End of Life

When is it?

Monique Slee-Valentijn, internist-geriatrician, The Netherlands

Slide courtesy: Frank Bosch, president EFIM

https://youtu.be/v7erQCQdsy0?t=14s

EFIM composition

Cyprus; Malta

ISRAEL

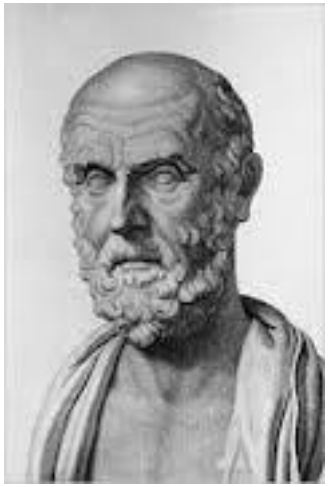
- 35 National Societies
- Executive Committee
- Administrative Council
- FDIME
- Working groups
- Secretariat (Brussels)

EFIM

- EFIM = 35 member countries
- 35 countries = 35 health care systems
- 35 health care systems = 35 laws and regulations about medical specialties
- 35 laws and regulations = 35 lists of competencies
- 35 lists of competencies = 35 training programs
- 35 training programs = 35 different ways to become board certified

Different ways of practicing Internal Medicine in Europe

- in the hospital
- in the hospital and in outpatient medicine
- as a consultant
- as a primary care physician
- in acute medicine
- as a general internist
- as an internist with subspecialty
- as an internist with a special field of interest
- as a specialist with an interest in internal medicine (



I would define medicine as the complete removal of the distress of the sick

the alleviation of the more violent disease

the refusal to undertake to cure cases in which the disease has already won the mastery, knowing that everything is not possible to medicine

EWIM

Today we **start** with

what really matters in **the end**

1. Resuscitation
2. Elderly
3. Advance care planning

71 year old female with a past history of ischaemic heart disease as well as hypertension, type two diabetes mellitus and chronic kidney disease. She walks with two sticks and is breathless on moderate exertion, but is independent with her personal care. She is admitted to hospital with increased breathlessness and productive cough. She shows clinical signs of right basal pneumonia as well as atrial fibrillation, which was not previously described.

Vital signs: Temperature 38.4, heart rate 128, mean arterial pressure 61, respiratory rate 38, Glasgow coma score 15/15

Laboratory investigations: Na 127 mmol/l, Creat 140 □g/l (1.58 mg/dl), K 5.6 mmol/l, White Cell Count 9.8 x103/mm3, haematocrit 0.464 (46.4%), arterial pH 7.27, paO2 9.2 on FiO2 0.8

Chest radiograph: right lower zone pneumonia

Electrocardiogram: atrial fibrillation, no acute ischaemia or infarction

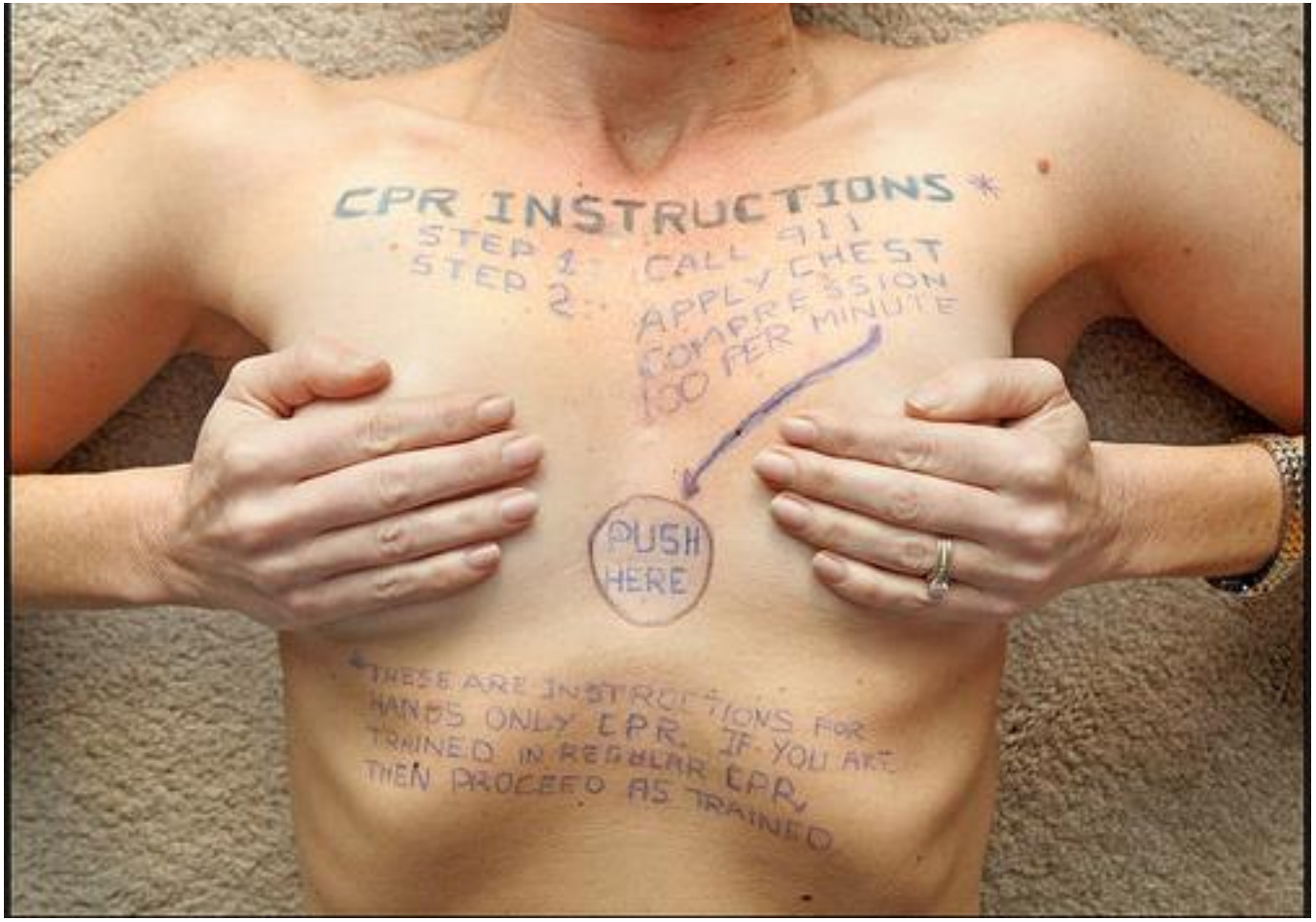
Which of the following treatment strategies best matches your recommendation?

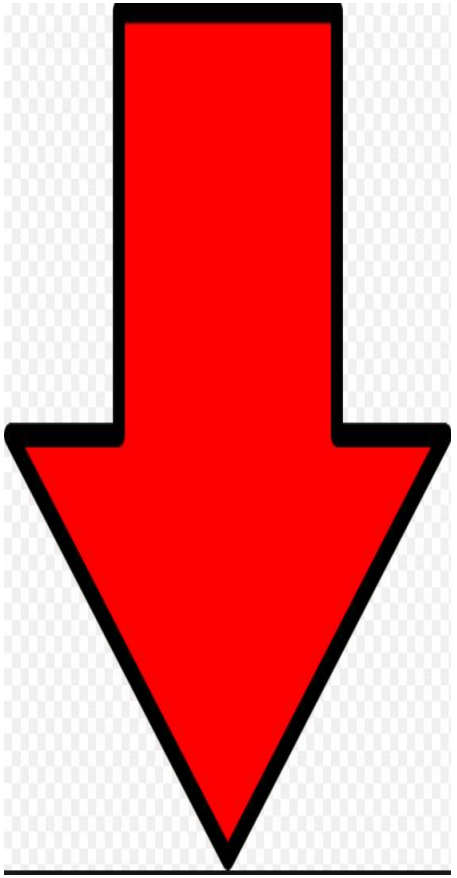
- admit to ITU for multiple organ support as required
- provide limited organ support: noninvasive ventilation and/or cardiovascular support but not renal replacement therapy or mechanical ventilation
- medical treatment on general ward, but not ITU admission
- palliation / symptom control only

Would you recommend performing cardio-pulmonary resuscitation in the event of a cardiac arrest?

- yes
- no


POOR FELLOW. HE'S HALF DEAD.
I'M AN OPTIMIST. I SAY HE'S HALF ALIVE!
© Robin Reed
robin@barstowproductions.com


CPR INSTRUCTIONS
STEP 1: CALL 911
STEP 2: APPLY CHEST COMPRESSION 100 PER MINUTE
PUSH HERE
THESE ARE INSTRUCTIONS FOR HANDS ONLY CPR. IF YOU ARE TRAINED IN REGULAR CPR, THEN PROCEED AS TRAINED



British Heart Foundation

- https://youtu.be/ILxjxfB4zNk

In Hospital Resuscitation

GREATER THAN ONE

The Sickest patients in the Hospital

Are in the ICU:

24 hours a day

7 days a week

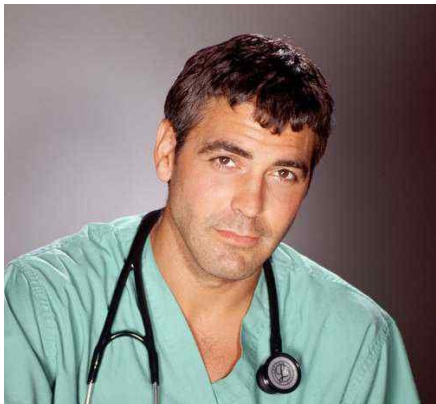
Quick Interventions

A lot of doctors

A lot of nurses

A lot of Expensive equipment

This is Great!

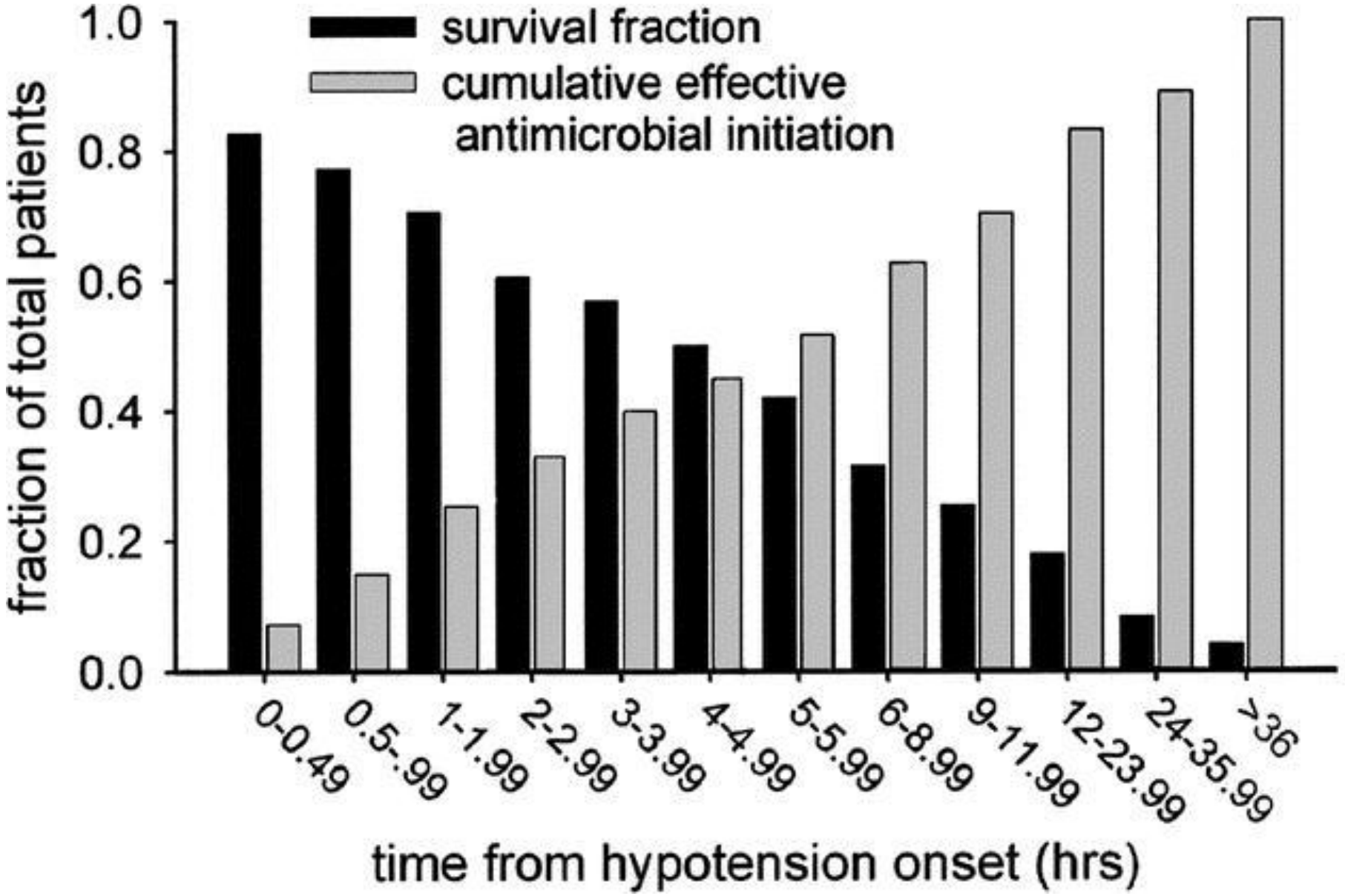


Vital Signs and Cardiac Arrest

- Cardiac Arrest is often precluded by deterioration of vital signs
- Some very sick patients are not in the ICU
- They are treated by junior doctors
- In case of trouble, they will come to the bedside and get additional help

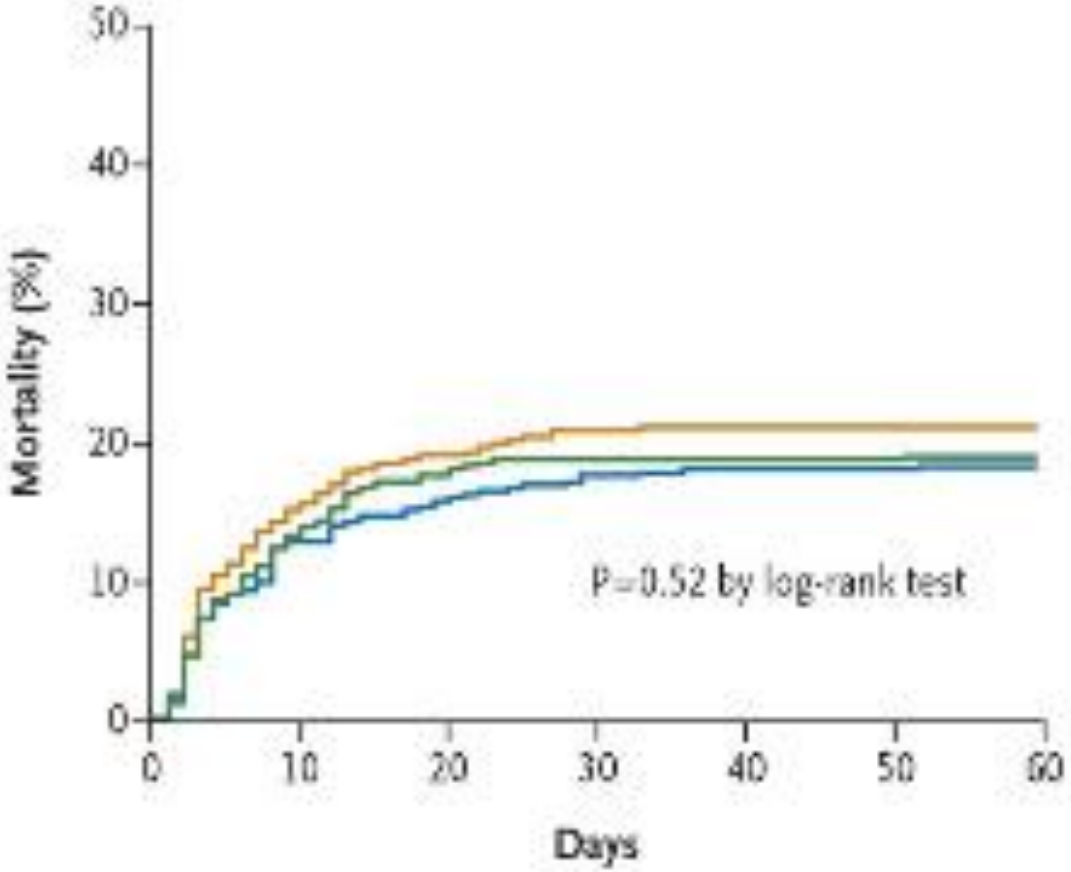
- BUT

TIME = TISSUE


survival fraction
cumulative effective antimicrobial initiation
fraction of total patients
1.0
0.8
0.6
0.4
0.2
0.0
0-0.49
0.5-.99
1-1.99
2-2.99
3-3.99
4-4.99
5-5.99
6-8.99
9-11.99
12-23.99
24-35.99
>36
time from hypotension onset (hrs)

Protocol-based EGDT — Protocol-based standard therapy — Usual care

A Cumulative In-Hospital Mortality to 60 Days

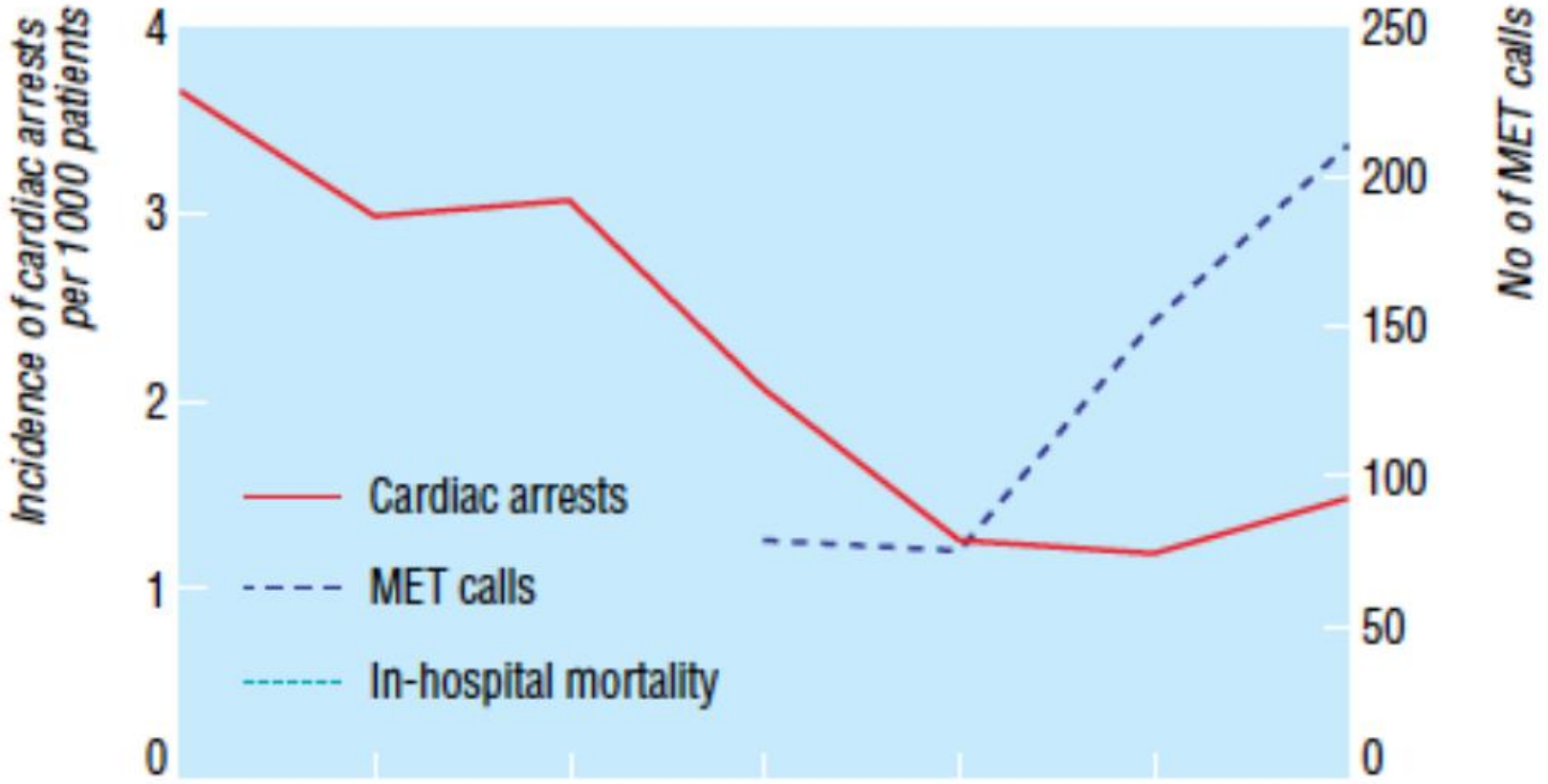


No. at Risk

Protocol-based EGDT	439	373	356	348	347	347	347
Protocol-based standard therapy	446	389	376	368	366	366	365
Usual care	456	396	376	371	371	371	370

NEJM 2001 Rivers, early goal-directed therapy

Buist British Medical Journal 2002



Conclusion

- The number of In-Hospital Resuscitations is a marker for quality of care

What about outside the hospital?

Cardiac Arrest in the Netherlands

Each year - of every 100.000 residents - there are

90 to 100 who suffer a cardiac arrest

(without any warning)

Ventricular fibrillation 80%

Cardiac Arrest in the Netherlands

At home	**78,7%**
At work	1,8%
When a GP is present	1,3%
Warehouse/pub/stadium/church	7,7%
In the street	7,2%
Other locations	3,3%

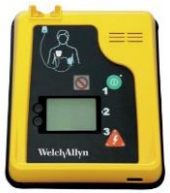
Automated External Defibrillator

AED

A reliable, save and computerized device that detects a heart rate (using two electrodes)

Provides a (semi- or fully-) automated defibrillation shock (when needed)

Easy to operate / In principle everyone may use an AED (since 2003).



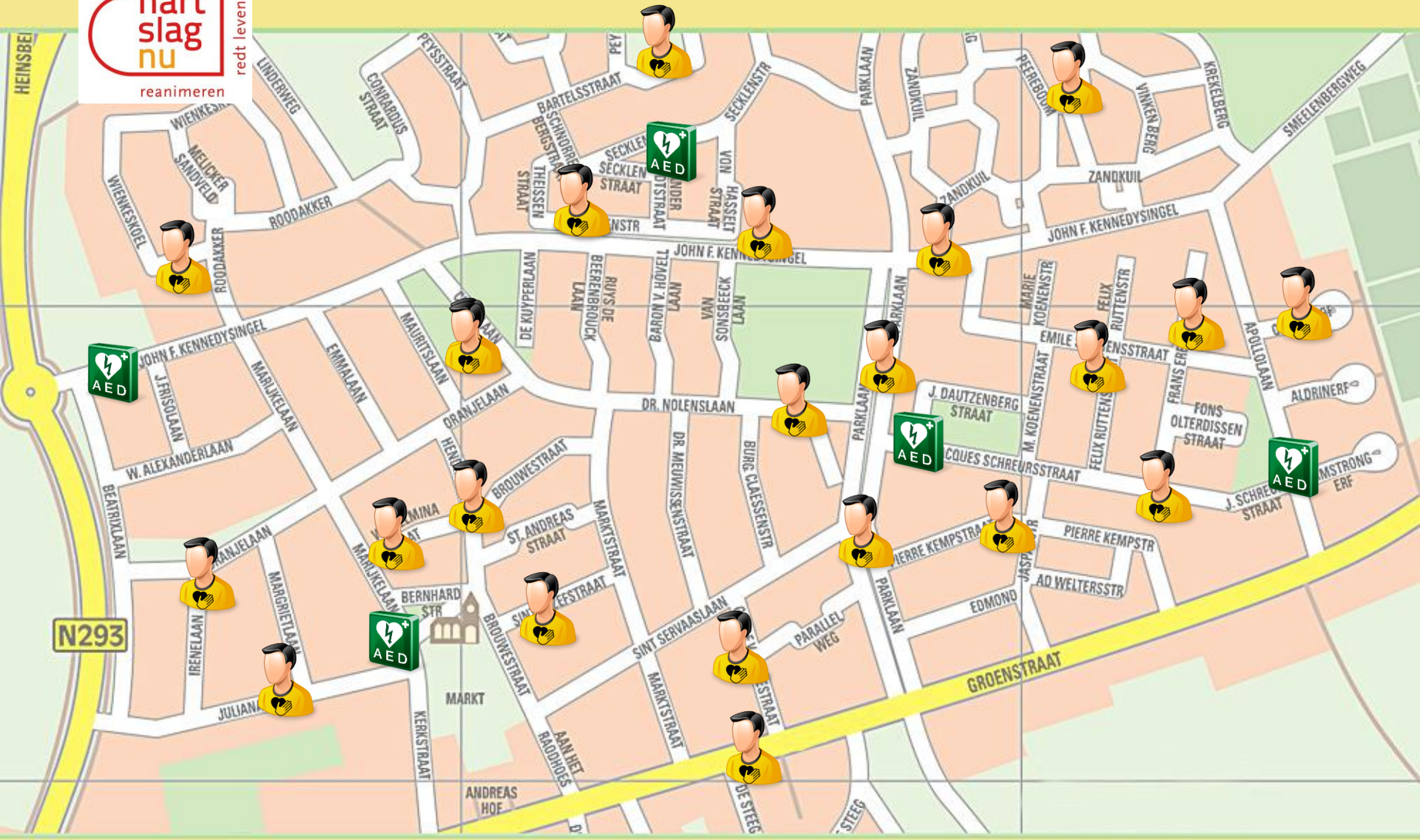
A maximum of 30 CPR-trained volunteers receive an alert on their mobile phones

(by means of a text message)

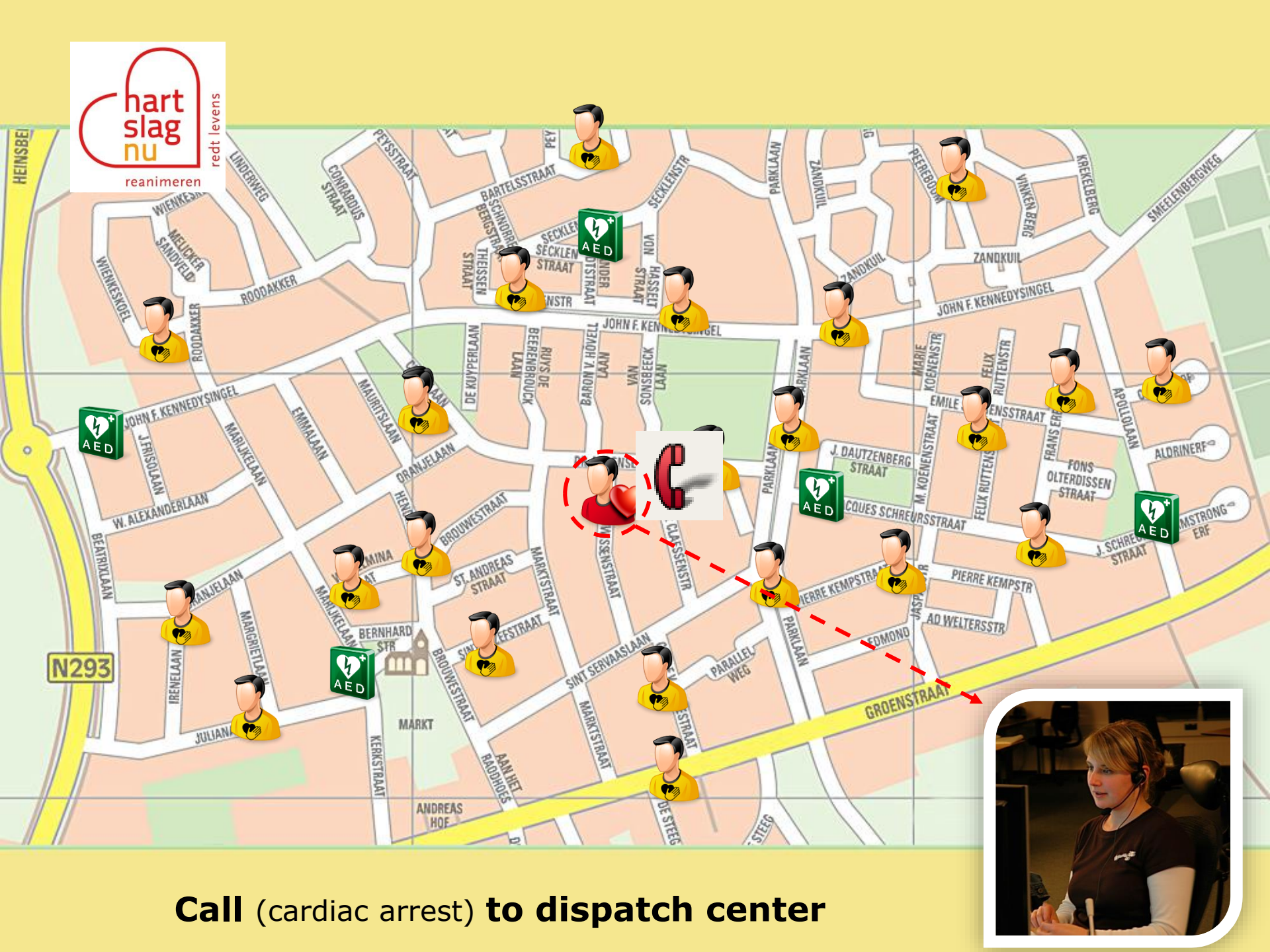
The alerts are based on the home/work address **(Zip code)** of the volunteer (maximum 5 addresses)

The maximum distance between the victim and volunteer is 1000 meters

The radius around an AED is 500 meters.

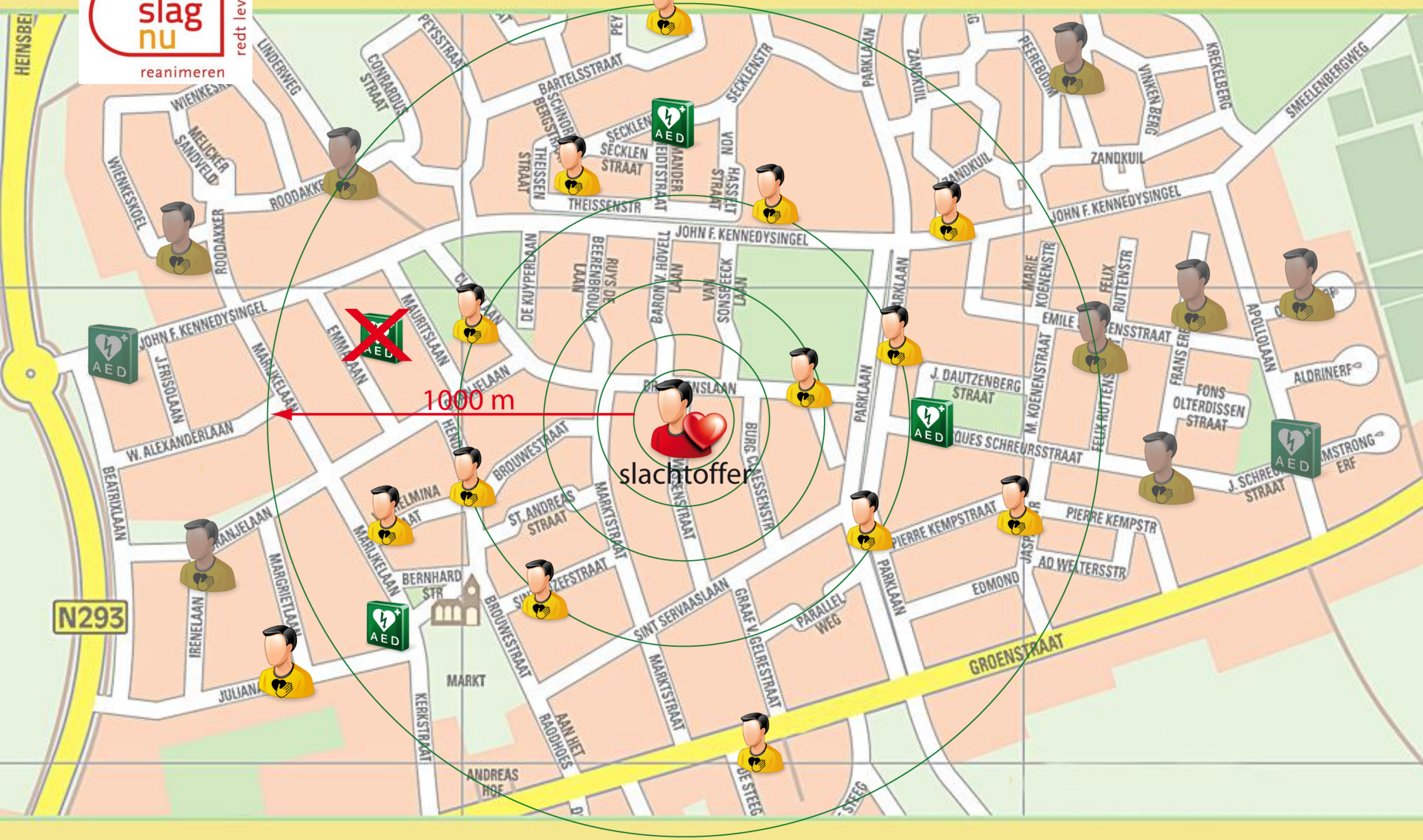


Volunteers and AED's (registered in HartslagNu)

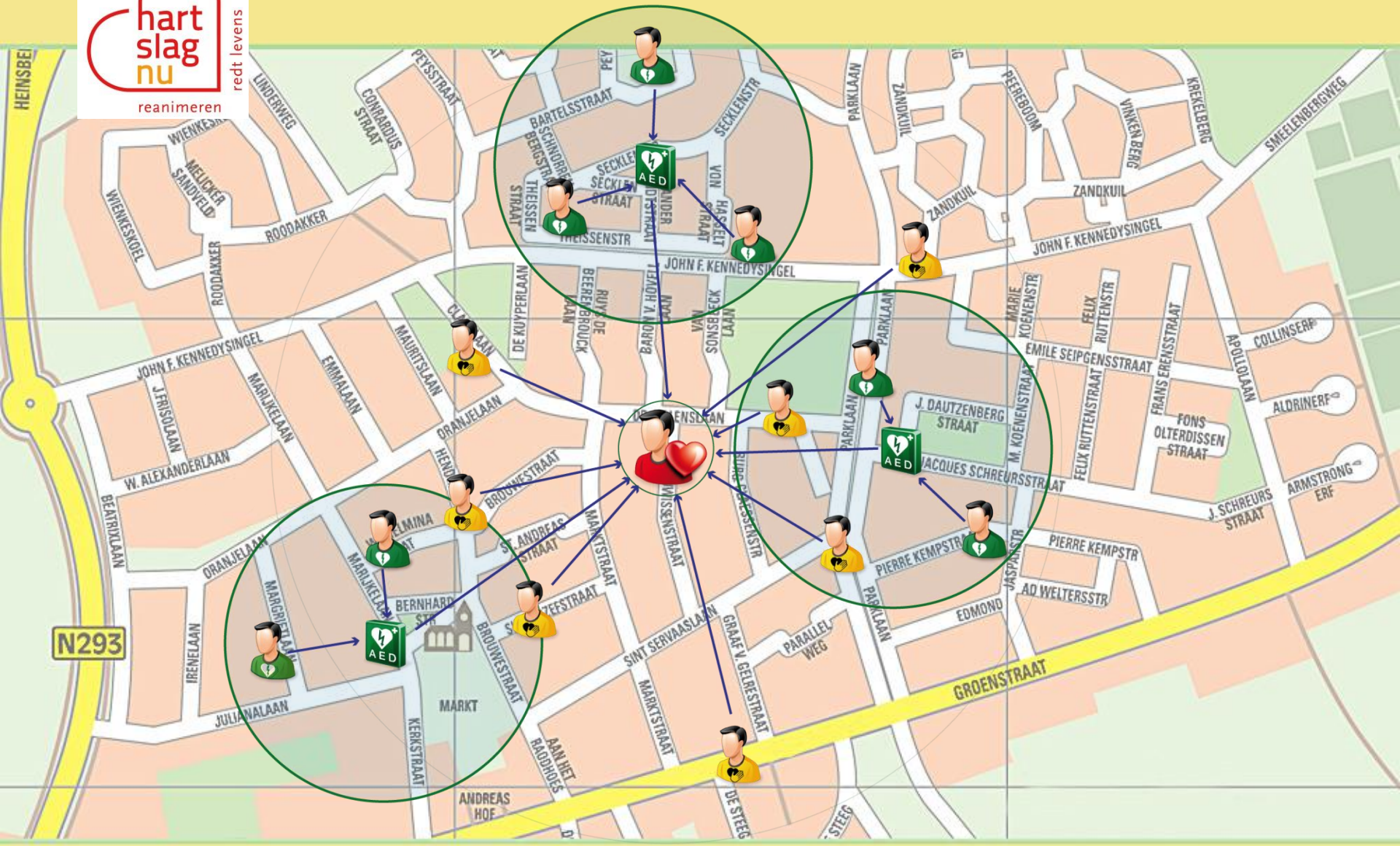


Call (cardiac arrest) **to dispatch center**

Max 30 volunteers

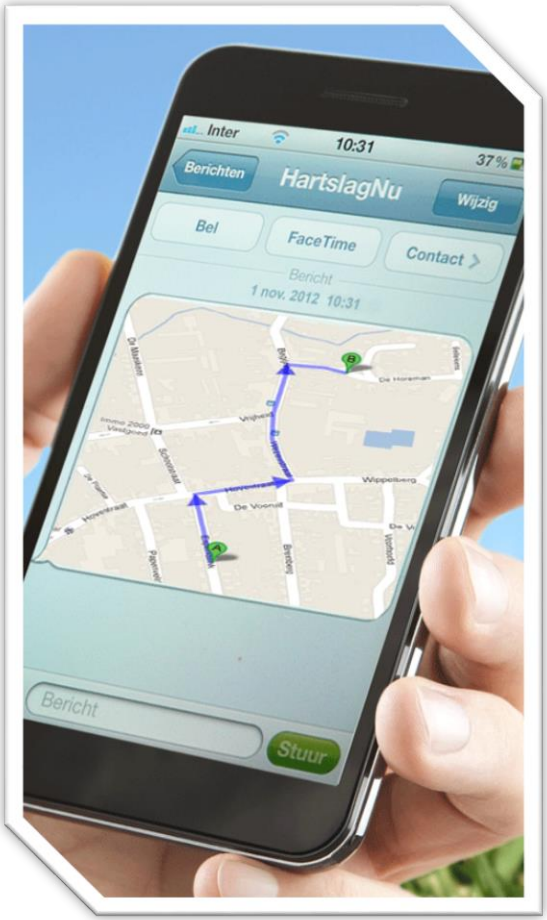


Max 1000 meter



Aim: **1/3 CPR volunteer** **2/3 CPR + AED provider**

Text message



Near future

Alert,

Only if the volunteer is in the area and not more than

6 minutes away from the victim

- account the speed at that moment (by foot, car or…)

- account the infrastructure

Volunteers & AED's - HartslagNu

59.482

6.917

05-2014

Survival rates for sudden cardiac arrest

In 2000 about **10** percent

Currently **23,8** percent

with a **witness** who starts CPR immediately, the survival rate is up to **29,4** percent

and if an **AED** is also used, the survival rate is **34** percent.

(research – project Hart voor Limburg)

Prof Dr A.P.M. Gorgels en R.W.M. Pijls Promovendus Maastricht University

Life after survival of a cardiac arrest

Research shows that 75 percent of the survivors give their life a **7.7** after a cardiac arrest (on a scale of 1-10)

They are happy to have gotten **a second chance**.

The turning point

The New England
Journal of Medicine

VOLUME 346 FEBRUARY 21, 2002 NUMBER 8

MILD THERAPEUTIC HYPOTHERMIA TO IMPROVE THE NEUROLOGIC OUTCOME AFTER CARDIAC ARREST

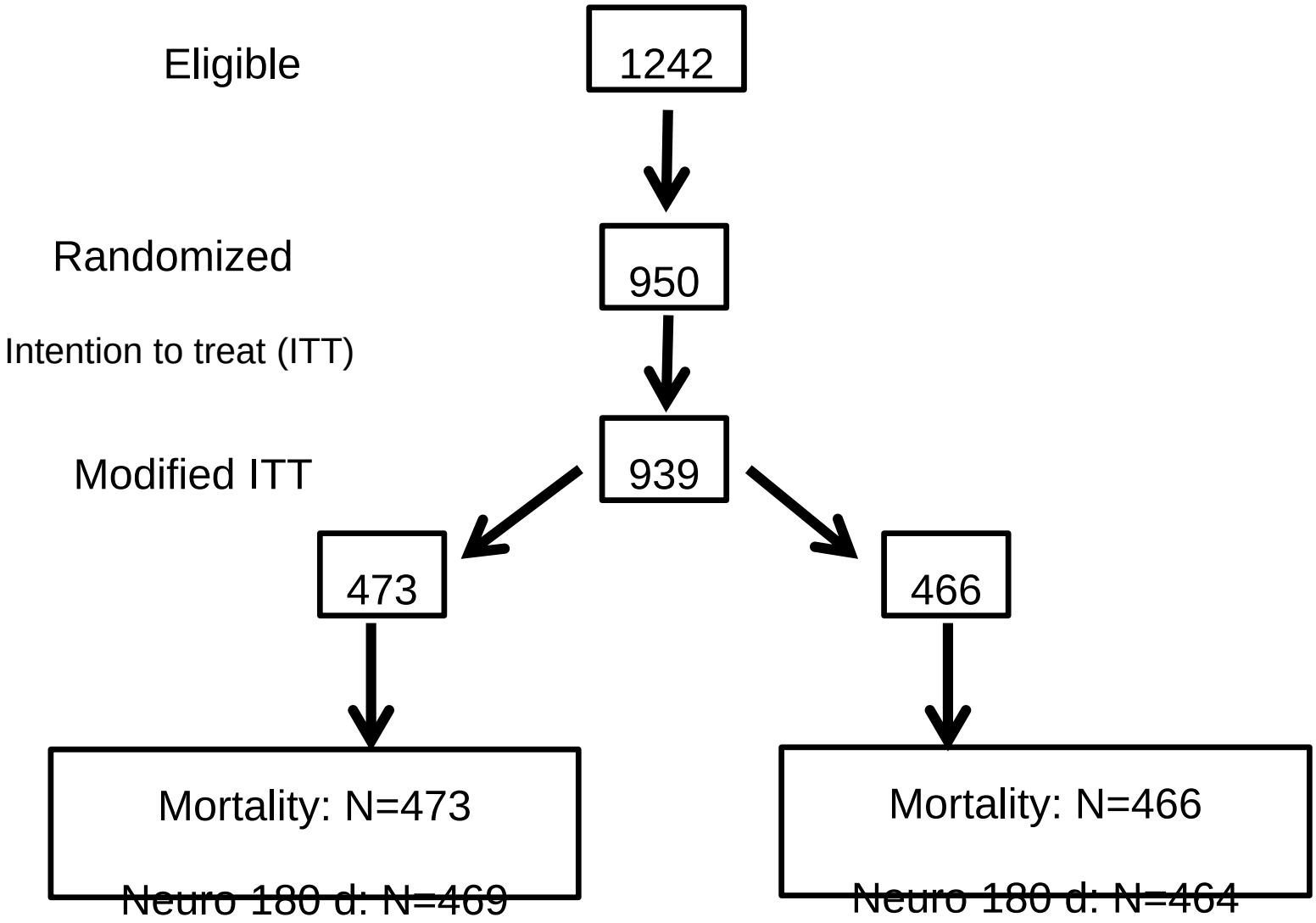
THE HYPOTHERMIA AFTER CARDIAC ARREST STUDY GROUP*

INDUCED HYPOTHERMIA AFTER OUT-OF-HOSPITAL CARDIAC ARREST

TREATMENT OF COMATOSE SURVIVORS OF OUT-OF-HOSPITAL CARDIAC ARREST WITH INDUCED HYPOTHERMIA

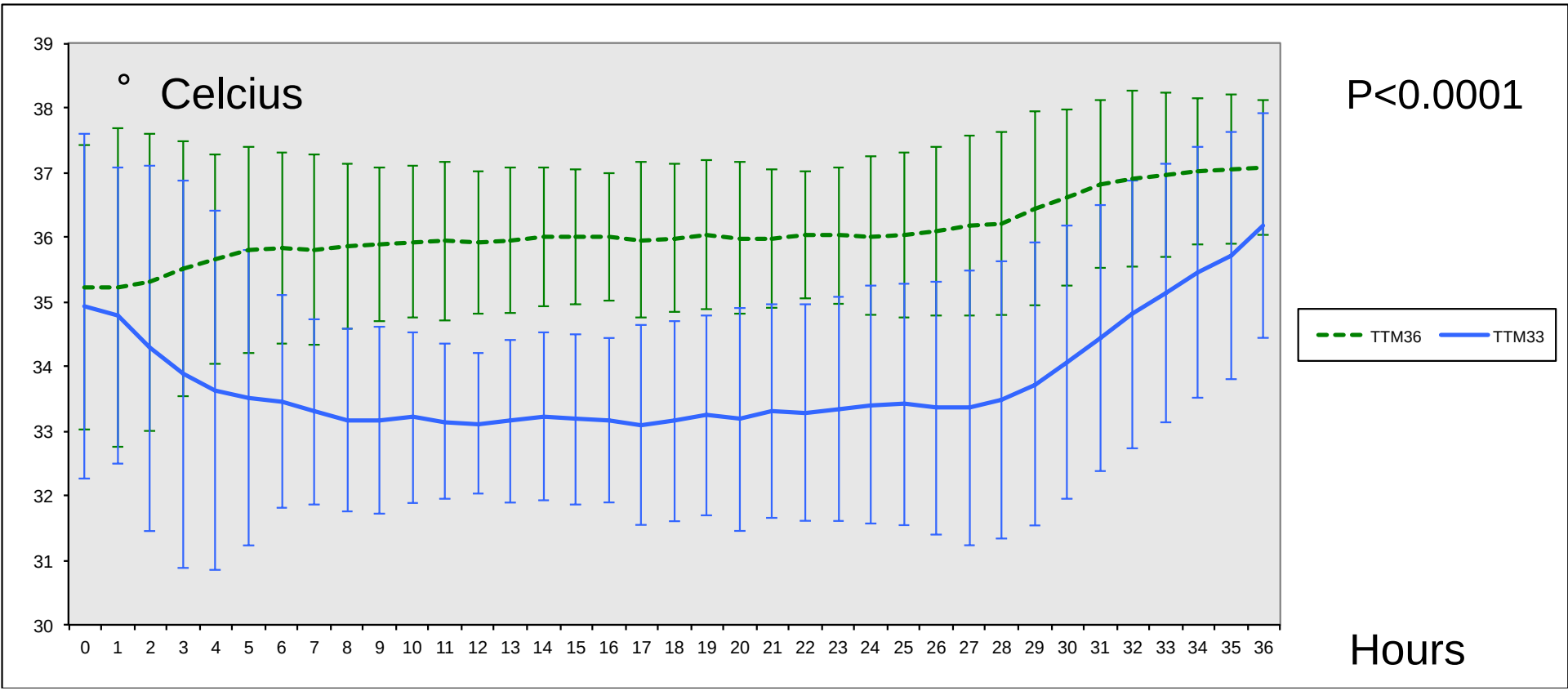
STEPHEN A. BERNARD, M.B., B.S., TIMOTHY W. GRAY, M.B., B.S., MICHAEL D. BUIST, M.B., B.S., BRUCE M. JONES, M.B., B.S., WILLIAM SILVESTER, M.B., B.S., GEOFF GUTTERIDGE, M.B., B.S., AND KAREN SMITH, B.SC.

CONSORT flow chart

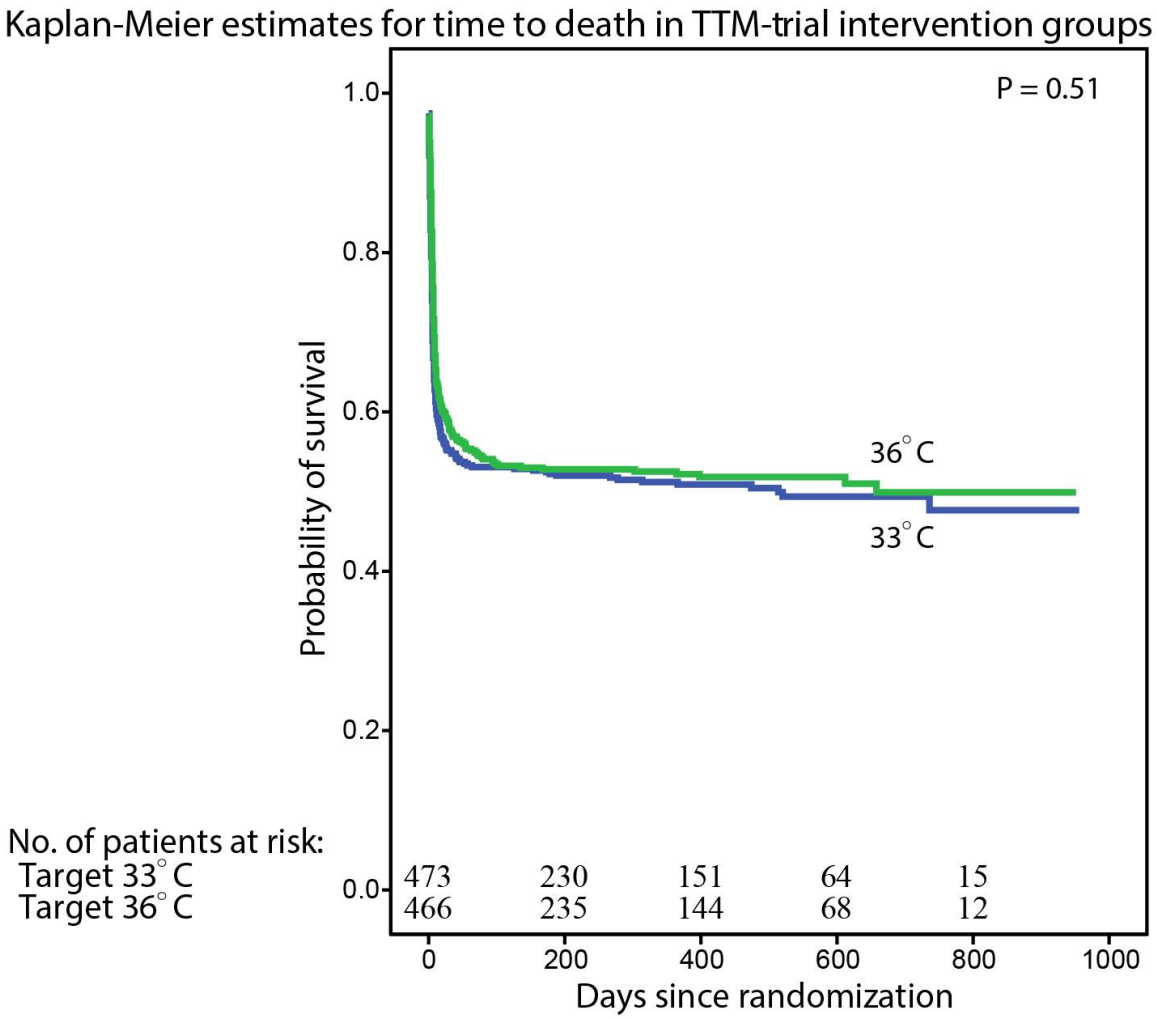


Temperature profile

Mean ± 2SD



Survival



P=0.51

No difference in survival

Conclusion on cardiac arrest

- We don’t know when life will end
- We have an obligation to discuss treatment possibilities with our patients
- We have to think before we act
- The number of in-hospital resuscitations is a marker of quality of care
- Out of hospital resuscitations get better
- Avoidance of Fever is paramount in OHCA


DO NOT
RESUSCITATE
WTF
TATTOOS
.com

EoL satire Zdoc video 4 min

- https://youtu.be/NAlnRHicgWs?list=PLqBLoScSYEGdUQXeQvmPR_FoghKOsVH-Q

- "Just gonna stand there and watch me burn, end of life and all my wishes go unheard."

End of Life discussions: assumptions

1. The putative will of the patient is to live
2. There is always a need to question our diagnosis
3. Impossible to predict the individual outcome
4. We should use the therapeutic options we have

Futility, inappropriate therapy and rationing

1. Sometimes it seems **futile:** definition? Quantitative versus qualitative

2. Even if marginal small short term benefit (i.e. small chance of survival to ICU discharge) – what about **long term survival** and **QOL**?

3. Rationing not to be undertaken at individual patient / physician level - but resources are finite

Good practice in decision making and communication

Consistency: unit and/or regional policies that allow individual variance

Second opinion as a rule and involvement of parent team and intensivists

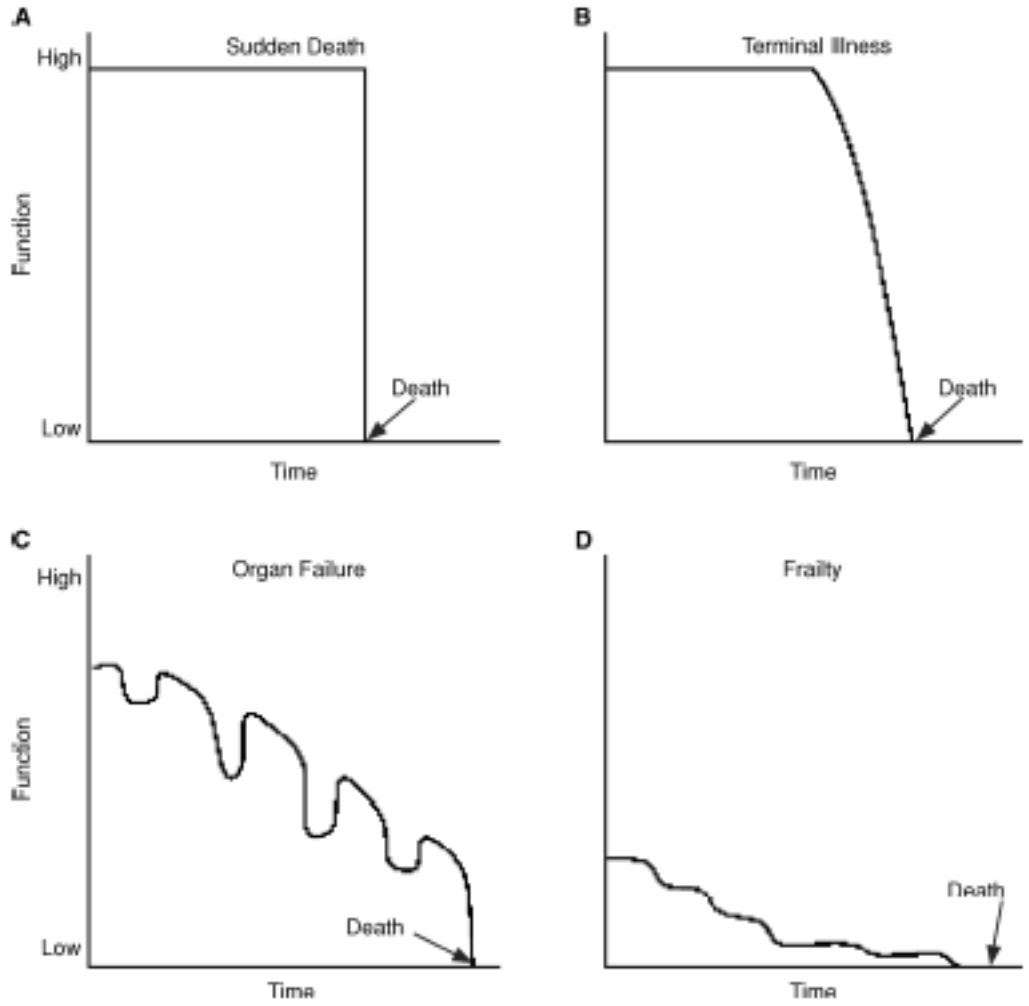
Honest explanation of poor outcomes – from the time of diagnosis!

Involve relatives but – unless there is equipoise – do not burden them with the decision

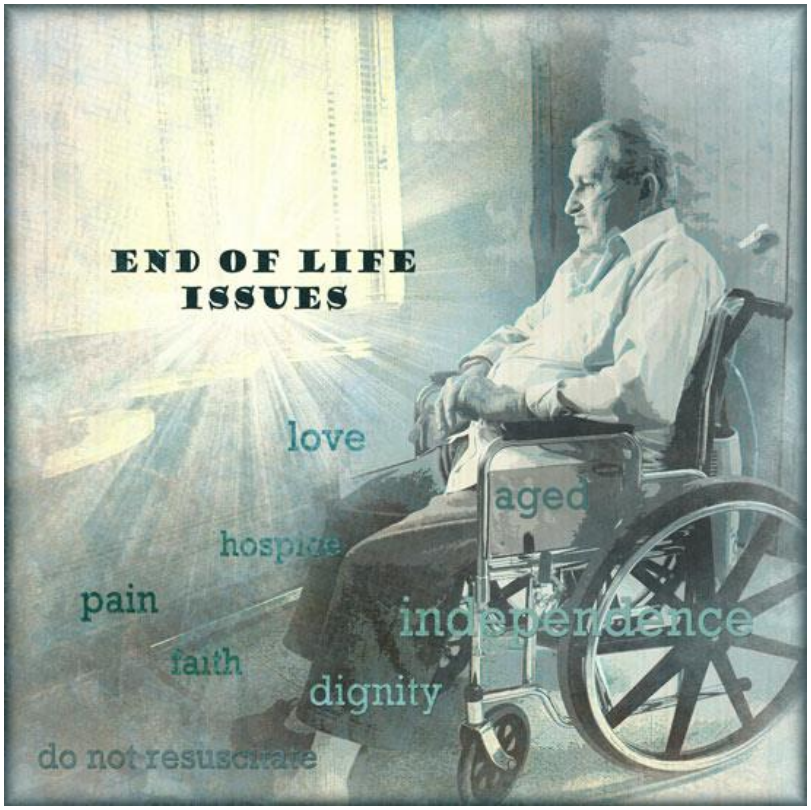
Global Aging

- https://youtu.be/0ukNFMeZvcc

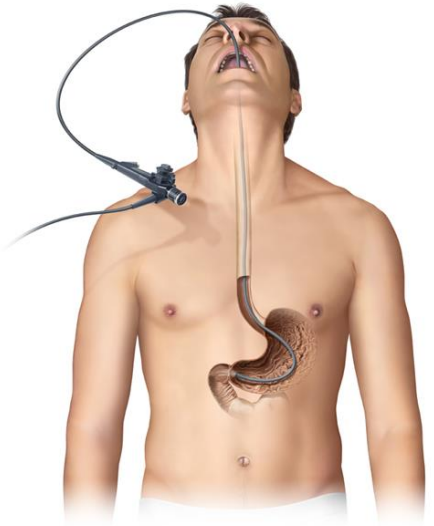
Trajectories of functional decline



Lunney *et al* JAMA 2004



The ETHICA study (part I): elderly's thoughts about intensive care unit admission for life-sustaining treatments



Euthanasia

Euthanasia
Assisted Suicide

Dignitas

Dignitas is a Swiss group helping those with terminal illness and severe physical and mental illnesses to die, assisted by qualified doctors and nurses. They have helped over 1,000 people die in clinics in Zürich. Additionally, they provide assisted suicide for people provided that they are of sound judgement and submit to an in-depth medical report prepared by a psychiatrist that establishes the patient's condition, as required by Swiss courts.[1]

Advance Directives

- 50 percent of deaths in hospital
- 2 million Americans in nursing homes
- 1,4 million Americans feeding tubes
- 30000 permanent comatose state

Annals of Internal Medicine
Established in 1927 by the American College of Physicians

From: Decision Aids for Advance Care Planning: An Overview of the State of the ScienceDecision Aids for

Advance Care Planning

Ann Intern Med. 2014;161(6):408-418. doi:10.7326/M14-0644

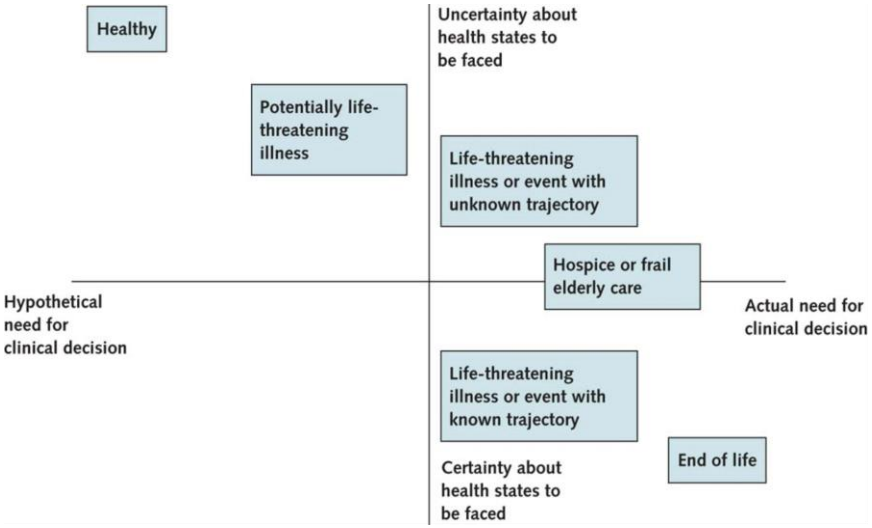
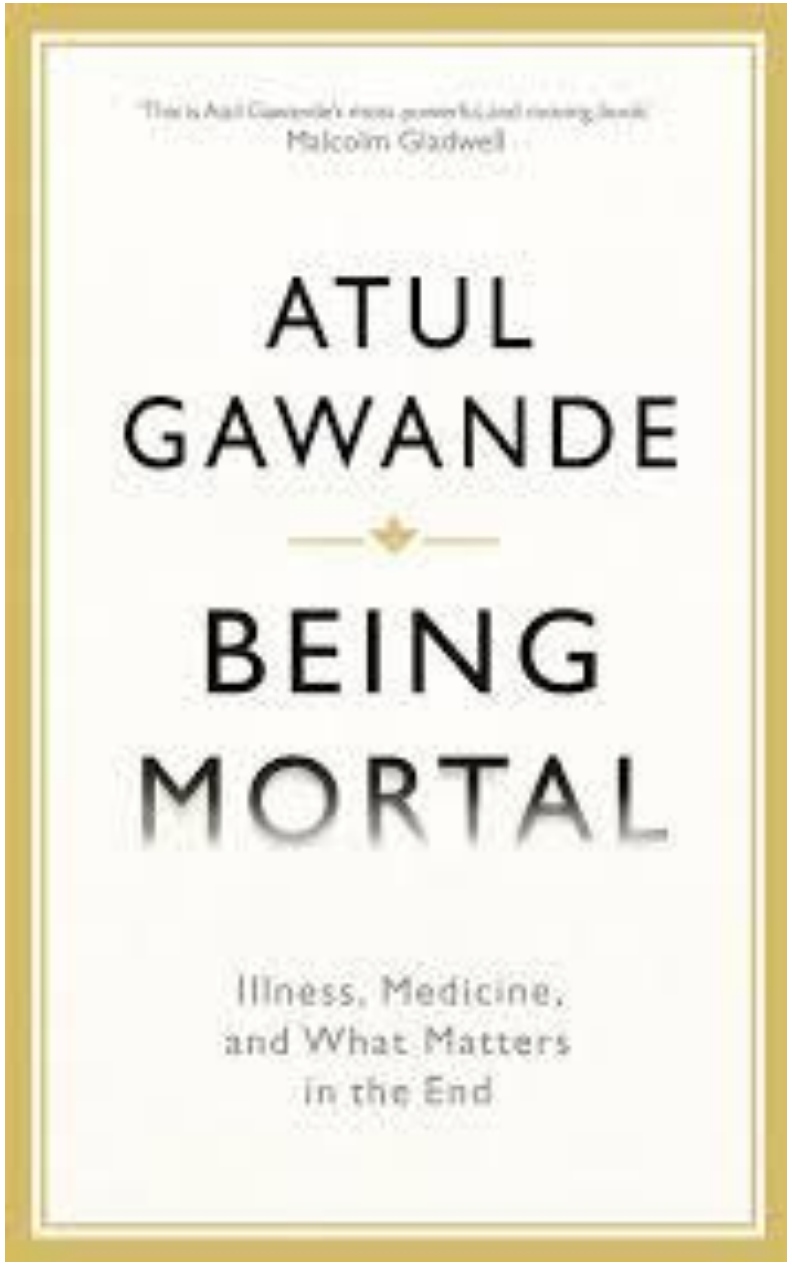


Figure Legend:

Continuum of health states during which advance care planning may be considered.


RESPECT
DEVOTION
LIFE
CRUEL
FRIENDLY
SPIRITUAL
PEACEFUL
RISK
ZEST
SERVING
ZEAL
TAKING
HUMOR
SUPPORTIVE
KIND
PATRIOTIC
INTIMACY
ENTHUSIASTIC
LAW-ABIDING
TRADITION
TOLERANT
MANIPULATIVE
FAIRNESS
MALLEABLE
EMPOWERMENT
MERCIFUL
REVERENCE
ESTHETICS
NURTURING
AFFECTIONATE
SOCIAL-MINDED
RESPONSIBILITY
COURAGE
HONESTY
RELATIONSHIP-ORIENTED
RELATED
RIGHTEOUSNESS
LOYALTY
PERSEVERANCE
PRESERVATION
RESILIENCE
HEALTH
CREATIVE
GENEROUS
DISCERNING
CARING
HOPE
SELF
HOSTILE
FREEDOM
INTEGRITY
POWER
FAITH
HUMILITY
HARMONY
ADVENTUROUS
COMPASSIONATE
GRACIOUS
CRITICAL
DEDICATION
SECURITY
HELPFUL
SOCIAL
HONOR
AUTHORITARIAN
EXCELLENCE
TASK-ORIENTED
CONNECTION
PERMISSIVE
GIVING
THOUGHTFUL
TRUST
NATURE
ELDERS
ENCOURAGING
INDEPENDENCE
OTHERS


Malcolm Gladwell
ATUL
GAWANDE
BEING
MORTAL
Illness, Medicine,
and What Matters
in the End