

# Shared decision-making in the emergency department using T-MACS Choice for patients experiencing chest pain

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<b>Registration date</b> 19/10/2021	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 19/10/2021	<b>Condition category</b> Circulatory System	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Every day approximately 1.4 million patients with chest pain attend emergency departments (EDs) in the UK. Emergency doctors then need to decide who requires hospital admission and who is safe to be discharged home. While the clinical assessment is important it is often not enough to reliably predict if a patient is likely to have a heart-related event. Therefore, clinicians have come to increasingly rely on risk prediction models. However, the personal risk and options available are not universally shared with patients leading to a situation where doctors alone decide what is best.

In this study, funded by the Royal College of Emergency Medicine, we want to understand if testing the implementation of shared decision-making as a new communication strategy for adult patients with chest pain in the ED can practically be done. This is important so we know what needs improving before proceeding to a larger scale study to definitively proof benefits of shared decision-making.

### Who can participate?

Adult patients with chest pain attending the ED.

### What does the study involve?

We will survey patients (1 survey following the clinical encounter and 1 survey at 30 days on patient permission) and clinicians (1 survey about training and 1 survey following seeing a patient with chest pain) about their experience without affecting clinical care. With the patient's permission we will follow them up at 30 days by contacting their general practitioner and checking their medical records to see if they had any heart-related events.

### What are the possible benefits and risks of participating?

There will be no direct benefits to you by taking part. However, you might appreciate the chance of providing your opinion on how we provide you with information about your chest pain and the options available. Also, you might enjoy having a greater involvement in decisions about your care. Regardless you may benefit from the findings of this study if you have attended the ED with the same problem in the future. As this study does not involve any changes to your clinical

care there are no particular risks to you. Filling in the short survey(s) might take a few minutes of your time and could feel like an inconvenience. Some patients might find a greater level of involvement in decisions about their care challenging.

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

When is the study starting and how long is it expected to run for?  
December 2019 to December 2022

Who is funding the study?  
Royal College of Emergency Medicine (UK)

Who is the main contact?  
Dr Patricia Van Den Berg, [patricia.vandenberg@manchester.ac.uk](mailto:patricia.vandenberg@manchester.ac.uk)

## Contact information

**Type(s)**  
Scientific

**Contact name**  
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## Additional identifiers

**Clinical Trials Information System (CTIS)**  
Nil known

**Integrated Research Application System (IRAS)**  
271018

**ClinicalTrials.gov (NCT)**  
Nil known

**Protocol serial number**  
CPMS 50175, Grant Codes: G/2019/3, IRAS 271018

# Study information

## Scientific Title

The Troponin-only Manchester Acute Coronary Syndromes (T-MACS) Choice feasibility study

## Acronym

T-MACS CFS

## Study objectives

The study aims to assess the feasibility of a full scale stepped wedge cluster randomised controlled trial evaluating the impact of using Shared Decision Making aided by the decision aid T-MACS Choice for patients presenting to the ED with suspected cardiac chest pain in a multifaceted way.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Approved 26/08/2021, Wales REC 7 (Public Health Wales Meeting Room, Building 1, St. David's Park, Carmarthen, SA31 3HB, UK; +44 (0)2920 230457; Wales.REC7@wales.nhs.uk), ref: 21/WA/0255

## Study design

Interventional non randomized

## Primary study design

Interventional

## Study type(s)

Treatment

## Health condition(s) or problem(s) studied

Acute coronary syndromes

## Interventions

We will use a cluster stepped-wedge randomised controlled trial design to investigate the impact of shared decision-making in the envisaged full scale study. In this feasibility study we will run a much smaller version of the intended larger study to test if the design. The two emergency departments will each represent a cluster. Both emergency departments use the T-MACS risk prediction model as part of their routine care in a dedicated pathway already.

Once the study has obtained the necessary approval, we will use a concealed envelop to decide which of the two emergency department will be the first study site to open. This is creating what is called the stepped wedge approach where different study sites start recruiting in a randomly allocated sequence. This will help us control for potential changes or differences in patients over time. In our study there will be a 1-month difference in start date between the two emergency departments.

Each emergency department will start to recruit participants in the so called control period meaning that they continue to use the T-MACS risk prediction model as part of routine care.

After recruiting for 2 months the emergency department enters a transition period. In this period no participants will be recruited. This time will be used to ensure that the T-MACS software is supporting the shared decision-making element as well as providing all physicians in the department with a dedicated training session on shared decision-making. This session on the theory of shared decision making and simulation will last between 30-45 min and will be provided by a member of the research team. Where possible this teaching session will be provided face to face. However considering constraints of the COVID-19 pandemic alternatively the teaching session will be provided live online as well as be available on-demand as a recording for members of staff who start working in the department with no timely live session available.

After this 1 month long transition period the emergency department enters the 2 months shared decision-making period and will again recruit participants. Shared decision making with the decision aid T-MACS Choice will replace the previous routine care pathways for all patients presenting with chest pain that warrants investigating for a heart-related cause and therefore will be used for all patients regardless of their participation in the study. The T-MACS Choice decision aid will support the clinician to discuss the three options available to the patient: 1) going home without any regular follow-up; 2) going home and returning later for a second blood test; 3) being admitted to hospital for a second blood test.

Patients attending the emergency department will be informed about the study taking place by posters or their physician providing them with ample opportunity to opt-out from participation if they wish to. The clinical care (history, ECG, blood tests and whatever else is clinically indicated) of participants will not be affected or delayed in any way as this is the priority in an emergency setting.

A patient is an eligible participant when their physician decides to complete the T-MACS risk prediction model as the inclusion criteria of this study match the criteria for using T-MACS. At the end of the clinical encounter every eligible patient will be asked to complete a short post-encounter survey about decisional conflict and their control preference, unless the patient have or want to opt-out. As part of this survey we will ask participants if they are happy for us to inform their GP about them participating in the study and if we can contact their GP and consult their medical record once at 30 days to follow up about heart-related outcomes.

Those outcomes will be capture in a dedicated GP case report form that gets returned by the GP practice including information on GP contacts regarding heart conditions and mortality status. A second case report form will be completed by a research nurse after review of the medical record, GP CRF and study pack including the surveys as applicable summarising clinical mortality status, clinical relevant outcomes, discharge disposition, shared decision-making decisions and heart-related events.

Participants that have been recruited in the shared decision-making period of the study will also be asked if they are happy to be contacted once at 30 days either by telephone or via email for a 5 question survey to ask for decision regret.

Emergency physicians that provide care to patients with chest pain will be asked to complete a survey at the end of the shared decision-making training they receive and will also complete a brief survey at the end of the clinical encounter while also given the opportunity to opt-out from completing the survey.

## **Intervention Type**

Other

## **Primary outcome(s)**

Measured at the end of the study (feasibility outcomes):

1. Number of eligible participants per months recruitment period measured as natural frequency in the eligibility log (T-MACS database)
2. Recruitment rate measured as percentage of eligible patients that did not opt-out by referencing the opt-out log against the eligibility log
3. Retention measured as percentage of those eligible who complete follow up and potential subsequent questionnaires without opt-out at a later stage (referencing opt-out log)
4. Percentage of missing data in secondary outcomes measured recorded in questionnaires and 30 days follow up case report forms data entered onto REDCap database
5. Ability to deliver physician training in shared decision making measured with qualitative notes from trainers to record potential problems of delivering physician training sessions as well as free text feedback on the session from physician training questionnaire
6. Ability to transition between control and intervention in transition time of 1 month measured with qualitative notes recording any problems in the process causing potential transition delays

### **Key secondary outcome(s)**

1. Decisional conflict measured with the low literacy decisional conflict scale questionnaire as part of the patient post-encounter questionnaire on initial ED attendance
2. Control Preferences Scale instrument completed as part of the patient post-encounter questionnaire on initial ED attendance
3. Patient disposition recorded at 30 days follow up from medical records review distinguishing four categories (discharge home from ED without serial troponin sampling, discharge home from ED with patient returning a later time for serial troponin sampling, admission under ED for serial troponin sampling, admission under medical team for serial troponin sampling). Choice rates will be recorded in the shared decision making group will be extracted from decision aid copies on the medical record at 30 days follow up
4. Cardiac events at 30 days follow up including index visit AMI as well as a composite of MACE consisting of incident AMI, cardiac death and urgent coronary revascularisation including percutaneous coronary intervention and coronary artery bypass graft will be measured by review of the participants medical record. Cardiac outcomes will be adjudicated by two independent investigators with access to relevant clinical information but blinded for research results.
5. Patient decision regret measured by validated 5-item decision regret scale questionnaire in participants in the shared decision making intervention group at 30 days following their initial ED attendance
6. Physician experience with
  - 6.1. Delivering SDM intervention by a physician post encounter questionnaire that is completed after the initial patient encounter in the ED
  - 6.2. Training received on SDM measured by a clinician training questionnaire provided to them at the end of the training session physicians receive in the transition period between and control and intervention period

### **Completion date**

31/12/2022

## **Eligibility**

### **Key inclusion criteria**

1. Adult patients aged 18 years or above
2. Presenting to the ED with:
  - 2.1. Pain, discomfort, or pressure in the chest, epigastrium, neck, jaw, or upper limbs

2.2. No obvious non-cardiac source

2.3. Symptoms the treating emergency physicians feel warrant investigation for suspected ACS

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

18 years

**Sex**

All

**Key exclusion criteria**

1. Patients with peak symptoms >12 hours before presenting to the ED
2. Patients requiring referral for immediate primary percutaneous coronary intervention due to unequivocal evidence of ST elevation myocardial infarction
3. Patients requiring hospital admissions for another medical condition
4. Patients that lack mental capacity to provide written informed consent
5. Patients whose level of English does not allow them to participate in the SDM conversation in a meaningful way.

**Date of first enrolment**

03/01/2022

**Date of final enrolment**

31/07/2022

**Locations**

**Countries of recruitment**

United Kingdom

**Study participating centre**

**Manchester Royal Infirmary**

Oxford Road

Manchester

United Kingdom

M13 9WL

**Study participating centre**

**Albert Edward Infirmary**  
Wigan Lane  
Wigan  
United Kingdom  
WN1 2NN

## Sponsor information

**Organisation**  
University of Manchester

**ROR**  
<https://ror.org/027m9bs27>

## Funder(s)

**Funder type**  
Research organisation

**Funder Name**  
Royal College of Emergency Medicine

**Alternative Name(s)**  
RCEM

**Funding Body Type**  
Private sector organisation

**Funding Body Subtype**  
Universities (academic only)

**Location**  
United Kingdom

## 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 as data sharing has not been agreed with the funder. The patient related data collected is regarded sensitive in nature prohibiting sharing.

### IPD sharing plan summary

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">HRA research summary</a>			28/06/2023	No	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes
<a href="#">Protocol file</a>	version 1.0	12/07/2021	23/09/2021	No	No