Determining resuscitation preferences of elderly inpatients: a review of the literature

Christopher Frank, Daren K. Heyland, Benjamin Chen, Donald Farquhar, Kathryn Myers, Ken Iwaasa

Abstract

Studies have shown that discussions with elderly hospital patients about cardiopulmonary resuscitation (CPR) preferences occur infrequently and have variable content. Our objective was to identify themes in the existing literature that could be used to increase the frequency and improve the quality of such discussions. We found that patients and families are familiar with the concept of CPR but have limited understanding of the procedure and overestimate its benefit. Most patients are interested in being involved in discussions about CPR and in sharing responsibility for decisions with physicians; however, older patients who participate in these discussions may have variable decision-making capacity. Physicians do not routinely discuss CPR with older patients, and patients do not initiate such discussions. When discussions do occur, the information provided to patients or families about resuscitation and its outcomes is not always consistent. Physicians should initiate CPR discussions, consider patients’ levels of understanding and decision-making capacity, share responsibility for decisions where appropriate and involve the family where possible. Documentation of discussions and patient preferences may help to minimize misunderstandings and increase the stability of the decision during subsequent admissions to hospital.

Methods

Two of us (C.F. and K.I.) and a hospital librarian independently searched MEDLINE and BIOETHICSLINE for relevant articles published from 1980 to 2000. In addition, the references of these articles were reviewed for relevant studies. Two of us (C.F. and D.K.H.) determined the eligibility for review of each article using the following inclusion criterion: original research article related to CPR information exchange, deliberation or decision-making responsibility involving hospital patients whose mean age was over 65 years.

In organizing the data extracted from the studies, we adapted the communication framework of Charles and colleagues to focus on important factors in the process of CPR decision-making. These researchers define 3 distinct components of decision-making: information exchange, deliberation about treatment options and responsibility for the decision. The process is influenced by patients, surrogate decision-makers, professional care providers and the hospital environment.

We worked in pairs to review each article that met the inclusion criteria and extracted relevant data using a standardized format based on the communication framework. We then met to collate our findings and to identify themes derived from the data. This method was chosen to try to minimize bias caused by the subjective review of information from a wide variety of study designs and sites. Disagreements about extracted data were brought to the entire group for resolution.

Given the wide variety of study designs, populations and settings, we made no attempt to carry out a quantitative analysis. Although some demographic data were pooled, results from reviewed studies were not combined.

Elderly patients with significant comorbidities and intercurrent illness are at risk of death during their stay in hospital. Physicians admitting such patients are often faced with the challenge of reviewing or obtaining advance directives or the “code status” of the patient. Several studies document that discussions about cardiopulmonary resuscitation (CPR) preference occur with less than a third of inpatients and less than half of patients not wishing to have CPR.

We work with older patients in medical and rehabilitation teaching units and have experienced the difficulty of discussing end-of-life options with older patients and their families. Comments from house staff about the stresses and challenges of CPR discussions were the impetus for our studying this issue. At the rehabilitation hospital, policy requires that resuscitation be discussed with patients. In the acute care hospital, discussions are usually at the discretion of the medical house staff and, thus, tend to happen late in the course of an illness. If they do not occur, patients may receive aggressive care during the final months of life, even if they or their families prefer comfort care rather than life-extending measures. Conversely, we have observed situations in which physicians have incorrectly assumed that older patients do not wish aggressive measures.

Clarification of the extent of treatment that a patient wishes may improve satisfaction with care and prevent excessive consumption of hospital resources at the end of life. Physicians have little guidance to help them communicate and effectively make decisions related to CPR with older patients. Existing policy statements on resuscitation do not specifically address communication strategies. The purpose of our project was to identify themes in the existing literature that could be used to guide physicians in the discussion of CPR with elderly patients in hospital.
**Data synthesis**

Forty-five papers met the inclusion criteria.9-11 The majority were surveys; the remainder were observational studies involving patient interactions or patient vignettes. The mean age of the 13,958 patients included in these papers was 73.6 (standard deviation 7.6) years. Of the studies, 61% were from the United States and 25% from the United Kingdom. More than half (57%) were conducted in internal medicine units, but 25% were in inpatient geriatric units.

Communication between physicians and elderly patients or substitute decision-makers about CPR is a complex process and is affected by a variety of societal, institutional and individual factors. However, several themes emerged from the studies (Box 1).

**Initiation of discussions**

Patient and surrogate factors have an impact on the timing of discussions about CPR in hospital. Most patients and their families (up to 80%) had heard of CPR9-11 and reported getting much of their knowledge about CPR from television,9,10 which portrays a high success rate for resuscitation.12 Patients’ comprehension of most facets of CPR, including the indications for and the outcomes of CPR, was poor.9,10,13 Patients and their families believed that the success rate for CPR exceeds 50%.9,10

The majority of patients (45%-100%) reported being comfortable with discussions about CPR9-12 and wished to be involved in discussions and decisions about resuscitation. However, the rate of discussions with medically ill older patients in hospital was low,9,14 and patients were unlikely to disclose their CPR preferences spontaneously.11,23

Despite their limited knowledge, the majority of inpatients (55%-92%) in studies from the United Kingdom, New Zealand and the United States wanted CPR.2,9-11,13,14,19,22-26 A minority (38%) wanted CPR under any circumstances,13 but most rated significant physical and mental disability as important reasons for declining CPR in the future.15,16,27

Physicians’ willingness to initiate discussions about CPR appeared to be the main factor that determined whether such discussions occurred. Physicians reported that they routinely discussed CPR with 3%-29% of patients but that they were more likely to do so if the patient was believed to be terminally ill.11,17,28 The most common reasons cited for not reviewing CPR preference were the patient not being ill enough, the possibility of the discussion upsetting the patient, the physician’s discomfort with the process, lack of opportunity and a belief that it is the responsibility of the primary care physician.11,29-34 The issue of whether CPR preference should be clarified routinely is complicated further by a study in which 59% of patients who had discussions about CPR and 83% of patients with a do-not-resuscitate (DNR) order on file fulfilled the criteria for futility or incapacity, or both.35

In our review, we found that most older patients were willing to discuss CPR with their physicians and to be involved in decision-making. These discussions did not happen consistently, even with patients who were most likely to need CPR. Given the barriers to discussion and the potential negative outcomes of resuscitation in this population, physicians must accept responsibility for initiating discussion of older patients’ preferences regarding CPR. Physicians should, however, be aware that these discussions might be stressful for older patients.

The existing research did not provide guidance on the appropriate timing and circumstances for initiating discussions about CPR. Discussions may be required by institutional policy or because, without a “code status,” resuscitation will be the default treatment. Quill54 has provided a set of clinical situations that can be used to establish indications for initiating discussions about resuscitation (Box 2).

---

**Box 1: Themes that emerged from data synthesis and main clinical messages to consider in discussions with seriously ill elderly inpatients about their cardiopulmonary resuscitation (CPR) preferences**

**Initiation of discussion**

- Patients are generally open to discussions about CPR preferences
- Patients are generally not upset by such discussions.
- There is often a discrepancy between patients’ wishes and physicians’ understanding of those wishes

**Content of discussion**

Provide accurate information about CPR based on principles of informed consent

**Decision-making capacity**

Assess patients’ competence or decision-making capacity and use substitute decision-makers if necessary. Physicians should review patients’ understanding of the discussion and of the outcomes of CPR

**Responsibility for decision-making**

- Be flexible in the approach to decision-making but, in most cases, share responsibility for decisions with the patient
- Involve family members or substitute decision-makers, when possible, in the discussions

**Documentation of discussion and decisions**

- Documentation provides clarification of what is meant by CPR
- Discussion and documentation may improve stability of decisions between episodes of care
Content of discussions

The best information to include in a discussion of CPR preferences has not been well studied. Medical residents believe that they do a good job of discussing CPR, but observational and vignette studies suggest that residents and attending physicians do not provide consistent and comprehensive information to facilitate informed decision-making. In a study in which residents’ interactions with patients were qualitatively observed, only 13% of the residents gave the patients any estimate of survival likelihood or negative outcomes. Differences between medical specialties and between residents and attending physicians in the approach to CPR discussions have been studied. Although some hospitals require that the attending physician be responsible for the discussion, the literature does not provide enough information to evaluate this policy. Both attending physicians and residents tend to overestimate the likelihood of CPR success.

Physicians sometimes rely on the concept of “medical futility” to support a DNR order. Futility may be quantitative when the physician determines that the attempt at resuscitation is statistically useless or qualitative because CPR would support a poor quality of life. In a review of medical patients, quantitative or qualitative futility (or both) was identified in physicians’ notes as the main factor in 91 (63%) of 145 DNR orders and cited as the only rationale in 17% of these cases. Evidence of discussions related to values and patients’ perceptions of quality of life was found for only 65% of communicative patients to whom the qualitative futility rationale was applied.

Decision-making capacity

The capacity of patients to make decisions is not always considered during CPR discussions. Similarly, patient recall of discussions with physicians about the nature and negative sequelae of CPR has been shown to be poor, which raises concerns about the quality of patients’ informed consent and their decision-making capacity. Physicians should assess and document the decision-making capacity of the patient and use the principles of informed consent to guide their discussion (Box 3). An understanding of a patient’s life experiences and values may assist in the assessment of his or her decision-making capacity but may not be emphasized by physicians.

Responsibility for decision-making

There is a large degree of variability in older patients’ opinions about who should make the final decision regarding CPR. A widely varying proportion (19%–92%) of patients (mean age 75.7 years; range 17–97 years) said that they alone should decide, and a significant proportion (34%–59%) believed that the physician or physician and patient together should make the final decision. Some older patients (3%–23%) willingly deferred the responsibility to relatives. Surrogates were more likely to want the decision to be made by the physician rather than by the patient. Adult children may play a significant decision-making role.

Box 2: Clinical indications for discussing end-of-life care

**Urgent indications**
- Imminent death
- Talk about wanting to die
- Enquiries about hospice or palliative care
- Recently hospitalized for severe progressive illness
- Severe suffering and poor prognosis

**Routine indications**
- Discussing prognosis
- Discussing treatment with low probability of success
- Discussing hopes and fears
- Physician would not be surprised if the patient died in 6–12 months

*Reproduced from JAMA.*

Box 3: Approach to the assessment of capacity for making decisions about resuscitation

Patient understands information relevant for decision-making:
- Possesses factual knowledge: indications for CPR, nature of procedure (chest compression, intubation and ventilation, medications, cardioversion), likelihood of success
- Has an understanding of options: full resuscitation, all other medical measures except resuscitation, supportive or palliative measures only

Patient appreciates the consequences of the decision or lack of a decision:
- Is able to approximate, in his or her own words, positive and negative sequelae of decision: estimate of short-term and long-term success, understanding of risk of stroke, brain injury, long-term ventilation, fractures, death if do-not-resuscitate option chosen
- Is able to justify choice (“reasoned” and based on reality): personal values, previous experience, religious beliefs

Patient intends the outcome
- Patient is able to communicate his or her decision freely

*Reproduced from JAMA.*
Patients’ opinions about their role and that of others may change over the course of admission.\textsuperscript{24} Despite a desire to “be involved,” many patients will not feel capable of making a decision on their own, even after an adequate description of resuscitation. Physicians should attempt to elicit the patient’s preferences in terms of their decision-making role and be flexible in approaching decision-making encounters.

In general, physicians do not recommend that patients discuss CPR preferences with their relatives.\textsuperscript{16,17} However, involvement of relatives is particularly relevant with elderly patients, as the relative may need to act as a substitute decision-maker in the event of patient incapacity. If the patient is already incapable, a shared approach with the substitute decision-maker can be used.\textsuperscript{58}

**Documentation of discussions and decisions**

Poor documentation of discussions and decisions may result in mistakes about resuscitation preferences. Interpretation of the meaning of a DNR order by physicians and nursing staff have been found to vary.\textsuperscript{18} Discordance between a patient’s preference and the physician’s understanding and documentation of the patient’s wishes has also been reported.\textsuperscript{17,19,46} Poor documentation of CPR preference may increase the instability of a patient’s wishes during future admissions.\textsuperscript{10} The use of a chart form, such as the one studied by Reilly and associates,\textsuperscript{9} may remind physicians to discuss and document CPR decisions.

**Environmental factors**

Studies have looked at the effects of institutional policies on CPR discussions and the rate of documentation of discussions.\textsuperscript{18,51-53} Reminders for physicians in patient charts have been shown to increase rates of discussion and documentation of care preferences.\textsuperscript{18} In one study\textsuperscript{52} the use of a chart form to record DNR orders increased the rate of discussions about specific treatment modalities and improved communication between hospital staff but did not affect the rates of DNR decisions or improve documentation of CPR discussions.

**Limitations**

The wide variation in study designs and populations in the reviewed literature prevented us from performing a systematic review. Although several people searched the literature, papers may have been missed given the wide scope of the search.

Few studies specifically examined very elderly inpatients. Even for the overall study population of patients over 65 years, there were not enough studies looking at each aspect of CPR decision-making to allow development of comprehensive guidelines about optimal communication strategies. Many of the studies were done at teaching hospitals, and thus their results are of limited generalizability. The questionnaire method used in many of the studies raises concerns about validity, because subjects may have provided researchers with “socially desirable” answers.

**Future research**

There are gaps in the research literature on CPR decision-making; randomized studies of the process, with an emphasis on outcomes such as patient satisfaction, have not been done. Research priorities include the role of decision aids for patients, structured discussion tools for physicians\textsuperscript{10} and strategies to improve physicians’ assessment of patients’ decision-making capacity.

**Conclusion**

The majority of older inpatients prefer to be involved in discussions about CPR preference. Physicians must therefore take responsibility for initiating these discussions with older patients, recognizing that the decision-making process may be complicated by cognitive impairment. When capacity is questioned or the patient wishes to involve others, family members or substitute decision-makers should be included in such discussions. Many elderly patients prefer shared responsibility for decision-making. Documentation of CPR discussions and patient preferences may minimize misunderstandings and increase the stability of decisions with subsequent admissions to hospital.

This article has been peer reviewed.

From the Departments of Medicine (Frank, Heyland, Chen, Farquhar, Myers) and Community Health and Epidemiology (Heyland), Queen’s University, Kingston, Ont., and the Department of Family Medicine (Iwaasa), University of Toronto, Toronto, Ont.

**Competing interests:** None declared.

**Contributors:** Dr. Frank was involved in the conception and design of the study, the acquisition, analysis and interpretation of data, and the drafting of the article. Dr. Heyland was involved in the conception and design of the study, the acquisition, analysis and interpretation of data, and the revision of the article. Drs. Chen, Farquhar, Myers and Iwaasa helped with the acquisition, analysis and interpretation of data, and the revision of the article. All of the authors approved the final version.

**References**

8. Charles C, Gafni A, Whelan T. Decision-making in the physician–patient en-