

EMERGE PRESENTS

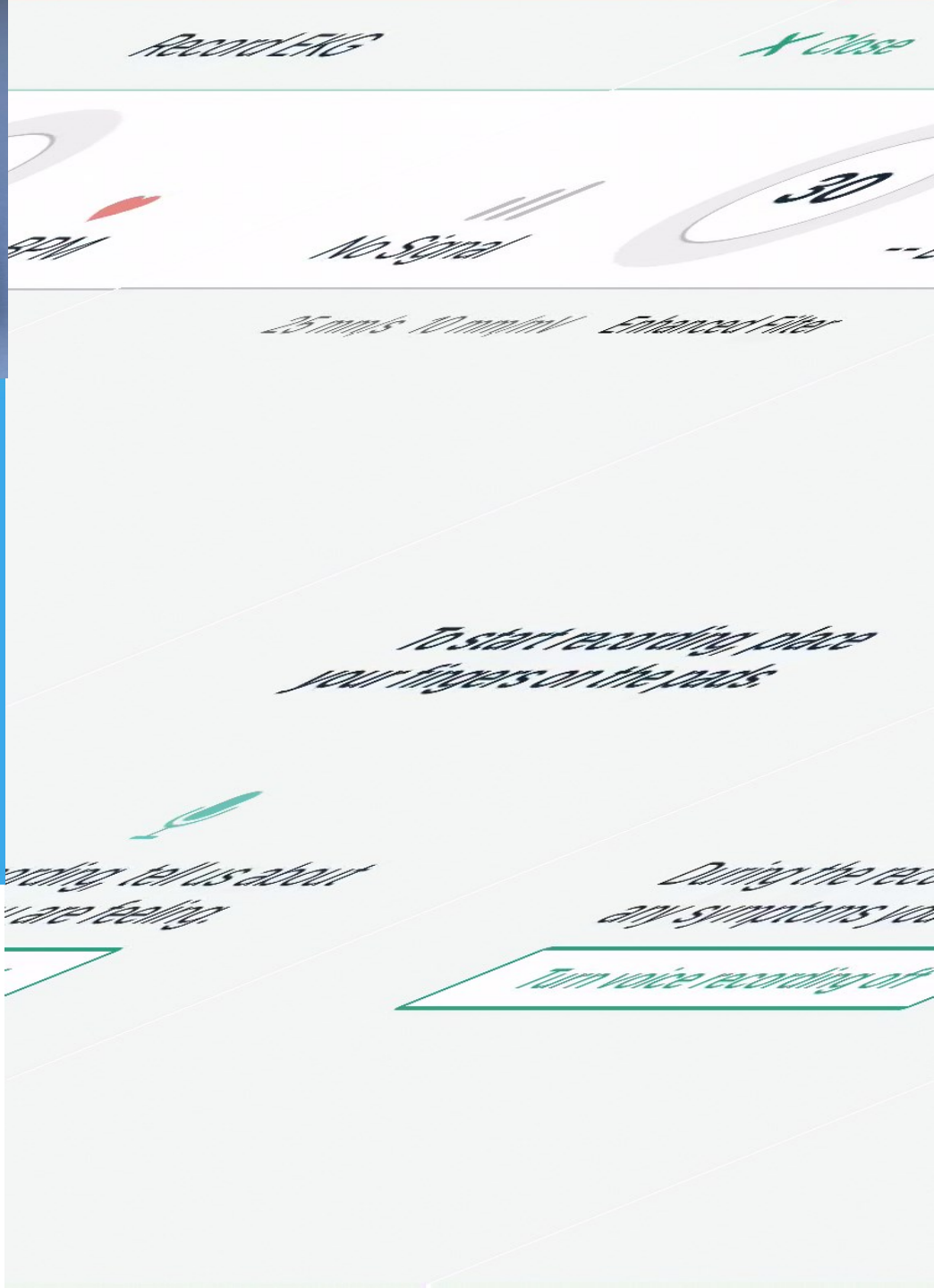
THE IPED STUDY

MULTI-CENTRE RCT OF A SMART PHONE BASED EVENT RECORDER
ALONGSIDE STANDARD CARE VS STANDARD CARE FOR PATIENTS
PRESENTING TO THE ED WITH PALPITATIONS AND PRE-SYNCOPE

MATT REED - CHIEF INVESTIGATOR

BACKGROUND

- 300,000 UK ED presentations a year
- Underlying rhythm diagnosis is difficult
- Only way to establish the underlying heart rhythm is to capture an ECG while the patient has symptoms
- 12-lead ECG and conventional ambulatory monitoring are of limited efficacy due to the infrequency of symptoms
- Holter diagnostic yield less than 20%



Competing interests:

The authors declare that they have no competing interests and no financial interest in the device used in this study. AliveCor had no involvement in the study.

METHODS

- Multi-centre open label, randomised controlled trial
- Participants >16 years old presenting to 10 UK hospital EDs were included



METHODS:

INCLUSION CRITERIA

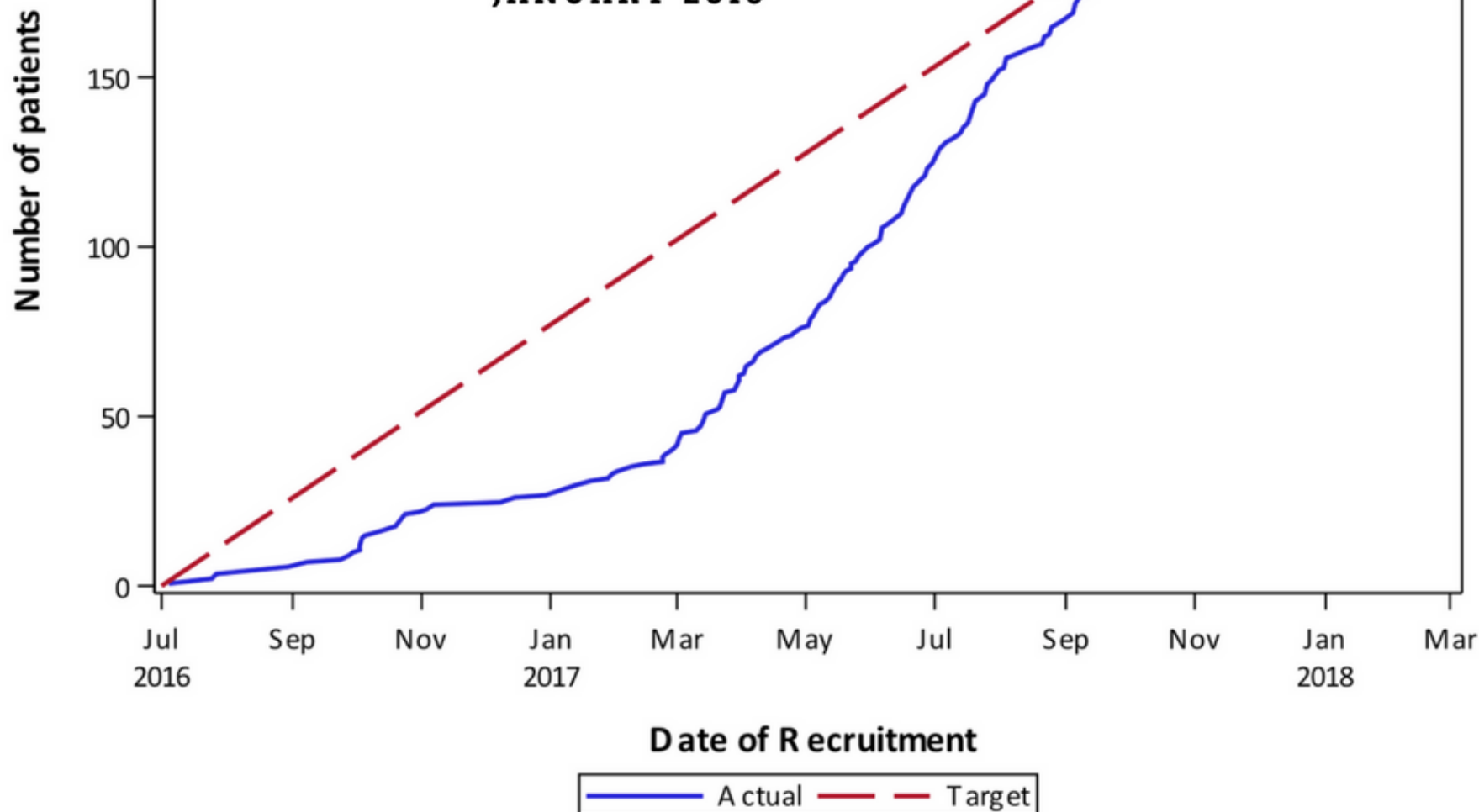
- Participant aged 16 years or over
- Participant presenting with an episode of palpitations or pre-syncope with no obvious cause
- Participant's underlying ECG rhythm during these episodes remains undiagnosed after clinical assessment

METHODS

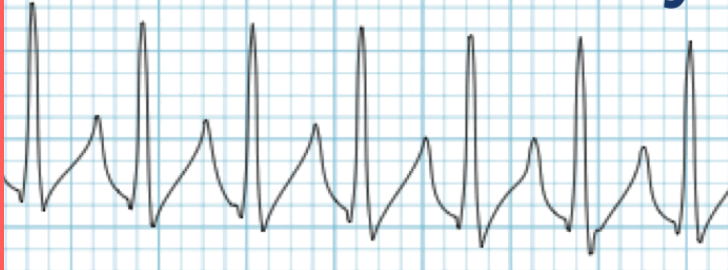
- Participants were randomised to either
- (a) intervention group; standard care plus the use of a smart phone based event recorder or
- (b) control group; standard care alone
- Primary endpoint was symptomatic rhythm detection rate at 90 days

RESULTS

243 PARTICIPANTS RECRUITED OVER AN 18-MONTH PERIOD BETWEEN 4 JULY 2016 AND 9 JANUARY 2018



The IPED study



RESULTS

243 participants

126 Intervention group

117 Control group

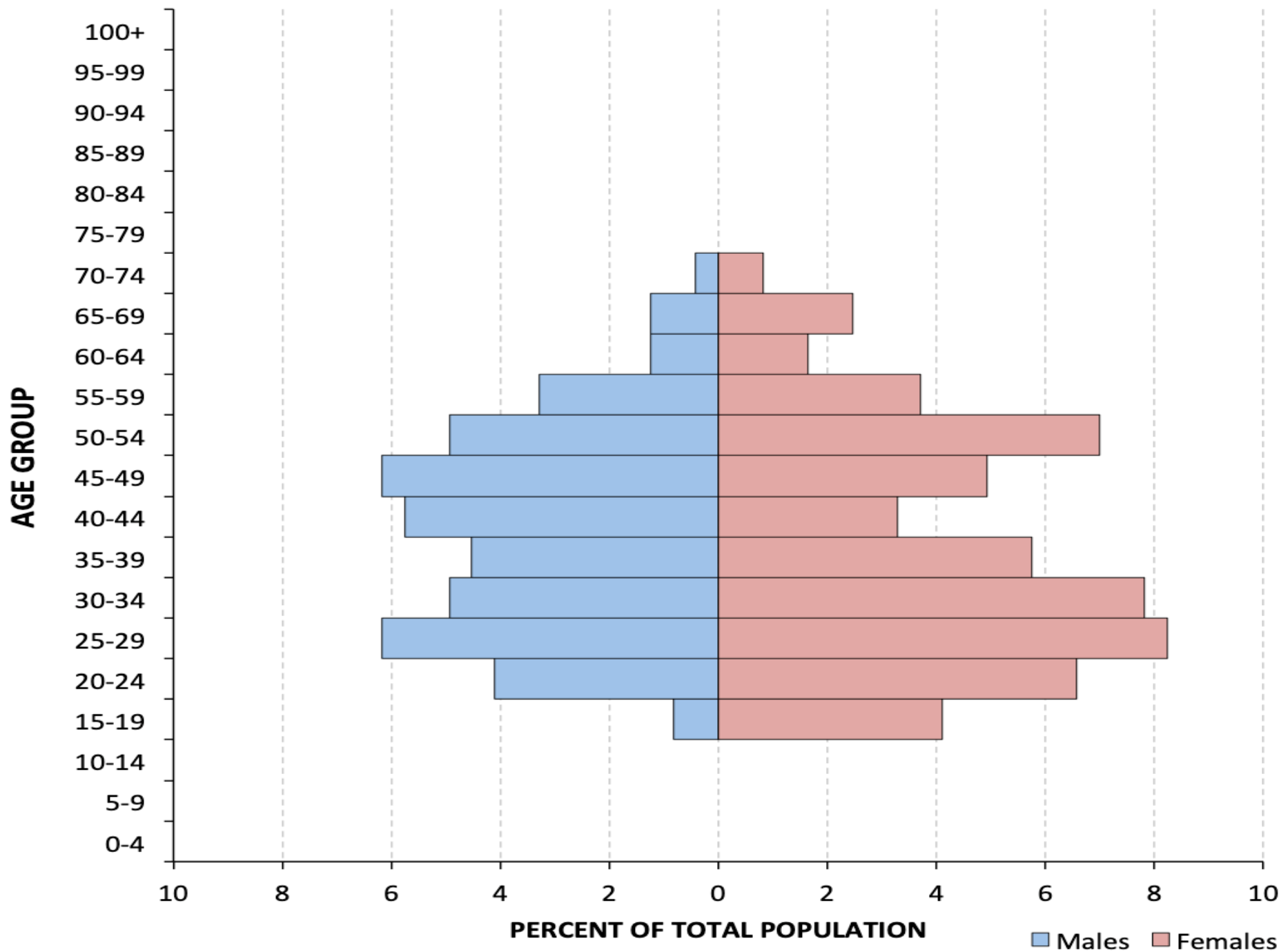
43% Male, 57% Female

91% Palpitations

9% Pre-syncope

Age 17-74 years

Mean = 40.0



PRIMARY OUTCOME

SYMPTOMATIC RHYTHM AT 90 DAYS

55.6%

69 participants in the
intervention group

(n=124; 55.6%; 95% CI 46.9-64.4%)

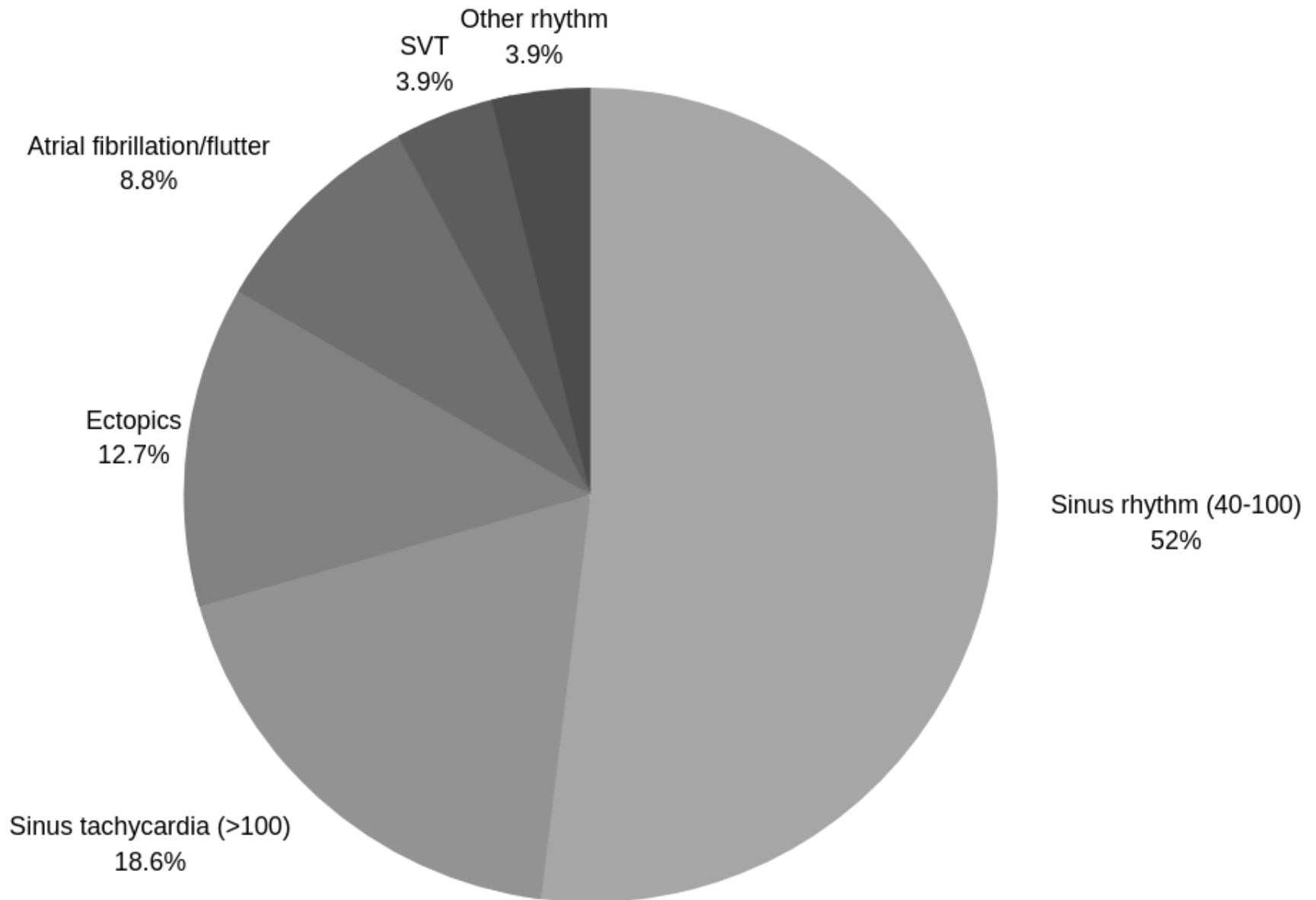
9.5%

11 participants in the
control group

(n=116; 9.5%; 95% CI 4.2-14.8)

$p < 0.0001$

SYMPTOMATIC RHYTHMS (both groups)



SECONDARY OUTCOME

MEAN TIME TO SYMPTOMATIC RHYTHM DETECTION

9.5 DAYS

Intervention group

(SD 16.1, range 0-83)

42.9 DAYS

Control group

(SD 16.0, range 12-66)

$p < 0.0001$

SECONDARY OUTCOME

SYMPTOMATIC CARDIAC ARRHYTHMIA AT 90 DAYS

8.9%

11 participants in the
intervention group

(n=124; 8.9%; 95% CI 3.9-13.9%)

0.9%

1 participant in the
control group

(n=116; 0.9%; 95% CI 0.0-2.5%)

p=0.006

SECONDARY OUTCOME

MEAN TIME TO SYMPTOMATIC CARDIAC ARRHYTHMIA

9.9 DAYS

Intervention group

(SD 15.6, range 1-55)

**48.0
DAYS**

Control group

(1 participant)

$p=0.0004$

SECONDARY OUTCOME

COST PER SYMPTOMATIC RHYTHM DIAGNOSIS

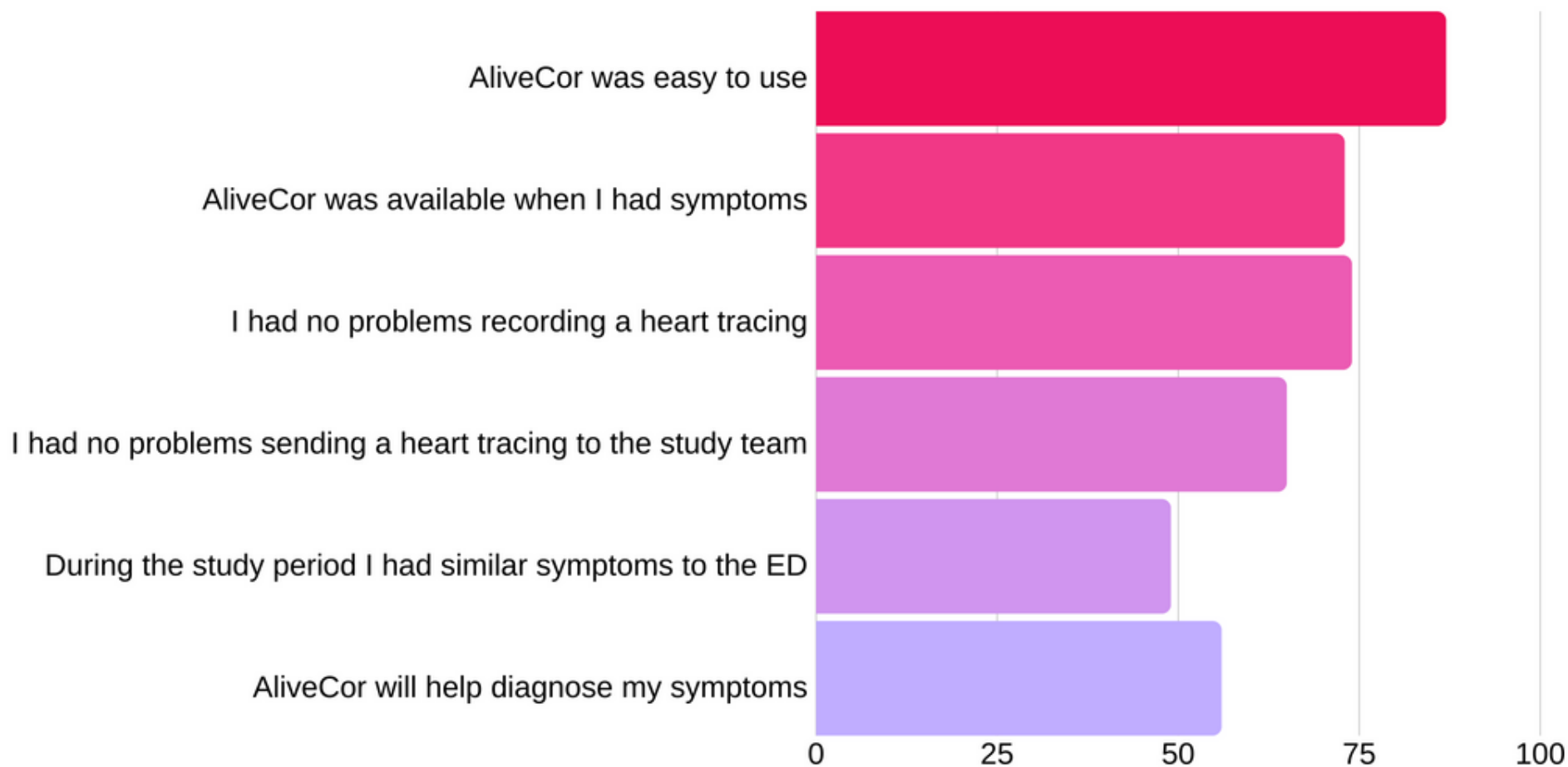
£474

Intervention group

£1395

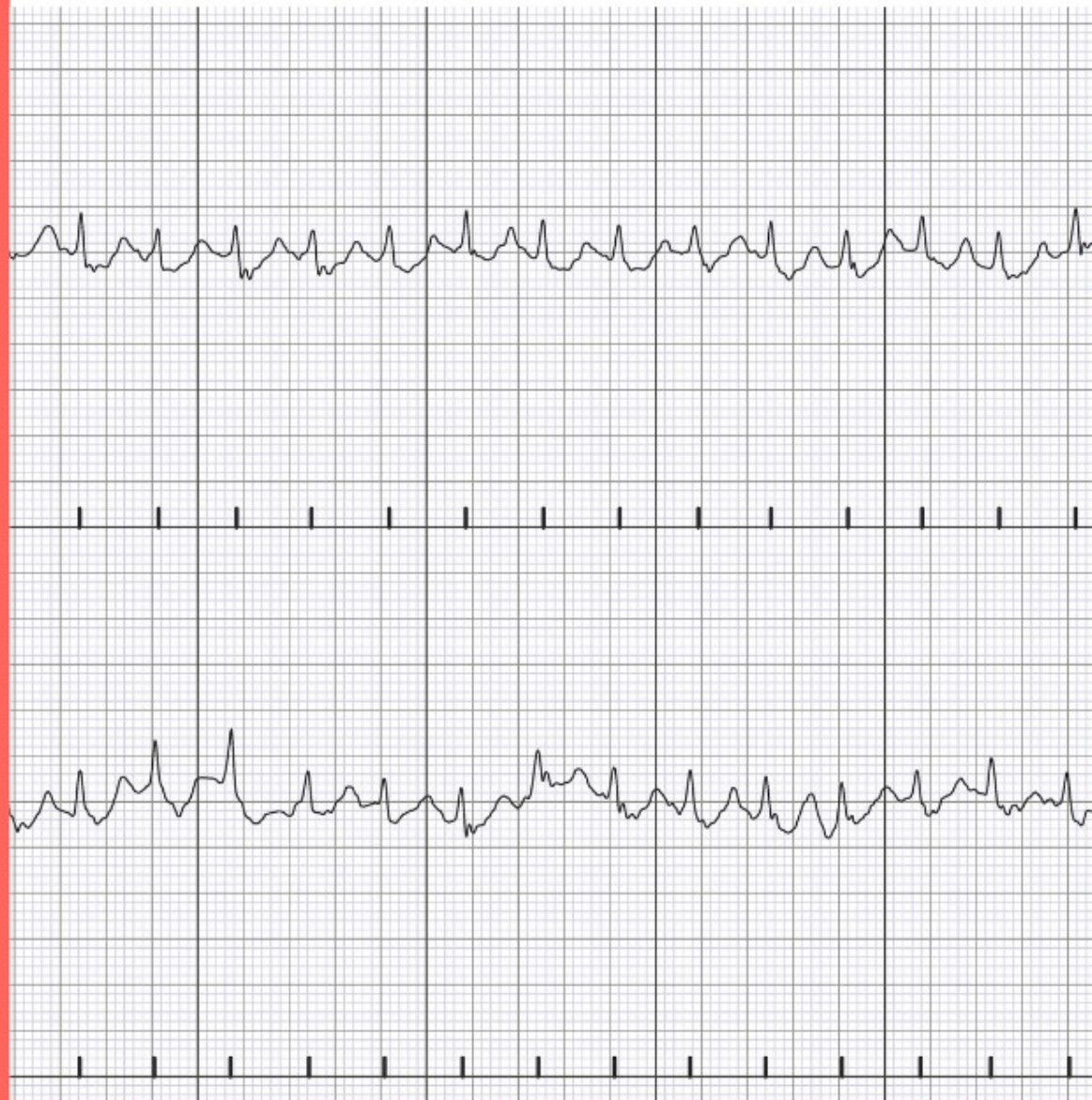
Control group

PATIENT SATISFACTION



Percentage rated 'agree' or strongly agree' in returned surveys

The real story.....



CONCLUSION

A smart phone based event recorder should be considered as part of on-going care for all patients presenting acutely to EDs with unexplained palpitations or pre-syncope

DISSEMINATION

WHAT NEXT?



Thanks to

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**Medical and
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participating EDs**

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research nurses**