifiers. All data will be anonymised and we will not have access to any personal identifiable data. This workpackage will take place between September 2021 and April 2022. The researchers anticipate that initial results that will be used to feed into WP2 will be available by December 2021.

WP2: The researchers will explore how ambulance clinicians undertake pre-alerts by undertaking semi-structured interviews with up to 36 (10-12 per ambulance service) ambulance clinicians within the three ambulance services (YAS, EMAS & WMAS) followed by an online national survey of ambulance clinicians. This will help them to understand how pre-alerts are made, factors affecting decision-making and how they are communicated to ED, and clinician experience of undertaking pre-alerts. For the interviews, the researchers will identify between 7-9 ambulance clinicians from each of the ambulance surveys within this work package, and a further 3-5 ambulance clinicians within WP3 (detailed below). For this work package, they will identify ambulance clinicians from the information provided within WP1 and identify a purposive sample of clinicians, sampling for high/low pre-alert use, experience, age and gender. The research paramedic will use the log of clinician identifiers to identify which ambulance clinicians to send invitations to and invitations will be sent to the research leads at each of the ambulance services, asking participants to contact the research team at the University of Sheffield directly if they are willing to take part in a research interview. Consent will be undertaken either by returning an electronic or hard copy of the consent form, or over the telephone prior to the interview taking place. The consent process and interview are expected to take up to one hour. The researchers will send each participant a £20 Love2shop e-voucher via email. There will be no further contact with the participant unless they would like to receive a copy of the results of the study at the end.

For the online Qualtrix (TM) survey the researchers will invite all ambulance clinicians via clinical research teams at all 10 Regional Ambulance Services. They will approach the research lead in each of the Trusts to advertise the online survey link via internal staff communication channels including newsletters, email, social media and posters including a QR code for direct access to the online survey. They will also provide a printed version of the questionnaire that will be made available within ambulance stations as an alternative format to encourage completion by people who are less confident with technology and maximise the diversity of respondents. Ambulance clinicians will be able to enter a prize draw for £50 Love2Shop vouchers (one per Ambulance Service).

WP3: The researchers will explore the impact of pre-alerts on the ED by undertaking observation of pre-alert calls and the ED response within six EDs, and use semi-structured interviews with ED staff to understand the impact of these calls on ED staff. They will select six EDs (one Major Trauma Centre and one non-Major Trauma Centre within each of the three ambulance service regions [YAS, EMAS and WMAS]) in which to undertake fieldwork. The researchers will undertake non-participant observation over a period of 4-6 days in each ED. They will base themselves near the phone where pre-alert calls are received and follow the person who receives the call to observe actions taken after the call. The researchers will collect data on how the pre-alert was received and documented, how this information was shared with other staff, what actions were taken and which staff were involved. They will also observe how the ED staff and ambulance staff discuss the pre-alert once the patient arrives and look out for any other knock-on effects (e. g. moving other patients to make room for the pre-alerted patient). In the event that the researchers are unclear about actions that have been taken, they will ask staff to clarify our

understanding once the immediate situation has been dealt with (i.e. they will not interrupt staff who are dealing with emergency situations). The researchers will also observe whether there are any guidelines or documentation relating to pre-alerts within the ED.

The researchers will undertake semi-structured interviews with 4-6 ED staff at each of the EDs (i. e. 24-36 staff in total), including senior clinicians, ED coordinators and other roles that are identified within the fieldwork as being key to understanding pre-alerts. They will explore their perspectives on what makes a useful pre-alert, what factors affect their decision to act upon pre-alerts and how they could be improved. The researchers will identify staff during their period of fieldwork, looking to identify key decision-makers. They will approach staff directly but will provide them with information about the study and ask them to contact us at a later stage if they wish to take part in the research so that they have chance to read the information sheet and decide whether they wish to take part. Staff will be able to choose whether to undertake an interview by telephone at a later date, or face-to-face during a future period of fieldwork.

The researchers will also recruit a further 3-5 ambulance clinicians per site (in addition to those detailed in WP2 above) who they will identify from their observations. The researchers will give ambulance clinicians the information about the research when they are in the emergency department after patient handover and ask participants to contact them if they are interested in taking part in a telephone interview. This will enable the researchers to speak to clinicians about the decision-making processes for specific instances, as well as responding to the wider questions detailed within WP2.

The researchers will send each interview participant a £20 Love2shop e-voucher via email. There will be no further contact with the participant unless they would like to receive a copy of the results of the study at the end.

WP4: The researchers will also undertake interviews with 3-4 sets of patients and their carers at each of two EDs (6-8 in total) to understand the impact of pre-alerts on patients. They will ask about how prealerts are communicated to patients and their carers, how this affects their expectations of care once they arrive at the ED, their experience upon arrival and how expectations were managed upon arrival at the ED.

Interviews will take place via telephone or online meeting (e.g. Google Hangouts) unless the participant would prefer a face-to-face interview at an agreed location (e.g. home or university). The researchers will interview patients and carers together, unless they have a preference for separate interviews.

The researchers will identify patients during the fieldwork/period of observation. They will select any patient who has been pre-alerted and is able to be approached after treatment. Patients and/or carers will be approached by an ED staff member once the patient is out of the resus bay and if they agree to speak to a researcher, a member of the research team will give them an information pack, including information sheets and consent forms. The researchers will not ask participants for any contact details whilst they are in hospital but will ask participants to contact them if they are interested in taking part in the research. The researchers will provide participants with a £20 Love2Shop voucher as a thank-you for their time. Where possible, they will select interview participants to ensure diversity in age, gender and socioeconomic group.

Workpackages 2-4 will take place between April 2022 and March 2023. The results from the fieldwork will be used to draw up findings and recommendations that will then be discussed within a national feedback workshop in June 2023. At this workshop the researchers will discuss initial findings, identify improvement actions, priority areas for further guidance and develop

guiding principles for undertaking pre-alerts for both ED staff and Ambulance Clinicians. The researchers will invite people who have taken part in the research (who express an interest in taking part), key stakeholders and members of the PPI panel.

The researchers sought PPI guidance in developing the protocol that was submitted for funding, and which formed the basis of this application. PPI guidance influenced WP4 in particular, by suggesting the areas of research that may be most key to patients, as well as suggesting that patients and carers may wish to be interviewed together. The researchers will seek feedback from PPI on all of the documentation that will be submitted alongside this application.

Intervention Type
Other

Primary outcome(s)
1. Clinician experience of undertaking pre-alerts explored using qualitative interviews (from ambulance service and ED perspectives) at a single timepoint
2. Patient and carer experience of being pre-alerted explored using qualitative interviews after experiencing a pre-alert
Qualitative data analysed using framework analysis

Key secondary outcome(s)
There are no secondary outcome measures

Completion date
14/09/2023

Eligibility

Key inclusion criteria
Interviews in WP2, 3 and 4: participants over 18 years old only

Staff interviews in WP2 and WP3: ambulance clinicians from each of the three ambulance sites and with Emergency Department (ED) staff from six EDs, including senior clinicians, ED co-ordinators and other roles that are identified as being key to understanding pre-alerts

Survey in WP2: any ambulance clinicians within the 10 Regional Ambulance Services

Patient and carer interviews in WP4: patients and their carers who were pre-alerted on their journey to hospital

Participant type(s)
Mixed

Healthy volunteers allowed
No

Age group
Adult

Lower age limit

18 Years

Sex
All

Total final enrolment
74

Key exclusion criteria
1. Patients or staff who do not speak English
2. Patients or staff who are under 18 years old

Date of first enrolment
01/04/2022

Date of final enrolment
31/03/2023

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Yorkshire Ambulance Service Trust Hq
Springhill
Wakefield 41 Industrial Estate
Brindley Way
Wakefield
United Kingdom
WF2 0XQ

Study participating centre
East Midlands Ambulance Service NHS Trust
Beechdale Road
Nottingham
United Kingdom
NG8 3LL

Study participating centre
West Midlands Ambulance Service NHS Trust
Millenium Point
Waterfront Business Park

Dudley Road
Brierley Hill
United Kingdom
DY5 1LX

Sponsor information

Organisation
University of Sheffield

ROR
https://ror.org/05krs5044

Funder(s)

Funder type
Government

Funder Name
NIHR Evaluation, Trials and Studies Co-ordinating Centre (NETSCC); Grant Codes: NIHR 131293

Results and Publications

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 the qualitative nature of the data.

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		01/03/2024	23/10/2024	Yes	No
Results article		17/09/2024	23/10/2024	Yes	No
Results article		17/08/2024	23/10/2024	Yes	No
Results article		20/01/2025	27/01/2025	Yes	No
HRA research summary			28/06/2023	No	No
Protocol file	version 1.1	15/06/2021	15/03/2022	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes