Published in final edited form as:

Narrat Inq Bioeth. 2012 ; 2(2): 125–135. doi:10.1353/nib.2012.0033.

Do Physicians Disclose Uncertainty When Discussing Prognosis in Grave Critical Illness?

Rachel A. Schuster^{1,*}, Seo Yeon Hong¹, Robert M. Arnold¹, and Douglas B. White¹

¹University of Pittsburgh

Abstract

Objective—Even when critically ill patients are almost certain to die from their illnesses, there is generally an element of prognostic uncertainty. Little is known about how physicians handle this uncertainty in conversations with surrogate decision makers. We sought to evaluate whether and how physicians discuss prognostic uncertainty with surrogate decision makers of patients who are highly likely, but not certain, to die.

Design—We audiotaped and transcribed discussions between clinicians and surrogate decision makers at two major California teaching hospitals from 2006 through 2008. Physicians completed a questionnaire addressing their prognostic estimates for patients' survival to hospital discharge.

Participants—We included physicians and surrogates of 12 incapacitated, critically ill patients.

Measurements—We analyzed transcripts of discussions in which physicians' estimates of patients' chances of hospital survival were 1% to 5%; we coded whether physicians disclosed the prognostic uncertainty and, if so, how they conveyed that death was highly likely but not certain.

Results—Physicians' estimates of short-term survival were 1% to 5% for 12 of the 70 patients enrolled in the original study. In 8 of 12 cases, physicians conveyed prognostic uncertainty by using probabilistic language or by an explicit mention of uncertainty. In four cases, physicians made at least one statement that either implied or was ambiguous about whether death was certain.

Conclusion—We observed variability in how physicians handle prognostic uncertainty in their discussions with surrogates of patients who are highly likely, but not certain, to die, including some circumstances in which physicians stated or implied that death was certain.

Keywords

Prognosis; Surrogate Decision Making; Uncertainty

Prognostic uncertainty is inherent in caring for critically ill patients (Bernat, 2004). Patients in intensive care units (ICUs) have complex, rapidly evolving conditions, making prognostication difficult. They also may have disorders for which few valid outcome data exist. It is thus not surprising that mortality prediction models are not accurate enough to

determine with certainty whether an individual patient will live or die (Ethics Committee of the Society of Critical Care Medicine, 1997).

Little is known about whether and how physicians discuss this uncertainty with patients' surrogate decision makers. There are several challenges in discussing prognosis with surrogates of such patients in ICUs. First, although surrogates almost uniformly want honest prognostic information (Apatira et al., 2008; Evans et al., 2009; Innes & Payne, 2009; Wenrich et al., 2001), they also want physicians to be as hopeful as possible about the future when delivering serious news (Clayton et al., 2008; Curtis et al., 2008; Innes & Payne, 2009). Moreover, many physicians are intolerant of uncertainty (Luther & Crandall, 2011) and may believe patients feel similarly (Christakis & Iwashyna, 1998). Among themselves, physicians may acknowledge the unavoidable uncertainty in medical practice, but convey a sense of certainty in their interactions with patients or surrogates (Katz, 1984). In the ICU setting, some physicians may be concerned that disclosing any degree of uncertainty about prognosis will render surrogates unable to authorize the limitation of life-sustaining measures when doing so is clearly most consistent with the patient's preferences.

A cohort study of surrogate decision making in ICUs offered the opportunity to audiotape conversations between clinicians and surrogates of patients with a very poor prognosis. We sought to understand how physicians handle prognostic uncertainty in discussions with surrogates of patients who are highly likely, but not certain, to die.

Methods

We conducted a prospective study in the ICUs of two hospitals in San Francisco, California (one tertiary referral center, one county hospital serving a primarily indigent population) from January 2006 to August 2008 in which we audiotaped clinician–family conversations about decision making for critically ill, incapacitated patients.

Eligible patients included those who were at least 18 years of age, had a diagnosis of respiratory failure requiring mechanical ventilation, lacked decision making capacity, and had an Acute Physiology and Chronic Health Evaluation II score of at least 25 (predicting in-hospital mortality of more than 40%). Eligible surrogates were at least 18 years of age, spoke English well enough not to require the use of an interpreter, and were self-identified surrogate decision makers for the patients. We included clinician–family conferences meeting the following criteria: Occurring on weekdays, including the presence of both family and physicians, and all participants conversing in English without an interpreter. To specifically identify conferences in which there would be deliberation about end-of-life treatment decisions, we asked the patients' attending physicians if they anticipated that there would be discussion of withholding or withdrawing treatment or discussing bad news. We excluded conferences in which the physician stated that these issues would not be discussed.

We identified potentially eligible conferences through daily contact with ICU charge nurses. We approached the attending physician of record for these conferences, and if the physician confirmed that the conference met eligibility criteria regarding anticipated content of discussion and consented to participate, we asked permission to approach the family from

both the patient's attending physician and bedside nurse. If there were no objections to approaching the patient's family, we contacted the family and obtained informed consent to participate from those who agreed. Study procedures have been described in detail previously (Curtis et al., 2002). All participating physicians and surrogates provided written informed consent to participate. The Institutional Review Board at University of California, San Francisco, approved all study procedures.

Consecutive eligible weekday conferences were audiotaped. Demographic and clinical information regarding enrolled patients was abstracted from the medical record. Participating physicians and surrogates completed questionnaires immediately before the audiorecorded conversations, and recorded their estimated probability of survival (on a 100-point scale) using the following question:

What do you think are the chances that (the patient/your loved one) will survive this hospitalization if the current goals of care stay the same?

We chose a physicians' estimate of 1% to 5% chance of survival to represent the lowest non-zero (i.e., non-hopeless) prognosis for survival, and these conferences were subject to coding procedures (described below).

Physicians also completed the following questions about communication with the patient's family (answered on a scale of 0 to 10):

1. Before the family conference, how strongly did you feel that life support should be withheld or withdrawn?
2. How would you rate your communication with this patient's family during this family conference?
3. How clearly did you communicate to the family the patient's chances for surviving this hospitalization?
4. During the conference, how much conflict was there between you and the patient's family regarding this patient's care?

Differences across groups in ratings on these scales were assessed using the Mann–Whitney U test owing to the small sample sizes and ordinal nature of the data. These statistical calculations, along with basic summary statistics, were performed using Stata 11 (State Corp, College Station, TX).

Coding Procedures

A medical transcriptionist transcribed the audio-taped conversations verbatim. We used a previously developed and validated coding framework to analyze physicians' prognostic statements (White, Engelberg, Wenrich, Lo, & Curtis, 2007, 2010). First, we identified all prognostic statements made by physicians, defined as any statement referring to what the future may hold for the patient. Second, we determined which aspect of prognosis each statement addressed, including hospital survival or long-term survival, return to premorbid functional status, or probable post-hospital disposition.

Statements that referred to prognosis for hospital survival were coded to determine whether they contained an indication of uncertainty. All statements containing linguistic softeners, such as “pretty sure,” or statements of belief (“I think that ...”) were coded as expressing uncertainty (Mesthrie, Swann, Deumert, & Leap, 2000), as were statements in which the prognosis was conveyed using probability statements such as “very small chance of survival.” We used contextual cues to support coding decisions wherever possible. A second researcher coded a random subset of prognostic statements to assess interrater agreement with excellent interrater reliability ($\kappa = 0.87$). All coding disagreements were resolved by discussion among study investigators.

We then evaluated the transcribed conversations to assess for patterns in how physicians disclosed or withheld information about uncertainty. We used constant comparative methods to develop a framework to describe how physicians disclosed or withheld prognostic uncertainty. Constant comparison is a general methodology for developing theory inductively from data that are systematically gathered and analyzed, and is often employed when existing conceptual frameworks are inadequate (Charmaz, 2006; Glaser & Strauss, 1967; Strauss & Corbin, 1998). We implemented constant comparative methods as follows: Two investigators (RS, DBW) independently developed a preliminary framework by coding a subset of five interviews, and through a series of investigator meetings, arrived at consensus on the final coding framework (Charmaz, 2006; Strauss & Corbin, 1998).

Results

We identified 101 eligible conferences during the study period (Figure 1). Five conferences were not recorded because the physician requested that the investigators not approach the family. Of the 96 families approached by study personnel, 70 families agreed to participate (overall enrollment rate 69%; 70/101).

There were 12 conferences in which the physician’s formulated prognostic estimate for hospital survival was 1% to 5%. In the remaining 58 conferences, the physician’s estimate of prognosis for short-term survival was greater than 5% or less than 1%, and these were not included in this analysis. Table 1 summarizes the demographic and clinical characteristics of patients, physicians, and surrogates.

On average, physicians reported feeling strongly that life sustaining therapy should be withdrawn in the 12 cases, rating 7.9 ± 1.7 (range, 5–10 on a scale of 0–10). Physicians’ mean rating of quality of their communication with surrogates was 6.8 ± 2.3 (range, 2–10 on a scale of 0–10) and their mean rating of the clarity of their communication about prognosis was 7.9 ± 2.4 (range, 2–10 on a scale of 0–10). Table 2 summarizes these findings.

In the 12 conferences in which the physician estimated the patient to have a 1% to 5% chance of survival to hospital discharge, the mean number of prognostic statements addressing short-term survival was 4.9 (SD, 2.1; range, 3–9). In 8 of the 12 conferences, all prognostic statements conveyed some degree of prognostic uncertainty. In 4 of 12 conferences, physicians made at least one statement that implied or conveyed certainty about

a poor outcome. There was no significant difference in level of conflict reported between the groups, either among physicians ($p = .93$) or among surrogates ($p = .84$).

Certainty and Ambiguity

Below we describe the ways in which physicians conveyed prognostic certainty (defined as explicit statements conveying that the patient cannot survive the illness) or introduced ambiguity (defined as the use of statements that are not untruthful, but do not explicitly address uncertainty in prognosis, notable more for what is not stated than what is (Lantos & Meadow, 2011)).

Case 1: Certainty follows conflict—This patient was an 81-year-old woman admitted with respiratory failure after deteriorating on the hospital ward. The physician's formulated prognostic estimate was a 4% chance of survival. The physician rated the strength of her belief that life-sustaining therapy should be withdrawn at 10 (on a scale of 0–10). Both the physician and the patient's son reported high levels of conflict during the conference (physician rating of conflict, 8 of 10; surrogate's rating of conflict, 9 of 10).

The physician introduced the subject of the patient's goals and values, and then the son responded:

MD: We've been talking a lot with friends of hers and also with her primary care doctor, Dr. [N], who's been taking care of her for several years ... and what everybody has been pretty consistent in telling us is that this is not what she would've wanted for herself.

Surrogate: Yeah, well, right now, you don't know what she would want, so ... before you get started, I want to let you understand one thing. I don't wanna sense that, from you, or any of her doctors ... and I'm not gonna pull the plug on my mom.... If her body shuts down completely, then we know the time is gonna come. But any talk about anything else, about as far as pullin' the plug on her, that's not happenin' with me. I'm gonna tell you that, straight up.

The physician then made her first prognostic statement, a general assertion of the patient's impending condition but which did not specifically refer to short-term survival:

MD: What I have to tell you, you know, is that you say, 'when her body shuts down, that's when it's time.' All of this that's been building up ... we've been doing everything we can to try and stop this, but her body *is* shutting down.

Surrogate: Don't even try that on me. I mean, you're here to take care of people, make sure they're comfortable. Like I said, when it's time for her to go, it's gonna happen.

The physician responded with a prognostic statement regarding survival:

MD: What I'm trying to tell you is that there's nothing ... [pause] ... when that time comes, you're absolutely right, we'll let her go. That time is gonna be very soon.

This statement would have been coded to express uncertainty, but the absence of any linguistic softeners (e.g., “*I think* that time is gonna be very soon”) or probability statements (e.g., “That time is *likely* gonna be very soon”) led us to code this as expressing certainty.

Case 2: Ambiguity substitutes for prognostic information—This patient is a 50-year-old woman with underlying liver disease who was admitted to the ICU with an acetaminophen overdose. Before the meeting with the patient’s two children and one of their spouses, the physician estimated the patient’s chance of hospital survival to be 5%. The physician rated the strength of belief that life-sustaining therapy should be withdrawn at 7.

The physician initially made a statement regarding the patient’s possibility of survival, indicating uncertainty with the use of “*I think*”:

MD: So she’s critically ill. I don’t think she has long to live.

This was followed by a series of seven closed-ended questions from family members about whether the patient was in pain, feeling fearful, or aware of family interactions in the room. Finally, the patient’s son-in-law asked a direct question regarding the patient’s chance of survival:

Surrogate: Has anyone ever survived this situation, where she’s at right now?

MD: Her chances of surviving are ... [pause] ... I wouldn’t have this conversation with you if I thought we had alternatives.

When asked a direct question about prognosis for survival, the physician initially began to answer the specific question, but instead provided a statement that introduced the ambiguous concept that “there are no alternatives,” without explicitly answering the surrogate’s question.

Case 3: Initial certainty gives way to uncertainty—This patient was a 41-year-old man admitted with end-stage liver disease and respiratory failure who had been in the ICU for five days at the time of the physician’s conference with the patient’s wife. The physician’s formulated prognosis was a 2% chance of hospital survival. The physician rated the strength of belief that life-sustaining therapy should be withdrawn at 9. In the following passage, the physician communicated certainty about a poor outcome: “He’s not gonna survive very long.” This statement lacked any indicators of uncertainty (softeners, statements of belief, or probabilities). The physician then made a recommendation to limit life-sustaining therapy.

MD: He’s not gonna survive very long.... We should probably stop all those [blood products], ‘cause it really is futile....

Surrogate: Uh, could you give him some ... [voice breaks] ... I’d like him to ... [tears start] ... you know, it’s his birthday tomorrow ... Could you continue just the ventilator, until he, uhm, really gives up?

MD: Ok. I mean, yeah, right ... [pause] ... I think we can continue on the ventilator and I’ll talk to the ICU about that.

Several minutes later, after more discussion with the distraught family, the physician communicated a prognosis in which the outcome is likely to be poor, but not certain to be so, using a statement of belief (“I think”) and a softener (“almost”).

MD: Again, I think that [huff/sigh] almost no matter what we do he’s gonna get worse at this point.

Case 4: Prognostic certainty after decision making—This patient was a 53-year-old woman who was admitted four days previously with a subarachnoid hemorrhage. The physician’s estimate of the chance of hospital survival was 5%. The physician rated the strength of belief that life-sustaining therapy should be withdrawn at 10. In this conference with the patient’s brother and two children, the physician made a number of prognostic statements during the course of his detailed discussion of the patient’s condition, all of which conveyed uncertainty in the outcome.

MD: So, we’ve watched her function, both her brain function ... and the rest of her organs, over the last 2 days. And those abnormalities aren’t reversing.... And I think the chances that she would even survive this event and the amount of swelling and damage that she’s had, are very slim to none.

This prognostic statement contains a degree of uncertainty about the outcome—the chance of survival is “slim” (poor) to “none” (hopeless). After the family indicated that they felt that it would be appropriate to withdraw life-sustaining measures, the physician made a prognostic statement containing no uncertainty.

MD: There’s no chance, at this point, that she would get better.

Although this statement was coded as lacking uncertainty, it is not explicit in referring to short-term survival. Therefore, some ambiguity persists in the physician’s prognostic communication.

Acknowledging Uncertainty

Physicians’ communication of uncertainty in the prognosis is exemplified in the eight cases where prognostic uncertainty was acknowledged in all statements. In one conference, the physician was discussing the prognosis for an 83-year-old woman with leukemia who was admitted to the ICU with bacterial meningitis. This physician’s formulated estimate of the chance of hospital survival was 5%. The physician rated the strength of belief that life-sustaining therapy should be withdrawn at 6. The family was deliberating about the meaning of an advance directive that the patient had prepared. The physician provided information about his estimate of the chance of survival:

MD: So, I mean, the onus is on us to let you know when we think we’ve done everything possible and we are doing everything possible.... But at the same time, you know, we’re gonna be very up-front and honest with you, in terms of if we think that chance of recovery is exceedingly slim.

A second example of the use of uncertainty occurred in the discussion with surrogates of a 62-year-old man with septic shock owing to cholangitis. The physician estimated a 3% chance of survival, and rated the strength of belief that life-sustaining therapy should be

withdrawn at 9. Once the conference turned to the subject of the continuation of life-sustaining therapy, a surrogate disclosed a prior discussion she had with the patient that hinted at a vitalist view:

Surrogate: We asked him about the shocking his heart and he knows, you know, what it's like and he still said, 'Yes ... anything that'll prolong my life.'

Later in the discussion, the same surrogate asked a direct question about the prognosis, which the physician answered with a degree of uncertainty:

Surrogate: So, I mean, there's like zero chance that he will get better.

MD: I mean it's about as close to zero as it gets.

Discussion

In this exploratory analysis, our data suggest variability in whether and how physicians disclose uncertainty when discussing prognosis with surrogate decision makers of critically ill patients who are highly likely, although not certain, to die. Although most physicians either explicitly addressed uncertainty or conveyed it through probabilistic language, some either implied or were ambiguous about whether death was certain.

These findings provide preliminary insight into a previously unstudied phenomenon in the care of incapacitated patients: How physicians address uncertainty in discussions with families of patients with an extremely poor prognosis. Our data suggest that, in those cases in which there is a very high likelihood of death, some physicians may not acknowledge prognostic uncertainty, opting instead to imply certainty or respond ambiguously to questions about whether death is the certain outcome. Prior research indicates that physicians are reluctant to disclose prognostic information to patients or families when they believe the outcome to be uncertain, and that they believe patients expect too much certainty in prognostication (Christakis & Iwashyna, 1998). Reluctance to disclose uncertainty to patients is associated with lower intent to engage in shared decision making (Politi & Legare, 2010). Our findings may indicate that physicians' discomfort with prognostic uncertainty can influence their communication with families about prognosis.

Physicians' nondisclosure of prognostic uncertainty raises complex ethical questions. This practice may create the false impression that decisions are simply technical medical judgments, rather than complex value judgments. When the prognosis is uncertain, it is generally accepted that the correct medical decision depends in part on the patient's values about benefits and burdens (Luce, 2010), and shared decision making between physicians and surrogates is the recommended approach to decision making (White, Braddock, Bereckney, & Curtis, 2007). However, physicians have historically been given considerable authority to withdraw life support unilaterally when continued intervention cannot accomplish the patient's intended goals (Council on Ethical and Judicial Affairs, 1999). Another view is that, in the face of a "nearly certain" poor prognosis, physicians should be allowed to decline to provide life-sustaining treatment (Schneiderman, Jecker, & Jonsen, 1990). In either case, nondisclosure is problematic because it may create a false impression

that death is certain and therefore that the only appropriate course of action is to stop life support.

We observed that some physicians responded to surrogates' queries about whether death is certain with ambiguous responses. For example, a physician might leave unaddressed the topic of whether the patient's outcome is certain and instead focus on what the physician believes to be the appropriate treatment plan. The physician may also introduce ambiguity regarding which aspect of prognosis she is discussing. When a physician states that there is "no chance ... that [the patient] would get better," this could be interpreted to refer to the possibility of recovering prior functional status, but could also be interpreted by surrogates as a statement that death is certain. A potential strength of this approach is that it may give surrogates enough "wiggle room" to authorize patient-centered decisions they may otherwise struggle to make because of emotional distress (Lantos & Meadow, 2011). A concern with this approach is that it is not transparent about a potentially important consideration (prognostic uncertainty) and may deprive surrogates of the opportunity to evaluate the physician's true prognostic estimate in light of the patient's values. Further, most surrogate decision makers of patients in ICUs are accepting of the prognostic uncertainty (Evans et al., 2009) and want to receive honest communication about their loved ones' prognosis (LeClaire, Oakes, & Weinert, 2005). The use of statements that allow the interpretation that survival is impossible is distinct from the explicit assertion that there is no chance for survival, but may be subject to many of the same concerns if surrogates perceive the absence of uncertainty as analogous to a statement of certainty.

We also observed an instance in which the physician conveyed prognostic certainty after the family authorized withdrawal of life support in a case in which the physician judged there to be a very small chance of survival. Prior research demonstrates that expressions of support for surrogates' decisions by clinicians are associated with higher family satisfaction with communication (Stapleton, Engelberg, Wenrich, Goss, & Curtis, 2006). A statement by a physician that death is certain may serve the purpose of assuaging surrogates' consciences about their decisions. It is unknown whether such statements are more or less beneficial for families than statements that truthfully convey a physician's opinion that the decision was the correct one for the patient.

Why might physicians communicate prognostic certainty when they actually believe there is some prognostic uncertainty? First, a physician may do so to decrease the burden of surrogate decision making on the family—this may be effective to the extent that decisions to withdraw life support are generally easier when ongoing treatment will surely be unsuccessful compared with when it has a small chance of success. Alternatively, a physician may do so to influence surrogates' decisions toward the treatment course the physician believes to be in the best interest of the patient, the physician, or society. If physicians are doing so because they are advocating for what they believe to be the best interest of the patient, it is ethically admirable to forcefully articulate for patient well-being, but because there is legitimate disagreement in pluralistic societies about what is best for an individual, usually such disagreements should be resolved by negotiation. If physicians are advocating for the interests of the healthcare team or societal considerations of resource

allocation, this raises questions how to best navigate the role conflict between physicians as patients' fiduciaries and physicians as stewards of society's healthcare resources.

This study has several limitations. First, the sample size is small and therefore precludes estimation of the incidence of each type of approach in clinical practice. Second, this analysis lacks cognitive debriefing of participating physicians and surrogates. It is thus not possible to know the reasons behind physicians' communication behaviors, and it is unknown how surrogate decision makers may interpret statements that do not acknowledge prognostic uncertainty, or whether the linguistic differences between certain and uncertain prognostications are perceptible or important to surrogates during a conference. This is an area for further investigation, and the use of stimulated recall interviews (Lyle, 2003) with physicians and surrogates may help to illuminate these areas. Our analysis does not address another strategy to deal with prognostic uncertainty, which is to avoid the conversation altogether, rather than make decisions about how to disclose uncertainty. It is also possible that knowledge of the study, and the act of audiorecording family conferences, may have influenced physicians' communication with surrogates. However, this would be expected to bias our results toward better communication, leading to potential underestimation of physicians' failure to address prognostic uncertainty.

In conclusion, this small exploratory study sheds light on a previously unstudied and ethically complex aspect of practice: How physicians discuss prognostic uncertainty with surrogate decision makers of patients who are highly likely, but not certain, to die. Our findings suggest that physicians sometimes convey or imply certainty about a fatal outcome during such conversations, through either direct statements or ambiguous presentation of their prognoses. Further investigation is warranted to explore how discussions of prognostic uncertainty affect decision making, how surrogate decision makers interpret these discussions of uncertainty, and what goals physicians hold in communicating about prognostic uncertainty.

Acknowledgments

Supported by the National Institutes of Health 1R01HL094553-01 (DBW), 5T32HL007563 (RAS).

References

- Apatira L, Boyd EA, Malvar G, Evans L, Luce JM, Lo B, et al. Hope, truth, and preparing for death: Perspectives of surrogate decision makers. *Annals of Internal Medicine*. 2008; 149:861–868. [PubMed: 19075205]
- Bernat JL. Ethical aspects of determining and communicating prognosis in critical care. *Neurocritical Care*. 2004; 1:107–117. [PubMed: 16174905]
- Charmaz, K. *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: Sage; 2006.
- Christakis NA, Iwashyna TJ. Attitude and self-reported practice regarding prognostication in a national sample of internists. *Archives of Internal Medicine*. 1998; 158:2389–2395. [PubMed: 9827791]
- Clayton JM, Hancock K, Parker S, Butow PN, Walder S, Carrick S, et al. Sustaining hope when communicating with terminally ill patients and their families: A systematic review. *Psycho-Oncology*. 2008; 17:641–659. [PubMed: 18022831]
- Council on Ethical and Judicial Affairs. Medical futility in end-of-life care: Report of the Council on Ethical and Judicial Affairs. *JAMA*. 1999; 281:937–941. [PubMed: 10078492]

- Curtis J, Engelberg R, Wenrich M, Nielsen E, Shannon S, Treece P, et al. Studying communication about end-of-life care during the ICU family conference: Development of a framework. *Journal of Critical Care*. 2002; 17:147–160. [PubMed: 12297990]
- Curtis JR, Engelberg RA, Young JP, Vig LK, Reinke LF, Wenrich MD, et al. An approach to understanding the interaction of hope and desire for explicit prognostic information among individuals with severe chronic obstructive pulmonary disease or advanced cancer. *Journal of Palliative Medicine*. 2008; 11:610–620. [PubMed: 18454614]
- Ethics Committee of the Society of Critical Care Medicine. Consensus statement of the Society of Critical Care Medicine's Ethics Committee regarding futile and other possibly inadvisable treatments. *Critical Care Medicine*. 1997; 25:887–891. [PubMed: 9187612]
- Evans L, Boyd EA, Malvar G, Apatira L, Luce JM, Lo B, et al. Surrogate decision-makers' perspectives on discussing prognosis in the face of uncertainty. *American Journal of Respiratory and Critical Care Medicine*. 2009; 179:48–53. [PubMed: 18931332]
- Glaser, B.; Strauss, A. *Discovery of grounded theory*. Chicago: Adline; 1967.
- Innes S, Payne S. Advanced cancer patients' prognostic information preferences: A review. *Palliative Medicine*. 2009; 23:29–39. [PubMed: 18952746]
- Katz J. Why doctors don't disclose uncertainty. *The Hastings Center Report*. 1984; 14:35–44. [PubMed: 6715153]
- Lantos J, Meadow W. Should the "slow code" be resuscitated? *American Journal of Bioethics*. 2011; 11:8–12. [PubMed: 22047113]
- LeClaire MM, Oakes JM, Weinert CR. Communication of prognostic information for critically ill patients. *Chest*. 2005; 128:1728–1735. [PubMed: 16162781]
- Luce JM. End-of-life decision making in the intensive care unit. *American Journal of Respiratory and Critical Care Medicine*. 2010; 182:6–11. [PubMed: 20194809]
- Luther VP, Crandall SJ. Commentary: Ambiguity and uncertainty: Neglected elements of medical education curricula? *Academic Medicine*. 2011; 86:799–800. [PubMed: 21715991]
- Lyle J. Stimulated recall: A report on its use in naturalistic research. *British Educational Research Journal*. 2003; 29:861–878.
- Mesthrie, R.; Swann, J.; Deumert, A.; Leap, WL. *Introducing sociolinguistics*. Edinburgh: Edinburgh University Press; 2000.
- Politi MC, Legare F. Physicians' reactions to uncertainty in the context of shared decision making. *Patient Education and Counseling*. 2010; 80:155–157. [PubMed: 19948387]
- Schneiderman LJ, Jecker NS, Jonsen AR. Medical futility: Its meaning and ethical implications. *Annals of Internal Medicine*. 1990; 112:949–954. [PubMed: 2187394]
- Stapleton R, Engelberg RA, Wenrich MD, Goss C, Curtis JR. Clinician statements and family satisfaction with family conferences in the intensive care unit. *Critical Care Medicine*. 2006; 34:1679–1685. [PubMed: 16625131]
- Strauss, A.; Corbin, J. *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage; 1998.
- Wenrich MD, Curtis JR, Shannon SE, Carline JD, Ambrozy DM, Ramsey PG. Communicating with dying patients within the spectrum of medical care from terminal diagnosis to death. *Archives of Internal Medicine*. 2001; 161:868–874. [PubMed: 11268231]
- White DB, Braddock CH, Bereksnyi S, Curtis JR. Toward shared decision making at the end of life in intensive care units: opportunities for improvement. *Archives of Internal Medicine*. 2007; 167:461–467. [PubMed: 17353493]
- White DB, Engelberg RA, Wenrich MD, Lo B, Curtis JR. Prognostication during physician-family discussions about limiting life support in intensive care units. *Critical Care Medicine*. 2007; 35:442–448. [PubMed: 17205000]
- White DB, Engelberg RA, Wenrich MD, Lo B, Curtis JR. The language of prognostication in intensive care units. *Medical Decision Making*. 2010; 30:76–83. [PubMed: 18753685]

Figure 1.
Flow diagram describing the enrollment of family interviews.

Table 1

Demographic Characteristics of Patients (N = 12), Surrogate Decision Makers, and Physicians

Characteristics	N (%)
Patients	
Gender	
Male	3 (25)
Race/ethnicity*	
White	4 (33)
Asian/Pacific Islander	4 (33)
Hispanic	3 (25)
Black/African American	2 (17)
Other/not reported	2 (17)
Treatment withdrawn	10 (83)
Died	10 (83)
Age (yrs), mean (SD)	50.7 (15.7)
Length of ICU stay (d)	6.8 (8.6)
Surrogates (N = 25)	
Gender	
Male	17 (68)
Race/ethnicity*	
White	7 (28)
Asian/Pacific Islander	8 (32)
Hispanic	7 (28)
Black/African American	2 (8)
Other/Not reported	8 (32)
Level of education	
Some high school or less	1 (4)
High school graduate	16 (64)
Four-year college degree	3 (12)
Graduate or professional school	5 (20)
Age (yrs), mean (SD)	40.6 (14.2)
Physicians (N = 11)	
Gender	
Male	6 (55)
Race/ethnicity*	
White	7 (64)
Asian/Pacific Islander	3 (27)
Hispanic	0 (0)
Black/African American	0 (0)
Other/not reported	1 (9)
Level of education	
Attending physician	9 (82)

Characteristics	N (%)
Fellow	2 (18)
Age (yrs), mean (SD)	36.1 (6.1)

Sums may be greater than N because some individuals identified with more than one race/ethnicity.

Table 2

Physician (N = 12) Attitudes

	Mean (SD)
During the conference, how much conflict was there between you and the patient's family regarding this patient's care?	2.25 (3.25)
How would you rate your communication with this patient's family during this family conference?	6.75 (2.34)
How clearly did you communicate to the family the patient's chances for surviving this hospitalization?	7.92 (2.43)
Before the family conference, how strongly did you feel that life support should be withheld or withdrawn?	7.92 (1.73)