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## Conflict in the care of patients with prolonged stay in the ICU: types, sources, and predictors

Received: 14 November 2002  
Accepted: 15 May 2003  
Published online: 19 July 2003  
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Funding for this study was provided by the Harvard Risk Management Foundation. D.M.S. was also supported in part by grant number KO2HS11285 from the Agency for Healthcare Research and Quality.

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**Abstract** *Objective:* To determine types, sources, and predictors of conflicts among patients with prolonged stay in the ICU. *Design and setting:* We prospectively identified conflicts by interviewing treating physicians and nurses at two stages during the patients' stays. We then classified conflicts by type and source and used a case-control design to identify predictors of team-family conflicts. *Design and setting:* Seven medical and surgical ICUs at four teaching hospitals in Boston, USA. *Patients:* All patients admitted to the participating ICUs over an 11-month period whose stay exceeded the 85th percentile length of stay for their respective unit ( $n=656$ ). *Measurements and results:* Clinicians identified 248 conflicts involving 209 patients; hence, nearly one-third of patients had conflict associated with their care: 142 conflicts (57%) were team-family disputes, 76 (31%) were intrateam disputes, and 30 (12%) occurred among family members. Disagreements over life-sus-

taining treatment led to 63 team-family conflicts (44%). Other leading sources were poor communication (44%), the unavailability of family decision makers (15%), and the surrogates' (perceived) inability to make decisions (16%). Nurses detected all types of conflict more frequently than physicians, especially intrateam conflicts. The presence of a spouse reduced the probability of team-family conflict generally (odds ratio 0.64) and team-family disputes over life-sustaining treatment specifically (odds ratio 0.49). *Conclusions:* Conflict is common in the care of patients with prolonged stays in the ICU. However, efforts to improve the quality of care for critically ill patients that focus on team-family disagreements over life-sustaining treatment miss significant discord in a variety of other areas.

**Keywords** Physician-patient relations · Conflict (psychology) · Intensive care · Withholding treatment · Communication barriers · Ethics, medical

### Introduction

The intensive care unit (ICU) is an inherently stressful setting [1, 2, 3]. Patient acuity, family grief, the intensity of clinicians' workload, and the frequent need for families and care givers to make critical decisions about the course of care form a volatile mix. Emotions run high and conflicts are common [4]. Conflicts occur along

three main axes: between ICU team members and families ("team-family"), within the team ("intrateam"), and within families ("intrafamily"). Each type threatens quality of care. Team-family conflicts may fuel distrust and inhibit open communication about important aspects of care, including decisions about withholding or withdrawing life-sustaining treatment (LST). Intrateam conflicts—defined broadly to include those that occur both

among members of the intensive care team and between the ICU team and consultant specialists—send confusing messages to family members and may lead to suboptimal management. Intrafamily conflicts create inertia over important decisions, aggravate what are already trying circumstances, and may adversely affect the health of patients who become aware of them. Despite the tremendously destructive potential of conflicts in the ICU no broad-based epidemiological data exist on their frequency or causes. Most of the information gathered to date on ICU conflicts comes from studies of cases considered for withdrawal of life support [5, 6, 7, 8]. Little is known about the wider array of conflicts in the ICU, and how disputes over LST fit within that array.

As part of a major quality improvement initiative in the medical and surgical ICUs of the Harvard University medical institutions, we investigated the frequency and nature of conflicts in seven adult ICUs over an 11-month period. Rather than screen patients for analysis based on whether their care involved consideration of care limitations, as previous studies have done, we tracked clinician-reported conflicts in 656 patients with prolonged stays in the ICU.

Our goal was to test three main hypotheses. First, we hypothesized that clinicians' and families' divergent preferences about LST would be an important source of conflicts in the care of critically ill patients, but that other, lesser known problems would both compound these conflicts and trigger disputes in the ICU unrelated to LST. Second, we anticipated that physicians and nurses would differ in their perceptions of whether a conflict had occurred, with the latter more attuned to certain types of conflicts due to the nature of their working relationship with patients and families. Third, drawing from literature about physician trust and satisfaction with interpersonal aspects of medical care, we hypothesized that specific patient characteristics, in particular minority race, would be associated with higher probability of conflict, whereas advance directives and the presence of identified health care proxies would be associated with lower probability of conflict.

## Materials and methods

### Study design

The Harvard Project on Care Improvement for the Critically Ill (CICI) was designed to measure the satisfaction of ICU patients, their surrogates, and caregivers and test strategies for reducing conflict in the ICU. The motivation, aims, and methods for the CICI study are described in detail elsewhere [9]. In summary, the adult component of the study was conducted during two time periods (November 1998–March 1999 and June 1999–November 1999) at four Harvard-affiliated teaching hospitals in Boston (Massachusetts General Hospital, Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, and Boston Children's Hospital). Together these hospitals operate seven ICUs: three

medical ICUs (MICU) and four surgical ICUs (SICU). The study protocol was approved by the institutional review board at each participating hospital.

All patients admitted to the 7 ICUs during the two enrollment periods were eligible for enrollment in CICI. A key enrollment criterion in CICI was prolonged length of stay; any patient whose stay exceeded the 85th percentile length of stay in their unit (threshold calculated using 1997–1998 discharge data specific to each unit) was automatically enrolled. This analysis of the data gathered during CICI focuses exclusively on the long-stay group. We hypothesized that these patients were the most prone to serious conflicts given their acuity, the complicated nature of their illness, and the greater "exposure time" that they, their families, and their care givers had to potential dispute.

### Identification of conflicts and controls

We prospectively identified conflicts arising in the care of study patients through structured interviews conducted in-person with one physician and one nurse involved in the patient's care at two stages in the stay: (a) immediately following the patient's enrollment in the study and (b) 7 days after enrollment, at discharge, or at death, whichever came first. Interviewers who were trained in use of the instrument asked clinicians whether a conflict had occurred and, if so, to describe its type and major source(s), and then transcribed the responses. Specifically the interview subjects were the intensive care physician who was the attending of record at the time of each interview and the bedside nurse on the day-staff with primary responsibility for the study patient.

The majority of the interview questions were adapted from a well-validated instrument designed to elicit satisfaction with care provided to terminally ill patients [10]; we assessed the face validity of the questions pertaining to conflicts through small focus groups in each respondent category before the research began. For purposes of our analyses patients with conflicts consisted of those identified by nurses and/or physicians in either of the clinician interviews as having had a conflict arise in their care. All other patients with prolonged stay, that is, patients who had no conflicts linked to their care by either clinician in either interview, were categorized as controls.

### Definition, verification, and classification of conflicts

The study definition of a "conflict" was a dispute, disagreement, or difference of opinion related to the management of a patient in the ICU involving more than one individual and requiring some decision or action. In formulating this definition we drew upon definitions used in previous studies of ICU care [11, 12] and on the literature of dispute resolution in health care [13]. During the interviews with clinicians both study instructions and interviewers emphasized that a range of individuals may be parties to conflict in the ICU. Instructions also stipulated that conflicts may occur in a range of circumstances, including disagreements over the major goals of therapy, misunderstandings about expected outcomes, and decisional paralysis.

Two investigators independently reviewed each response to ensure that affirmative ones actually articulated a conflict (regardless of type) that met our study definition. Patients with conflicts determined not to meet the study definition were added to the controls. Once the group of conflicts was finalized, two coders independently classified each one by type (team-family, intrateam, intra-family), allowing any given conflict to fit multiple types if appropriate.

Next we classified all conflicts into source categories using an iterative process [14]. First, we reviewed the literature on disputes in the ICU and health care generally to formulate a draft set of categories. Second, we drew a random sample of 25 conflicts from

our group and tested their fit within the draft categories, making modifications as necessary. The final code book contained six primary sources of team-family disputes (LST preferences, poor communication, inability of family decision maker, unavailability of family decision maker, coping problems, other/miscellaneous), six primary sources of intrateam disputes (LST issues, care management issues unrelated to LST, poor communication, lack of leadership, lack of coordination, other/miscellaneous), and four sources of intrafamily disputes (LST preferences, other decisions about care plan, communication problems, other/miscellaneous). Third, two coders independently classified each conflict into one or more of the primary source categories. Disagreements in this and the other stages of the verification/classification process were discussed and resolved by consensus using all available information from the transcript.

#### Patient data

We obtained additional data on all patients (cases and controls) from medical records and hospital administrative databases, including demographic information (age, sex, marital status, religion, insurance status) and measures of patient acuity. The acuity measures we used were the Simplified Acute Physiology Score II (SAPS II) [15], a prognostic scoring system that estimates probability of death from physiological measures, and the Therapeutic Intervention Scoring System (TISS) [16, 17], a measure of the amount of resources utilized. Research nurses also used an instrument adapted from the chart abstraction form used in the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment (SUPPORT) [18] to collect data on whether clinicians had a documented discussion with a patient's family about LST (including decisions to forgo resuscitation, ventilator, vasopressors, dialysis, blood transfusion, tube feedings/total parenteral nutrition, antibiotics, and major surgery).

#### Team-family conflict

- "Difficult conflict over DNR. Family is unwilling to consider it. Daughter, who is the decision-maker, doesn't grasp her mother's condition and won't listen to the team's explanations . . . She has unrealistic expectations. She also wants no more tube feeding, only by mouth, despite the aspiration risk."
- "Series of disagreements with family . . . some probably due to language barriers (Spanish) but it doesn't help that the family lives far away and does not get involved enough in the day-to-day decision-making."
- "Patient's religious views (Christian Science) were questionable since he had apparently agreed to valve surgery several years ago and maybe he would have made an exception this time too . . . End of life wishes weren't stated clearly to wife. . . . The initial conflict between wife and team (wife wanted to withdraw support, team thought there was more they could do to help him) resolved as he got sicker and clearly wasn't going to make it."

#### Intrateam conflict

- "Need to get all the clinicians involved. We're moving at different rates about how this should be approached (4 MDs/services involved) . . . There are disagreements around comfort, analgesia, and sedation . . ."
- "RNs know him but the team isn't accepting input or listening to insights from the nurses. That's discouraging and inappropriate because the nurses are with the pt all the time and should be included in plan."
- "Two different services involved with two different outlooks about how we should be weaning her . . . More communication is needed . . . [Service B] should be checking in more. They don't find out things have been done until the end of the day, then they're all upset."

#### Intrafamily conflict

- "The wife and daughter are in conflict . . . The team would like to pull back . . . the wife is amenable [but] the daughter feels strongly that we should go forward . . ."
- "The son is dependent on the mother/patient for ADL . . . . It upsets the rest of the family that he unloads on her and raises her anxiety."

**Fig. 1** Excerpts of conflicts reported in clinician interviews

#### Statistical analysis

We used the SAS and STATA statistical packages to generate descriptive statistics on the types and sources of conflicts as well as the characteristics of patients whose care did and did not involve conflicts. For further analysis of patient characteristics associated with conflict we constructed multivariate regression models to compare two types of cases with controls: (a) patients with team-family conflict, and (b) patients with team-family conflict specifically related to LST issues. We included in the models any characteristics of cases and controls that differed at the  $p < 0.2$  significance level in univariate comparisons.

## Results

Of 4,584 admissions to the seven ICUs during the study period 656 patients had prolonged stays and entered the study sample (mean length of stay  $18.0 \pm 15.0$  days). One-third (34.1%) were in MICUs and two-thirds (65.9%) in SICUs. Clinicians identified 248 conflicts involving 209 patients in this group. Hence nearly one-third (32.1%) of all ICU patients with prolonged stays had at least one conflict associated with their care. Figure 1 shows several examples of the conflicts reported by clinicians.

In the first stage of the clinician interviews we completed physician interviews for 86% of long-stay patients and nurse interviews for 88%; in the second stage we completed physician interviews for 78% of long-stay patients and nurse interviews for 75%. Uncompleted interviews were due to clinicians' refusal or their unavailabil-

**Table 1** ICU conflicts by type

Conflict type	Frequency	Proportion of all conflicts (%)	Frequency among ICU patients with prolonged stay (%) <sup>a</sup>
All conflicts	248	100	32.1
Team-family	142	57.3	21.8
Intrateam <sup>b</sup>	76	30.6	11.7
ICU team vs. surgical specialists	26	10.5	–
Nurse vs. physicians	21	8.5	–
Multiple services	13	5.5	–
ICU team vs. medical specialists	13	5.2	–
Attending vs. housestaff	5	2.0	–
Other	6	2.4	–
Intrafamily	30	12.1	4.6

<sup>a</sup> “Long stays” were defined as exceeding the 85<sup>th</sup> percentile of ICU stays in each of the participating MICUs and SICUs

<sup>b</sup> The number of specific intrateam conflicts exceeds the intrateam conflicts total because several conflicts involved disputes between more than one pairing of clinicians

ity. For five patients neither physician nor nurse interviews were completed in either stage, reducing our effective sample size to 651 patients.

### Typology

Table 1 shows that 142 conflicts (57.3%) were team-family disputes, 76 (30.6%) were disputes among team members, and the remaining 30 (12.1%) occurred among family members. In one-third of the intrateam conflicts (10.5% of all conflicts) ICU team members were pitted against surgical specialists; one-quarter (8.5% of all conflicts) were nurse-physician disputes.

### Major sources of conflict

We classified the 248 conflicts into 16 primary source categories (Table 2), with a mean of 1.4 sources per conflict. Among team-family conflicts, the substantive issue in 44% was a clash of preferences related to LST. The majority of these were situations in which the family wanted more aggressive treatment than the team believed was appropriate. In nine instances (6% of all team-family conflicts), however, the team sought a higher level of treatment aggressiveness than the family wanted.

Clinicians frequently cited poor communication (44%) as a source of team-family conflict. These disputes arose when family members had difficulty understanding the prognosis and likely outcomes of the patient's condition (19%) when language barriers frustrated communication (13%), and when other communication breakdowns or problems occurred (13%).

Two other leading sources of team-family conflict were the lack of availability of decision makers in families (15%) and family members' inability to make pivotal decisions about care (16%). Specifically, clinicians indicated that key family members' decision making was marred by uncertainty about patient's wishes (8%) and

more generally by indecisiveness or inconsistency (8%). In addition, clinicians cited coping problems (15%) as a source of conflict, in most cases indicating that such problems manifested as anxiety, fear, anger, or some other kind of extreme emotional reaction to the difficult circumstances created by the patient's condition.

With respect to intrateam conflicts, 7% were conflicts over LST and 55% were disagreements among clinicians over other aspects of medical management. These other disagreements were spread quite diffusely across various management issues; the most common were pain management (9%) and prognostic issues (5%). The other leading sources of intrateam conflicts were poor communication (17%), lack of leadership (9%), lack of coordination (7%), and a belief among nurses that physicians had inappropriately excluded them from decisions about patient care (9%).

For intrafamily conflicts clinicians traced the vast majority to disagreements over LST (57%) or other decisions about the patient's care plan (37%). Communication problems (13%) and disagreements over the appointment of a guardian or health care proxy (10%) were the other leading sources of intrafamily conflict.

### Reliability

Investigators' independent reviews of the interview transcripts showed excellent agreement about the presence of conflict ( $\kappa=0.93$ ). There was also a very high level of agreement between raters about the typology of team-family conflicts ( $\kappa=0.91$ ) and intrateam conflicts ( $\kappa=0.92$ ), and fair agreement about intrafamily conflicts ( $\kappa=0.75$ ). Interrater reliability for the classification of conflicts into sources was high for team-family sources ( $\kappa$  scores  $>0.88$ , except for “Ability of decision maker” where  $\kappa=0.71$ ), moderate for intrateam sources ( $\kappa$  scores  $>0.75$ , except for “Lack of coordination” where  $\kappa=0.42$ ), and in the poor to moderate range for intrafamily sources ( $\kappa=0.42$ – $0.62$ ).

**Table 2** Major sources of ICU conflict by type of conflict. (Totals for primary source categories do not sum to totals for team-family, intrateam, and intrafamily because primary sources within conflict types are not mutually exclusive. Percentages of secondary source categories may not sum to percentage total for the primary source category due to rounding)

	<i>n</i>	%
<b>Team-family (<i>n</i> =142)</b>		
Life-sustaining treatment	62	44
Family prefers more aggressive care than team	53	37
Team prefers more aggressive care than family	9	6
Poor communication	63	44
Problems comprehending prognosis/outcomes	27	19
Language-related difficulties	18	13
Other breakdowns in communication	18	13
Inability of decision maker/proxy	23	16
Uncertainty about patient's wishes	12	8
Indecisiveness/Inconsistency	11	8
Unavailability of decision maker/proxy	22	15
None identified	8	6
Not engaged	6	4
Geographically distant	8	6
Coping problems (e.g., anxiety, fear, anger)	22	15
Miscellaneous barriers to management	27	19
Religious/cultural	8	6
Patient uncooperative/difficult	8	6
Family's mistrust of clinicians	4	3
Interference from medically trained third party	3	2
Problems with patient's PCP	2	1
Conflict over hospital rules (e.g., visitation hours)	2	1
<b>Intrateam (<i>n</i>=76)</b>		
Life-sustaining treatment	5	7
Other disagreements about care plan	42	55
Pain management/sedation	7	9
Prognosis	4	5
Other	31	41
Poor communication	12	16
Among clinicians	9	12
With family	3	4
Lack of leadership	7	9
Lack of coordination	5	7
Miscellaneous	17	22
Exclusion from decision making (nurses)	7	9
Colleagues' responsiveness/availability	3	4
Patient's wishes	4	5
Supervisory issues (resident/intern vs. attending)	3	4
<b>Intrafamily (<i>n</i>=30)</b>		
Life sustaining treatment	17	57
Other decisions about care plan (i.e., non-LST)	11	37
Communication problems	4	13
Miscellaneous	8	27
Disagreement over appointment of guardian/proxy	3	10
Uncertainty about patient's wishes	2	7
Patient feels excluded	2	7
Internal animosities	1	3

## Detection

Table 3 details the detection of the main types of conflict by identifying clinician. Two general findings are apparent. First, nurses and physicians frequently held discordant views about whether a conflict existed in the care of a patient; there was consensus in only about one-quarter of conflicts overall. Second, nurses were more

likely to identify conflicts, regardless of their type or source.

The difference in the propensity of nurses and physicians to be the sole identifier of conflict ranged from twice as likely for team-family and intrafamily conflicts, to more than six times as likely in the case of intrateam conflicts. Nearly one-half (49%) of team-family conflicts were identified by a nurse alone. In particular, nurses

**Table 3** Team-family, intrateam, and intrafamily conflicts by identifying clinician. A conflict involved “paired” interviews if both nurse and physician interviews were completed for the spe-

cific stage (i.e., enrollment or follow-up) at which the conflict was identified. Twenty-three of the total conflicts were excluded from the pairwise comparisons because they did not meet this criterion

Type and general source of conflict	Conflict identified by nurse or physician in “paired” interviews	Identified by nurse only		Identified by physician only		Identified by nurse and physician	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Team-family***, a</b>	130	64	49	32	25	37	28
Life sustaining treatment	58	18	31	10	17	30	52
Inability of decision maker	22	12	55	5	23	5	23
Unavailability of decision maker**	22	17	77	5	23	0	0
Poor communication***	52	36	69	7	13	9	17
Coping problems	21	9	43	8	38	4	19
Miscellaneous	22	8	36	6	27	8	36
<b>Intrateam***</b>	67	44	66	7	10	16	24
Disagreements over care plan***	37	22	59	5	14	10	27
Poor communication**	12	9	75	0	0	3	25
Lack of leadership/coordination**	9	8	89	0	0	1	11
Miscellaneous*	17	11	65	3	18	3	18
<b>Intrafamily</b>	28	14	50	7	25	7	25
Life-sustaining treatment	16	7	44	5	31	4	25
Other	22	12	55	6	27	4	18

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$  in tests for difference in identification by nurses only and physicians only using two-tailed McNemar’s test  
 a The total in this row sums to greater than 100% because there were three team-family conflicts with multiple sources where one

of the three identifier categories (i.e., nurse only, physician only, nurse, and physician) noted source A, and another of the identifier categories noted source B

were significantly more likely than physicians to identify conflicts stemming from decision makers’ lack of availability of (77% vs. 23%,  $p = 0.02$ ) and communication problems with the patient’s family (69% vs. 13%,  $p < 0.001$ ). By contrast, consensus was relatively common (52%) for conflicts involving LST issues.

Nurses were significantly more likely to be alone in identifying intrateam conflicts from all sources (66% vs. 10%,  $p < 0.001$ ), including those arising from disagreements over the patient’s care plan (59% vs. 14%,  $p = 0.002$ ), poor communication (75% vs. 0%,  $p = 0.01$ ), and lack of leadership or coordination in the care team (89% vs. 0%,  $p = 0.03$ ). Finally, nurses identified intrafamily conflicts more frequently than physicians, although the differences were not statistically significant.

#### Predictors of team-family conflict

Multivariate regression analysis showed that female gender and marriage were independent factors associated with lower probability of team-family conflict (Table 4). Patients with spouses were 64% as likely as their unmarried counterparts to have team-family conflicts generally ( $p = 0.05$ ) and one-half as likely to have LST conflicts specifically ( $p = 0.02$ ). Patients with conflict also tended to have slightly higher SAPS II scores, lower TISS scores, and were more likely to be MICU pa-

tients [all team-family: odds ratio (OR)=1.80,  $p = 0.03$ ; LST: OR=2.70,  $p = 0.01$ ). In addition, multivariate comparisons showed a trend toward higher probability of LST conflicts at one particular hospital (OR=2.97,  $p = 0.06$ ).

#### Discussion

In this study of 656 patients with prolonged stay in seven ICUs we found that conflicts were common; clinicians reported the occurrence of at least one in the care of 1 in 3 patients. Nearly 60% of these conflicts pitted clinicians against family members. However, disagreements between other parties—namely, intrateam and intrafamily conflicts—also occurred frequently. Our findings imply that 1 in 5 long-stay patients has a team-family conflict associated with his or her care, 1 in 10 has an intrateam conflict, and 1 in 20 experiences intrafamily conflict. Within these three axes of dispute disagreement about LST was cited as a major source of conflict in one-third of all conflicts (44% of team-family, 7% of intrateam, 57% of intrafamily).

Previous studies of interpersonal conflicts in the ICU conflict have sprung largely from efforts to understand the dynamics of decision making at the end of life [5]. Consequently their focus has been on patients considered for limitations of care. For example, Smedira and col-

**Table 4** Multivariate predictors of team-family conflicts among long-stay ICU patients

Characteristics	Any team-family conflict (n=643 <sup>e</sup> )		Conflict over life-sustaining treatment (n=647) <sup>f</sup>	
	Odds ratio	95% CI	Odds ratio	95% CI
Female	1.55**	1.01–2.37	0.94	0.52–1.72
Married	0.64**	0.41–0.99	0.49**	0.26–0.91
Race <sup>b</sup>				
Black	– <sup>a</sup>	–	1.13	0.40–3.20
Other nonwhite	–	–	1.11	0.39–3.15
Age <sup>b</sup>				
<40 years	0.95	0.42–2.17	0.62	0.16–2.43
40–64 years	1.33	0.77–2.30	1.67	0.80–3.48
≥85 years	1.83	0.81–4.14	1.58	0.54–4.61
Insurance status <sup>b</sup>				
Medicare	1.29	0.76–2.18	1.24	0.60–2.54
Medicaid <sup>c</sup>	1.35	0.69–2.62	0.57	0.19–1.66
Religion <sup>b</sup>				
Catholic	1.12	0.63–1.99	0.66	0.31–1.40
Jewish	1.77	0.74–4.24	0.99	0.32–3.10
Other	1.22	0.57–2.61	0.86	0.32–2.32
Missing	2.26**	1.03–4.95	0.80	0.26–2.50
Acuity				
SAPS II score (mean)	1.03***	1.01–1.05	1.03***	1.01–1.06
TISS score (mean)	0.97**	0.95–0.99	0.97*	0.94–1.00
LST discussion <sup>d</sup>	2.30***	1.49–3.55	–	–
Health care proxy	–	–	1.45	0.81–2.61
MICU	1.80**	1.06–3.04	2.70**	1.24–5.90
Hospital <sup>b</sup>				
Site 1	0.64	0.34–1.21	1.29	0.53–3.15
Site 3	1.14	0.62–2.08	1.86	0.76–4.55
Site 4	1.37	0.65–2.89	2.97*	0.97–9.07

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ <sup>a</sup> Ellipses indicate that the variable did not qualify for inclusion in the model because  $p \geq 0.2$  in tests for differences in the unadjusted comparisons with one exception. Despite being significant in unadjusted comparisons the “LST discussion” variable was excluded from the LST model for conceptual reasons<sup>b</sup> Reference groups are white race, age 65–84 years, private insurance, Protestant religion, and site 2<sup>c</sup> Includes patients with dual eligibility for Medicare and Medicaid<sup>d</sup> Note in chart that an LST decision was discussed with patient<sup>e</sup> This total consists of 134 patients with and 509 patients without team-family conflicts. Eight patients with team-family conflicts dropped out of the analyses due to missing values<sup>f</sup> This total consists of 58 patients with and 589 patients without LST-related conflicts. Four with LST conflicts dropped out of the analyses due to missing values

leagues [19] and Prendergast and Luce [20] used measures of time taken by families to agree with a physician’s suggestion to limit care to estimate that disagreement occurs in approximately 3–9% of cases. In a national survey by Ash and colleagues [21] one-quarter of intensive care physicians reported unilaterally withholding LST on the basis of futility, and 3% did so over the objections of patients.

More recently two studies conducted in the ICUs of Duke University Medical Center measured conflicts more directly using interviews with clinicians and family members [11, 12]. They found much higher rates of team-family conflict: clinicians described conflict in 78% of patients considered for withdrawal or withholding of LST [11], and almost one-half of the families of these patients “looking back” on their relative’s stay reported conflict [12]. By contrast, we identified disputes over LST issues in 21% of all patients for whom there was documentation of a discussion of the possible need for a decision about LST. Although different methodologies make it difficult to compare the rates of LST con-

flict across studies, ours is larger than early estimates but substantially lower than the Duke estimates.

The major design difference between our study and previous ones is that we did not screen patients for analysis based strictly on their end-of-life decision-making status. We investigated conflict in a more general sample of ICU patients in order to consider a broader range of questions, in particular, how LST disputes fit within the context the full range of ICU disputes, how clinicians detect conflicts, and what patient characteristics predict conflict.

We found strong support for the first study hypothesis: sources of conflict other than LST decisions figured prominently, both as companions to disagreement over LST and as the bases of unrelated conflicts. Of the 62 team-family conflicts linked to LST issues 38 (61%) had companion sources of disagreement; the most common were communication (37%) and problems families had in comprehending the patient’s prognosis (26%); the next most common were cultural/religious differences (10%) and coping problems (8%). Conversely, approxi-

mately one-half of all team-family and intrafamily disputes and the vast majority of intrateam conflicts were not linked to disagreement over LST. Hence, investigations of ICU conflict that focus exclusively on patients facing end-of-life decisions miss an important set of flashpoints.

We also found support for our second study hypothesis: nurses identified team-family conflicts more frequently than physicians. The predominance of reports by nurses as the sole source of communication difficulties between clinicians and family members was particularly striking. The higher propensity of nurses than physicians to identify team-family and intrafamily conflicts may stem from their closer proximity to families' daily tribulations [22, 23]. Alternatively, it may reflect a greater sensitivity to disputes that are within the purview of all team members.

One limitation of our study is that we relied solely on clinician reports of conflicts and had no means of independently validating the events reported. Therefore it is not possible to conclude with authority that nurses over-report or that physicians underreport "actual" conflicts. Nonetheless, the importance of many conflicts to quality of patient care may hinge on their existence in the eye of the beholder.

The extensive literature on correlations of race with distrust and other interpersonal barriers to health care delivery [24, 25, 26] prompted our third hypothesis: ICU patients of minority race, particularly black patients, would be at higher risk of having team-family conflicts arise in their care than their white counterparts. On the other hand, we anticipated, as other commentators have [27], that the presence of an identified health care proxy and/or advance directives would reduce the probability of conflict. None of these hypothesized predictors of team-family conflicts were borne out in our results. The lack of connection that we observed between advance directives and conflict avoidance adds to a growing literature suggesting that the impact of advance directives on care is far more modest than proponents of this decision-making tool have assumed [27, 28, 29].

In multivariate analyses the strongest predictors of both team-family conflicts generally and LST disputes specifically were ICU type and the patient's marital status. The pacifying effect of marriage on team-family interactions may flow from behavioral patterns on both sides of the therapeutic relationship. The presence of a spouse may help other family members cope and may provide an important organizing influence on the family's choices about treatment. In addition, spouses can be expected to afford families a clear and easily identifiable spokesperson—one who is better informed and positioned to enunciate the patient's preferences than are surrogates for unmarried patients, even when those unmarried patients have designated proxies or advance direc-

tives in place. On the other side of the relationship, clinicians may be more responsive and deferential to spouses than to other family leaders. Clinicians may perceive the treatment preferences of spouses as much more authoritative than those of other family members or proxies, especially when it comes to decisions about LST, and may be less inclined to challenge or resist them.

Our study has several limitations. First, the construction of the study sample allows the generalization of our findings only to ICU patients with prolonged stay. Second, as noted above, the conflicts that we identified are based on reports by clinicians, not patient or family perspectives, an approach that almost certainly underestimates the frequency of intrafamily conflicts (and possibly also team-family conflicts). Third, we did not directly measure conflicts' severity or their precise impact on quality of care. Some conflicts may not have adversely affected the quality of patient care or familial relations; on the contrary, they may even be viewed in retrospect as positive events—unavoidable episodes in the maturation of a family's decision making, for example, or precursors to a breakthrough in comprehension and coping [13]. More finely tuned research is needed to delineate constructive conflicts from destructive ones.

Our findings highlight the integral importance of attention to conflicts in efforts to improve the quality of care for critically ill patients. Training such attention on team-family disagreements about LST, however, is an inappropriately narrow approach, both because it misses tensions in a variety of other areas, and because it overlooks some problems that compound LST conflicts themselves. Similarly, while most quality improvement initiatives have focused on reducing team-family conflicts, our findings suggest the need for attention to intra-team and intrafamily conflicts as well.

Screening for early warning signals among patients with prolonged stay may help to focus mediation [30, 31], ethics consultations [32, 33], and other creative strategies [4, 34], aimed at minimizing and diffusing conflicts in the ICU. Nurses' sensitivity to conflicts suggests that they could play an invaluable role in the early detection of impending disputes. However, with the exception of marital status, few markers of team-family conflict appear to be evident from general patient-level characteristics. Efforts to develop and refine any such surveillance system will therefore confront significant challenges.



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