In *JAMA Network Open*, Kiker et al. present their mixed-methods cross-sectional study on the prevalence and predictors of prognosis discordance between physicians and surrogate decision-makers in patients with severe acute brain injury. This study is both novel and significant in this special patient population. The findings deserve attention, as they provide data about a rarely studied yet very common bedside issue in the neurologic intensive care unit (ICU): prognosis discordance and misunderstandings between the physicians and family members. This study not only documents the high prevalence of prognosis discordance and misunderstandings but also attempts to identify associations and qualitatively explores the potential underlying reasons for optimistic belief differences.

This study enrolled critically ill neurologic patients with Glasgow Coma Scale scores less than or equal to 12 points after acute ischemic stroke, intracerebral or subarachnoid hemorrhage, traumatic brain injury, or post–cardiac arrest hypoxic-ischemic encephalopathy admitted to a single tertiary-care center in the US Pacific Northwest. Between hospital days 2 to 7, the patient's primary decision-maker, attending physicians, and ICU nurses completed previously validated surveys, adding to the study's strength. Surveys were not chronologically linked to physician-family discussions, and the timing of such discussions was not collected. Family members were asked to respond on a visual analog scale from 0% to 100% on (1) what they thought their loved one's chance was of recovering to independence or better, and (2) their best guess at the physician's estimate of the same. Physicians were asked about their estimate of the patient's chance of recovering to independence or better. Families also rated their trust in the medical information received and provided their opinions regarding the difference between their own and the physician's prognostic estimates. Physicians and ICU nurses rated the quality of the family's understanding of the prognosis on a 5-point Likert scale (from poor to excellent).

The authors examined 3 outcomes:
1. Prognosis discordance: greater than or equal to 20% difference between the family's and physician's prognosis prediction. The authors chose this threshold because it had previously been used in an ICU study and to allow for subtle variations in prognosis prediction to still count as concordant;
2. Misunderstanding: greater than or equal to 20% difference between the family's estimate of the physician's prediction and the physician's actual prediction; and
3. Optimistic belief: the family member's own prediction that was greater (>0%) than what they estimated the physician would predict. Here, a lower criterion threshold was chosen because any difference in the responses was presumed to be deliberate, as it was provided by the same person.

A total of 193 patients and their family members and physicians were included, and 173 were analyzed owing to missing survey responses. The overall prognosis discordance between physicians and family members was 61%. Among those with prognosis discordance, 84% had optimistic beliefs. Misunderstanding was present for 46% of patients. Optimistic belief difference was present for 54%, with pessimistic belief difference in 9% and no belief difference in 37%.

After adjusting for patient age, disease, family member sex, and ethnicity, family members of minority racial groups had more than 3 times higher odds of overall prognosis discordance and
optimistic prognosis discordance compared with White family members. Prognosis discordance was also associated with family members being adult children and siblings (compared with spouses) and nurse perception of fair or worse family member understanding. Misunderstanding was independently associated only with nurse perception of fair or worse family member understanding of prognosis. Conversely, physician perception of fair or worse family understanding of prognosis independently predicted optimistic belief difference.

Qualitative analysis of the open-ended responses by the 94 family members with optimistic belief differences revealed 2 main themes: (1) faith from various sources; and (2) prognostic uncertainty.

This study provides, for the first time in patients with severe acute brain injury, data on 3 different aspects of prognosis concordance. The prevalence of prognosis discordance was strikingly high (61%) and even higher than the 53% discordance in survival prognosis found in a large multicenter study of 229 surrogates of patients with acute lung injury in mixed medical-surgical ICUs. This finding may reflect the fact that prognostic uncertainty may be particularly high in patients with severe acute brain injury and that no evidence-based guidance exists on how physicians can best prognosticate with consistency and minimized bias. The high prevalence of prognosis discordance is surprising in light of the increased attention drawn to the importance of family-physician communication and shared decision-making in ICUs and severe acute brain injury over the last 2 decades, including increased attention to difficult conversation training in medical schools. Misunderstanding (46%) and optimistic belief (54%) were also common in this study. The authors suggest that the presence of misunderstanding may indicate ineffective communication about prognosis. Although this is plausible, the authors did not collect data on the timing of the surveys in regard to any family-physician communication that may have occurred before the prognosis assessment or if nurses may have communicated with the families. Nurses spend much more time with visiting families at the bedside and may therefore have significant influence on families' perception of prognosis.

Nonetheless, as the authors point out, the presence of misunderstandings offers a potential target for intervention to improve physician-family communication. The ideal intervention, though, remains uncertain, given the null effect on physician-family prognostic concordance reported by a multicenter trial of a decision aid for ICU patients with prolonged ventilation. As the authors indicate and as their qualitative results suggest, optimistic belief difference may reflect a feeling of hope, which surrogates yearn for and which may be resistant to any interventions aimed at improving physician-family communication. Prior studies on optimistic bias in surrogates suggest that physicians must not entirely close the door on hope for families, as this can paradoxically lead to higher optimistic bias as well as distrust in the physician. Keeping their hope (while not creating false hope, which is undesirable by families) provides crucial support for families during the worst time of their lives, as this study further underscores.

In this study, families were approached early, between 2 and 7 days after ICU admission, to provide their prognostic estimates. This early, families are often too shocked to receive and understand any prognostic information. The authors' rationale for this study design was that surrogates are often asked to make early decisions on the withdrawal of life-sustaining treatments.

The current study also provides further motivation to better understand why non-White families had worse prognosis discordance. Possible explanations from other research include lower quality of communication, especially in non-race-concordant physician-family dyads, or lack of trust in the health care system. However, the authors did not collect data on content or quality of communication or dyadic demographic differences necessary to verify these factors. For example, a physician's race and a family's educational level have previously been shown to be independent predictors of physicians' prognostic communication in ICUs.

In summary, this study provides unique empirical data from 1 center about the prevalence of physician-family prognosis discordance, misunderstanding, and optimistic beliefs in patients with severe acute brain injury. Validation in other centers, as well as capturing prognostic estimates after
physician-family discussions and measuring the content and quality of these discussions themselves (for example, by audio-recording them\textsuperscript{10}), will be crucial to better understand what current communication strategies work best to disclose prognoses. Such groundwork is essential for designing an effective intervention that achieves the highest prognostic discordance and fewer misunderstandings. Optimistic beliefs, however, may be affected only by empathetic and realistic—but not nihilistic—disclosure of prognosis by physicians.\textsuperscript{3,8,9}

ARTICLE INFORMATION

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REFERENCES


