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The acceptability and feasibility of video streaming between the general public and ambulance dispatchers in 999 trauma incidents

Submission date
30/11/2021

Recruitment status
No longer recruiting

Registration date
22/03/2022

Overall study status
Completed

Last Edited
22/02/2024

Condition category
Injury, Occupational Diseases, Poisoning

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

Plain English summary of protocol

Background and study aims
A 'trauma incident' is when someone suffers injuries that may cause death or leave them with a long-term disability. Trauma incidents are the biggest killer of people aged under 45 in the UK: most often road traffic accidents. Following a trauma incident, most people will be taken to a hospital emergency department by an ambulance that has responded to a 999 call. Ambulances usually attend an incident by road, but in serious cases, an air ambulance (helicopter) may be sent. The aim is to get the patient to the best hospital for treating their injuries without delay to improve their chances of survival, recovering from their injuries and not having long term problems. When a 999 call is made, the person in the ambulance service who answers (the dispatcher) asks the caller to describe what they can see and how serious the injuries appear. This is so the dispatcher can decide how urgently, and what type, of help is required (e.g. whether a helicopter is needed). The caller may give incomplete or wrong information so sometimes too few or too many ambulances are sent. This can delay getting the right help to patients, or mean that ambulances are not available for others who need them. It is also costly for the NHS if ambulances or helicopters are sent when not needed. We want to test a system called GoodSAM that allows the dispatcher to send a link in a text message to the smartphone of 999 callers. When the caller clicks on the link it uses the camera in their phone to send live images to the dispatcher (without recording it). This lets the dispatcher see what is happening at the scene, rather than just being told by the caller. This might help the dispatcher make quicker and more accurate decisions about which and how many ambulances to send so that patients get the best help in the fastest possible time.

Who can participate?
Participants will include (i) trauma casualties (all trauma casualties during the six trial observation weeks who are the subject of 999 calls involving trauma triaged as either Category 1 or 2; all calls screened by Helicopter Emergency Medical Services (HEMS) dispatcher involving trauma), (ii) lay public 999 callers (All 999 callers during the 6 week trial weeks where the incident involves trauma triaged as either Category 1 or 2; or where the call involves trauma and is screened by HEMS dispatcher and (iii) emergency operation centre staff (all critical care paramedics, emergency operation centre managers and HEMS dispatchers).

What does the study involve?
In this study, we will ask one ambulance dispatch centre to test GoodSAM for six weeks spread out over six months (to cover different periods when trauma incidents are higher/lower), so we can check how well it works in practice. We will count the number of calls when video might help the dispatcher decide what ambulances to send. We will check that the link works, and the dispatcher can see the images. After an incident is over, our researchers will look at the reports and assess if the right number and type of ambulances were sent to the scene. We will do this for incidents when GoodSAM was used, and when it was not (control group). This will help us to understand if film footage helped dispatchers send the right ambulances. We will learn if members of the public are willing to allow their camera to be used and if dispatchers find it useful.

What are the possible benefits and risks of participating?
An important part of this initial study will be to find out whether using live streaming upsets the members of the public or dispatchers in any way. We will do this through interviews and a survey with members of the public and staff who did and did not use GoodSAM. Sources of support will be provided. We will also explore these issues in a second ambulance service located in a city so we can see if GoodSAM works in a similar way in an area where callers may not speak English for example. This study will help us plan a larger study that will explore more fully the possible benefits of using film footage at trauma incidents. A panel of lay people will be set up to work with the research team throughout the project to make sure the views of patients and the public are fully represented.

Where is the study run from?
The University of Surrey in collaboration with South East Coast Ambulance Service NHS foundation trust (UK)

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

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

Who is the main contact?
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Lucie Ollis, l.ollis@surrey.ac.uk

Contact information

Type(s)
Scientific

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Integrated Research Application System (IRAS)
302216

Central Portfolio Management System (CPMS)
51454

National Institute for Health and Care Research (NIHR)
130811

Protocol serial number
SPON 2021 22 FHMS; HS&DR -

Study information

Scientific Title
Emergency medical services Streaming Enabled Evaluation In Trauma: The SEE-IT Trial

Acronym
SEE-IT

Study objectives
Is it feasible to conduct a future randomised controlled trial (RCT) to assess the clinical and cost-effectiveness of using GoodSAM live video streaming to improve targeting of emergency medical resources?

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. Approved, 24/01/2022, London – Camden & Kings Cross Research Ethics Committee (NHSBT Newcastle Blood Donor Centre, Holland Drive, Newcastle upon Tyne, NE2 4NQ, UK; +44 (0)207 104 8068; CamdenandKingsCross.REC@hra.nhs.uk), ref: 21/LO/0912
2. Approved 22/03/2022, NHS Confidentiality Advisory Group (CAG) (2 Redman Place, Stratford, London, E20 1JQ, UK; +44 (0)207 104 8100; cag@hra.nhs.uk), ref: 22/CAG/0003 (added 25/03/2022)
3. Approved 23/03/2022, Health Research Authority (2 Redman Place, Stratford, London, E20 1JQ, UK; +44 (0)207 104 8000; approvals@hra.nhs.uk), ref: 21/LO/0912 (added 25/03/2022)

Primary study design
Interventional

Study design
Feasibility randomized controlled trial with nested process evaluation and two observational sub-studies

Study type(s)
Other

Health condition(s) or problem(s) studied
All 999 calls involving major trauma operationalised as being a call judged by Helicopter Emergency Medical Services (HEMS) dispatcher and/or Critical Care Paramedic (CCP) as likely to require enhanced dispatch (either Critical Care Paramedic and/or HEMS dispatch) for Trauma

Interventions
Randomisation: 999 calls during six observation weeks (42 days; 84 shifts), allocated 1:1 by working shift to intervention or standard care using a computer-generated randomisation list.

Control: Standard care ambulance dispatch protocol with a 999 caller using a telephone (voice only) and the dispatcher using the NHS Pathways ambulance dispatch tool.

Intervention: GoodSAM live streaming (not recording) from 999 callers via a link sent by SMS text. Calls allocated to intervention will initially follow the standard NHS Pathways dispatch protocol until the ambulance dispatch prioritisation has been determined by the call handler. An ambulance will be dispatched as normal, without delay. GoodSAM video streaming will then take place and ambulance resource allocation may be adjusted following this (NB: road ambulance can only be escalated NOT de-escalated; Critical Care Paramedic (CCP) or Air Ambulance can be escalated or de-escalated).

Intervention Type
Device

Phase
Not Applicable

Drug/device/biological/vaccine name(s)

Not provided at time of registration

Primary outcome(s)
1. Proportion of callers with smartphones agreeing and able to activate live streaming, measured using the observational proforma completed by research paramedics prospectively (live) during trial periods. The proforma will be completed for each call (control and intervention arm) during the trial periods and it will be noted whether or not the caller was using a smartphone to call (yes/no/don't know) and whether or not they were willing (yes/no) and able (yes/no) to activate live streaming.
2. Proportion of requests to activate live streaming resulting in footage being obtained (allowing for margin for lack of 3G/4G/5G coverage), measured using the observational proforma completed by research paramedics prospectively (live) during trial periods. The proforma will be completed for each call (control and intervention arm) during trial periods and it will be noted whether or not the footage was obtained and any issues with quality of visual /audio quality.

Key secondary outcome(s)
1. Speed of appropriate emergency services dispatch, measured using time-stamped data from the start of 999 calls to appropriate deployment; appropriateness based on expert consensus criteria and using data up to 3 months post-incident
2. Stand-down rate (de-escalation) measured using the observational proforma completed by research paramedics prospectively (live) during trial periods. The proforma will be completed for each call (control and intervention arm) during the trial periods. On the proforma, the research paramedics will record if and when the ambulance (A), CCP (C) and/or the air ambulance (helicopter, H) were activated or stood down, and timestamps and reasons associated with these decisions. The use (or not) of live streaming will be noted. Changes to dispatch are automatically recorded on the CAD and timestamps and so can and will be verified against this source.
3. Missed jobs (e.g. not prioritised for HEMS/CCP despatch, either due to lack of resource or inappropriate prioritisation), measured using the observational proforma completed 'live' (during the incident/dispatch) by the research paramedics observing each call by logging a) all requests by the first ambulance on scene for further ambulance resource/assistance from CCPs or Air Ambulance; and b) by logging requests for CCP/Air Ambulance that could not be dispatched due to lack of resource.
4. Requests for further ambulance resources from the scene, measured using the observational proforma completed by research paramedics observing each call who would log requests for further ambulance resources (Ambulance, CCP and/or Air Ambulance) from scene. This will be recorded live and can be cross-checked with the CAD.
5. Psychological harm assessed pre and post-intervention period in staff viewing the footage (and also measured in staff within a comparison EOC not using GoodSAM); and in callers from both arms 6-8 weeks post-incident, using two validated scales (the Impact of Event Scale - Revised and the General Health Questionnaire-12 item version)

Completion date
31/07/2023

Eligibility

Key inclusion criteria

Current participant inclusion criteria as of 11/08/2022:
All 999 calls involving major trauma operationalised as being a call judged by Helicopter Emergency Medical Services (HEMS) dispatcher and/or Critical Care Paramedic (CCP) as likely to require enhanced dispatch (either Critical Care Paramedic and/or HEMS dispatch) for Trauma

Previous participant inclusion criteria:
All 999 calls involving trauma triaged as either Category 1 or 2; all calls screened by Helicopter Emergency Medical Services (HEMS) dispatcher involving trauma

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
All

Sex
All

Total final enrolment
244

Key exclusion criteria
Current participant exclusion criteria as of 11/08/2022:
1. All emergencies of a suspected medical origin
2. All trauma calls where:
2.1. Caller not at the scene
2.2. Call from a landline
2.3. Call from another emergency service: police or fire
2.4. Calls where resource (excluding community first responder) will arrive on scene before live streaming could be activated
2.5. Call ended before transfer for activation of live streaming
2.6. Calls where another incident takes priority
2.7. Calls where clinical acuity is found to be lower than threshold for entry to the study (not major trauma)

Previous participant exclusion criteria:
All emergencies of a suspected medical origin

Date of first enrolment
28/06/2022

Date of final enrolment
01/03/2023

Locations

Countries of recruitment

United Kingdom

England

Study participating centre
University of Surrey
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Study participating centre
South East Coast Ambulance Service NHS Foundation Trust
Trust Headquarters
Nexus House
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Sponsor information

Organisation
University of Surrey

ROR
https://ror.org/00ks66431

Funder(s)

Funder type
Government

Funder Name
National Institute for Health Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
Data collected through this study will be suitable for sharing in anonymised format for other interested researchers on reasonable request.
Cath Taylor (cath.taylor@surrey.ac.uk) can be emailed for access to participant level data. The type of data: quantitative (numerical, interval and categorical) data in an excel spreadsheet. Following publication of main study findings, data will be available for up to 10 years. Data will be available on reasonable request to interested researchers. This will be done via secure data transfer (e.g. University of Surrey's secure transfer service, drop it) and only once the recipient has confirmed how and where the data will be stored and confirmed it will not be shared further without prior consent. Participants will be asked to consent to their data being used for further research but this is marked as 'optional' on the consent form, participants can opt into the study but opt out of sharing their data for future research. All data will be anonymised and the ID code linking any data will be removed. There are no other ethical or legal restrictions other than data will only be shared with consent of the participant.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		26/01/2024	22/02/2024	Yes	No
Protocol article		24/04/2023	25/04/2023	Yes	No
HRA research summary			28/06/2023	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes