999 R.E.S.P.O.N.D.

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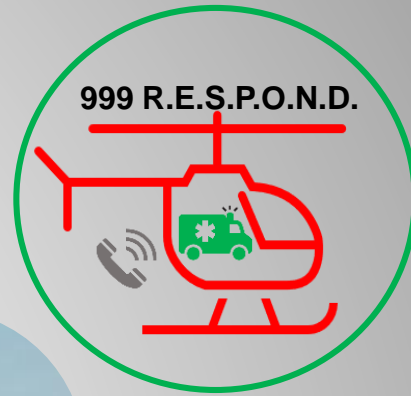
Team

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- Professor Jo Angouri (University of Warwick)
- Dr Shawnea Sum Pok TING (University of Warwick)
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999 R.E.S.P.O.N.D.

999 R.E.S.P.O.N.D is a collaborative research study between the Welsh Ambulance Services NHS Trust, Emergency Medical Retrieval & Transfer Service, the University of Warwick, Wales Air Ambulance Charity and the University of Bristol. The project is the first of its kind in the UK and designed to be translatable to training and policy.

The study aims to explore the way in which the decision to dispatch a critical care team is made by the teams in ambulance control rooms.

It is well documented that getting the right information to make decisions in the heat of the moment is difficult, and the recent pandemic created pressures and disruption to the system which had an impact on risk assessment decision making pathways.

The appropriate dispatch of EMS needs to balance patient safety and resource. It is therefore hoped that this study will be able to improve the process of getting critical care to the people who need it most.

The Research

Primary Research Question

When deploying specialist critical care resources, how are risk and severity indicators in 999 callers utterances identified and brokered amongst those involved in the dispatch decision, and how might dispatch teams be supported to optimise clinically-appropriate deployment to the patients most in need of this scarce resource?

Secondary Research Question

How did a major disruption (COVID-19) impact the ways in which the dispatch service reacts to risk and severity indicators?

Secondary Research Question

What are the key priorities institutional and national policy should pick up in the management of risk in emergency calls?

Research Objectives

The research objectives are to identify and map:

1 •The key interactional practices occurring amongst and within the control room teams, in the determination of cases eligible for critical care dispatch.

2 •The landscape of the decision-making trajectory and the risk indicators brokered between the stages of the dispatch process.

3 •Whether there is evidence that a major disruption (COVID-19) has altered these practices and changed the way critical care resources are targeted within the service.

4 •The role of policy documents and institutional priorities in the ways in which teams operationalise risk negotiation.

And use the findings to:

1 • Design a training intervention for Ambulance staff and critical care dispatch staff.

2 • Provide recommendations for national policy.

Study Methods

We propose a cross-sectional, qualitative study using a variety of complementary routinely collected ambulance service datasets, structured around the critical care dispatch decision.

We will analyse four main datasets:

- The original 999 call audio recordings.

- Audio recordings of the spoken and textual interactions that occur between different members of the teams involved in triaging calls, dispatch decisions and resource allocation.

- The Sequence of Events (SoE) textual record.

- Policy, operating procedures and service guidelines relating to critical care dispatch.

Study Methods

We will base our analysis around a core sample of 100 cases;

- 50 interactions receiving critical care dispatch pre-COVID-19

- 50 interactions pan-COVID-19.

*For the latter, we further differentiate between interactions occurred at the onset of the pandemic (1st wave; March-June 2020) and at later stages, when pressures of the system had less sudden impact.

Inclusion Criteria

- ●The incident had critical care resources dispatched to it at any point in the evolution of the incident for one or more patients of any age.

- ●A minimum case dataset is available for the incident (including original 999 call recording and SOE.

- ●The case occurred during the pre-COVID sampling window (April 18 March 20) or the post- COVID sampling window (March 20 onwards)

Exclusion Criteria

- ●No critical care resources were dispatched at any point.
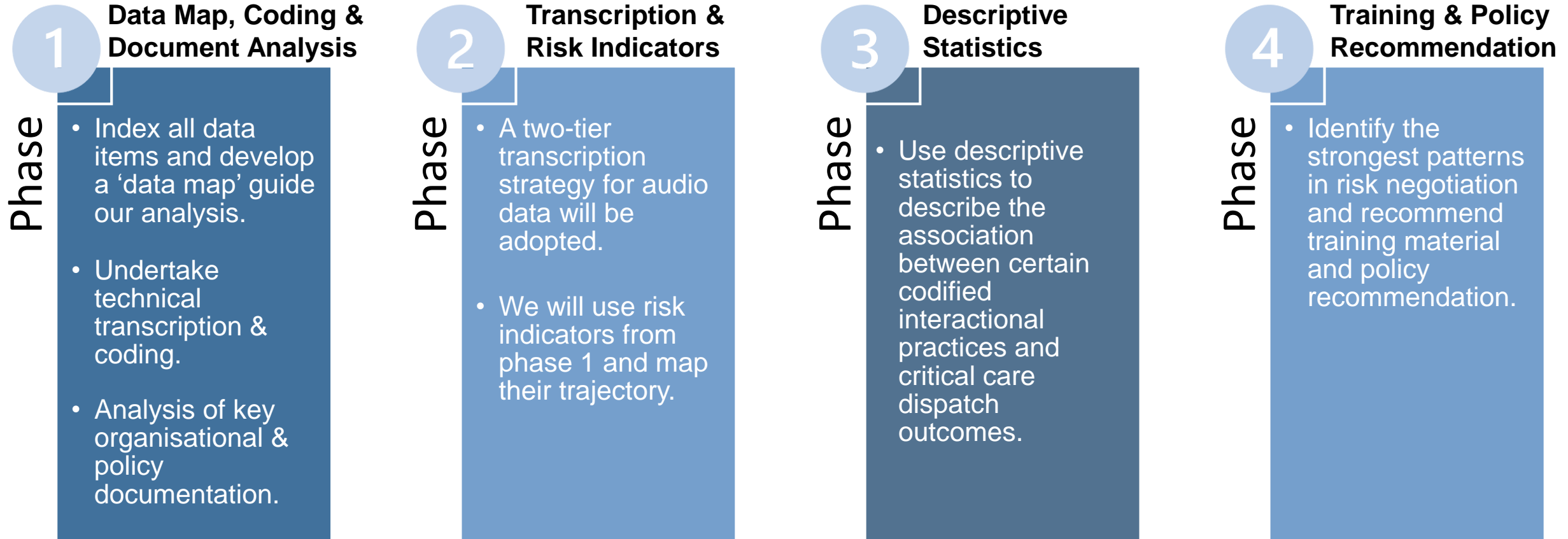
- ●The minimum case dataset is not retrievable.

- ●They resulted in the stand-down of the critical care team before arrival.

Data Analysis

For our analysis, we will consider each individual incident with all of its associated data as a 'case'.
We will adopt a four phase approach to data analysis.

Phase 1 — Data Map, Coding & Document Analysis

- Index all data items and develop a 'data map' guide our analysis.
- Undertake technical transcription & coding.
- Analysis of key organisational & policy documentation.

Phase 2 — Transcription & Risk Indicators

- A two-tier transcription strategy for audio data will be adopted.
- We will use risk indicators from phase 1 and map their trajectory.

Phase 3 — Descriptive Statistics

- Use descriptive statistics to describe the association between certain codified interactional practices and critical care dispatch outcomes.

Phase 4 — Training & Policy Recommendation

- Identify the strongest patterns in risk negotiation and recommend training material and policy recommendation.

Project Progress so far

999 R.E.S.P.O.N.D.

July 22

Grant letter offer received

Aug 22

Study Protocol drafted

Group agreed to apply for further project funding.

Sept 22

WAST confirmed access to call recordings

Nov 22

2 Research Officers recruited by University of Warwick

Nov 22

First quarter report submitted 30th November.

Nov 22

IRAS and research ethics submitted

Dec 22

REC provisional approval received. Comments re-submitted 16th Jan.

Jan 23

Final collaboration agreement send out to all sites on 16th Jan.

Jan 23

HRA/HCRW approval granted 23.01.23

Jan 23

Policy analysis work.

Feb 23-present

IG/ Training/ Data acquisition
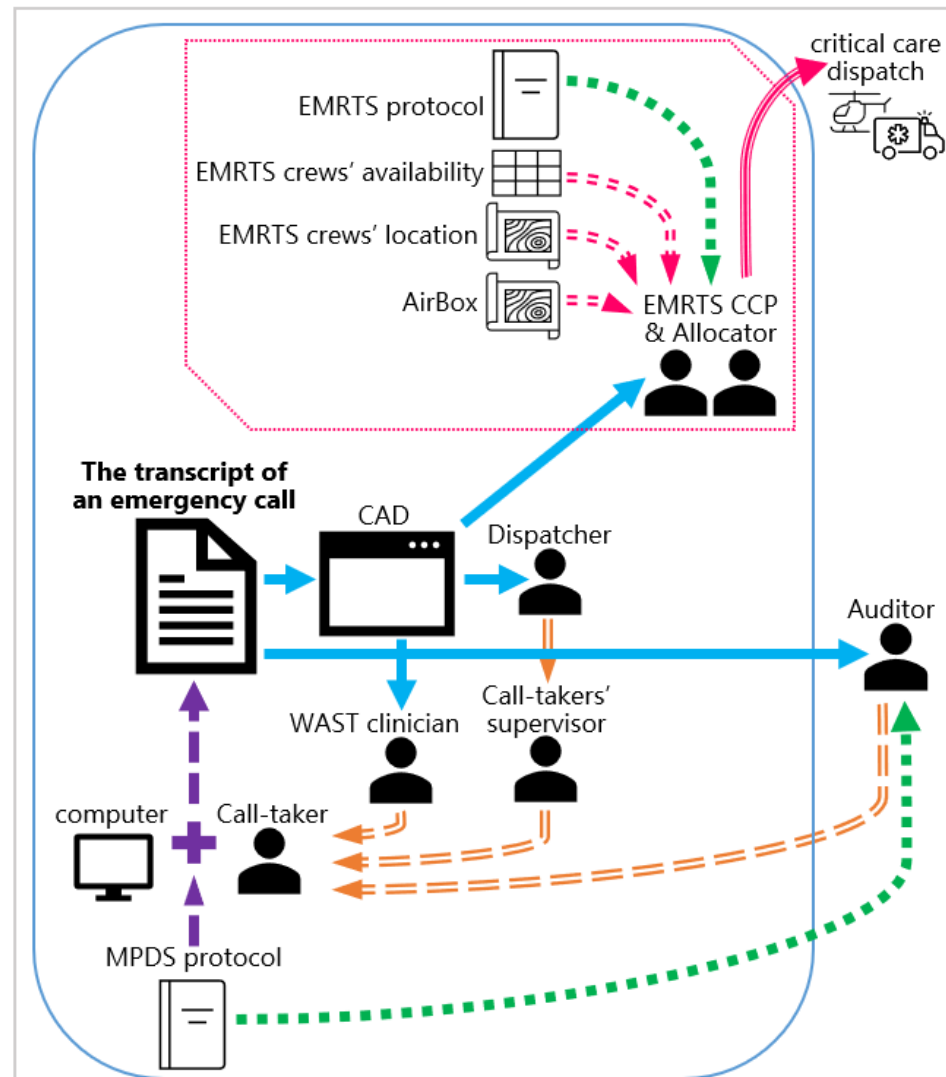
Key

➤ Production of a transcript of an emergency call

➤ Trajectory of the transcript

➤ Actors influencing the production of the transcript

➤ Text influencing the reading of the transcript

➤ Texts influencing the decision-making and arrangement for critical care dispatch

➤ Decision for critical care dispatch

EMRTS Critical Care Hub

Ambulance control room
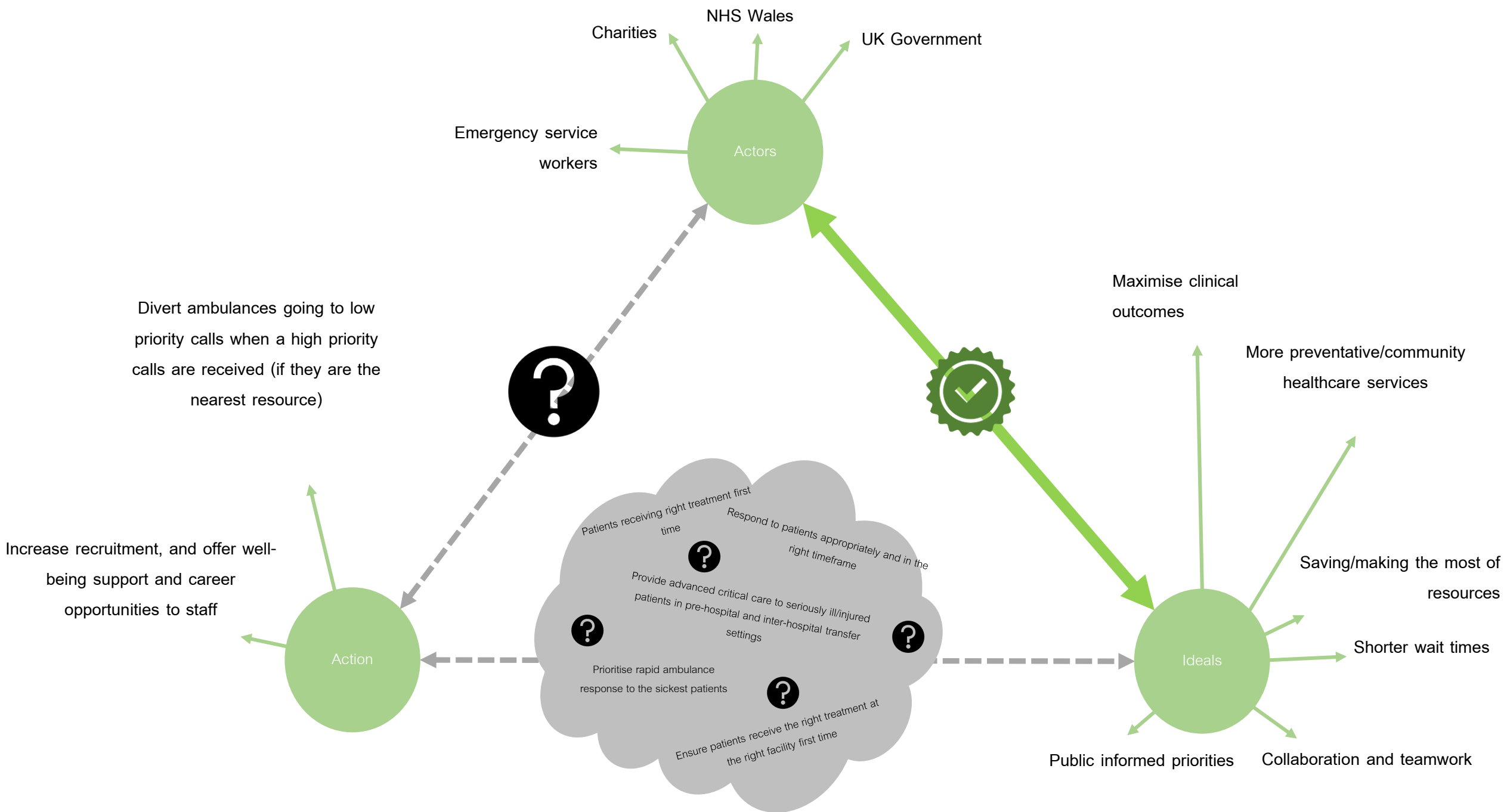
Next steps

- Call/ SOE extraction & Transcription

- Analysis

- Workshops