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Australian Resuscitation Outcomes Consortium

Medicine, Nursing and Health Sciences

HOLLYWOOD HEART ATTACK – busting the myths

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Funding from Heart Foundation

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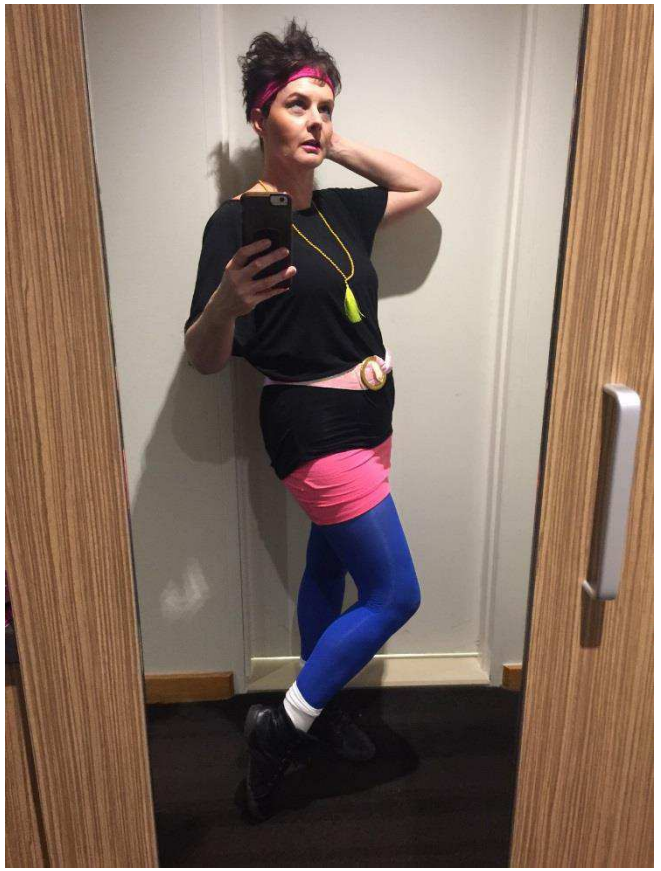
Heart Foundation®

Costume up people!



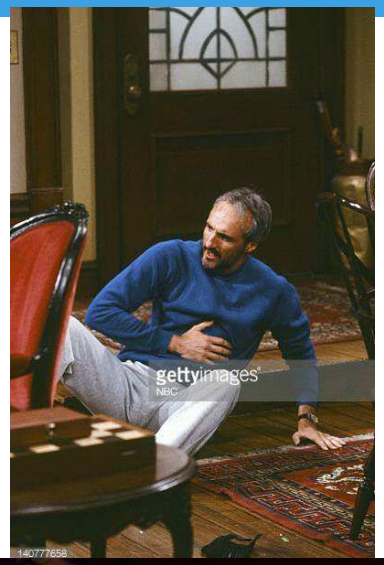
Get Totally Tropical!

Background

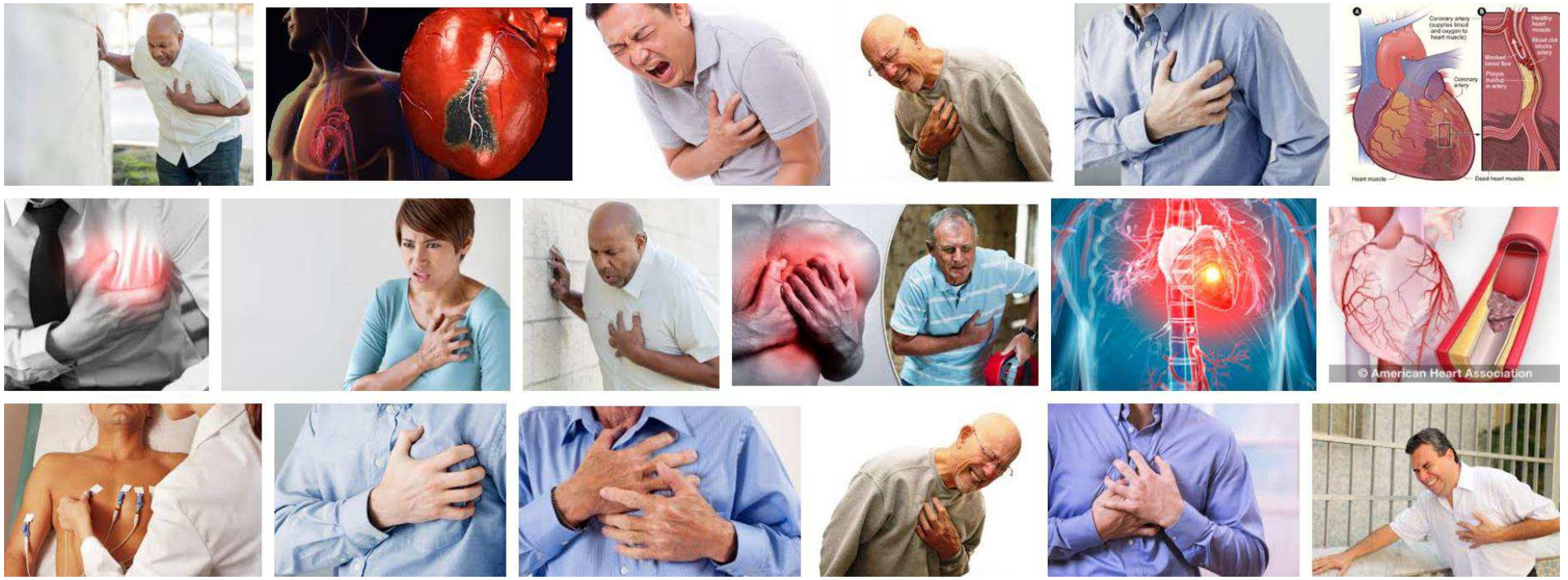
- The majority of acute coronary syndrome (ACS) patients still delay in presenting to hospital.
- Early recognition of symptoms as heart-related = seek medical attention faster = increases effectiveness of revascularisation and possibly preventing cardiac arrest.
- Only 50% of ACS pts recognise symptoms as heart-related.
- In part –because a significant proportion expect a heart attack to be similar to those portrayed in the media.

The myths

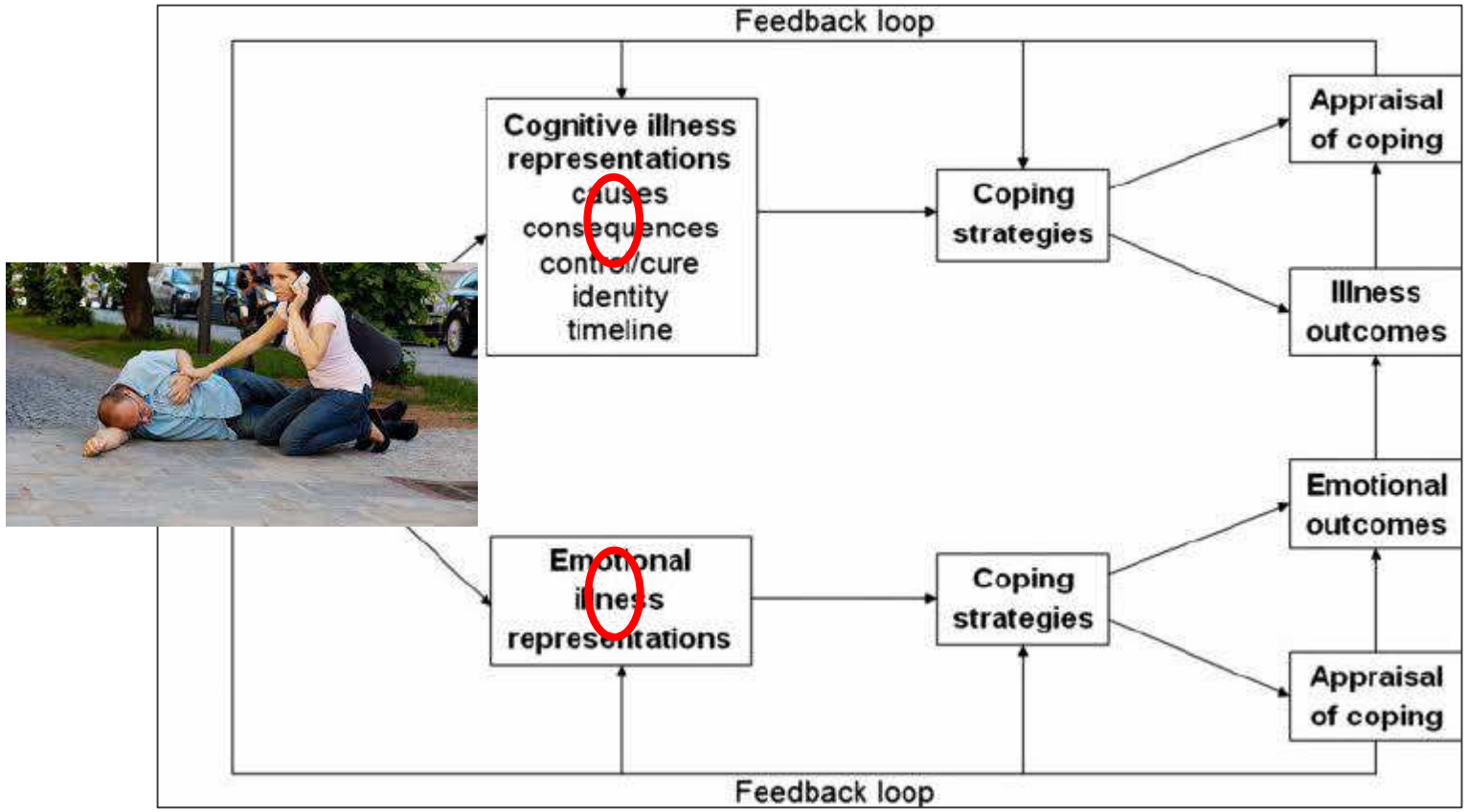
- Myth #1: Having a heart attack always involves severe chest pain and collapse
- Myth #2: Heart attacks only happen to “old men.”
- Myth #3: Heart attacks only happen during dramatic, stressful events.
- Myth #4: Heart attacks always happen suddenly and are incapacitating



Dr Google – images “heart attack”



Leventhal's Common-Sense Model of Self-Regulation



Health Psychol Rev. 2014;8(2):129-53.

Illness perceptions

- The illness perceptions of patients with CAD have been considered a predictor of their:
  - functional status
  - returning to work
  - depressive symptoms
  - and attendance at cardiac rehabilitation clinics

Dickens et al. General Hospital Psychiatry 2008; 30: 414–420.

Whitmarsh et al. British Journal of Health Psychology 2003; 8:209–221.

Petrie et al.BMJ 1996; 312: 1191–1194.

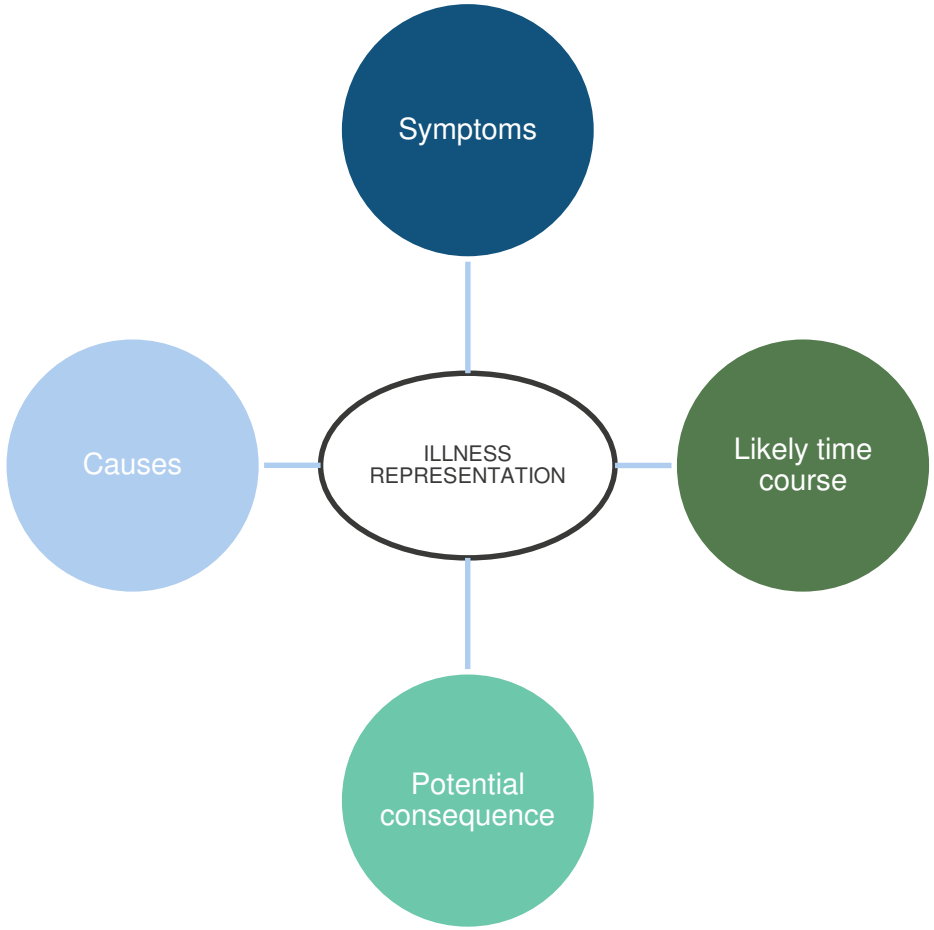
Illness representation/perceptions

Illness representation determines how someone responds to potential health threats:

- Type, number of symptoms
- Symptoms onset, persistence and change
- Extent of social and physical disability
- Recognition and identification of symptoms
- Perceived severity

Illness Perception Questionnaire (IPQ)

http://www.uib.no/ipq/



Research in Nursing & Health, 2007, 30, 584–594

Psychometric Evaluation of the Acute Coronary Syndrome (ACS) Response Index

Barbara Riegel,[1,2*,†] Sharon McKinley,[3‡] Debra K. Moser,[4§] Hendrika Meischke,[5‖] Lynn Doering,[6*] Kathleen Dracup[7¶]

A measure assessing patient knowledge, attitudes and beliefs about ACS symptoms and response

- **Knowledge:** e.g. identify symptoms from a list of correct and incorrect symptoms
- **Attitudes**: e.g. How sure are you that you could recognize the signs and symptoms of a heart attack in yourself?
- **Beliefs**: e.g. If I thought I was having a heart attack, I would wait until I was very sure before going to the hospital

Contemporary view of illness perceptions for ACS

Mass Media Campaigns' Influence on Prehospital Behavior for Acute Coronary Syndromes: An Evaluation of the Australian Heart Foundation's Warning Signs Campaign

Janet E. Bray, RN, PhD; Dion Stub, MD, PhD; Philip Ngu, MD; Susie Cartledge, RN, PhD (Candidate); Lahn Straney, PhD; Michelle Stewart, BHlthSc; Wendy Keech, MPH; Harry Patsamanis, BAppSci; James Shaw, MD, PhD; Judith Finn, RN, PhD

Background—The aim of this study was to examine the awareness of a recent mass media campaign, and its influence on knowledge and prehospital times, in a cohort of acute coronary syndrome (ACS) patients admitted to an Australian hospital.

Methods and Results—We conducted 199 semistructured interviews with consecutive ACS patients who were aged 35 to 75 years, competent to provide consent, and English speaking. Questions addressed the factors known to predict prehospital delay, awareness of the campaign, and whether it increased knowledge and influenced actions. Multivariable logistic regression was used to examine the association between campaign awareness and a 1-hour delay in deciding to seek medical attention (patient delay) and a 2-hour delay in presenting to hospital (prehospital delay). The median age was 62 years (IQR=53 to 68 years), and 68% (n=136) were male. Awareness of the campaign was reported by 127 (64%) patients, with most of these patients stating the campaign (1) increased their understanding of what is a heart attack (63%), (2) increased their awareness of the signs and symptoms of heart attack (68%), and (3) influenced their actions in response to symptoms (43%). After adjustment for other predictors, awareness of the campaign was significantly associated with patient delay time of ≤1 hour (adjusted odds ratio [AOR] =2.25, 95% CI: 1.03 to 4.91, *P*=0.04) and prehospital delay time ≤2 hours (AOR=3.11, 95% CI: 1.36 to 7.08, *P*=0.007).

Conclusions—Our study showed reasonably high awareness of the warning signs campaign, which was significantly associated with shorter prehospital decision-making and faster presentation to hospital. (***J Am Heart Assoc.*** **2015;4:e001927 doi: 10.1161/JAHA.115.001927**)

Key Words: acute coronary syndrome • emergency medical services • health education • mass media • prehospital delay

Interviews were conducted with 199 patients admitted for STEMI, NSTEMI and UA

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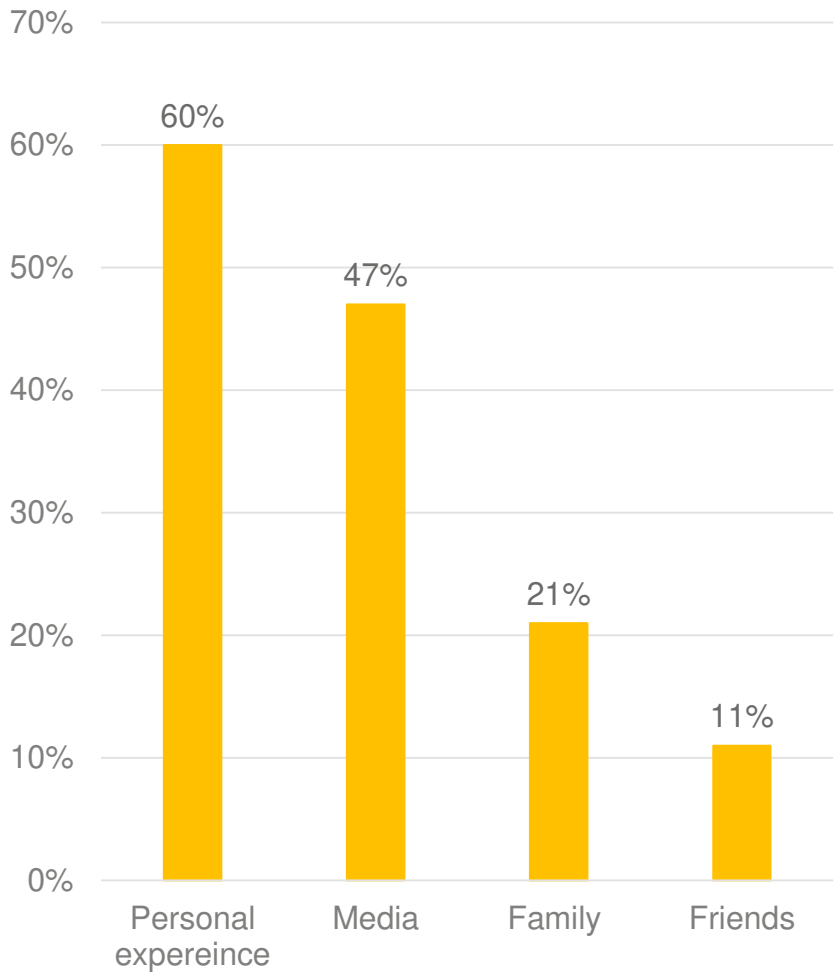
Heart Foundation

Previous knowledge

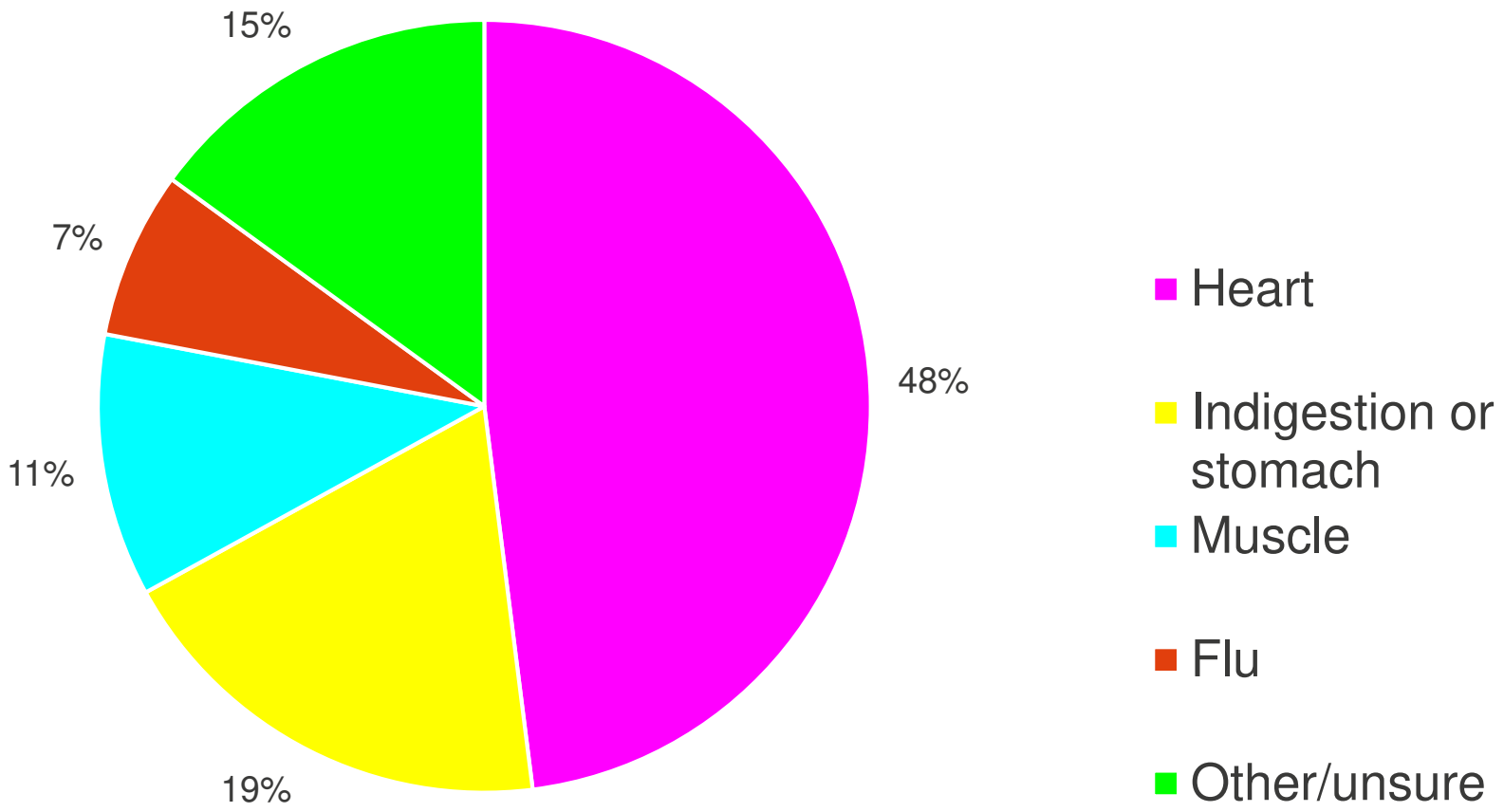
91% knew at least one heart attack warning sign



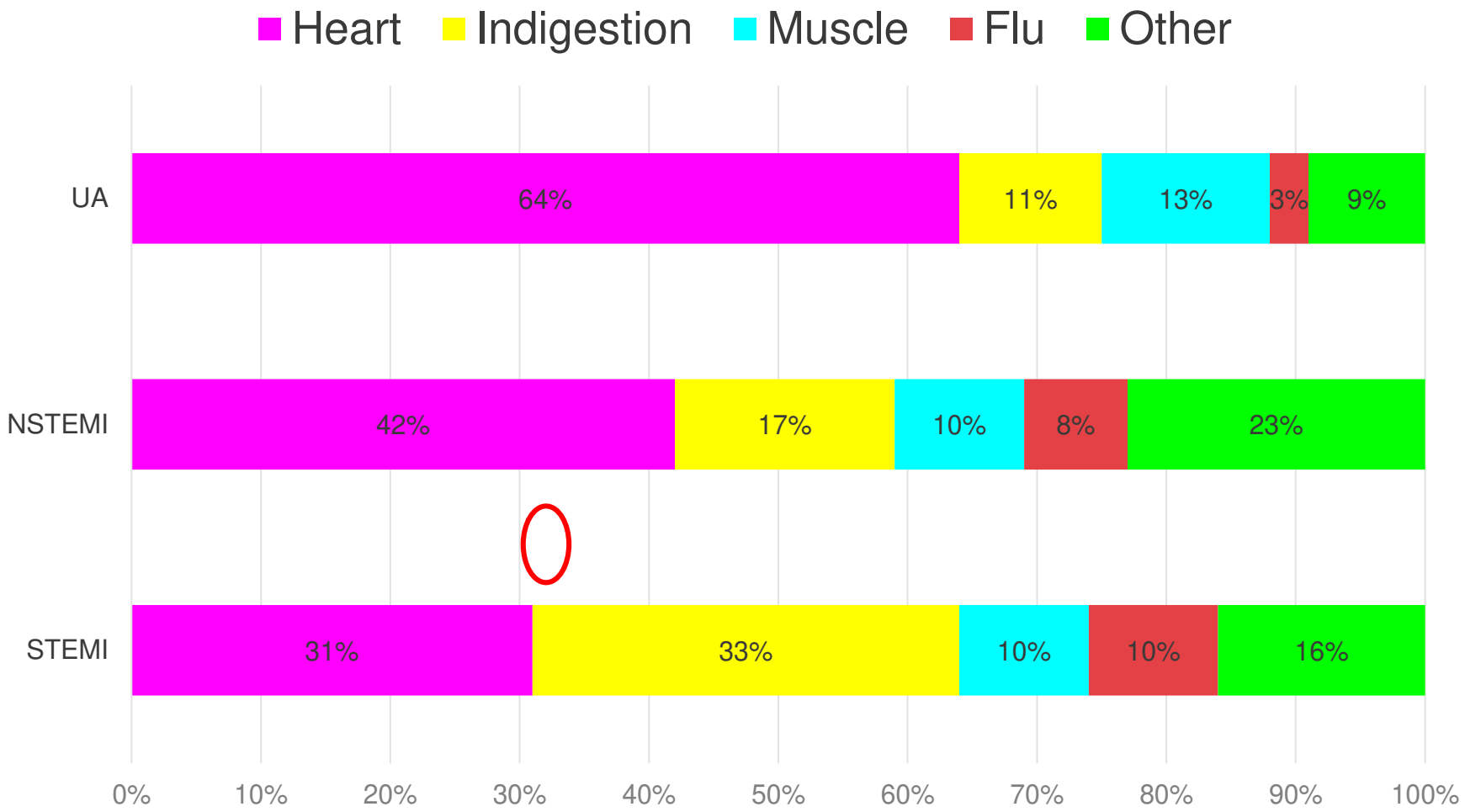
Illness representation at onset compared to Hollywood heart attack

- 71% substernal/ left-sided chest pain
  - tightness, pressure, heaviness, squeezing
  - chest, neck, epigastric, shoulder, arm, jaw and back
- 35% severe (8-10/10)
  - 36% moderate (5-7/10), 27% mild
- 62% sudden
  - Gradual or fluctuating
- 27% though symptoms were serious (39%AMI)
- most not incapacitated

Patient's self-diagnosis at onset



By ACS subtype



Who attributed symptoms as heart-related?

	All other	Heart-related	P-value
Age, mean (SD)	59 (10)	61 (10)	0.13
Male	66%	71%	0.53
Metropolitan resident	81%	80%	0.89
Australian-born	60%	52%	0.25
Married	66%	64%	0.75
>12 years education	51%	54%	0.71
First-aid training	49%	39%	0.15
Previous IHD	**28%**	**56%** ↑	**<0.001**
Hypertension	55%	64%	0.18
Diabetes	25%	26%	0.83
Hypercholestrolemia	59%	66%	0.27
Smoking	**42%**	**28%** ↓	**0.04**

Who attributed symptoms as heart-related?

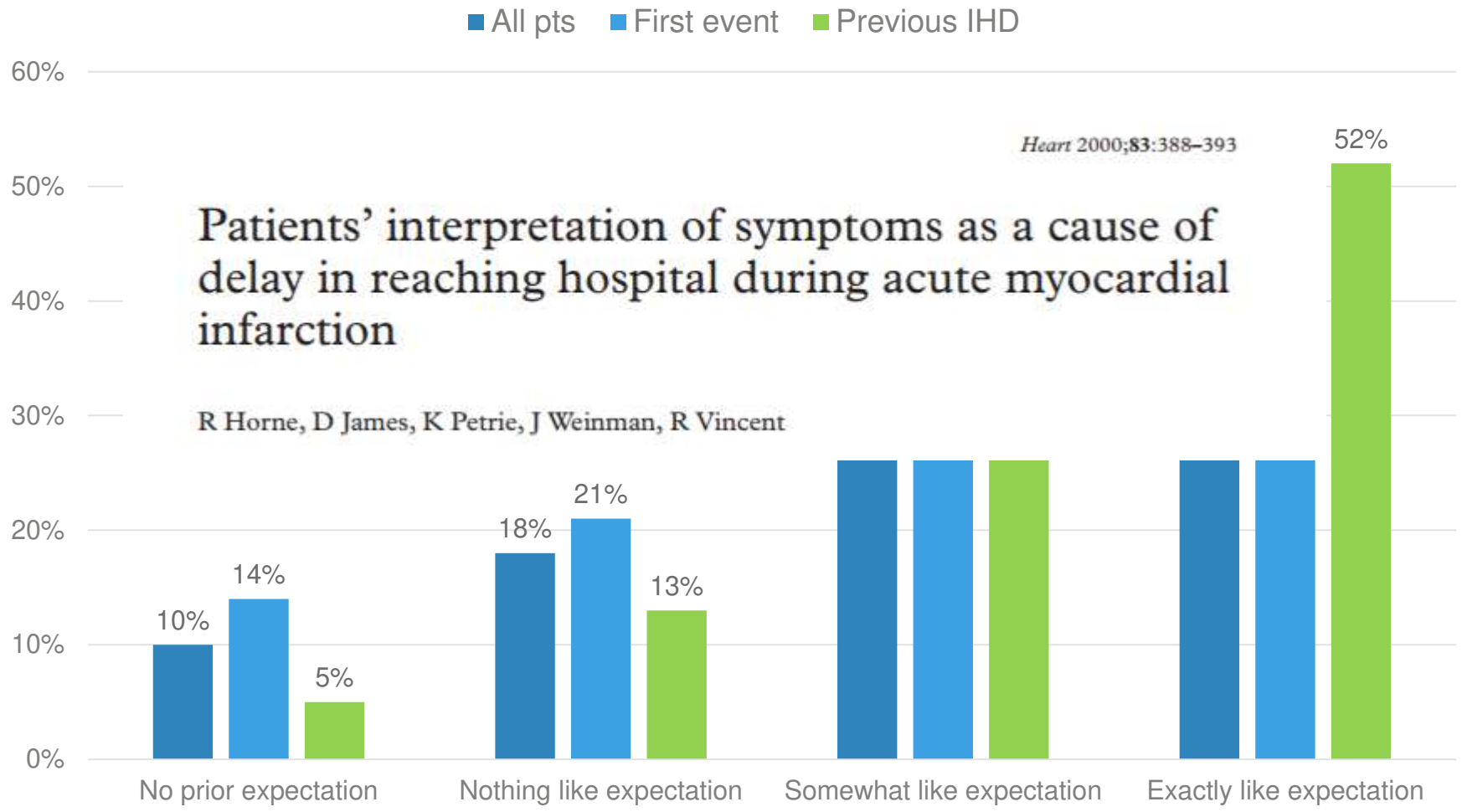
	All other	Heart-related	P-value
Sudden onset	**69%**	**55% ↓ (68% AMI)**	**0.04**
Severe pain	54%	44%	0.17
Out-of-hours	55%	54%	0.87
Substernal chest pain*	73%	75%	0.79
Epigastric pain	**13%**	**4% ↓**	**0.07**
Diaphoresis/sweating	**34%**	**22% ↓**	**0.07**
Fatigue/weakness	**14%**	**5% ↓**	**0.03**
Palpitations	**0%**	**11% ↑**	**0.001**
Nausea/vomiting	25%	23%	0.76

*Other locations and types of pain=NS

Who attributed symptoms as heart-related?

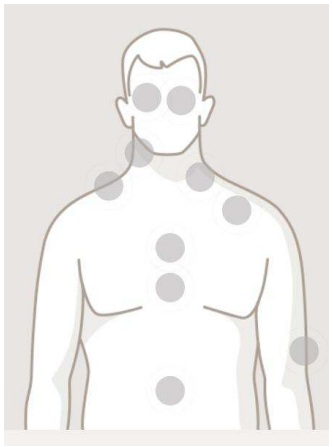
	All other	Heart-related	P-value
Aware of heart attack signs	**87%**	**95%** ↑	**0.07**
Knowledge from media	**57%**	**36%** ↓	**0.003**
Knowledge from family/friends	73%	66%	0.87
Aware of warning signs campaign	67%	60%	0.28
Prehospital delay, median minutes	**304**	**142** ↓	**0.02**
Called EMS	51%	57%	0.41
Visited local doctor	**24%**	**12%** ↓	**0.02**

How closely did this experience match what you thought having a heart attack might be like?



How was it different?

- Four themes were identified in those in whom the experience was different to previous expectations:
  - different pain severity (47%),
  - different onset (33%),
  - different symptoms experienced (21%)
  - different location of pain (21%)



How was it different to expectations?

- **Difference in characteristics and location of pain**
  - *#12: 62y, female, NSTEMI, self-dx muscle pain.*

  *"I tended to think that the heart, **the pain would be much worse, that there would far more pain in the chest than what there was**. Instead of fairly moderate tightness at the top of the chest, I was **expecting something in the middle of the chest and that didn't happen**. Even with the pain down the arms, I thought it was supposed to be one or the other…but it was both. I'd heard about nausea, but my stomach felt like someone had just dropped bricks in it. **It wasn't nauseated at all, just felt heavy and full**. They were really disconcerting symptoms, but I didn't know if it was a heart attack or not."*
  - #16: 56y, male, STEMI, self-dx unfit, out of shape. OHCA –AED.

  *"Chest **tightness not pain**." "**Didn't hurt as much**. You know, it wasn't comfortable, but it wasn't a desperately painful exercise….the pain level, I mean I wasn't having a great time but **I was never in agony**. And oddly never feared for my life".*

How was it different to expectations?

- **Expected different onset and being incapacitated**

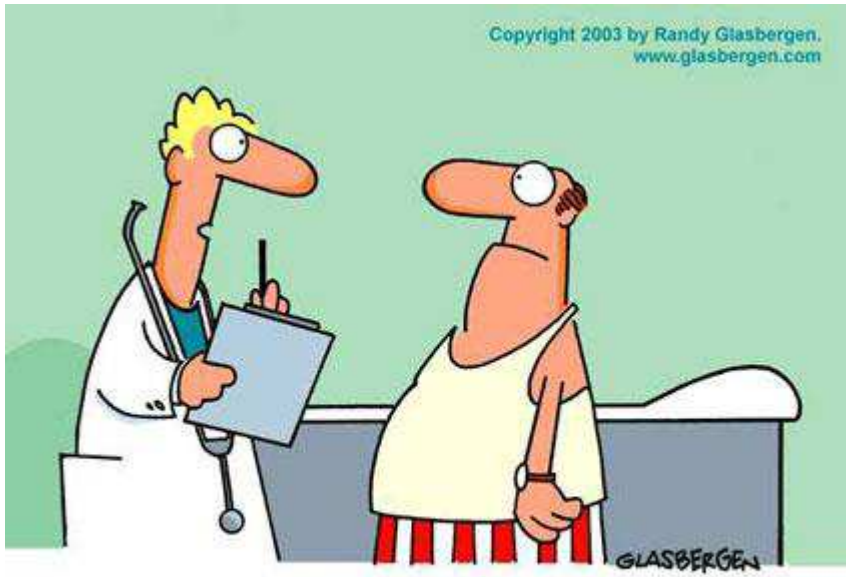
  – #78: 68year, male, STEMI, self-dx indigestion.
  "*Thought **pain would be a lot stronger and you'd be crippled over** and that."*
  – #64: 44y, male, STEMI, self-dx indigestion
  *"I thought when you were having a heart attack it would be a **sharp real sudden pain, that just went bang and then you'd collapse** and that. I didn't think it would be an ongoing thing, that just kept going and going until it got worse, basically."*
  – #172: 42y, male, NSTEMI, self-dx flu
  ***"So a heart attack, because it has the word attack in there, implies to me that it would be a sudden onset, something that was quick**. Whereas this wasn't, this was slow creeping and happened over a number of days and it **wasn't a sudden event**."*

Emotional reactions

- 52% alarming or troubling others
- 19% embarrassment
- 18% fear
- 13% dislike of hospitals / previous bad experience

What can be done??

- Patient education
- Public education



"What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?"

What can we do for ACS patients?

Australian Critical Care 26 (2013) 49–54

Contents lists available at SciVerse ScienceDirect

Australian Critical Care

journal homepage: www.elsevier.com/locate/aucc

A pre-test post-test study of a brief educational intervention demonstrates improved knowledge of potential acute myocardial infarction symptoms and appropriate responses in cardiac rehabilitation patients

Robyn Gallagher RN BA (Psych) MN PhD[a,*],
Kellie Roach RN BHSc (Nurs), Cert Cardiology[b],
Julie Belshaw RN Cert, Acute Care, Grad Dip (Med/Surg Nursing)[c],
Ann Kirkness RN[b],
Leonie Sadler RN Grad Dip (Nurs) CCRN[d],
Darrell Warrington RN Dip Health Counsel Grad Cert (Ed)[e]

ELSEVIER

European Journal of Cardiovascular Nursing 6 (2007) 105–111

European Journal of Cardiovascular Nursing

www.elsevier.com/locate/ejcnurse

The effect of education and counselling on knowledge, attitudes and beliefs about responses to acute myocardial infarction symptoms

T. Buckley [a,b,*], S. McKinley [a,b], R. Gallagher [a], K. Dracup [c], D.K. Moser [d], L.M. Aitken [e]

- **Targeted education**
- Eight interventions - improve knowledge, attitudes or beliefs
- Six/eight interventions reported significant improvements in knowledge of ACS symptoms.
- Three studies reported on attitudes and beliefs - one significant improvement in attitudes, two studies reported significant improvements in beliefs.
- What about behaviour!!!!!

Tailored education in ACS patients

Delay to Treatment in Acute Coronary Syndrome

Kathleen Dracup, RN, DNSc; Sharon McKinley, RN, PhD; Barbara Riegel, RN, DNSc; Debra K. Moser, RN, DNSc; Hendrika Meischke, PhD; Lynn V. Doering, RN, DNSc; Patricia Davidson, RN, PhD; Steven M. Paul, PhD; Heather Baker, RN, MA; Michele Pelter, RN, PhD

***Background*—**Delay from onset of acute coronary syndrome (ACS) symptoms to hospital admission continues to be prolonged. To date, community education campaigns on the topic have had disappointing results. Therefore, we conducted a clinical randomized trial to test whether an intervention tailored specifically for patients with ACS and delivered one-on-one would reduce prehospital delay time.

***Methods and Results*—**Participants (n=3522) with documented coronary heart disease were randomized to experimental (n=1777) or control (n=1745) groups. Experimental patients received education and counseling about ACS symptoms

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The Journal of Emergency Medicine, Vol. 46, No. 4, pp. 495–506, 2014

0736-4679/$ - see front matter

http://dx.doi.org/10.1016/j.jemermed.2013.08.114

Selected Topics:
Prehospital Care

A RANDOMIZED CONTROLLED TRIAL TO REDUCE PREHOSPITAL DELAY TIME IN PATIENTS WITH ACUTE CORONARY SYNDROME (ACS)

Mary Mooney, MSC,* Gabrielle McKee, PHD,* Gerard Fealy, PHD,† Frances O' Brien, MA,* Sharon O'Donnell, PHD,* and Debra Moser‡

*School of Nursing and Midwifery, Trinity College Dublin, Dublin, Ireland, †School of Nursing, Midwifery and Health Systems, University College Dublin, Belfield, Dublin, Ireland, and ‡College of Nursing, University of Kentucky, Lexington, Kentucky

Reprint Address: Mary Mooney, MSC, School of Nursing and Midwifery, Trinity College Dublin, 24 D'Olier Street, Dublin 2, Ireland

- Individualising RCTs ACS **education built on concepts from CSM**
- ACS patients –suspected or confirmed, English speaking
- Asked them about their previous event and their behaviour.
- Re-educated or reinforced correct interpretation and behaviour.
- Followed patients and examined behaviour in subsequent events

A Randomized Clinical Trial to Reduce Patient Prehospital Delay to Treatment in Acute Coronary Syndrome

Kathleen Dracup, RN, DNSc; Sharon McKinley, RN, PhD; Barbara Riegel, RN, DNSc; Debra K. Moser, RN, DNSc; Hendrika Meischke, PhD; Lynn V. Doering, RN, DNSc; Patricia Davidson, RN, PhD; Steven M. Paul, PhD; Heather Baker, RN, MA; Michele Pelter, RN, PhD

Background—Delay from onset of acute coronary syndrome (ACS) symptoms to hospital admission continues to be prolonged. To date, community education campaigns on the topic have had disappointing results. Therefore, we conducted a clinical randomized trial to test whether an intervention tailored specifically for patients with ACS and delivered one-on-one would reduce prehospital delay time.

Methods and Results—Participants (n=3522) with documented coronary heart disease were randomized to experimental (n=1777) or control (n=1745) groups. Experimental patients received education and counseling about ACS symptoms and actions required. Patients had a mean age of 67±11 years, and 68% were male. Over the 2 years of follow-up, 565 patients (16.0%) were admitted to an emergency department with ACS symptoms a total of 842 times. Neither median prehospital delay time (experimental, 2.20 versus control, 2.25 hours) nor emergency medical system use (experimental, 63.6% versus control, 66.9%) was different between groups, although experimental patients were more likely than control to call the emergency medical system if the symptoms occurred within the first 6 months following the intervention (P=0.036). Experimental patients were significantly more likely to take aspirin after symptom onset than control patients (experimental, 22.3% versus control, 10.1%, P=0.02). The intervention did not result in an increase in emergency department use (experimental, 14.6% versus control, 17.5%).

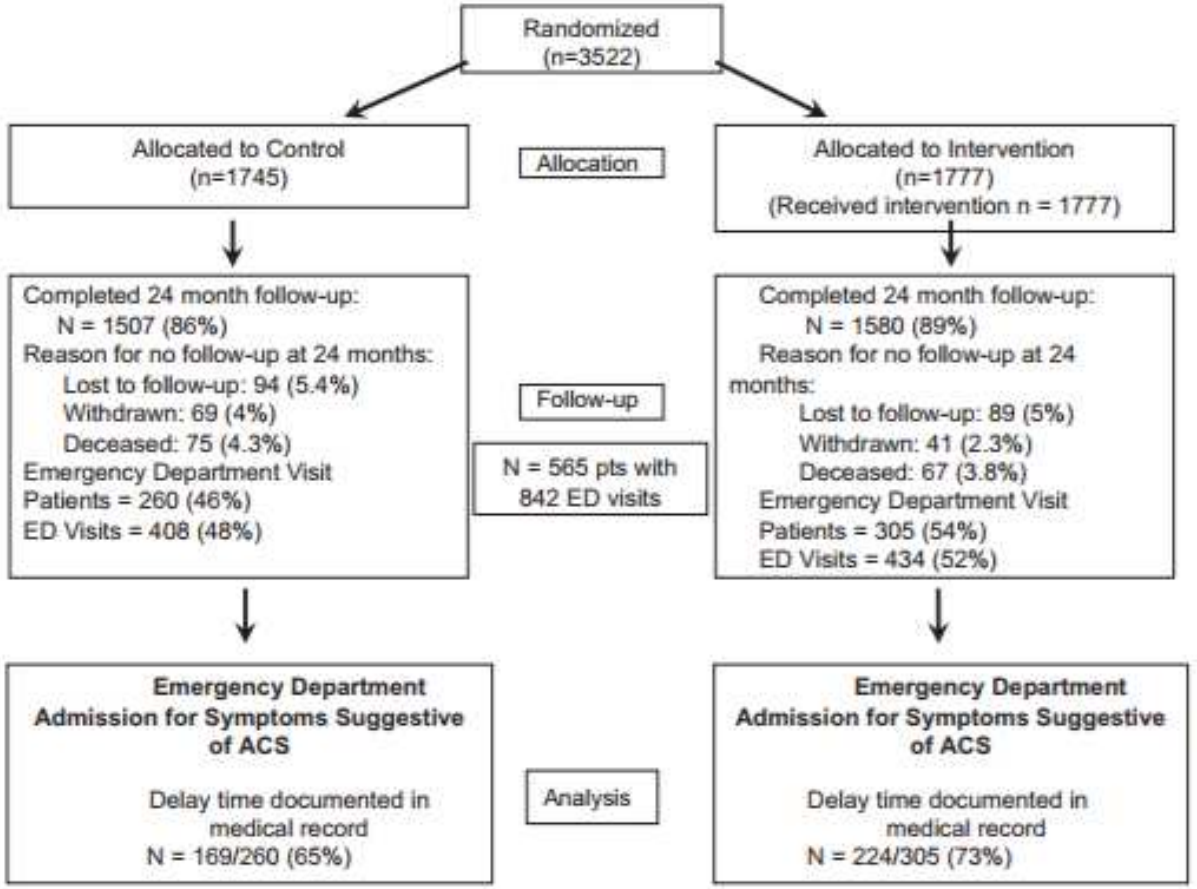
Conclusions—The education and counseling intervention did not lead to reduced prehospital delay or increased ambulance use. Reducing the time from onset of ACS symptoms to arrival at the hospital continues to be a significant public health challenge.

Clinical Trial Registration—clinicaltrials.gov. Identifier NCT00734760.

(***Circ Cardiovasc Qual Outcomes***. **2009;2:524-532.**)

Key Words: myocardial infarction ■ acute coronary syndrome

Dracup et al.


Randomized
(n=3522)
Allocated to Control
(n=1745)
Allocation
Allocated to Intervention
(n=1777)
(Received intervention n = 1777)
Completed 24 month follow-up:
N = 1507 (86%)
Reason for no follow-up at 24 months:
Lost to follow-up: 94 (5.4%)
Withdrawn: 69 (4%)
Deceased: 75 (4.3%)
Emergency Department Visit
Patients = 260 (46%)
ED Visits = 408 (48%)
Follow-up
N = 565 pts with
842 ED visits
Completed 24 month follow-up:
N = 1580 (89%)
Reason for no follow-up at 24 months:
Lost to follow-up: 89 (5%)
Withdrawn: 41 (2.3%)
Deceased: 67 (3.8%)
Emergency Department Visit
Patients = 305 (54%)
ED Visits = 434 (52%)
Emergency Department Admission for Symptoms Suggestive of ACS
Delay time documented in medical record
N = 169/260 (65%)
Analysis
Emergency Department Admission for Symptoms Suggestive of ACS
Delay time documented in medical record
N = 224/305 (73%)

Dracup et al.

Table 3. Prehospital Delay, EMS, and Aspirin Use During 2-Year Follow-Up

	Experimental	Control
Prehospital delay*	317 ED visits (n=224)	278 ED visits (n=169)
Median prehospital delay time, h	2.20	2.25
25th percentile	1.18	1.18
75th percentile	4.69	5.28
Prehospital delay time, mean±SD	4.29±0.34	5.08±0.69
Transportation mode	373 ED visits (n=305)	334 ED visits (n=260)
Ambulance/helicopter, % (n)	63.6 (194)	66.9 (174)
Private car/other, % (n)	58.7 (179)	61.5 (160)
Aspirin use before ED arrival	367 ED visits (n=259)	307 ED visits (n=212)
Yes, % (n)	22.3 (82)	10.1 (31)
No, % (n)	77.7 (285)	89.9 (276)

*Prehospital delay time (time from symptom onset to ED arrival) was obtained from patients' medical records. Because of missing data, sample sizes in prehospital delay time, transportation mode, and aspirin use are not equivalent.

- Missing data and loss to follow-up, difference between groups
- Data collection in control group unintended intervention
- No involvement with patient's physician

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Selected Topics: Prehospital Care

A RANDOMIZED CONTROLLED TRIAL TO REDUCE PREHOSPITAL DELAY TIME IN PATIENTS WITH ACUTE CORONARY SYNDROME (ACS)

Mary Mooney, MSC,* Gabrielle McKee, PHD,* Gerard Fealy, PHD,† Frances O' Brien, MA,* Sharon O'Donnell, PHD,* and Debra Moser‡

*School of Nursing and Midwifery, Trinity College Dublin, Dublin, Ireland, †School of Nursing, Midwifery and Health Systems, University College Dublin, Belfield, Dublin, Ireland, and ‡College of Nursing, University of Kentucky, Lexington, Kentucky

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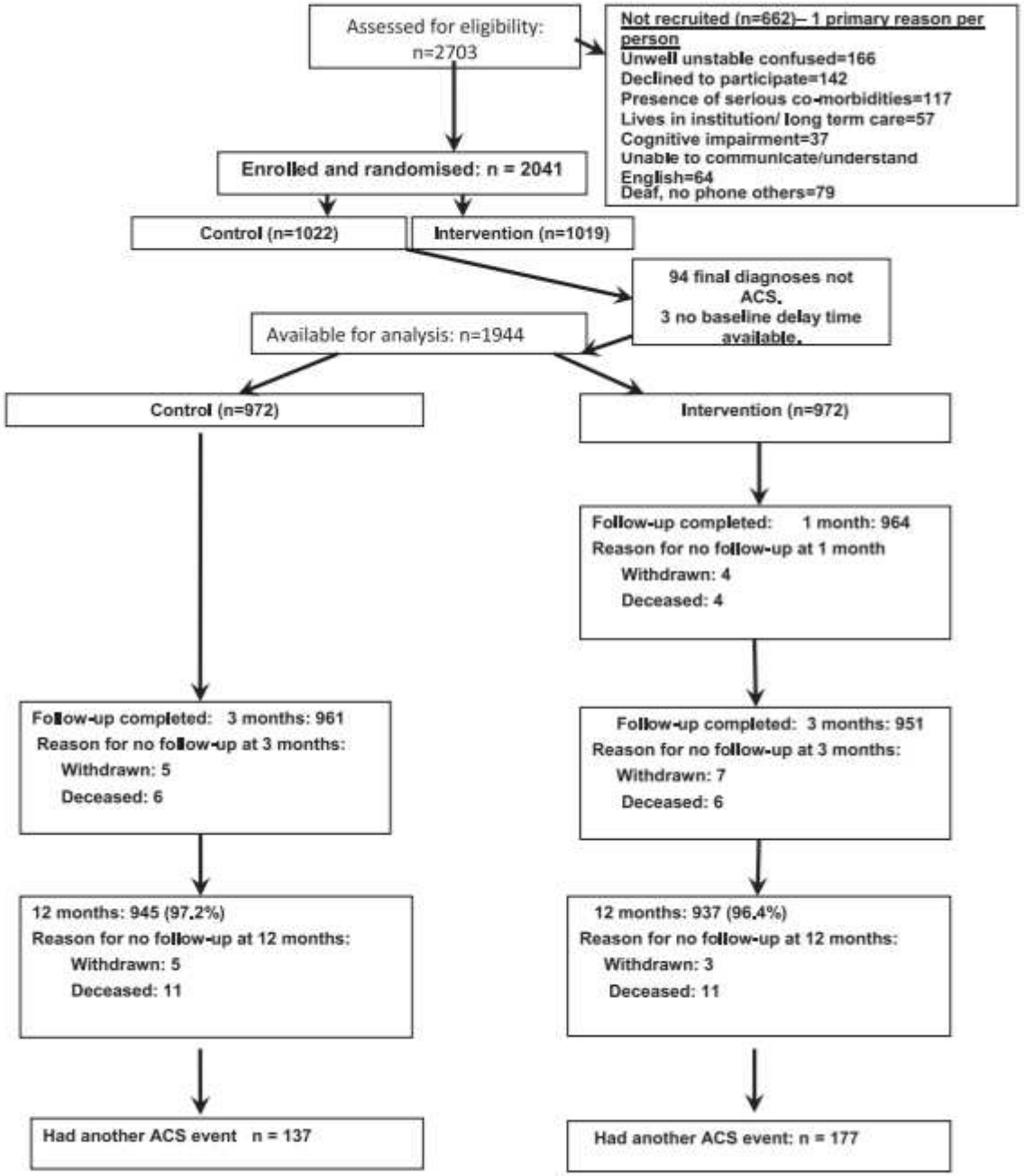


Figure 1. Consort flow diagram. ACS = acute coronary syndrome.

Table 4. Impact of the Educational Intervention on Behaviors in Response to Symptoms

Behavior Variable	Control Group (n = 137) n (%)	Intervention Group (n = 177) n (%)	*p*-Value*
Used ambulance as mode of transport to get to ED	54 (39.4)	69 (39)	0.51
Disclosed symptoms to another person within 30 min of onset	67 (48.9)	111 (62.7)	0.01*
Consulted with a general practitioner prior to attending ED	47 (36.6)	42 (23.7)	0.02*
Self-administered nitrates when symptoms occurred	63 (46)	91 (51.4)	0.06

ED = emergency department.
Values represent frequencies (percentages).
* Indicates *p* value significant at < 0.05.

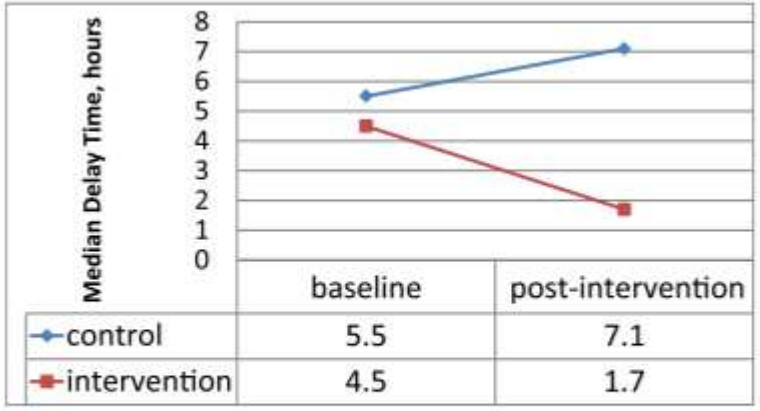
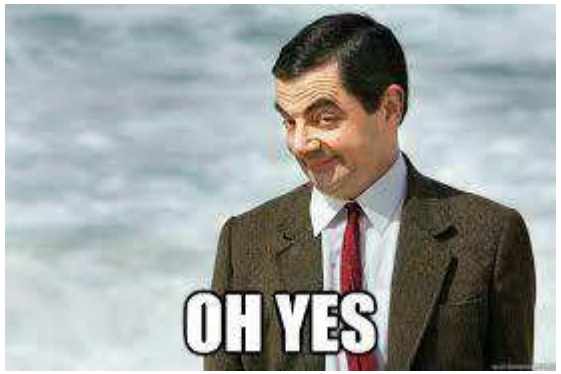


Figure 2. Median delay time in hours compared by group in those who were readmitted to an emergency department with acute coronary syndrome symptoms, n = 314 ($p \leq 0.001$).



Follow-up education with each call

Different health care setting

Less missing data

Didn't include Australia!

Time and resources

Patient Education and Counseling 96 (2014) 179–187

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

Intervention

Improving knowledge, attitudes and beliefs about acute coronary syndrome through an individualized educational intervention: A randomized controlled trial

Frances O'Brien [a,*], Gabrielle McKee [a], Mary Mooney [a], Sharon O'Donnell [a], Debra Moser [b]

[a] School of Nursing and Midwifery, Trinity College Dublin, Dublin, Ireland
[b] College of Nursing, University of Kentucky, Lexington, USA

Table 3
Knowledge, attitudes and belief scores across time by group (adjusted).

	Control ($n=551$) Estimated marginal mean (CI)	Intervention ($n=585$) Estimated marginal mean (CI)	p-Value
Knowledge (%)			
Baseline	68.6 (67.1–70.1)	68.9 (67.5–70.3)	<0.001
3 months	65.3 (64.2–66.4)	68.9 (67.8–70.0)	
12 months	64.9 (63.7–66.1)	69.9 (68.7–71.0)	
Attitudes			
Baseline	14.3 (14.0–14.6)	14.3 (14.0–14.6)	0.003
3 months	14.5 (14.2–14.8)	14.9 (14.6–15.2)	
12 months	14.7 (14.4–14.9)	15.3 (15.0–15.5)	
Beliefs			
Baseline	27.7 (27.4–28.0)	27.7 (27.4–28.0)	<0.001
3 months	28.9 (28.6–29.3)	29.7 (29.3–30.0)	
12 months	28.8 (28.4–29.1)	29.7 (29.3–30.0)	

CI: confidence interval. χ^2 test indicates significance at $p<0.05$ level and shows between group differences over time using repeated measures analysis of variance.

Warning Signs Campaign

Heart Foundation Warning Signs Campaign 2009-14 (national campaign Oct 2011-Dec 2012) Campaign targeted 45-64 year olds

Awareness -heart attack warning signs represent a life threatening emergency

Knowledge – know the warning signs of heart attack, the actions to take when they occur, and the benefits of prompt action

Attitude -importance of prompt action and that this applies to them

Intention - follow a heart attack action plan

Action -call 000 when warning signs occur

Action -reduce the time delay of calling 000

"I wish I could have my heart attack again"

45 second advertisement

"Felt an ache in my jaw, ignored it.

Felt a bit short of breath here, I ignored that. And when I was down here, feeling tight in my chest, I didn't realise my heart muscle had already started to die. When all I had to do right at the start was call 000. I wish I could have my heart attack again."

"It's okay to call"

15 second advertisement

"IF you think your having a heart attack call 000, cause the longer you wait the more your heart muscle dies. The operator will work if you need an ambulance. And if it's a false alarm, well that's the best thing that could happen."

https://heartfoundation.org.au/your-heart/heart-attack-warning-signs

MONASH University

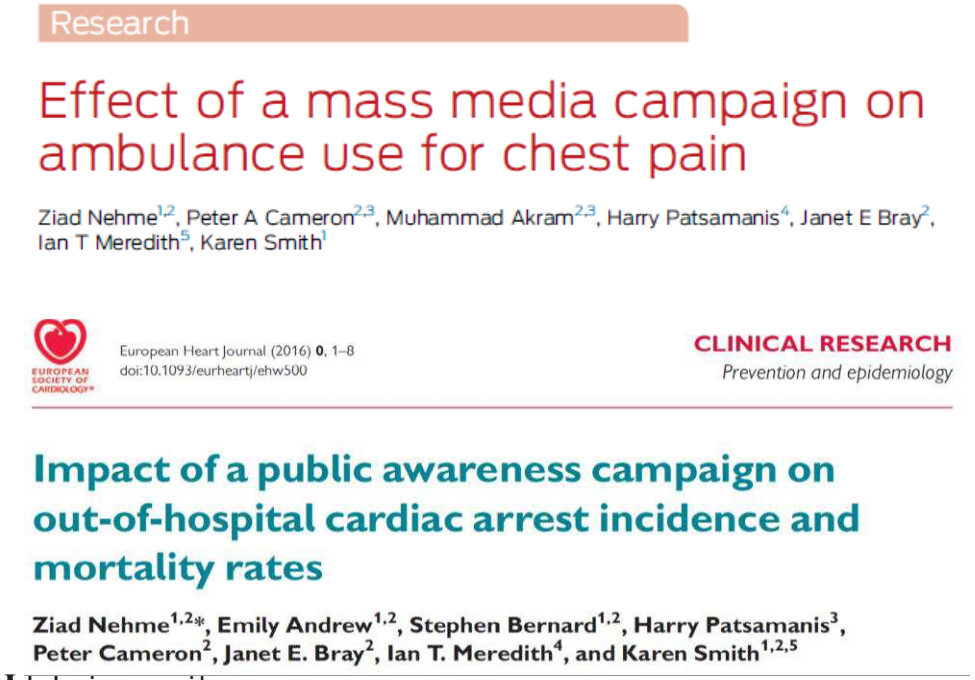
Heart Foundation

Campaign evaluations

Mass Media Campaigns' Influence on Prehospital Behavior for Acute Coronary Syndromes: An Evaluation of the Australian Heart Foundation's Warning Signs Campaign

Janet E. Bray, RN, PhD; Dion Stub, MD, PhD; Philip Ngu, MD; Susie Cartledge, RN, PhD (Candidate); Lahn Straney, PhD; Michelle Stewart, BHlthSc; Wendy Keech, MPH; Harry Patsamanis, BAppSci; James Shaw, MD, PhD; Judith Finn, RN, PhD

Faster presentation to hospital in those aware of campaign



Research

Effect of a mass media campaign on ambulance use for chest pain

Ziad Nehme[1,2], Peter A Cameron[2,3], Muhammad Akram[2,3], Harry Patsamanis[4], Janet E Bray[2], Ian T Meredith[5], Karen Smith[1]

European Heart Journal (2016) 0, 1–8
doi:10.1093/eurheartj/ehw500

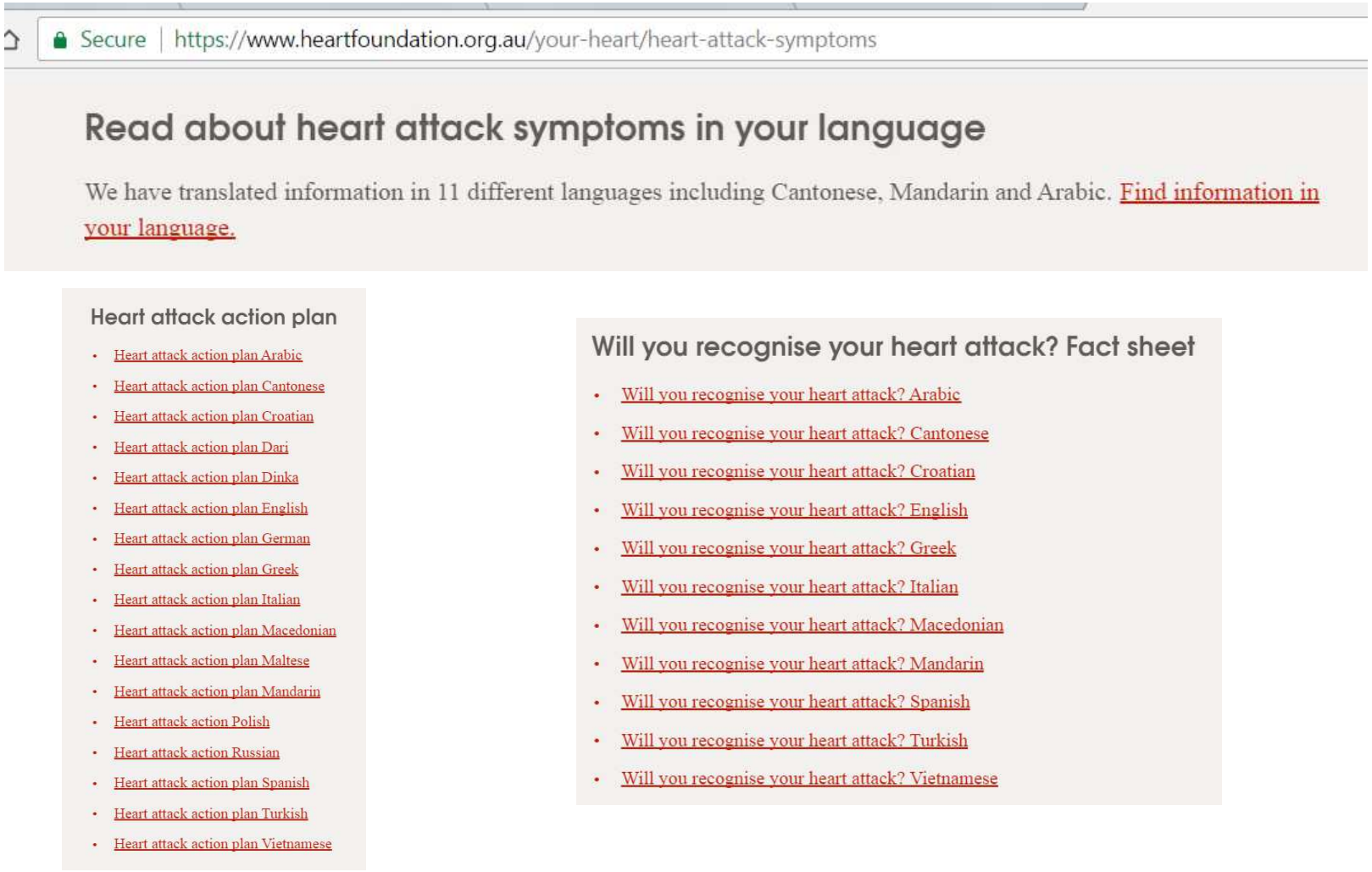
CLINICAL RESEARCH
Prevention and epidemiology

Impact of a public awareness campaign on out-of-hospital cardiac arrest incidence and mortality rates

Ziad Nehme[1,2]*, Emily Andrew[1,2], Stephen Bernard[1,2], Harry Patsamanis[3], Peter Cameron[2], Janet E. Bray[2], Ian T. Meredith[4], and Karen Smith[1,2,5]

Increase in calls to ambulance for chest pain

Reduction in out-of-hospital cardiac arrests


Secure | https://www.heartfoundation.org.au/your-heart/heart-attack-symptoms
Read about heart attack symptoms in your language
We have translated information in 11 different languages including Cantonese, Mandarin and Arabic. Find information in your language.
Heart attack action plan
Heart attack action plan Arabic
Heart attack action plan Cantonese
Heart attack action plan Croatian
Heart attack action plan Dari
Heart attack action plan Dinka
Heart attack action plan English
Heart attack action plan German
Heart attack action plan Greek
Heart attack action plan Italian
Heart attack action plan Macedonian
Heart attack action plan Maltese
Heart attack action plan Mandarin
Heart attack action Polish
Heart attack action Russian
Heart attack action plan Spanish
Heart attack action plan Turkish
Heart attack action plan Vietnamese
Will you recognise your heart attack? Fact sheet
Will you recognise your heart attack? Arabic
Will you recognise your heart attack? Cantonese
Will you recognise your heart attack? Croatian
Will you recognise your heart attack? English
Will you recognise your heart attack? Greek
Will you recognise your heart attack? Italian
Will you recognise your heart attack? Macedonian
Will you recognise your heart attack? Mandarin
Will you recognise your heart attack? Spanish
Will you recognise your heart attack? Turkish
Will you recognise your heart attack? Vietnamese

Resources

- https://www.heartfoundation.org.au/images/uploads/main/Your_heart/Heart_attack_warning_signs_fact_sheet.pdf

Will you recognise your heart attack?

Heart Foundation

Important notes

- Warning signs differ from person to person.

  Heart attacks are not always sudden or severe. Many start slowly with only mild pain or discomfort. Some people do not get chest pain at all—only discomfort in other parts of their upper body.

- No two heart attacks are the same.

  Someone who has already had heart attack may have different symptoms the second time.

- Knowing the warning signs of heart attack and acting quickly can reduce the damage to your heart muscle and increase your chance of survival.

  Too many people lose their lives because they wait too long to call Triple Zero (000).

This information is for educational purposes only. It is not a substitute for individual health advice provided by your doctor or cardiologist (heart specialist).

The warning signs of heart attack can be varied and may not always be sudden or severe. You may have just one of these symptoms, or a combination of them. They can come on suddenly or develop over minutes and get progressively worse. Symptoms usually last for at least 10 minutes.

Warning signs could include:

- Discomfort or pain in the centre of your chest—this can often feel like a heaviness, tightness or pressure. People who have had a heart attack have commonly described it as like an "elephant sitting on my chest", "a belt that's been tightened around my chest" or "bad indigestion".The discomfort may spread to different parts of your upper body.

Chest

- Discomfort in these parts of your upper body:

Arm(s) Shoulder(s) Neck Jaw Back

You may have a choking feeling in your throat. Your arms may feel heavy or useless.

- You may also experience other signs and symptoms:
  - feel short of breath
  - feel nauseous
  - have a cold sweat
  - feel dizzy or light-headed.

Some people have also described feeling generally unwell or "not quite right". If you feel any heart attack symptoms, refer to your action plan and get help fast – call Triple Zero (000)*.

*If calling Triple Zero (000) does not work on your mobile phone, try 112.

Warning signs of heart attack—what to do

1. Stop—Immediately stop what you are doing and rest.
2. Talk—If you are with someone, tell them what you are feeling.

- If any of your symptoms:
  - are severe
  - get worse quickly
  - have lasted 10 minutes

3. Call Triple Zero (000)* now!

- Ask for an ambulance. Don't hang up. Wait for advice from the operator.

*If calling Triple Zero (000) does not work on your mobile phone, try 112.

Why is a heart attack an emergency?

With a heart attack, every minute counts. Too many people lose their lives because they take too long to call Triple Zero (000).

Getting to hospital quickly can reduce the damage to your heart muscle and increase your chance of survival. In hospital, staff will give you treatments that help to reduce this damage.

Why call Triple Zero (000)?

- The trained operator will decide if you need an ambulance
- You'll receive treatment as soon as you phone
- You'll receive advice on what to do while waiting for the ambulance to arrive.

Ambulance paramedics are trained to use special lifesaving equipment and to start early treatments for a heart attack inside the ambulance.

An ambulance is the safest and fastest way to get you to hospital. Attempting to get to hospital quickly in a private vehicle can be dangerous for the occupants of your vehicle and other road users.

It is always better to call Triple Zero (000) and find out it's not a heart attack than to wait until it is too late.

Want to know more?

For more information about the warning signs of heart attack, visit www.heartattackfacts.org.au or call our Health Information Service on 1300 36 27 87.

Be prepared

- Know the warning signs of heart attack and what to do.
- Keep your action plan handy on your fridge.
- Make sure that you have ambulance cover.
- Tell your family and friends about the warning signs of heart attack and what to do—don't keep this lifesaving message to yourself.
- Prevent a heart attack by taking steps to reduce your risk—talk to your doctor or visit www.heartfoundation.org.au.

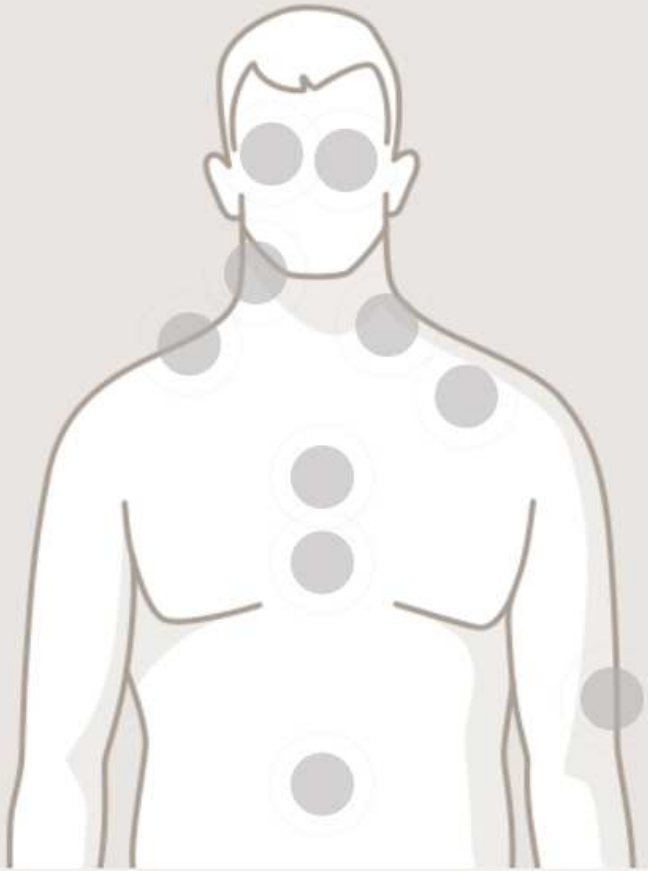
Heart Foundation

Heart attack symptoms

These are the most common warning signs of a heart attack. You may have just one of these symptoms, or a combination.

Touch over the symptoms to learn more about the warning signs of a heart attack

MALE FEMALE



Roll over the symptoms to learn more about the warning signs of a heart attack.

Pain, pressure, heaviness or tightness in your:

- Jaw
- Neck
- Shoulder(s)
- Chest
- Back
- Arm(s)

You may also feel:

- Nausea
- Dizziness
- Cold Sweat
- Shortness of Breath

Chest

Discomfort or pain in the centre of your chest. You may feel heaviness, tightness, pressure or a crushing sensation in the centre of the chest. The discomfort may be mild and make you feel generally unwell.

Note: Chest pain that is a sharp and stabbing sensation is generally less associated with having a heart attack.

Roll over the symptoms to learn more about the warning signs of a heart attack.

Pain, pressure, heaviness or tightness in your:

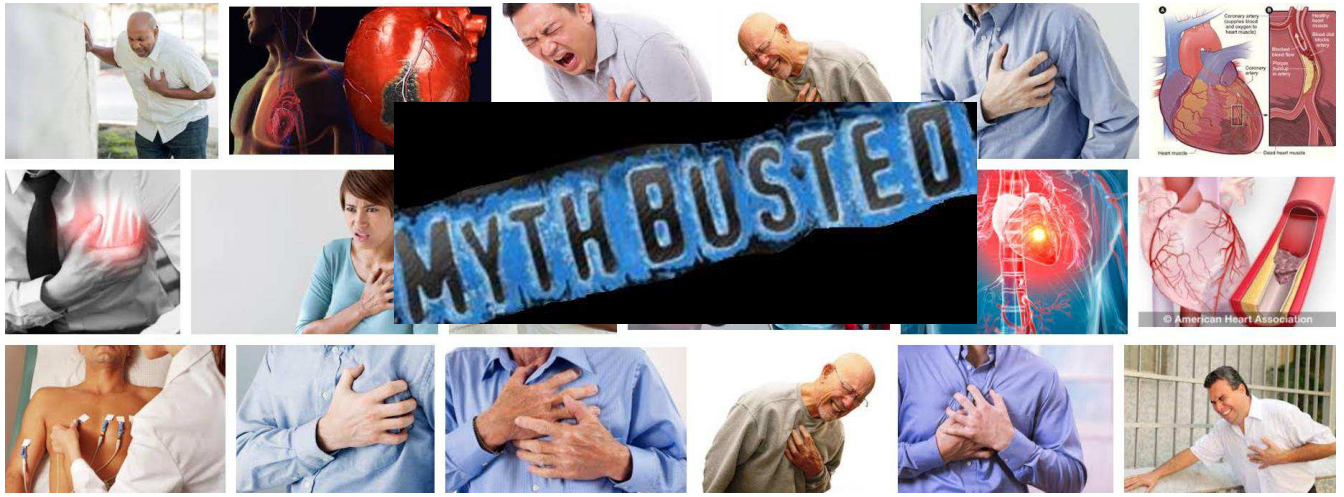
- Jaw
- Neck
- Shoulder(s)
- Chest
- Back
- Arm(s)

You may also feel:

- Nausea
- Dizziness
- Cold Sweat
- Shortness of Breath

Nausea

You may feel nauseous or generally unwell while experiencing other heart attack symptoms.



NOT ALL HEART ATTACKS ARE THE SAME

So why should education?

Questions??

My all time favourite!!!!

janet.bray@monash.edu

Dr_JBray

www.ausroc.org.au

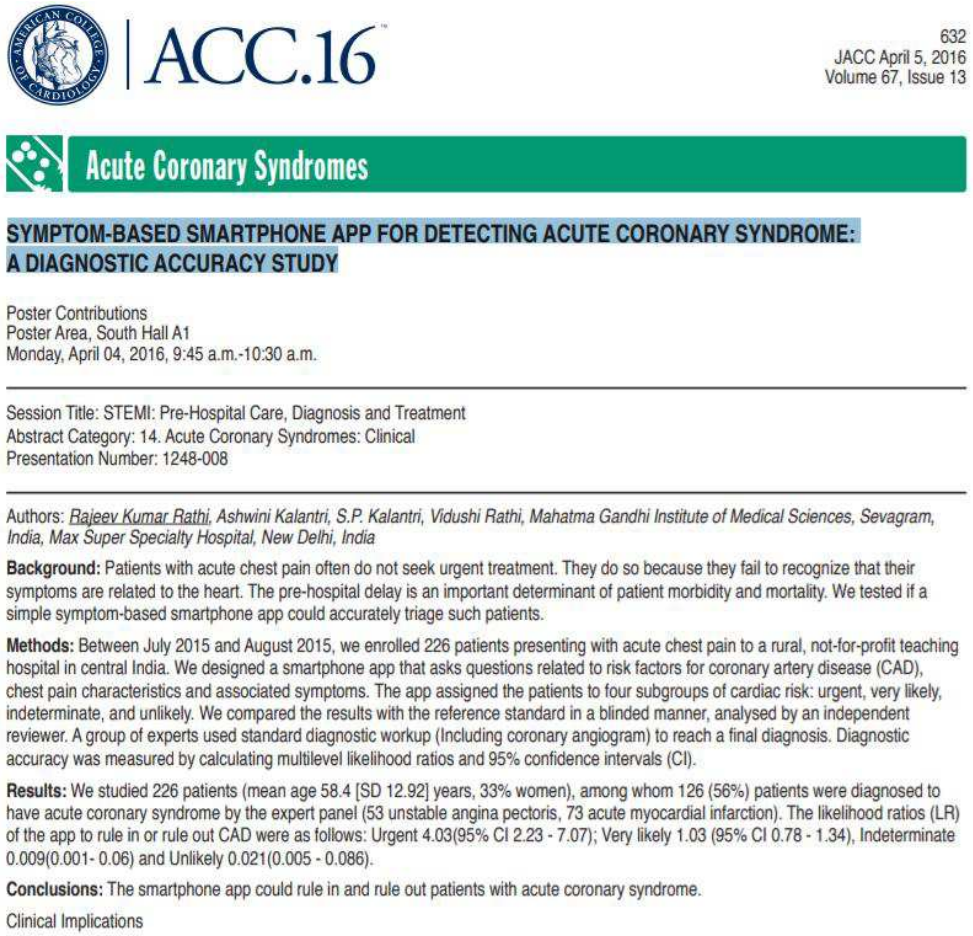
Heart Foundation®

Aus-ROC
Australian Resuscitation Outcomes Consortium

MONASH University

What next??

- Inhospital – information overload, shorter hospital stays
- Cardiac rehabilitation – time intensive
- Online / app
- Non-English speaking



ACC.16

632
JACC April 5, 2016
Volume 67, Issue 13

Acute Coronary Syndromes

SYMPTOM-BASED SMARTPHONE APP FOR DETECTING ACUTE CORONARY SYNDROME: A DIAGNOSTIC ACCURACY STUDY

Poster Contributions
Poster Area, South Hall A1
Monday, April 04, 2016, 9:45 a.m.-10:30 a.m.

Session Title: STEMI: Pre-Hospital Care, Diagnosis and Treatment
Abstract Category: 14. Acute Coronary Syndromes: Clinical
Presentation Number: 1248-008

Authors: *Rajeev Kumar Rathi, Ashwini Kalantri, S.P. Kalantri, Vidushi Rathi, Mahatma Gandhi Institute of Medical Sciences, Sevagram, India, Max Super Specialty Hospital, New Delhi, India*

Background: Patients with acute chest pain often do not seek urgent treatment. They do so because they fail to recognize that their symptoms are related to the heart. The pre-hospital delay is an important determinant of patient morbidity and mortality. We tested if a simple symptom-based smartphone app could accurately triage such patients.

Methods: Between July 2015 and August 2015, we enrolled 226 patients presenting with acute chest pain to a rural, not-for-profit teaching hospital in central India. We designed a smartphone app that asks questions related to risk factors for coronary artery disease (CAD), chest pain characteristics and associated symptoms. The app assigned the patients to four subgroups of cardiac risk: urgent, very likely, indeterminate, and unlikely. We compared the results with the reference standard in a blinded manner, analysed by an independent reviewer. A group of experts used standard diagnostic workup (Including coronary angiogram) to reach a final diagnosis. Diagnostic accuracy was measured by calculating multilevel likelihood ratios and 95% confidence intervals (CI).

Results: We studied 226 patients (mean age 58.4 [SD 12.92] years, 33% women), among whom 126 (56%) patients were diagnosed to have acute coronary syndrome by the expert panel (53 unstable angina pectoris, 73 acute myocardial infarction). The likelihood ratios (LR) of the app to rule in or rule out CAD were as follows: Urgent 4.03(95% CI 2.23 - 7.07); Very likely 1.03 (95% CI 0.78 - 1.34), Indeterminate 0.009(0.001- 0.06) and Unlikely 0.021(0.005 - 0.086).

Conclusions: The smartphone app could rule in and rule out patients with acute coronary syndrome.

Clinical Implications

AHA - *Not sure if what you're feeling is a heart attack or heartburn?*

"I tell my patients that if you belch and the symptoms go away, it probably isn't related to your heart but to your esophagus," Bauman said. "But if you have shortness of breath or sweating, then it's likely a heart-related issue."

- However, everyone is different, and not all symptoms are caused by one or the other, so:

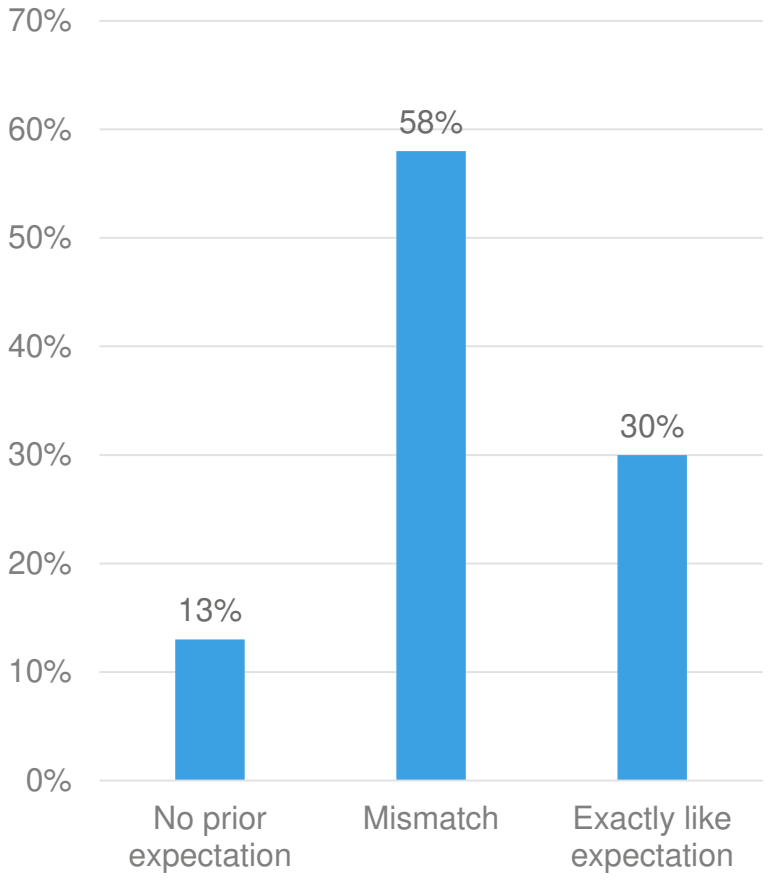
- **When in doubt, check it out!**

If you're not sure if it's heartburn or your heart, seek medical attention right away. It's very easy to confuse the two issues so let a doctor rule out the most severe possibility. This is an especially important message for women.

Heart 2000;**83**:388–393

Patients' interpretation of symptoms as a cause of delay in reaching hospital during acute myocardial infarction

R Horne, D James, K Petrie, J Weinman, R Vincent



Longer delays were found for patients whose symptoms did not match their prior expectations of what a heart attack would be like:

9.3 hours

v

4.5 hours

($p < 0.05$)

The Common-Sense Model of Self-Regulation of Health and Illness