

July 2020

RESPOND Study
(Rescue for Emergency Surgery Patients Observed to uNdergo acute Deterioration)

CALL FOR VOLUNTEERS

As part of a major, 5-year study, funded by NIHR, we are looking for volunteers, from September 2020, to take part in a research study which aims to improve our systems for responding when patients develop complications or deteriorate after emergency abdominal surgery. We need:

- **experienced hospital staff who are used to working with emergency surgical patients**
- **patients (2-3) who have been through emergency abdominal surgery and had complications afterwards.**

Main activities:

- you will help with are interviews and discussion groups.
- you will help us understand how things are done now, so that we can analyse this and see what can be improved.
- we will then need your thoughts on how a better system could be developed

Details of Interviews and Discussion Groups

- a trained interviewer will talk to you for c30 minutes about your experiences and take a recording for later analysis.
- discussion groups, led by a trained facilitator, will take place including all types of hospital staff who are involved in caring for these patients, together with ex-patients
- firstly, the groups will discuss how the current system works
- in later sessions, you may be asked for your ideas on how we can make the system better
- you may be asked to come to two or three of these sessions over a period of weeks, and each one is scheduled to last about 2 hours.

Expenses and Communications

- we will cover any necessary expenses of the participants involved in the interviews and discussion groups
- we will regularly inform you about how the study is going.

General Overview of Research Project

Patient safety researchers study problems in healthcare systems which harm patients. We want to study a healthcare situation where system problems are costing lives. In Emergency General Surgery (EGS), dealing mainly with patients with severe abdominal pain, the death rate after abdominal surgery to find out what's wrong (called 'laparotomy') is 5 times higher than for similar routine surgery. Studies of serious complications after major operations show that when patients deteriorate after surgery, their chances of survival depend on how quickly and how well clinical teams react. We plan to analyse how EGS teams currently treat deteriorating patients and help them develop and test better response systems. Up to 3000 deaths per year could be avoided if these systems were improved.

Death rates after routine major surgery are lower in busier hospitals than in smaller ones. We know this is not because larger units have less complications after surgery, but because they respond to them more effectively. Investigations following complications and deaths in EGS frequently report that the teams involved did not respond rapidly and correctly to deterioration. This is probably an important factor in the high EGS laparotomy death rate. An effective response needs both early detection of problems and an efficient rescue system. We have tried monitoring patients' blood pressure, temperature, heart and breathing rates more reliably, but this has not reduced death rates consistently, suggesting that improving rescue systems is more important. Research on why rescue systems sometimes don't work highlights communication and co-operation problems, and difficulties in getting specialist help quickly. Involving patients and families may improve this process.

Human Factors science analyses how complex work systems succeed or fail, and how to improve them. We will conduct a Human Factors analysis of real life responses to deterioration in EGS laparotomy patients, examining how staff actually deal with deteriorating patients (referred to as "work as done"), and how this differs from official guidelines (referred to as "work as imagined"). A modern approach to Human Factors called "Safety II" studies both strengths and weaknesses of systems to design solutions. We will use this method to analyse current EGS rescue systems, and develop a new system for managing deterioration, including ways of involving patients or carers effectively. We will test and modify this system until we can show that it improves team performance during rescue. Once it appears stable and effective, we will test it in a multi-hospital trial. Hospitals will start using the new system at different dates (decided by chance), and we will compare their performance before and after they

We will study the cost-effectiveness of the intervention and analyse what worked well and why, to make sure the lessons are learned effectively.

Professor Peter McCulloch
Nuffield Department of Surgical Science
University of Oxford
Chief Investigator for RESPOND Project
peter.mcculloch@nds.ox.ac.uk