



SO LET'S TALK ABOUT **DOCTORING, DEATH, & DYING.**

Resources to accompany my talk at #EMTA21
Dr Linda Dykes FRCEM - @DrLindaDykes

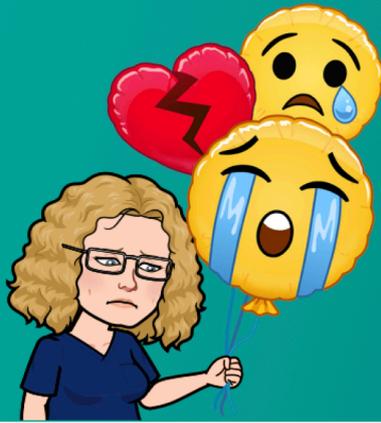
- Slides, posters, then papers.

**CPR is not
a treatment for
Ordinary
Dying**



**Never forget
Burden vs. Benefit**

**Surviving CPR is not
always a good thing**



“She wishes she hadn’t been brought back”

Quality of life after in-hospital cardiopulmonary resuscitation for patients over the age of 80 years

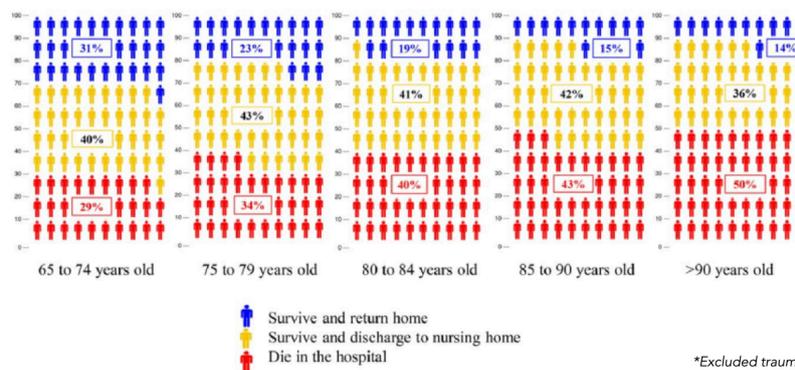
Burden E, Pollock L, Paget C
Postgraduate Med J 2019

What matters to people: clues



- 280 lay people consulted.
- 95% prioritised long-term survival with favourable neurological outcome over short-term (hours/days) survival

Following an ED intubation*, older adults can expect the following:



*Excluded trauma and OOHCA

Prognosis after Emergency Department intubation to inform shared decision-making:

Mortality after ED intubation in Older Adults

Ouchi K, Jamaulikar G, Hohmann S, George N

Journal of the American Geriatrics Society 2018

Frailty → dismal outcomes after CPR

1.8% survival to discharge in retrospective chart review of patients with CFS of 6-9

Frailty is associated with adverse outcome from in-hospital cardio-pulmonary resuscitation
Wharton C, King E & MacDuff A, Resuscitation, 2019

ZERO survivors to discharge if CFS >4 in retrospective chart review of 90 patients, 40 of whom were frail (CFS 5 or above)

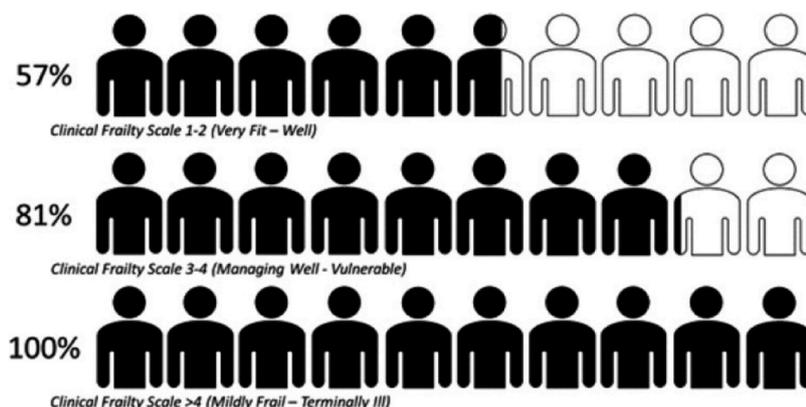
Frailty status predicts frailty of cardiopulmonary resuscitation in older adults
Ibitoye S, Rawlinson S et al Age and Ageing, 2021

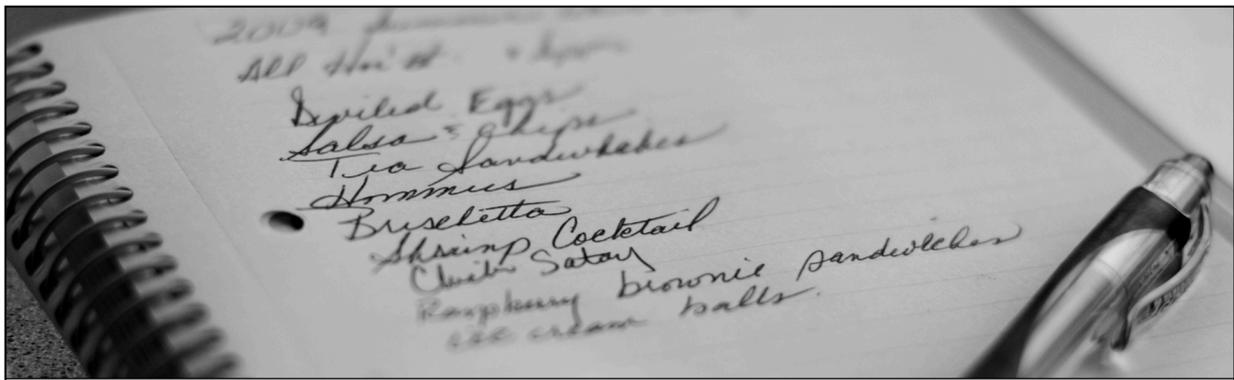


5 Mildly Frail – These people often have **more evident slowing**, and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

Needs help at home?
That's frailty kicking in.

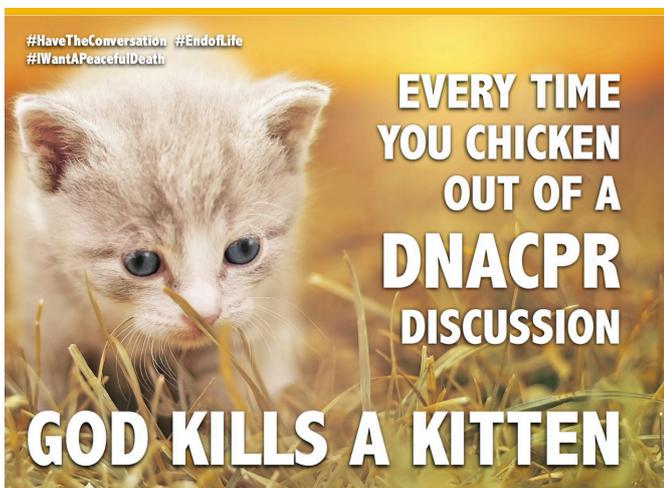
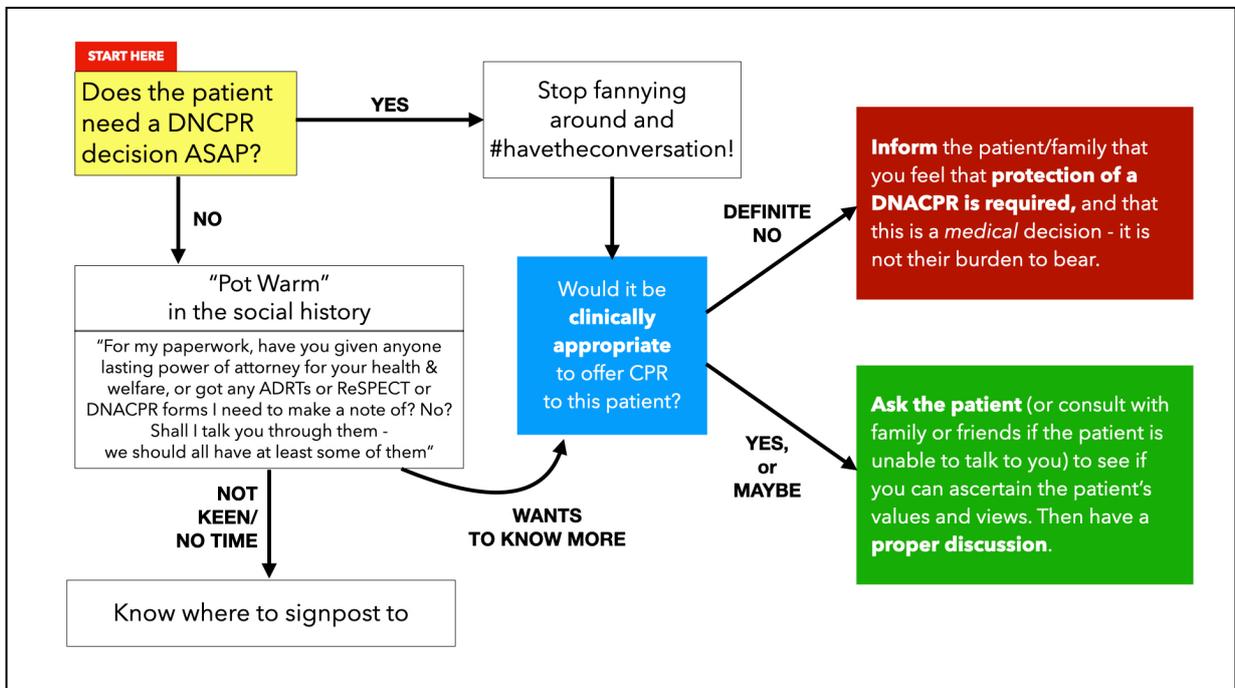
Percentage of patients who died in hospital following CPR for cardiac arrest, stratified by CFS. Deaths are:





PHMx looks like a shopping list?
 Multiple co-morbidities associated with lower survival and more neurological impairment after cardiac arrest

Systematic review of the relationship between comorbidity and out-of-hospital cardiac arrest outcomes
 Majewski D, Ball S & Finn J
 BMJ Open, 2019



“...in this world nothing can be said to be certain, except death and taxes.”
- Benjamin Franklin, 1789

CPR is for when your heart is the **first** thing to stop

*The DNACPR issue
has trumped
Enabling a Calm End in
Final Stages of Dying*

I have never heard anyone say

*“My dream is to die
surrounded by strangers”* having chest compressions
& defibrillation on a ward

We need to talk about **DYING**

Everyone deserves
a peaceful death
*in a place where the
duvet matches the curtains*

CPR is not a treatment for
**ORDINARY
DYING**

“we will offer you all of the treatments that will work
but avoid ones that won't”

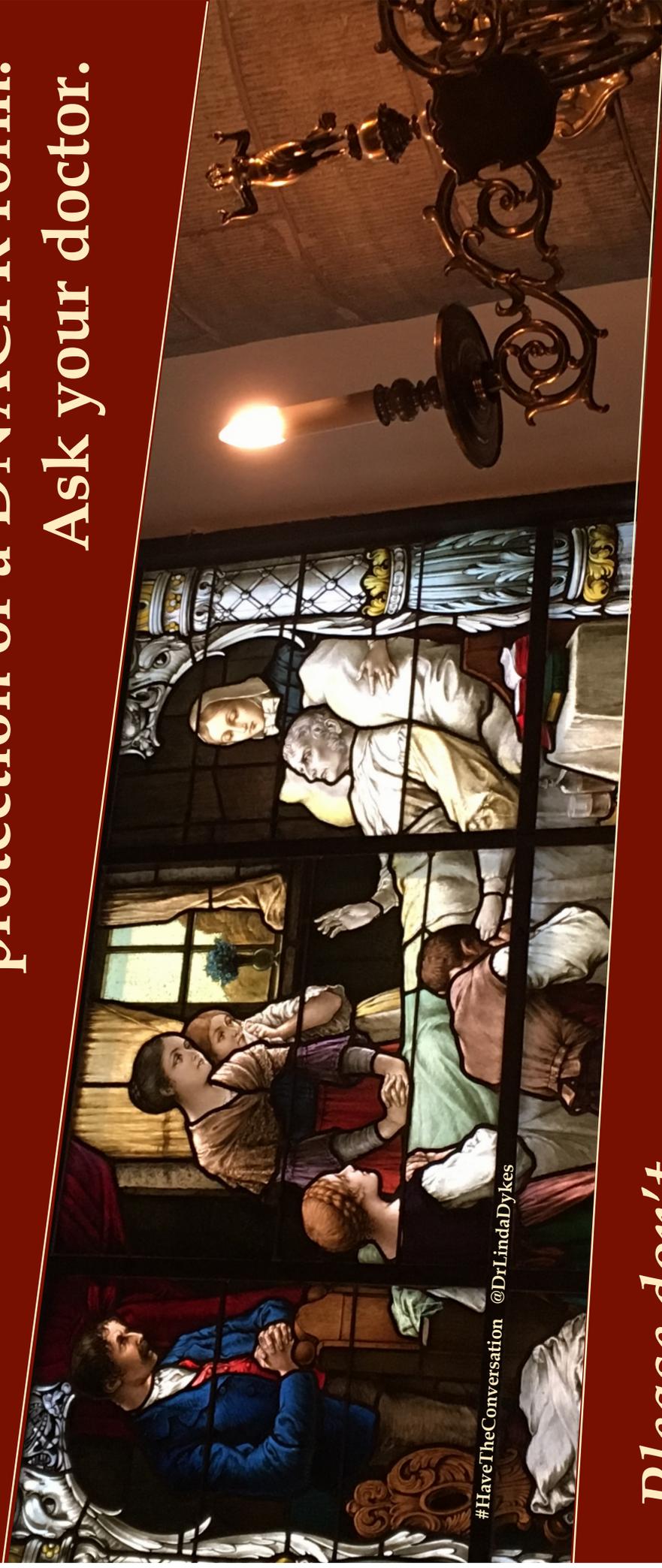
Your body is tired and we already know your heart,
lungs and kidneys don't work very well. When
eventually your heart decides to stop, we wouldn't
be able to re-start it *and so we shouldn't try...*
there's a form we need to complete to make sure
you can die peacefully when the time comes,
and I'd recommend we do one for you,
then you can forget all about it and get on with living

What is a good death?
*Calm, gentle care with no
unnecessary interventions,
by medics brave
enough to stand back*

#HaveTheConversation

Quotes crowdsourced by medics on Twitter campaigning for peaceful EoL care & patient dignity * Poster designed by @mmbangor

If you want a peaceful death, you need the protection of a DNACPR form. Ask your doctor.



Please don't leave it too late.

#IWantAPeacefulDeath

CPR is for when the heart is the first thing to stop, not the last... it is not a treatment for Ordinary Dying. That's why it is vital to get the protection of a "Do Not Attempt Resuscitation" form in place if you know your health is failing

and/or you just wouldn't want anyone to try to re-start your heart when it eventually stops. Once your DNACPR is sorted out, you can forget about it and get on with living.

Also, it's always also a good idea to give someone you trust Power of Attorney for Health & Welfare, and - if you know your life is drawing to a close - talk to your doctor about Advance Care Plans (e.g. TEP or ReSPECT) too.

“...in this world nothing can be said to be certain, except death and taxes.”
- Benjamin Franklin, 1789

**One day, everyone's
story will draw
to a close.**

**Everyone wants
a peaceful
death.**

**But there's a form
for that: don't leave it too late to tell
your doctor you want to make sure that,
when your time comes, you can die
peacefully.**

**There comes a time for everyone when heroic
medical interventions, such as attempting to
re-start the heart, wouldn't work and shouldn't be tried:
CPR is not a treatment for “ordinary dying”.**

- If you know you are approaching the final chapter of your life, whether due to advanced age or serious illness, ask your doctor about filling in a ReSPECT form (which help medical professionals understand what is important to you) and make sure you have the protection of a “Do Not Attempt Resuscitation” (DNACPR) decision.
- You should also consider things like Powers of Attorney, and, if there are medical treatments you know you would not want, Advance Decisions to Refuse Treatment.
- Don't leave these things too late: sadly, as the law currently stands in the UK, you have to “opt in” to a peaceful death. You need to #HaveTheConversation.

Links to papers

1. [Systematic review of the relationship between comorbidity and out-of-hospital cardiac arrest](#)
2. [The chance of survival and the functional outcome after in-hospital CPR in older people: a systematic review](#)
3. [Prognosis after ED intubation to inform shared decision-making](#)
4. [Frailty status predicts futility of cardiopulmonary resuscitation in older adults](#)
5. [Frailty is associated with adverse outcome from in-hospital cardiopulmonary resuscitation](#) (Abstract only I'm afraid - apologies I have now lost the full paper - but Chris Wharton the lead author is @DrChrisWharton on Twitter!)
6. See below also!

Quality of life after in-hospital cardiopulmonary resuscitation for patients over the age of 80 years

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ABSTRACT

Objectives Success of in-hospital resuscitation decreases with age; however, national data show that 11.3% of patients over 80 years survive to discharge. There are few published qualitative data about the quality of life for these patients postsuccessful resuscitation. We aimed to investigate postresuscitation quality of life in patients over the age of 80 through a series of case studies.

Methods All patients over the age of 80 years, who received cardiopulmonary resuscitation (CPR) at our district general hospital in 2015–2016, were included. Success of resuscitation, survival at day 1 and to discharge were recorded. For patients who survived to 1 day and beyond, case reports were written to create individual patient stories.

Results 47 patients over the age of 80 years received CPR at Musgrove Park Hospital over a 2-year period. Five (10.6%) survived to discharge. Of those surviving to discharge, two had substantial functional decline, requiring discharge to nursing homes having previously been independent. Of the five families/patients who commented on their experience, only one expressed a positive view. When discussed, the majority of patients/families opted for a Do Not Attempt CPR.

Conclusion Our results have shown that there is a risk of substantial functional decline associated with successful CPR in those patients over the age of 80 years. The majority of patients and relatives contacted after successful resuscitation expressed a negative view of the experience. Our study highlights the importance of having early informed discussions with patients and families about CPR in order to avoid detrimental outcomes and ensure patient wishes are correctly represented.

INTRODUCTION

In order to make informed decisions regarding cardiopulmonary resuscitation (CPR), patients and teams need information about the likelihood of a successful outcome.

Receiving CPR when it is unlikely to be successful is a major concern expressed by patients approaching the end of their natural lives, and by their relatives.^{1,2} Moreover, prognostic information influences patient preference: fewer elderly patients wish to undergo CPR once a clinician has explained the probability of survival.³

CPR becomes less likely to be effective with advancing age,^{4,5} but in the UK, the National Cardiac Arrest Audit data found that 11.3% of patients over the age of 80 survive to discharge after in-hospital cardiac arrest.⁵ In addition, some patients survive to 1-day postresuscitation but do not survive to discharge.

There are little published qualitative data on the quality of life for elderly patients who survive after CPR.⁶ We aimed to investigate postresuscitation quality of life in patients over the age of 80 through a series of case studies of all survivors of cardiac arrest in our hospital over a 2-year period.

Materials and methods

Data were collected at a large district general hospital over a 2-year period (2015–2016).

All inpatients over the age of 80 years who received external chest compressions, and were attended by the hospital-based resuscitation team in response to a 2222 call (the number commonly used by the UK hospital staff to summon an emergency care team), were included. This mirrors the scope of data collection used by the National Cardiac Arrest Audit.⁵ The rates of return of spontaneous circulation (ROSC), survival at 1 day and survival to hospital discharge were calculated. For those patients who survived to 1 day and beyond, case reports were compiled to create individual patient stories. Individuals and their next of kin were contacted and subjective opinions on the events collected. We asked the open question: ‘We wonder if you have any views about what happened to [you/name of patient]’. Participants were invited to telephone or to use a printed reply slip ‘...to let us know anything you feel was important about [your/patients name] experience, and that of [your/his/her] family’.

RESULTS

Forty-seven patients over the age of 80 received CPR at the Musgrove Park Hospital over a 2-year period (2015/2016). Five (10.6%) survived to discharge. Of this group, two had substantial functional decline, requiring discharge to nursing homes having previously been independent. A further 2 of the 47 patients (4.3%) survived to 1 day but not to discharge. We were able to gather information in person, by telephone interview or by written responses. Comments were offered by patient/relatives of three of the five who survived to discharge, with two providing negative accounts of CPR, and one a positive account. Comments were received from relatives of the two patients who survived to 1 day but not to discharge, and both reflected negatively on the role of CPR.

Case studies 1–5: survival to discharge

Case 1

An 86-year-old woman, previously independent at home, was admitted after resuscitation from an out-of-hospital cardiac arrest (OOHCA). Bilateral pulmonary embolism was diagnosed and she had a further pulseless electrical activity (PEA) arrest



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in the emergency department (ED). ROSC was achieved after three cycles of external chest compressions and epinephrine. She was transferred to the intensive care unit (ITU) and underwent thrombolysis. Resuscitation was discussed with the family in the ED: they felt that she would not wish for further CPR attempts. She was treated for focal seizures, and voiced feelings of low mood and frustration. She remained an inpatient for 50 days and was discharged to a community hospital, and then to a nursing home.

Her daughter contacted us by telephone 'so I can explain the downside of resus and how mum really feels about it which is not good... She is lucky the money isn't a problem but she has had to sell her house and that has been a big burden. In the space of an hour her whole life changed... She is not happy now. She wishes she hadn't been brought back'.

Case 2

An 84-year-old woman, previously independent at home, admitted after being found unresponsive. She had a witnessed ventricular fibrillation (VF) arrest while in the CT scanner. ROSC was achieved with 2 min of external chest compressions and one shock. She underwent percutaneous coronary intervention (PCI) and had angioplasty to a culprit lesion. During her admission, her team discussed resuscitation decisions with the patient and her family, and she stated clearly that she did not want another CPR attempt, specifically refusing defibrillation for a shockable rhythm. She remained an inpatient for 12 days. She was discharged to a community hospital, for confidence building because of issues with anxiety, and was then discharged home. By telephone she said 'I do remember it. You were all wonderful. They are still wonderful, I see the breast care, you know, Amanda, she's wonderful. I have to have a scan every three months... and I see the hospice for the legs, they are swollen, and my eyes, they are bad... But I worry all the time. I am a worrier. I get frightened... I know I shouldn't say it because I am lucky, they worked on me and I had the helicopter and everything but they shouldn't have... I'm hurting all over. My husband and me, we have talked it over, we wouldn't want to be resused (sic) like that.'

Case 3

A man over 80 years of age, previously independent at home, was admitted following a fall and neck of femur fracture. Three days into admission, he had a pulseless ventricular tachycardia arrest. ROSC was achieved after external chest compressions and one shock. It was realised that the patient had previously stated his wish not to have CPR attempts: a valid 'do not attempt' (DNACPR) form had been completed soon after admission and was in his notes. Postarrest the patient was confused and had disturbing night-time hallucinations, felt to be secondary to hypoxic brain injury sustained during cardiac arrest. He remained an inpatient for a further 15 days postarrest and was discharged to a community hospital and, then a nursing home. He died of lung cancer 12 months later. We were unable to contact his family.

Case 4

An 82-year-old man, previously independent at home despite metastatic bowel cancer, was admitted with an infective exacerbation of chronic obstructive pulmonary disease. Two days after admission, he had a PEA arrest. He was intubated during resuscitation and ROSC was achieved after two cycles of external chest compressions. He was successfully extubated in ITU and made a

full neurological recovery. On further discussion, he decided he did not want a further CPR attempt. He remained an inpatient for 5 days and was then discharged home. He died of metastatic cancer 8 months later. His wife gave permission for the publication but did not comment on his care.

Case 5

An 84-year-old woman, usually independent at home, was admitted after OOHCA while on holiday. Her husband administered approximately 600 chest compressions until the paramedics were able to provide successful defibrillation into sinus rhythm. She had a further VF arrest in the ED: ROSC was achieved with external chest compressions and amiodarone. ECG showed prolonged QT interval (QTc 635 ms). She underwent PCI and was found to have minor distal disease. Discussion was had with family regarding resuscitation and it was agreed to treat shockable rhythms only. Medications contributing to QT prolongation were stopped (moxonidine, sertraline). She remained an inpatient for 7 days postarrest before being discharged home. Her husband responded to our letter, giving permission for publication and to explain that she had been given 'wonderful hospitality' ... 'luckily my wife pulled through'.

Case studies 6–7: survival at 1 day but not to discharge

Case 6

A man over 80 years, previously independent at home, was admitted with increased agitation and confusion. He had a cardiac arrest in ED and ROSC was achieved after three cycles of external chest compressions. Postarrest his Glasgow Coma Scale fluctuated from 3 to 10 with no verbal response and a decision was made for end-of-life care. He required extensive, palliative input for agitation and restlessness. He died 7 days postarrest.

His son contacted us by telephone to say 'I have nothing but admiration. The consultants called me. We felt well looked after; it was a really good service...'. He went on to explain his father's recent failing health: he had had hip and valve replacements and had stopped driving long distances, and then he had had a stroke '...and we found out he had minor strokes prior to that. No-one [in the family] was aware of that. Then his driving licence was gone ... He would never have wanted to survive not independent. He wouldn't have wanted you to bring him back to be like that. He was waiting for God. Dignity was his number one, not being a burden number two. The general practitioner (GP) needs to say 'No details, but your father or mother is in old age and there are things happening, and you need to talk to him'. I wish we had done that with Dad'.

Case 7

An 83-year-old man was admitted from a residential home. He was treated for an acute coronary syndrome and acute kidney injury associated with severe hypomagnesaemia and hypocalcaemia. He had a PEA arrest: ROSC was achieved after four rounds of external chest compressions with epinephrine. Intraosseous access was gained for rapid replacement of magnesium. He was intubated on the ward and taken to ITU; his condition was regarded as potentially reversible but on further discussion his family was clear that he would not wish to have further CPR attempts. Despite reversal of the metabolic abnormalities, he remained unresponsive on ITU and had jerky movements thought to be secondary to hypoxic brain injury. Treatment was withdrawn and he died 2 days postarrest.

His son gave permission for publication, and his daughter-in-law visited us to explain: 'When we left him [after his

initial admission] I was thinking ‘we haven’t discussed DNAR’ but I had to get the mother in law home... He was poorly—poor quality of life—mobility poor. Then he was in ITU and on life support, all the family were saying turn it off, leave him alone, but because of the drugs they had to give him, you know, 48 hours to let the inflammation settle’... ‘There were so many people involved...[it was]very hard and stressful for the family, and his wife with memory problems. Getting the machine off, that was very hard’. When asked what she felt the patient would have wanted, she explained ‘if they had asked [patient’s name] I don’t think it’s what he would have wanted’.

DISCUSSION

Our case reports demonstrate that even when ROSC is achieved, it is associated with a risk of functional decline in those over the age of 80 years.

Eighty-five per cent of patients in our study did not survive following attempted CPR. These unsuccessful attempts at resuscitation can unnecessarily medicalise a patient’s death and be more distressing for family members than allowing a natural end to life.^{7,8}

Two of the five patients who survived to discharge went to nursing homes after previously being independent at home. A further two patients had ROSC but did not survive to discharge: in both cases, their families felt that resuscitation attempts had not been what the patient would have wished for. Of the patients/families who commented on their experience only one expressed an overall positive view. However, neither patient nor relative for two of the cases provided comment and it is possible that they may have felt positively about their experience.

CPR should be considered a highly invasive medical treatment. When used inappropriately CPR can lead to prolonged suffering and fails to allow patients a dignified death. Patients and medical professionals need to be aware of the risk of functional decline associated with successful CPR so they can make informed decisions around treatment escalation planning.

Given that most of these patients had been independent with minimal comorbidity prior to admission, it would be reasonable to have considered them ‘for resuscitation’ unless a ceiling of care had previously been documented. However, it is important that people are given the opportunity to have an informed discussion about both CPR and other aspects of treatment escalation. In our case studies, the majority of patients/families opted for a DNACPR when this was discussed. It is even more important to be aware of and respect decisions previously made, as in case 3.

Five of our seven patients had a cardiac arrest in the ED (or on day 1 of admission), where it is hard to make decisions around resuscitation. There is not always time to find out about previous functional capacity and attitudes to resuscitation. The UK National Confidential Enquiry into Patient Outcomes and Deaths in 2013 recorded lack of time to discuss or document resuscitation decisions among reasons for not recording a DNACPR.⁹ This highlights the importance of having discussions and making decisions around goals and preferences of care in the community before patients fall acutely unwell.¹⁰ One family member commented on this in particular stating they wish that the GP had broached the topic with them earlier.

It remains important that discussion around DNACPR is continued in the acute hospital. Alternative approaches to the conventional DNACPR form to include broader treatment escalation plans have been implemented^{11,12} and can be used in any setting. These further capture patient preference and avoid inappropriate restriction of other treatments.¹¹

The study is limited by the small sample size, from a single hospital. It is possible that issues similar to those that we have highlighted apply to some younger populations; we have restricted our observations to patients, based on the chronological age bandings as applied by the National Cardiac Arrest Audit.

CONCLUSION

Our results have shown that there is a risk of substantial functional decline associated with successful CPR in those patients over the age of 80 years. The majority of patients and relatives who provided comment after successful resuscitation expressed a negative view of the experience, with regrets that CPR had been carried out. This highlights the importance of having early informed discussions with patients and families about CPR in order to avoid detrimental outcomes to the patient and to ensure patients’ wishes are represented accurately.

Main messages

- ▶ Successful cardiopulmonary resuscitation (CPR) in those over the age of 80 years is associated with a risk of substantial function decline. It is important that medical practitioners and patients are aware of this to allow for informed decision-making around resuscitation status.
- ▶ It is important to have early discussions around resuscitation, preferably in the community before patients present acutely unwell to hospital. The majority of patients and relatives contacted after successful resuscitation expressed a negative view of the experience, with regrets that CPR had been carried out.
- ▶ Elderly patients who survive to 1 day but not to discharge are often deprived a dignified death. These circumstances can prolong suffering and distress to both patient and family members.

Current research questions

- ▶ Do quality of life outcomes differ in elderly patients receiving in-hospital CPR compared with out-of-hospital CPR?
- ▶ What factors predict good quality of life outcomes post CPR in patients over the age of 80?
- ▶ Would the introduction of a nationalised programme to discuss cardiopulmonary resuscitation in the community lead to a reduction in unsuccessful CPR attempts?

What is already known on the topic

- ▶ CPR becomes less likely to be effective with advancing age
- ▶ Cerebral Performance Category (CPC) has been the traditional scale to grade neurological outcomes post cardiac arrest; the convention being that CPC 1 or 2 is defined as a good outcome
- ▶ CPC has been shown to have poor to fair correlation with long term quality of life and limited ability to discriminate between mild and moderate brain injury

Contributors LP devised this project. EB and CP collected the data and carried out the analysis. EB drafted the manuscript that was edited and approved by all authors. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted.

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Patient consent for publication Next of kin consent obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as online supplementary information.

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That's It Folks!

Thanks for reading this!

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