



# Use of the Serious Illness Conversation Guide to Improve Communication with Surrogates of Critically Ill Patients

## A Pilot Study

Venu Pasricha<sup>1</sup>, Diane Gorman<sup>1</sup>, Kemarut Laothamatas<sup>1</sup>, Abhishek Bhardwaj<sup>2</sup>, Niharika Ganta<sup>1,3,4\*</sup>, and Mark E. Mikkelsen<sup>1,3,4\*</sup>

<sup>1</sup>Penn Presbyterian Medical Center, Philadelphia, Pennsylvania; <sup>2</sup>Cleveland Clinic, Cleveland, Ohio; and <sup>3</sup>Department of Medicine and <sup>4</sup>Palliative and Advanced Illness Research (PAIR) Center, Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania

### ABSTRACT

**Background:** International family-centered critical care guidelines recommend formal, structured communication to ensure that clinical decision making is informed by a shared understanding of diagnosis and prognosis and patient goals and preferences. Tools to facilitate these recommendations are limited.

**Objective:** To examine the feasibility, acceptability, and utility of a standardized serious illness conversation (SIC) to guide communication between nonpalliative care trained providers and surrogates of critically ill, mechanically ventilated patients.

**Methods:** After providers received training, including simulation, we implemented SIC in October 2018. A total of 11 hospitalist providers were eligible to perform SICs over the study interval. Providers met in person with surrogates of adult, mechanically ventilated patients in the medical intensive care unit within 48 hours of intubation. To determine acceptability, surrogates were surveyed 2 months after SIC completion, and providers were surveyed between June and July 2018. To determine feasibility and utility, two independent investigators reviewed SIC documentation and coded responses into categories.

**Results:** Of 72 eligible patients, advanced care planning documentation was completed in 50 patients, including 36 SICs, for an advance care planning completion rate of 69% and an SIC completion rate of 50%. The average SIC was completed in 30 minutes, 3 days after intubation. Of the 19 surrogates surveyed, 95% found the SIC to be mostly or extremely worthwhile. Nine of 11 hospitalist providers completed the follow-up survey. Each of the nine providers who completed the survey found the guide valuable to patient care and easy to administer. The conversation yielded valuable information in terms of goals, fears, and worries; sources of strength; abilities critical to the patient; and understanding how much the patient would be willing to go through for the possibility of gaining more time.

**Conclusion:** We found that implementation of a structured communication tool in the intensive care unit was feasible and acceptable to surrogates and providers; yet, fidelity to the timing and completion was modest. The tool appeared to yield valuable information for understanding the goals, fears, and care preferences of mechanically ventilated patients. Steps to increase fidelity, in accordance with family-centered care guidelines, are warranted.

**Keywords:**

critical care; intensive care unit; communication; mechanical ventilation; end of life

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Understanding the goals and care preferences of patients with serious illness is essential to delivery of high-quality, patient-centered care and end-of-life care. Early conversations about advance care planning (ACP) have been associated with better outcomes for seriously ill patients and their families (1–4).

International family-centered critical care guidelines recommend formal, structured communication to ensure that clinical decision making is informed by a shared understanding of diagnosis and prognosis and patient goals and preferences (5, 6). Shortly after intensive care unit (ICU) admission, an introductory meeting is recommended to ensure that surrogates understand diagnosis and prognosis and to elicit goals and care preferences (6, 7). Because clinicians often believe they are inadequately trained (8, 9), guidelines recommend that ICU clinicians receive family-centered communication training (5). Furthermore, given the epidemic of clinician burnout and perceptions of delivering inappropriate care (10), effective strategies are urgently needed to implement these recommendations.

In this quality improvement pilot, we examined the feasibility, acceptability, fidelity, and utility of using a serious illness conversation (SIC) tool to guide communication between nonpalliative care trained providers and surrogates of critically

ill, mechanically ventilated patients in a medical intensive care unit (MICU) within 48 hours of admission. The SIC guide was designed as a structured communication intervention. The SIC program has been implemented in the outpatient and post-acute care settings (11–14), where it has led to “more, earlier, and better” goals-of-care conversations (13). Despite its potential, to our knowledge, the SIC guide has not been used in the ICU setting.

## METHODS

### Setting

We conducted a mixed-methods quality improvement pilot study to examine the feasibility, acceptability, fidelity, and utility of using the SIC guide to communicate with surrogates of mechanically ventilated patients within 48 hours of admission to the Penn Presbyterian MICU in Philadelphia, Pennsylvania. The Penn Presbyterian MICU is a 12-bed unit with approximately 950 annual admissions, an average Acute Physiology and Chronic Health Evaluation IV score of 65, and an in-hospital mortality rate of 13.6% (15).

The MICU is a “closed” unit staffed by board-certified pulmonary and critical care medicine attending physicians and hospitalists. At the end of the pilot, six hospitalists were advanced practitioners and five were board-certified internal

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\*Co-senior authors.

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**Correspondence and requests for reprints should be addressed to** Mark E. Mikkelsen, M.D., M.S.C.E., Division of Pulmonary, Allergy and Critical Care, Perelman School of Medicine, University of Pennsylvania, Penn Presbyterian Medical Center, Medical Office Building, Suite 200, 51 North 39th Street, Philadelphia, PA 19104. E-mail: mark.mikkelsen@uphs.upenn.edu.

This article has a data supplement, which is accessible from this issue’s table of contents at [www.atsjournals.org](http://www.atsjournals.org).

medicine-trained medical doctors (*see* Table E1 in the data supplement for additional details). Palliative care consultation is available for symptom management and end-of-life care planning.

We focused our pilot on mechanically ventilated patients, who constitute approximately 35% of our ICU admissions. The study was reviewed and approved by the University of Pennsylvania Institutional Review Board as a quality improvement initiative that did not require informed consent.

#### **Prepilot MICU Communication Processes**

Multidisciplinary patient- and family-centered rounds are conducted daily, wherein family present are invited to attend rounds. Upon ICU admission, patients and family members are introduced to the MICU, including provision of a business card that includes the MICU website address which includes detailed, written information about the MICU and critical illness (16). Patients mechanically ventilated for 48 hours or more and in whom family members are physically present, the target population for this pilot, receive ICU diaries in our unit.

#### **SIC Guide Pilot Development**

We used the SIC guide version April 18, 2017, designed by Ariadne Labs (11). We modified this version for use with surrogates (Table 1). We maintained the original conversation flow, which included conversation setup; assessment of understanding of the diagnosis; sharing the prognosis; exploring key topics (e.g., goals, fears, and worries); then close, including a summary, recommendation, and affirmation of commitment to the patient.

We standardized our presentation of prognosis during this initial conversation. Within the context of the patient being critically ill and mechanically ventilated, we presented prognosis as guarded (“uncertain, with possibility of getting sicker, quickly”) or poor (“limited time; may be as short as hours or days”).

As presented in Table 1, questions were tailored to direct the surrogate to express the interests of the patient rather than their own (e.g., “What is your understanding now of where your loved one is with their illness?”). The conversation was then documented using a standardized template available within the electronic health record (EHR).

#### **Provider Education**

Each hospitalist provider and the MICU director completed an SIC orientation. Given the recognized workforce shortage in palliative care (17) and the success of a train-the-trainer model in implementing the SIC guide (8), we had three palliative care-trained providers, each trained in use of the SIC, train hospitalist providers. Training sessions, 3 hours in length, began in the fall of 2018 (Table E1). Because we expanded our hospitalist program midyear, we conducted a fourth training session in February 2019.

Each session consisted of reviewing the benefits of discussing ACP with patients and families; reviewing the SIC guide; skills-based practice, including an observed standardized patient conversation with feedback; and reviewing structured documentation in the EHR. In contrast to the Ariadne Labs program, owing to lack of funding, we did not use actors in simulation training. Rather, trainers and/or participants served as standardized patients using Ariadne Labs scripts modified for conversations with surrogates.

**Table 1.** Serious illness conversation guide

| Conversation Flow  | Standardized SIC Template within Electronic Health Record   |
|--|---|
| 1. Set up the conversation<br>Introduce purpose<br>Prepare for future decisions<br>Ask permission                        |   |
| 2. Assess understanding and preference   | <ul style="list-style-type: none"> <li>• What is your understanding of where your loved one is now with his/her illness?</li> <li>• How much information about what is likely to be ahead with your loved one's illness would you like?</li> </ul>  |
| 3. Share prognosis<br>Frame as a "wish ... sorry," "hope ... worry" statement<br>Allow silence, explore emotion          | <ul style="list-style-type: none"> <li>• Information shared about prognosis</li> </ul>  |
| 4. Explore key topics<br>Goals<br>Fears and worries<br>Sources of strength<br>Critical abilities<br>Trade-offs<br>Family | <ul style="list-style-type: none"> <li>• If your loved one's health situation worsens, what are his/her most important goals?</li> <li>• What are your biggest fears and worries about the future for your loved one?</li> <li>• What gives your loved one strength to cope with his/her illness?</li> <li>• What abilities are so critical to your loved one's life that you cannot imagine him/her living without them?</li> <li>• If your loved one becomes sicker, how much is he/she willing to go through for the possibility of more time?</li> <li>• How much does family know about your loved one's priorities and wishes?</li> </ul> |
| 5. Close the conversation<br>Summarize<br>Make a recommendation<br>Check in with patient<br>Affirm commitment            |   |
| 6. Document your conversation  |   |
| 7. Communicate with key clinicians   |   |

*Definition of abbreviation:* SIC = serious illness conversation.

The SIC guide was designed by Ariadne Labs, version April 18, 2017; adapted for use with surrogates.

### Pilot Implementation

The SIC pilot began in October 2018 and continued for 8 months. We focused our pilot on surrogates of adult (aged  $\geq 18$  yr) mechanically ventilated patients in the MICU, with a goal to complete the SIC within 48 hours of intubation. We limited the pilot to in-person communication between providers and English-speaking surrogates (18, 19). In accordance with guideline recommendations to conduct

interdisciplinary family meetings (5), the patient's bedside nurse was encouraged, but not required, to participate in the SIC. The SIC was held outside of daily rounds. When nurses were present, because they were not trained in our pilot, the provider would lead the structured conversation.

### Data Collection

An ACP note was created in the patients' EHRs. Using smart phrase ".sicmp," the SIC

questions with space for responses populate. The provider asked the prepopulated SIC questions and documented response(s) in the SIC ACP note during the in-person interview.

To examine the fidelity and utility of the conversation between the provider and surrogate, we created a weekly EHR report, designed to capture use of the smart phrase “.sicmp,” and collected the following information: date of SIC; provider who completed the conversation; relationship of the surrogate to the patient; SIC responses, including whether a recommendation was made during the closing; and time taken to complete the SIC. The weekly reports were aggregated using HIPAA-compliant (Health Insurance Portability and Accountability Act of 1996, Public Law 104-191) data management software from October 2018 through June 2019.

We cross-referenced the SIC report to our ICU diary database to ascertain the proportion of patients who received an SIC among eligible patients (i.e., those mechanically ventilated for 48 h who received a diary, suggesting family presence). We retrospectively collected patient sociodemographics, ICU and hospital lengths of stay, and disposition for SIC-eligible patients. For those with ACP documentation, we recorded the time from mechanical ventilation to ACP discussion and the surrogate(s) relationship to the patient. We separated SIC-eligible patients into those receiving SIC, those receiving non-SIC ACP, and those receiving no ACP during their ICU stay.

To examine acceptability, we surveyed surrogates 2 months after the SIC was administered; providers were surveyed at the conclusion of the pilot. An interval of 2 months between execution of the SIC and administration of the surrogate survey was used to allow ample time for a possible

mourning period and/or discharge planning and related care transitions to be complete.

Both surrogates and providers were surveyed using validated questionnaires created and provided by Ariadne Labs for the SIC. The provider survey included fields pertaining to feasibility (i.e., ease of use), utility, and acceptability (i.e., clinician–patient relationship and surrogate’s emotional state after the SIC) (Table 2). We added a question to ascertain whether the provider planned to continue using the SIC guide.

The surrogate questionnaire, modified for use with surrogates (Table 3), assessed how the conversation affected understanding of the patient’s health (e.g., your understanding of what your loved one’s health may be like in the future), sense of control over medical decisions, therapeutic alliance, and surrogate’s assessment of the patient’s perceived quality of life, using a 7-point Likert scale. The questionnaire also assessed whether the conversation was worthwhile. We contacted surrogates up to three times and thereafter considered them lost to follow-up if they could not be reached.

### Statistical Analyses

We summarized continuous, nonnormal data using median and interquartile range (IQR) and categorical data using counts and percentages. We used the chi-square test or Fisher’s exact test, when appropriate, to compare categorical data across groups and the Wilcoxon rank-sum test or the Kruskal-Wallis test, when appropriate, to compare nonnormally distributed continuous data across groups. We used Stata 13.0 IC software (StataCorp) and defined  $P \leq 0.05$  as significant.

In our qualitative analysis of the SIC responses, two investigators (V.P., M.E.M.)

**Table 2.** Provider experience survey, completed by nine providers, each of whom responded that they were using the Serious Illness Conversation guide

| Serious Illness Conversation Guide ...  | Median (IQR) and Range*  |
|---|--|
| Allows me to gather important information.  | 4 (4–4)<br>Range: 2–4  |
| Is easy to use.   | 4 (3–4)<br>Range: 3–4  |
| Helps me understand my patient’s values and goals of care.  | 4 (4–4)<br>Range: 2–4  |
| Provides information that enhances my clinical care of this patient.  | 4 (3–4)<br>Range: 2–4  |
| Helps build a trusting clinician–patient relationship.  | 4 (3–4)<br>Range: 2–4  |
| Can be done in an appropriate amount of time.   | 3 (3–4)<br>Range: 2–4  |
| When I finish the discussion using the serious illness conversation guide, I think the conversation made my patient’s surrogate decision maker’s emotional state: _____ | Much better: 22%<br>Better: 11%<br>Slightly better: 11%<br>Neither worse nor better: 56%<br>Slightly worse, worse, or much worse: 0%   |
| Overall, how much did your discussion of these issues with your patient’s surrogate increase or decrease your satisfaction with your role in your patient’s care?       | Greatly decreased or decreased: 0%<br>Slightly decreased: 11%<br>Neither increased nor decreased: 11%<br>Slightly increased: 22%<br>Increased: 44%<br>Greatly increased: 11% |
| In general, the serious illness conversation guide has made my anxiety about these discussions: _____   | Much better: 22%<br>Better: 11%<br>Slightly better: 33%<br>Neither worse nor better: 22%<br>Slightly worse, worse, or much worse: 0%<br>I do not have anxiety: 11%           |
| Plan to continue using the SIC: _____   | Yes: 89%<br>No: 11%  |

*Definition of abbreviations:* IQR = interquartile range; SIC = serious illness conversation.  
\*Scoring: 1 = do not agree; 2 = somewhat agree; 3 = mostly agree; 4 = agree.

reviewed SIC documentation and independently categorized SIC responses into themes. After independently reviewing 10 charts, the investigators met to review and agree on the assigned themes. We then completed the review independently and compared results. We found high degrees of agreement in categorizing themes. In the

27 instances in which the reviewers disagreed (15%), coding differences were resolved via discussion, often resulting in collapsing categories (e.g., “Independence, including being at home and maintaining functional abilities” as a single goal category). Thematic saturation was confirmed during review of the last five conversations. By SIC

**Table 3.** Surrogate experience survey (N=19)

| To What Extent Did This Conversation Increase or Decrease ...                              | Median (IQR) and Range*   |
|--|---|
| Your understanding of what your loved one's health may be like in the future?              | 7 (6–7)<br>Range: 4–7   |
| Your sense of control over your loved one's medical decisions?                             | 6 (4–7)<br>Range: 4–7   |
| The closeness you have with your clinician who cared for your loved one?                   | 6 (4–7)<br>Range: 4–7   |
| Your hopefulness about your loved one's quality of life?                                   | 6 (4–7)<br>Range: 1–7 <sup>†</sup>  |
| Overall, how worthwhile was it to talk about these issues with your loved one's clinician? | Not at all: n=1 (5.3%)<br>Somewhat: n=0<br>Mostly: n=5 (26.3%)<br>Extremely: n=13 (68.4%) |

*Definition of abbreviation:* IQR = interquartile range.

\*Scoring: 1 = decreased a lot; 4 = neither increased nor decreased; 7 = increased a lot.

<sup>†</sup>In the three instances in which surrogate responses were less than 4 on the Likert scale, understanding and control increased, closeness either increased or was unchanged, and the overall experience was categorized as mostly or extremely worthwhile in two of the three instances and as "not at all" in the remaining instance.

question, themes are reported according to the frequency encountered, with illustrative quotes (Table 4).

## RESULTS

Among 72 eligible patients, ACP was completed in the ICU in 50 patients (69% completion rate), and SICs, specifically, were completed in 36 patients (50% completion rate). Compared with patients who received ACP in the ICU, those who did not were younger and less likely to die during their hospitalization (Table 5). Among those who received ACP conversations, compared with those who did not receive the SIC, conversations occurred 3 days earlier in SIC patients.

Nine of 11 hospitalist providers used the SIC guide. As presented in Table E1, use varied at the provider level, with a mean of 3.3 completed by each provider

and a range of 0–14. The SIC was performed a median of 3 days after intubation (IQR, 2–8), was completed in 30 minutes (IQR, 20–30; range 10–50), and engaged a median of 1 surrogate (IQR, 1–2, range, 1–6 surrogates).

### Provider Experience with the SIC Guide

As shown in Table 2, providers reported that the SIC guide facilitated gathering of important information, was easy to use, helped with understanding patients' values and goals of care, and helped to build a trusting clinician–patient relationship without apparent harm to the surrogate's emotional state. Furthermore, 77% of the hospitalists reported that the discussion increased their satisfaction with their professional role, and 66% reported that use of the SIC guide made their anxiety about these discussions slightly better, better, or much better. Of those surveyed, 89% planned to continue using the SIC guide.

**Table 4.** Serious illness conversation guide responses from surrogates of mechanically ventilated patients, categorized by theme

| Question                           | Theme  | Patients Reporting (n [%]) | Examples  |   |
|------------------------------------|--|----------------------------|---|---|
| Goals                              | Comfort  | 12 (33.3)                  | "She would want to be at peace."<br>"Be comfortable and not suffer."                                    |   |
|                                    | Survival   | 10 (27.8)                  | "Live as long as possible."   |   |
|                                    | Independence, including being at home and maintaining functional abilities | 9 (25.0)                   |   |   |
|                                    | Pursue all treatment options/"to fight"                                    | 8 (22.2)                   |   |   |
|                                    | Be with family   | 8 (22.2)                   |   |   |
|                                    | Be mentally aware  | 4 (11.1)                   |   |   |
|                                    | Uncertain  | 4 (11.1)                   |   |   |
|                                    | Resume pleasurable activities  | 3 (8.3)                    | "She wants her mac and cheese, candy yams, collard greens, spare ribs."<br>"Read Bible at home."        |   |
|                                    | Fears and worries  | Pain and suffering         | 13 (36.1)   |   |
|                                    |  | Inability to recover       | 11 (30.6)   | "That he won't be able to finish writing his book." |
| Death                              |  | 11 (30.6)                  |   |   |
| Loss of independence               |  | 9 (25.0)                   | "He feels ashamed to rely on others and would absolutely not want to burden anyone with his handicaps." |   |
| Inability to maintain faith        |  | 1 (2.8)                    |   |   |
| Symptoms                           |  | 1 (2.8)                    | "Breathlessness."   |   |
| Guilt (from surrogate perspective) |  | 1 (2.8)                    |   |   |
| None                               |  | 0 (0.0)                    | "Don't have any, because God's going to help her come out of it."                                       |   |

(continued on following page)



**Table 4.** Serious illness conversation guide responses from surrogates of mechanically ventilated patients, categorized by theme (continued)

| Question   | Theme   | Patients Reporting (n [%]) | Examples   |
|--|---|----------------------------|--|
| Sources of strength  | Friends/family  | 24 (66.7)                  | "Grandson recovered from motor vehicle collision with traumatic brain injury." |
|  | Faith/spirituality  | 8 (22.2)                   |  |
|  | Prior experience with adversity   | 4 (11.1)                   |  |
|  | Positive attitude   | 3 (8.3)                    |  |
|  | Clinicians  | 2 (5.6)                    |  |
|  | Signs of improvement (from surrogate perspective)                               | 1 (2.8)                    |  |
| Critical abilities: "What abilities are so critical to your loved one's life that he/she can't imagine living without them?"       | Independence/functional abilities including speech                              | 20 (55.6)                  |  |
|  | Social interactions   | 17 (47.2)                  |  |
|  | Being mentally aware  | 13 (36.1)                  |  |
| Trade-offs: "If he/she becomes sicker, how much is your loved one willing to go through for the possibility of gaining more time?" | Surrogate expressed a commitment to aggressive care                             | 11 (30.6)                  |  |
|  | Surrogate expressed uncertainty, with request to revisit over time              | 9 (25.0)                   |  |
|  | Surrogate expressed preference for limitations of care if recovery not possible | 7 (19.4)                   |  |
|  | Surrogate expressed preference for no further aggressive care                   | 5 (13.9)                   |  |
|  | Surrogate expressed preference for comfort if recovery not possible             | 4 (11.1)                   |  |

Serious illness conversation guide, adapted for surrogates, Ariadne Labs, version April 18, 2017.

#### Surrogate Experience with the SIC Guide

Nineteen (53%) of 36 surrogates completed the follow-up survey, 1 was

unable to complete it (i.e., emotional when responding to utility of the conversation in regard to ACP), and 16 were lost to follow-up. The in-hospital mortality for the loved

**Table 5.** Characteristics of 72 critically ill, mechanically ventilated patients eligible for serious illness conversation during the pilot, stratified by presence and type of advanced care planning documentation

| Variable                                   | ACP Documentation Using SIC Guide (n = 36) | ACP Documentation, Nonstandardized (n = 14) | ACP Not Documented (n = 22) | P Value |
|--|--|---|-----------------------------|---------|
| Age, yr                                    | 65 (57–78)                                 | 56 (52–61)                                  | 53 (43–63)                  | <0.01   |
| Sex, M, n (%)                              | 13 (36)                                    | 6 (43)                                      | 11 (50)                     | 0.58    |
| Race, n (%)                                |  |   |                             | 0.01    |
| White                                      | 7 (19)                                     | 2 (14)                                      | 10 (45)                     |         |
| Black                                      | 26 (72)                                    | 8 (57)                                      | 6 (27)                      |         |
| Asian                                      | 1 (3)                                      | 1 (7)                                       | 4 (18)                      |         |
| Other                                      | 2 (6)                                      | 3 (21)                                      | 2 (9)                       |         |
| ICU stay, d                                | 10 (7–18)                                  | 10 (6–22)                                   | 10 (5–24)                   | 0.97    |
| Hospital stay, d                           | 14 (10–26)                                 | 13 (6–26)                                   | 17 (9–36)                   | 0.62    |
| Mortality, n (%)                           | 18 (50)                                    | 12 (86)                                     | 5 (23)                      | 0.001   |
| Time from mechanical ventilation to ACP, d | 3 (2–8)                                    | 6 (3–22)                                    | Not applicable              | 0.05    |
| Surrogate(s): relationship to patient*     |  |   | Not applicable              |         |
| Spouse/partner                             | 8  | 4   |                             |         |
| Parent                                     | 4  | 3   |                             |         |
| Children                                   | 20   | 5   |                             |         |
| Grandchildren                              | 2  | 1   |                             |         |
| Sibling                                    | 8  | 4   |                             |         |
| Friend/other                               | 2  | 2   |                             |         |

*Definition of abbreviations:* ACP = advanced care planning; ICU = intensive care unit; SIC = serious illness conversation.

Categorical variables are presented as counts and percentages; continuous, nonnormally distributed variables are presented as medians and interquartile ranges.

\*Relationship to patient, for surrogate(s), provided for the 50 patients with ACP documentation during the ICU stay. Sum is greater than 50 because some conversations included more than one surrogate.

ones of these 19 surrogates was 42.1%. Of the surrogates surveyed, 95% found the SIC to be mostly or extremely worthwhile (see Table 3). Specifically, surrogates reported that their understanding of their loved one's health improved, as did their sense of control over medical decisions, closeness with the clinical team, and hopefulness about their loved one's quality of life.

### Utility of the SIC Guide

The conversation facilitated standardized communication in terms of diagnosis and prognosis and yielded valuable information in terms of goals, fears and worries, sources of strength, abilities critical to the patient, and understanding how much the patient would be willing to go through for the possibility of gaining more time (Table 4). In general, with few exceptions,

surrogates were able to express responses from the patients' perspective. In instances when the surrogates responded from their own perspective, the insights were valuable to the clinical team (e.g., signs of patient improvement seen as a source of strength).

Regarding diagnosis and prognosis, in each instance, surrogate(s) were informed that the patient was critically ill and required life support. In six cases (17%), providers informed the surrogate(s) that the prognosis was poor ("limited time; may be as short as hours or days"); in the remaining cases, prognosis was described as guarded ("uncertain, with possibility of getting sicker, quickly").

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*Surrogates identified the following as abilities so critical to the life of their loved one that they could not imagine living without them: independence, social interactions, and being mentally aware.*

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Surrogates provided 58 responses for the 36 patients when discussing goals (average, 1.6 per patient; range, 1–5). The most common goals reported were comfort (33%), to survive (28%), and to maintain independence (25%). For those with multiple responses for goals, the response options were observed to be paired (e.g., "survival" and "pursue any/all treatment options"; "pursue every available treatment" and "be physically comfortable") and/or linked (e.g., "pursue every available treatment if patient can return to baseline"; "not be a burden, maintain independence"; "avoid hospitalizations, spend time with family, maximize time at home").

Surrogates reported that their most common fears and worries were that their loved one would experience pain and

suffering (36%), be unable to recover (31%), die (31%), or lose their independence (25%). Family and friends, faith and spirituality, and prior experience with adversity were identified by surrogates as sources of strength for their incapacitated loved one in 67%, 22%, and 11% of conversations, respectively.

Surrogates identified the following as abilities so critical to the life of their loved one that they could not imagine living without them: independence, social interactions, and being mentally aware. When asked, "How much is your loved one willing to go through for the possibility of gaining more time?," surrogates responded in one of five ways, in descending order of frequency observed: 1) commitment to aggressive care (31%); 2) uncertainty, with the request to revisit over time (25%); 3) preference for care limitations if recovery was not possible (19%); and 4 and 5) preference for no further aggressive care or comfort if recovery was not possible (25%) (Table 4).

In the closing segment, providers summarized what they had learned, provided a recommendation, and affirmed commitment to the patient. During the conversation, providers tended to surrogates by supporting and validating their feelings and emotions. In the closing, when encountered, providers explored inconsistencies and discussed unrealistic expectations (i.e., discord between goals and recovery prognosis). Of the 36 conversations, providers recommended do-not-resuscitate status in five cases and palliative care consultation in two. Goals of care changed after the initial conversation in five cases because four received a new do-not-resuscitate order and one had care limitations enacted. In the remaining cases, no formal recommendations were made; rather, this first conversation concluded with a commitment to care for the patient and

invitation to join daily patient- and family-centered rounds and continue the conversation. After the initial SIC, there were 39 subsequent ACP discussions (median, 1; IQR, 0–2, range, 0–7).

## DISCUSSION

We found that implementation of this structured communication tool in the ICU was feasible and acceptable to providers and surrogates. Providers reported that the tool was easy to use, facilitated gathering of information that enhanced clinical care, helped with understanding the patient's values and goals of care, and helped to build trust between the provider and family. These findings are consistent with studies conducted in the ambulatory care setting for use in specific seriously ill patient populations (i.e., oncology patients) (11–14) and in the post-acute care setting among survivors of critical illness (14), where implementation led to “more, earlier, and better” goals-of-care conversations.

In contrast to the non-ICU setting, where the conversation was completed in 15 minutes (14), ICU providers acknowledged a time investment needed to complete the conversation, with a median time to completion of 30 minutes. Our experience is that the modest investment in time, including ensuring that the surrogates understand the diagnosis and prognosis of their critically ill loved one, is warranted.

Providers reported that the program relieved their anxiety to have these types of discussions, enhanced their professional satisfaction, and gave them the perception that the conversation did not negatively impact the emotional state of the family member. Given the epidemic of burnout among critical care professionals (10), these observations are notable. Future studies are needed to determine whether SIC

implementation improves clinician well-being.

Among the surrogates who completed the follow-up survey, the conversation significantly increased their understanding of their loved one's health condition, increased their sense of control, and strengthened their relationship with the clinical team. Overall, surrogates reported that the conversation was mostly or extremely worthwhile in 95% of cases. Of import, 42% of the loved ones of the surrogates who completed the follow-up survey died during the hospitalization in which the SIC occurred, suggesting that the conversation was worthwhile to surrogates of patients, regardless of outcome.

Substantiating providers' perceptions that the tool facilitated gathering of information that enhanced clinical care and helped with understanding the patient's values and goals of care, the structured communication tool elicited insights into the patients' goals, fears and worries, sources of strength, critical abilities, and how much the patient would be willing to go through for the possibility of gaining more time (Table 4). By the end of the conversation, surrogates were able to provide the clinical team with a plan for care that aligned with the patient's and family's care preferences and a shared framework to apply to subsequent family meetings.

Most critically ill patients have discussed their care preferences with loved ones before their critical illness episode (20); yet, patient values and preferences are rarely elicited in the absence of a structured communication tool (20–22). As such, although confirmatory studies are warranted, the SIC guide could effectively fill an acknowledged communication quality gap in critical care.

The closing also afforded the opportunity to explore and clarify responses, especially when inconsistencies and unrealistic

expectations were identified. Because optimistic expectations are common (23) and are driven by both a misunderstanding of the clinician's prognostic expectations and being more intrinsically hopeful (23–25), the opportunity to align prognostic expectations early is an important one apparently afforded by the SIC guide.

Although the tool appeared useful and easy to use, we found that fidelity to completing the conversation within 48 hours among eligible patients was modest. Challenges to protocol adherence included 1) the requirement of family presence to complete the conversation, 2) lack of a standard process to identify eligible patients in whom an SIC had not been completed, 3) delayed and inconsistent adoption across providers, 4) apparent reluctance to administer the SIC to those less likely to die, and 5) time required to complete the conversation. Furthermore, our experience suggests that uptake may differ by provider type, with experienced physicians being potentially less likely to adopt the SIC guide. Nevertheless, in 2020, we plan to extend our program and invite pulmonary and critical care medicine faculty to be trained to increase the supply of providers trained in use of the SIC.

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*Our experience is that the modest investment in time, including ensuring that the surrogates understand the diagnosis and prognosis of their critically ill loved one, is warranted.*

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In the next phase of the initiative, we plan to implement the following additional strategies to improve protocol adherence:

1) review SIC completion as part of interdisciplinary patient- and family-centered daily rounds, 2) review study findings with the clinical team, and 3) offer a refresher course for those with limited SIC experience and/or self-identified need. Last, for those cases in which family presence was inconsistent, we plan to conduct the conversation over the phone, with follow-up to ascertain whether it was acceptable and worthwhile.

There are several additional limitations to mention. First, because elements of the conversation not documented were not captured, future studies incorporating audiotaping and transcribing interviews may further clarify the utility of the SIC in the ICU setting. Second, we were able to account for the proportion of eligible patients who did not receive ACP and SIC specifically, and we identified that survivors were less likely to receive ACP in the ICU. However, because we were unable to adjust for confounding, given the limited sample size, the exact reason why the SIC was not done remains unclear, and we acknowledge the potential for implicit bias (e.g., age and race). Future implementation initiatives would benefit from more frequent cycles of improvement, incorporating audit and feedback. Third, a 2-month interval from performing the SIC to administering the questionnaire may have resulted in loss to follow-up. Furthermore, we are unable to speculate how surrogates lost to follow-up would have completed the questionnaire.

In conclusion, we found that the SIC guide facilitated structured communication in the critical care setting to elicit patient goals and preferences in order to understand and convey useful information, leading to worthwhile ACP

within a critical care environment. This structured tool may also simultaneously play a role in cultivating a positive relationship between the provider and family. Steps to increase fidelity, in accordance with family-centered care guidelines, are warranted, as are additional studies to examine the impact of SIC on ICU outcomes, including ICU and hospital lengths of stay, time to do-not-resuscitate orders, and mortality.

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