





Rhwydwaith Ymchwil  
Thematig ar gyfer  
Gofal Brys, Gofal heb ei  
Drefnu a Gofal Trawma

**TRUST**

Thematic Research  
network for emergency  
UnScheduled and  
Trauma care

# Paramedics decision making- examples from the SAFER Programme of Research

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Ariennir gan  
**Lywodraeth Cymru**  
Funded by  
**Welsh Government**

## The SAFER Research Programme

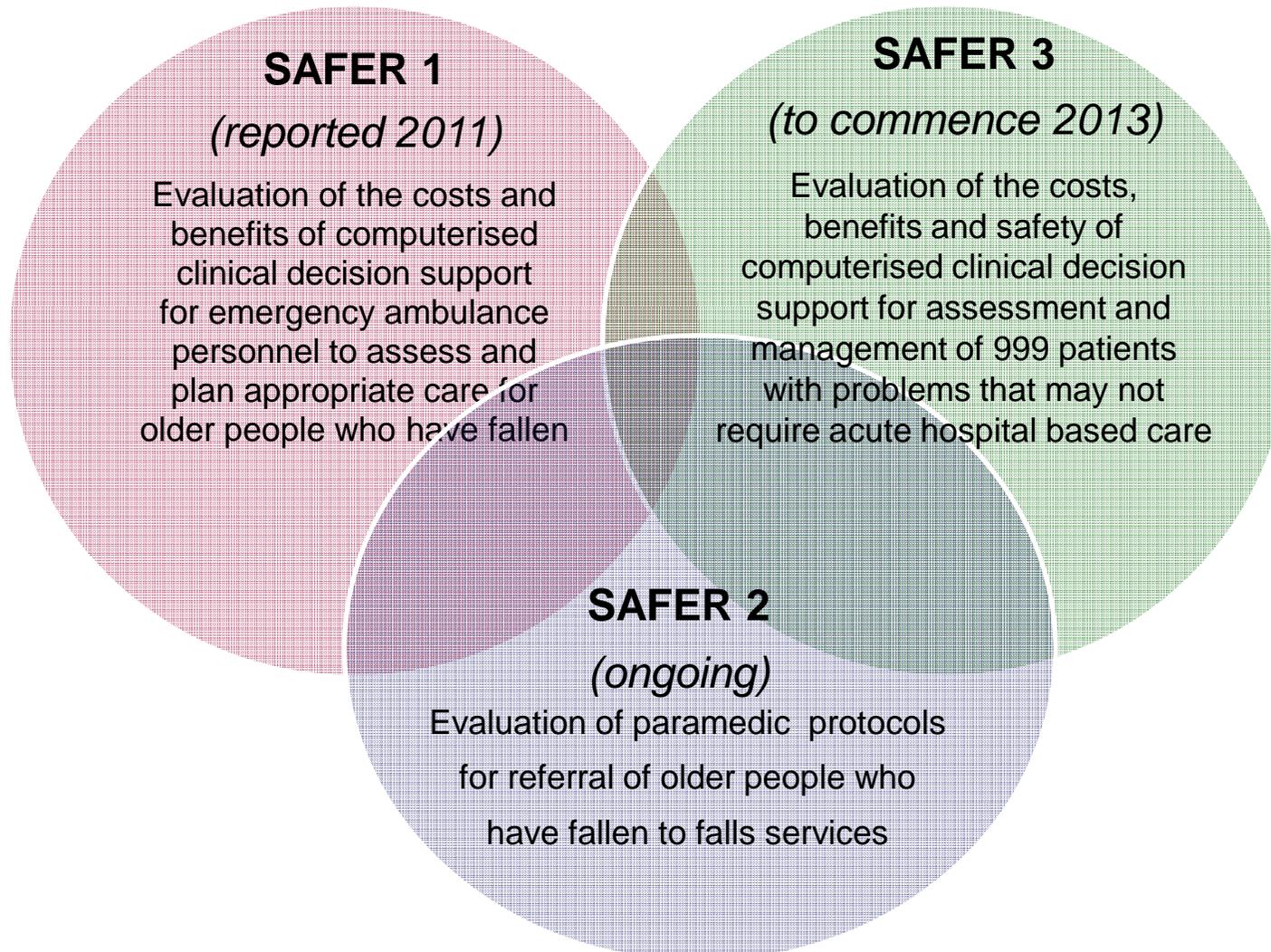
- Ambulance services are now developing alternative models of delivery of care.
- A recent systematic review identified that 30-52% of 999 calls do not warrant emergency response.
- Lack of evidence about safety, feasibility and effectiveness of the new models

### **Aim**

“How can paramedics safely make decisions to leave patients at home?”

- Protocols and Pathways

## The SAFER Research Programme



## **SAFER 1 Methods**

- Cluster randomised trial with random allocation of paramedics to intervention or control groups
- Undertaken in two UK ambulance services
- Follow up of pathway of care at index call; emergency events and patient reported satisfaction and quality of life at up to one month

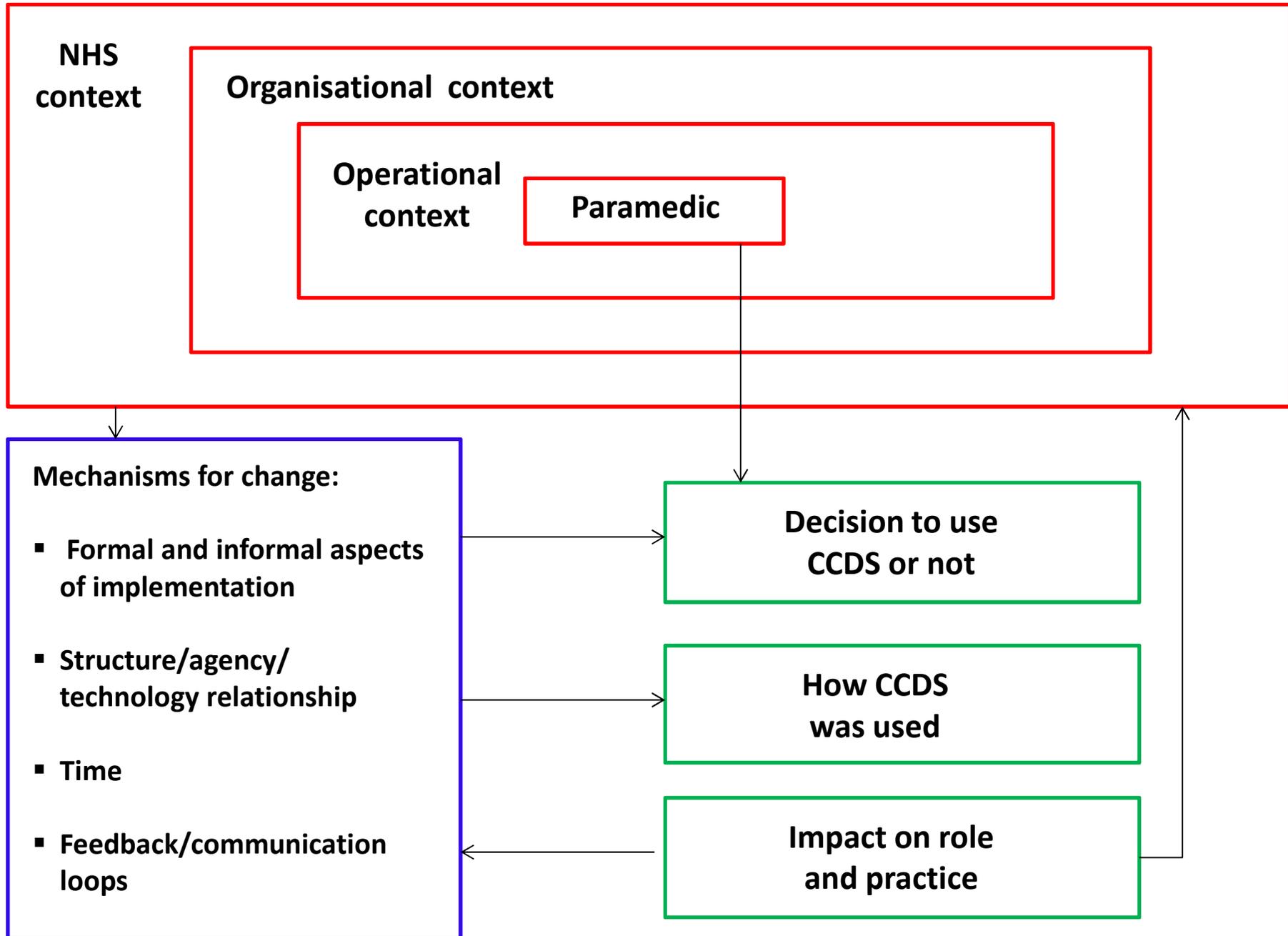
## Key findings from SAFER 1

- Paramedics in the CCDS group were twice as likely to refer older people who had fallen to community based care than those in the control group
- CCDS usage levels were low, particularly at one site where implementation issues adversely affected adoption
- On-scene times increased. However total episode of care times were reduced
- CCDS use did not put patients at risk and was low cost

## SAFER 1 Additional work

- PhD conducted alongside SAFER 1- additional quantitative and qualitative work
- “Implementation of computerise clinical decision support (CCDS) in a prehospital setting: processes of adoption and impact on paramedic role and practice” (*Bridget Wells, PhD Thesis, Swansea University, 2012*)
- Focus groups and semi-structured interviews with intervention paramedics at three time points during the trial

# CCDS IMPLEMENTATION, ADOPTION AND IMPACT MODEL



## SAFER 2- Methods

- Complex intervention: paper based assessment protocol developed by a specialist group, with training and falls referral pathway
- Stations in 3 sites randomised to intervention or control group
- Active consent process
- Questionnaires and routine data follow-up (identifiable and anonymised) at one and six months
- Semi-structured interviews and focus groups



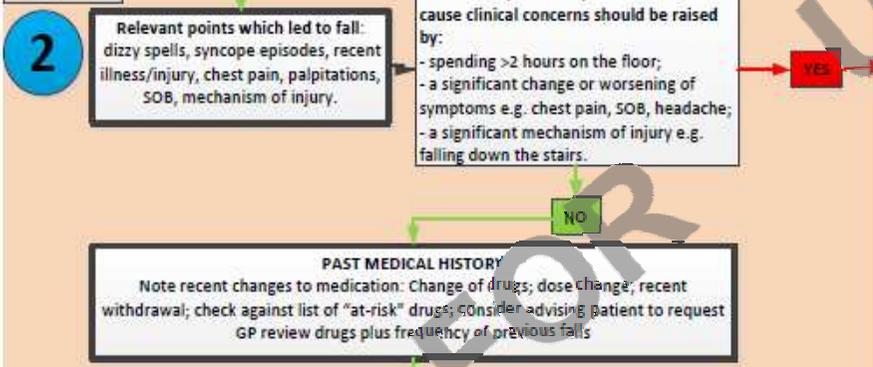
# SAFER 2 CLINICAL DECISION FLOW CHART

Follow steps until clinical decision reached

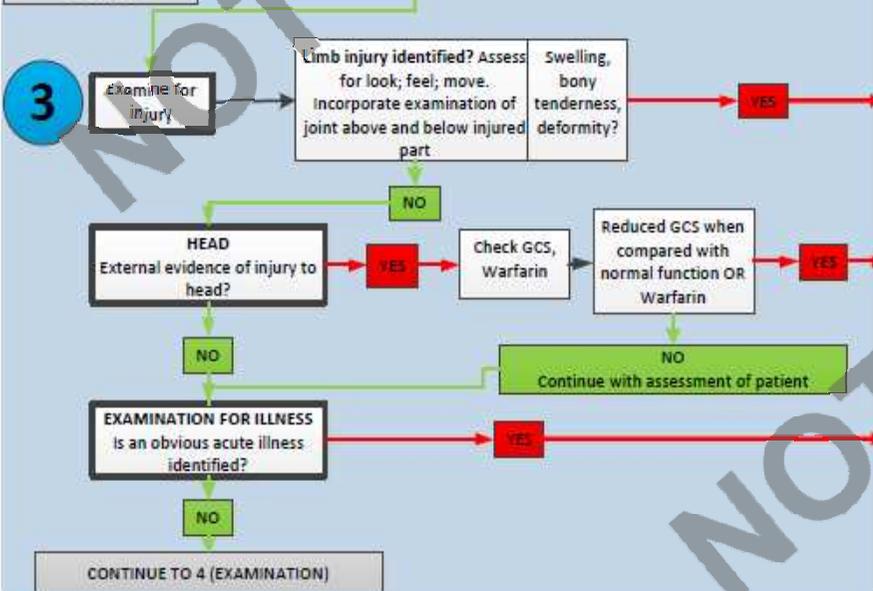
## PRIMARY SURVEY



## HISTORY

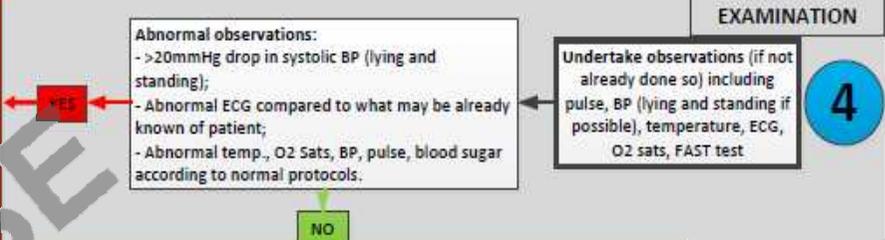


## SECONDARY SURVEY

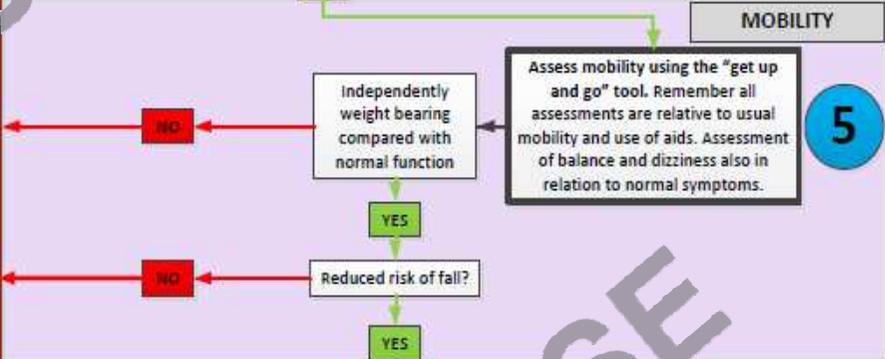


TRANSFER TO EMERGENCY DEPARTMENT

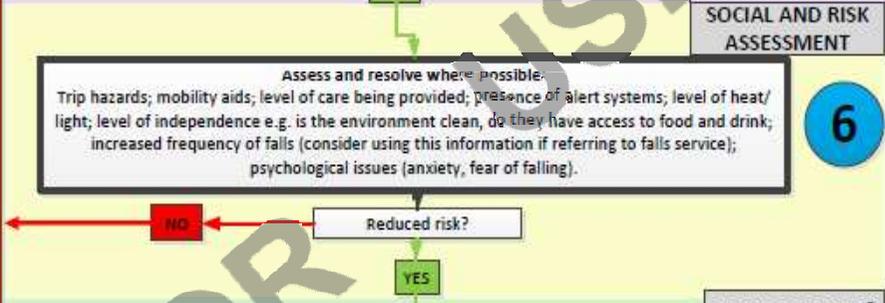
## EXAMINATION



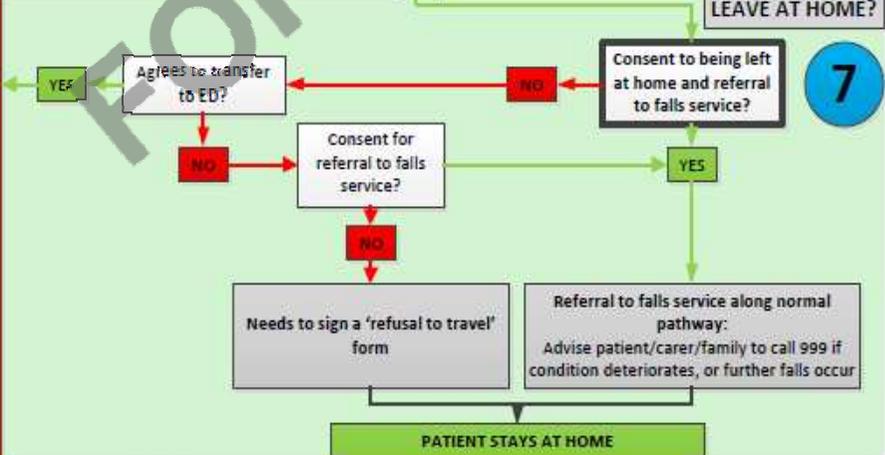
## MOBILITY



## SOCIAL AND RISK ASSESSMENT



## LEAVE AT HOME?



## Results

- The full dataset will be available for analysis in June 2013
- 220 paramedics participated, and attended over 10,000 potentially eligible patients (4,853 available for primary outcome)
- Focus groups held with intervention paramedics pre and post trial- “to identify factors which facilitate or hinder use of the intervention”
- We are on target to detect clinically important differences in outcomes at 6 months, while monitoring the safety of the intervention at 1 month

## **SAFER 3 objectives**

To compare operational and safety related outcomes for patients seen by the paramedics trained in the decision support software, compared with a group attended by paramedics not using the tool.

- How many patients left at scene have no subsequent 999 call or ED attendance in the following 7 days (safety)?
- Do conveyance rates change?
- Do referral rates change?
- What do patients report about quality of life?

## **SAFER 3 research methods**

- 30 paramedic volunteers to be sought from 3 services-randomly allocated to intervention group (with CCDS), or control group (care as usual)
- 1,500 patients per service to be studied (non Cat A, adult 999 patients)
- Qualitative research with ambulance service staff, patients and service partners
- Panel of clinical specialists to conduct blinded review of patient safety (400 patients)
- Patient questionnaire on events and quality of life at one month and six months after incident

- What have we learnt?
  - Paramedic decision making a complex multifaceted interplay of many factors
  - Context in which paramedics work- individual for each paramedic
  - SAFER Programme building on best ways to support paramedics to make the decisions

- **Challenges**

- Setting up and carrying out research in an rapidly changing NHS environment
- How to identify, invite, gain informed consent and follow-up patients in the pre-hospital care setting
- Technology presents its own challenges!

- Strengths
  - Learning experience- each studies benefits from challenges in previous studies
  - Follow MRC Framework for developing and evaluating complex interventions
  - Using a cluster randomised trial design provides robust evidence about the effectiveness of this new model of care and will enable ambulance services to use resources efficiently