

Increasing use of DNR orders in the elderly worldwide: whose choice is it?

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J Med Ethics 2002;28:303–307

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Revised version received
30 October 2001
Accepted for publication
11 February 2002

Most elderly patients die with an order in place that they not be given cardiopulmonary resuscitation (DNR order). Surveys have shown that many elderly in different parts of the world want to be resuscitated, but may lack knowledge about the specifics of cardiopulmonary resuscitation (CPR). Data from countries other than the US is limited, but differences in physician and patient opinions by nationality regarding CPR do exist. Physicians' own preferences for CPR may predominate in the DNR decision making process for their patients, and many physicians may not want the participation of the elderly or believe that it is necessary. More complete and earlier discussions of a wider range of options of care for patients at the end of life have been advocated. The process ought to include education for patients about the process and efficacy of CPR, and for physicians on how to consider the values and levels of knowledge of their patients, whose preferences may differ from their own.

The use of do-not-resuscitate (DNR) orders, which preclude the use of cardiopulmonary resuscitation (CPR) has been increasing in all individuals, including the elderly, over the past several decades.^{1–11} Several surveys suggest that the majority of hospitalised and institutionalised patients in the United States, and many abroad, die with a DNR order in place,⁷ which was not true twenty years ago. The US Patient Self-Determination Act of 1991, which requires patients be informed of their rights to issue advance directives and be involved in medical decision making, appears to have increased the use of DNR orders.¹² While the use of the DNR order has been less systematically studied in other countries, many patients in the developed and developing world also die with a DNR order in place.^{12–21}

The elderly are more likely than the young to be the recipients of DNR orders. Most,^{6 10 13–15 22–29} but not all¹ surveys indicate older patients, regardless of prognosis, are more frequently given a DNR order than a young patients. It remains an open question, however, whether more elderly people die with a DNR order in place because they are actually choosing to do so. Many studies show that most patients are never asked by a doctor if they wish to be resuscitated, despite a desire to express their wishes. Data from the SUPPORT (Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment) project, canvassing almost 1000 seriously ill elderly patients, noted that only approximately one quarter had ever discussed CPR with a physician.³⁰ A survey of approximately 400 nursing home patients showed that roughly a similar number of them had ever been asked about CPR by a doctor.³¹

Usually, the decision to withhold resuscitation is made by family members rather than the patients themselves^{2 6 17 32 33} together with physicians, often initially medical residents, if the patient is an inpatient.³⁴ This may be in large part a result of failure to consider the use of DNR orders until patients are no longer capable of participating in the decision.^{2 32}

In an editorial in 2000 in the *British Medical Journal*, Ebrahim cited the failure of physicians to elicit the participation of patients and even family members in the decision to write a DNR order for elderly patients as evidence of possible bias on the part of doctors against the elderly ("ageism").³⁵ In this article, published evidence of patient and physician knowledge and attitudes toward DNR decision making will be reviewed.

STUDIES OF PATIENT AND FAMILY ATTITUDES TOWARD DNR ORDERS

Several US studies involving several hundred elderly outpatients have suggested patients want to discuss CPR with their doctors.^{36–38} Often, patients want their physician to bring up the subject,^{38 39} preferably while they are still healthy.⁴⁰ Most patients interviewed had not talked about CPR with their practitioners.^{38 39 41–52} If they had spoken with their doctors, they frequently had little understanding of exactly what CPR entailed before that discussion.⁴⁰

In the United States, the majority of investigated patients have CPR preferences and want to be part of the decision making process.^{52–56} In addition, most surveys,^{41 57–60} but not all,⁶¹ indicate that a large number of US elderly want to be resuscitated. These include outpatients,³⁸ seriously ill patients,^{57 58} and nursing home residents.^{41 61} Among the evidence that supports the desire for CPR is the data from the SUPPORT which included almost 10 000 seriously ill patients. Two thirds of those 70 or older opted for CPR in this survey.⁵⁶

A preference for CPR has been observed in other parts of the world as well. In the UK, several studies of 100 to 200 patients each noted a majority favouring CPR.^{62–66} Similarly, in Israel, according to one investigation, most patients opted for CPR.⁶⁷ In Ireland, however, a large majority were opposed to CPR.⁶⁸

It has been noted that certain demographic variables are related to the preference of the elderly for CPR. In the US, younger age, greater functional status, lesser education, belief in technology, male sex, and non-white ethnicity have been associated with preference for CPR.^{57 59 65 69 70} In one investigation in the US, more minorities desired CPR if their quality of life was impaired by illness.⁷¹ These variations in CPR preference have been verified by SUPPORT trial data.⁵⁹ A small study of older inpatients in the UK indicated that approximately two thirds of all men did, and two thirds of all women did not, want CPR.⁶³ Despite many investigations, the reasons for such demographic variation in CPR preferences have not been defined.

When older individuals were asked to consider the possibility of CPR in the event of terminal illness or persistent cognitive or functional impairment, they were less likely to desire CPR.^{62 63} Several studies^{42 58 63 72} suggest patients would decline quantity of life if it meant preserving quality. One, conducted in the US, based on data from 1000 seriously ill patients in the SUPPORT trial, suggested a diverse set of

preferences.⁴² Subjects were asked if they would hypothetically be willing to “trade off” years of their current health for years of excellent health. On the average, seriously ill patients were willing to trade off one year of their current state of health for 8.8 months of living well. Slightly more than one third, however, would not opt for any reduction in lifespan. Few would choose to decline CPR on the basis of pain alone. In several surveys, the majority of terminally ill individuals did not want CPR, nor did healthy individuals want CPR, in the event they became terminally ill.^{40 73}

The stability of elderly patients’ choices for CPR depends on which older persons are asked. A study of more than 2000 outpatients noted only fifteen per cent changed their opinions in two years.⁷⁴ On the other hand, while a small study of 30 intensive care unit (ICU) patients found stability of choice,⁷⁵ a survey of almost 1000 seriously ill elderly observed that one in five changed their minds after two months.³⁰

Several studies have noted that many people also express the desire that physicians or family members’ wishes be paramount in the event that they might become too cognitively impaired to decide, even if it results in conflict with the patient’s prior expressed wishes.^{65 76 77} This has been noted both in SUPPORT data and in smaller studies from the US and the UK.

Several surveys have shown that older individuals overestimate the probability that they might survive CPR by at least 200 per cent.^{36 38 39 65 78} The most common source of information about CPR has been observed to be television.³⁶ Many patients appear not to understand what procedures constitute CPR.^{37 65} Some acutely ill hospitalised patients who have been asked what they think about DNR orders have been at increased risk for depression or acute stressors that might impair their judgment.⁷⁹

Family members often misinterpret the wishes of elderly relatives.^{58 64 80} On one hand, a study showed relatives underestimate the patients’ preferences for CPR.^{56 64} On the other hand, when individuals do opt for DNR, their relatives often do not realise this.⁵⁶ In one small survey, family members understood CPR more thoroughly than patients,⁶⁴ but, in another, they also greatly overestimated the success rate of CPR.¹⁰

STUDIES OF HEALTH CARE PRACTITIONER ATTITUDES TOWARD DNR ORDERS

Information obtained from surveys of physicians in a limited number of locations suggests that physicians tend to use their own personal preferences for CPR and estimates of futility when making decisions about the use of DNR orders.^{81 82} Most physicians would choose not to undergo CPR themselves⁸¹⁻⁸³ and prefer less end-of-life care for themselves than their patients.⁸⁴

Two US investigations of university-affiliated physicians in Michigan and Boston suggested that physicians consider age as an important factor in their decision to treat patients aggressively or to use DNR orders,^{85 86} although doctors in a British study reported that they did not consider age important in the decision to use CPR.⁸⁶ While US physicians told investigators they would be much more likely to resuscitate a middle-aged than an elderly patient,⁸⁵ physiological age has been cited as more important than chronological age.⁸⁶

Although physicians and patients, when offered hypothetical scenarios of clinical conditions, make similar choices as to whether to write DNR orders,⁸⁴ the physicians often misinterpret patients’ wishes for CPR^{84 87 88} and emphasise the influence of quality of life in reaching a decision more than patients.⁸⁹ Doctors who participated in the SUPPORT study predicted 85% of the time that a patient wanted CPR, but less than half the time that a patient did not want CPR.⁸⁸ In one survey, the predictions of physicians as to whether their patients wanted resuscitation correlated poorly with the

expressed opinions of their patients who survived CPR.⁹⁰ As physicians interviewed more patients, they improved their ability to predict patient wishes.⁹¹

American practitioners have conflicting attitudes toward DNR orders. Half of all physicians and nurses reported acting against their conscience in resuscitating terminally ill patients.⁹² In addition, while several American surveys indicated that most physicians desired patient participation in the decision making process,^{85 90} many physicians felt uncomfortable discussing DNR orders⁵⁴ and seldom discussed the possibility of CPR with patients except in special contexts—for example, with terminally ill patients.⁹³ According to several surveys, physicians withheld CPR as much as 34% of the time despite patients wishes.^{94 95} In another study, only 40% of US physicians believed they would never override a DNR order or provide CPR they deemed futile although a patient had requested it.⁹⁶ In this same investigation, physicians reported low levels of knowledge or support for their hospital’s DNR policy.⁹⁶ Malpractice issues have been cited as important considerations by US physicians.⁸⁶

In other nations, the attitudes of physicians vary. In Britain⁹⁶ and Japan,⁹⁷ many physicians were willing to write DNR orders even if the patient was opposed, while Israeli physicians welcomed more communication with patients about life-sustaining treatments.⁹⁸ Attitudes may also differ by specialty of the physician; in Britain, geriatricians were more likely to opt for resuscitation than other physicians.⁸⁷ In Saudi Arabia, many physicians would not even consider DNR orders for previously healthy patients.⁹⁹ Saudi physicians also noted that legal considerations were important in their decisions.⁹⁹

In one study, nursing home medical directors accurately predicted the incidence of CPR survival.¹⁰⁰ Mandatory DNR orders for residents were opposed by the vast majority.¹⁰⁰

Nurses in different parts of the world have varying opinions about DNR orders. A survey of US nurses showed they wanted more participation in the decision.¹⁰¹ In one study, British and American nurses, unlike physicians, would never override patient wishes for a DNR order or CPR.⁹⁶ Most felt patient preferences should also be strongly considered.¹⁰¹ In studies of European nurses, German nurses were more inclined to favour resuscitation than English or Swedish nurses.¹⁰² In Australia, nurses believed they had influence over the resuscitation decision.¹⁰³ Japanese nurses participated in the DNR decision almost half of the time, and one third did not believe such orders should be written without the consent of the patient.¹⁰⁴

Recent studies have also been exploring the differences in attitudes toward DNR decision making between physicians, nurses, and other health care professionals, such as bioethicists. Differences in training and personal religious beliefs have been suggested as responsible for variations in attitudes.^{105 106}

CONCLUSIONS

There is evidence to suggest that while many elderly favour resuscitation, they die with DNR orders in place. In limited data from other countries, the majority of elderly in the United Kingdom and Israel desired CPR, while those in Ireland did not. The attitudes of patients in a large part of the world are, however, not known. Investigation should be extended to the rest of the world.

There are some elderly individuals who are uninformed about the details of the procedure or overestimate its chances of success. Others might decline DNR orders because they have been asked about CPR while in good health without consideration of survival with functional loss or low life expectancy.

The choice of a DNR order can be influenced, however, by the way in which CPR is presented.^{46 65} Physician bias might alter patient decision making.¹⁰⁷ At least one study confirmed

the commonsense notion that when information about CPR is presented more negatively, fewer elderly will choose it.¹⁰⁸ There is also some evidence that individuals prefer the first option if several are explained to them.¹⁰⁹ While CPR survival rates and predictors of survival from CPR are known, more studies should be done to ascertain when and how the elderly prefer to be asked about resuscitation, how much and what type of care they want at the end of their lives, and how and where they wish to die.

Many elderly people have many sensory and cognitive deficits, which may impair their ability to comprehend information about end-of-life choices. Further investigation should examine how readily older persons do understand such information, and determine if additional aids, such as written literature, audio or videotapes, which might have large typefaces, enhanced audibility, or simplified language, might help.

Many older individuals, however, may desire CPR regardless of what they are told about it, but have their wishes ignored. The actions of physicians, who may fail to ask the elderly their preferences until it is too late, or who may disagree with patients or not even believe patients should be consulted, may be responsible. Layton *et al* suggested possible reasons why physicians might not choose to discuss CPR. These included physician discomfort with talking about CPR, the belief that they already understood patients' opinions, and lack of time.³² Physicians and patients who are healthy or have stable chronic illnesses may have more pressing issues to discuss in limited physician visits. Concerned health care professionals and patients might consider opening dialogues with health care insurers, if applicable to the system of health care, about the possibility of their being reimbursed for time spent discussing end-of-life issues such as CPR preferences.

Physicians in the US and abroad may possess attitudes and opinion, shared by other health care professionals, which cause them to come into conflict with those of patients and family members, and with hospital policies. While the attitudes of physicians applying DNR orders to the aged have only been studied in a limited number of settings, widespread discrimination on the basis of age has yet to be demonstrated.

Efforts to modify the use of DNR orders have included increased patient and physician education and greater use of advance directives. Thus far, they have seldom resulted in large changes in CPR preferences by patients.^{59 110-113} Additional research should explore new methods of patient and physician education.

Since several studies have indicated that physicians sometimes disregard DNR orders, apply CPR reluctantly, and feel uncertain or opposed to hospital DNR policies, hospital-wide discussion forums including physicians, ethicists, lawyers, and hospital administrators might help allow consideration of physician concerns and clarify hospital policies and physician responsibilities. Which programmes work and whether or not education affects whether patient or physician values predominate in a discussion about end-of-life-care needs to be determined through further investigation.

The utilisation of the DNR involves application of the ethical principles of patient autonomy (patient's right to decide treatment) and physicians' beneficence (that physicians should provide treatment that does good and does not harm patients) which sometimes conflict. It is not clear whether the increasing use of DNR orders is the result of agreement between patients and physicians in the exercise of these principles or whether physicians deny patients' autonomy by not asking them about CPR preferences. As studies demonstrate that many elderly prefer CPR, the latter possibility seems more likely. Whether patients opt for CPR depends, however, on who is asked, what information they are given, and when they are asked.

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