

Perceptions of “futile care” among caregivers in intensive care units

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ABSTRACT

Background: Many caregivers in intensive care units (ICUs) feel that they sometimes provide inappropriate or excessive care, but little is known about their definition of “futile care” or how they attempt to limit its impact. We sought to explore how ICU staff define medically futile care, why they provide it and what strategies might promote a more effective use of ICU resources.

Methods: Using semi-structured interviews, we surveyed 14 physician directors, 16 nurse managers and 14 respiratory therapists from 16 ICUs across Ontario. We analyzed the transcripts using a modified grounded-theory approach.

Results: From the interviews, we generated a working definition of medically futile care to mean the use of considerable resources without a reasonable hope that the patient would recover to a state of relative independence or be interactive with his or her environment. Respondents felt that futile care was provided because of family demands, a lack of timely or skilled communication, or a lack of consensus among the treating team. Respondents said they were able to resolve cases of futile care most effectively by improving communication and by allowing time for families to accept the reality of the situation. Respondents felt that further efforts to limit futile care should focus on educating the public and health care professionals about the role of the ICU and about alternatives such as palliative care; mandating early and skilled discussion of resuscitation status; establishing guidelines for admission to the ICU; and providing legal and ethical support for physicians who encounter difficulties. There was a broad consistency in responses among all disciplines.

Interpretation: ICU physicians, nurses and respiratory therapists have similar and well-formed opinions about how to define and resolve medically futile care and where to focus future efforts to limit the impact of futile care in the ICU.

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The growing North American elderly population and the development of novel therapies for acute life-threatening illness has led to a large increase in the demand for intensive care unit (ICU) beds, at a rate that may soon exceed capacity.^{1,2} In Ontario, 2 recent studies have forecast a need for 80%–93% more ICU beds over the next 20 years.^{3,4}

The impending shortage of beds has given new urgency to an existing debate about “futile care” in the ICU. Many studies agree that cases of futile care account for a considerable proportion of ICU resources.^{5–9} One European survey found that 73% of respondents “frequently” admitted patients to the ICU with “no hope of survival for more than a few weeks,” even though only 33% felt that they should admit such patients.¹⁰ Another recent study found that 87% of physicians and 95% of nurses surveyed in Canadian ICUs felt that they had provided futile care at least once in the year before being surveyed.¹¹

Although many clinicians report providing futile treatment, there is no universally accepted definition of medically futile care. Moreover, despite the common use of the term in medical literature, few studies have explored how frontline ICU clinicians would define futile care. In addition, few studies have explored the reasons why clinicians continue to provide treatments that they feel are futile.

Through a qualitative approach using semi-structured interviews with ICU directors, nurse managers and respiratory therapists, we sought to explore how frontline ICU staff define medically futile care, to discover why they provide it and to identify strategies that might promote a more effective use of ICU resources.

Methods

Study design

We used a qualitative case-study methodology involving the collection and comparative analysis of detailed information about inappropriate or futile care and strategies used to avoid or limit it in academic and community hospitals selected from all 14 Local Health Integration Networks in Ontario. We used qualitative methods because they are appropriate when trying to understand complex social phenomena that occur in ICUs.¹²

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We randomly selected 16 ICUs from a total of 50 eligible ICUs in Ontario such that at least 1 from each Local Health Integration Network was included. Participating ICUs had to be either closed (patients are exclusively admitted under the care of trained intensivists) or semi-closed (some patients are not under the care of trained intensivists) and to have a minimum of 12 beds. These parameters were chosen to ensure that clinicians included in the study were specialists with more extensive experience in caring for critically ill patients.

The study was approved by the University Health Network Research Ethics Board.

Participants

We identified as key informants the medical director, nurse manager and senior respiratory therapist in each ICU by pur-

Box 1: Perceptions of medically futile care described by respondents working in intensive care units*

Common factors identified when describing a case of perceived inappropriate care

- Intubation and ventilator support
- Comorbidities
- Poor quality of life
- Bleak prognosis
- Pain and suffering
- Brain death or persistent vegetative state
- Prolonged stay in intensive care unit

Reasons given for why care was considered inappropriate or excessive

- Patient in dying process
- Patient had no “meaningful” quality of life
- Use of considerable resources to no benefit
- Pain and suffering

Reasons given for why inappropriate or excessive care is provided

- Demands of family or substitute decision-maker
- Lack of skilled and timely communication
- Lack of consensus among treating team

Reasons given for why families usually pursue inappropriate or excessive care against the advice of clinicians

- Cultural or religious reasons
- Lack of education or knowledge about critical care

Current strategies to avoid or limit medically futile care

- Communication
- Wait-and-see
- Paternalism
- Legal action

Suggestions for new strategies to avoid or limit medically futile care

- Education
- Early discussion of resuscitation status
- Guidelines for admission to intensive care unit
- Assistance of a clinical ethicist

*See Tables 1-5 for examples of these perceptions.

posive sampling. We sought their opinions because of their unique roles and experience in the ICU setting. We continued interviewing until no new information was being identified (conceptual saturation), as long as each Local Health Integration Network was represented.

Interview

Interviews lasted about 30–40 minutes and were semi-structured according to a guide that was developed using relevant literature (Appendix 1). All interviews were conducted by a critical care fellow or an ICU-based researcher. The first 6 interviews were conducted by both interviewers together to ensure similar approaches. About one-third of interviews were conducted face to face and the other two-thirds by telephone. Interviews were recorded, transcribed verbatim and analyzed using a modified grounded-theory approach.¹³ Preliminary coding categories were derived from the interview template but refined to take into account issues raised by study participants. Since grounded theory emphasizes continual comparison and emergence, these categories were subject to change throughout the analysis. Analysis was done concurrently with ongoing data collection. Two of us (R.S. and J.D.) coded the data independently and reviewed each other’s coding; the third investigator (L.H.) also reviewed the coding. All 3 of us reached consensus.

Since our study’s objective was to describe medically futile care as defined by the participants, we did not prescribe a definition of futile care a priori, and we consciously avoided introducing the term “futility” or “futile care” during interviews. Instead, we asked participants about their experiences with ICU cases in which they had provided care that was “inappropriate because it was excessive,” and we referred to such cases as “cases of perceived inappropriate care.” In the end, almost every participant introduced the concept of “futility” or “futile care” himself or herself and spent the remainder of the interview referring to it.

Results

Of the 16 randomly selected ICUs, 10 were situated in community hospitals and 6 in teaching hospitals. Fourteen were closed units, and 2 were semi-closed units. Participating ICUs included units in both rural and urban settings and cared for a broad range of patients (e.g., medical–surgical, transplant, trauma, neurosurgical and cardiovascular surgical patients).

All of the key informants we identified agreed to participate in the study. In total, we interviewed 14 medical directors, 16 nurse managers and 14 respiratory therapists. In all but 1 of the Local Health Integration Networks, we interviewed a physician director, a nurse manager and a respiratory therapist. Two medical directors and 2 respiratory therapists were invited to participate but were not interviewed in time to have their responses included in the data.

Although participants reported different cases, causes and solutions for futile care, many common themes emerged, and no themes were contradictory to others. We could not find any obvious association between the role of the respondent and the type of responses they provided.

Definition of medically futile care

Participants identified a number of common factors when describing cases of perceived inappropriate care (Box 1). These factors included ventilator support, comorbidities (ranging from chronic multiple-organ failure, commonly renal and cardiac, to terminal conditions such as cancer and amyotrophic lateral sclerosis), poor quality of life even in the event of survival from the immediate crisis, and an overall bleak prognosis. Many patients were described as “suffering,” and participants often felt that they were “just extending a painful life.”

Many cases of perceived inappropriate care involved a prolonged length of stay in the ICU, which was often months and in some cases more than a year. However, participants did acknowledge that patients would occasionally make full recoveries after long stays. Thus, participants felt that a long length of stay by itself did not make care inappropriate.

Once participants described a case of perceived inappropriate care they had been involved in, we asked them to analyze the case and explain why they felt that the level of care they described was excessive or inappropriate (Box 1, Table 1). Most of the explanations involved concepts that they had already discussed when describing the case, but many participants also cited the use of considerable resources without benefit to the patient.

Based on these cases and explanations, our data analysis suggested that a working definition of medically futile care would involve the use of considerable resources without a reasonable hope that the patient would recover to a state of relative independence or be interactive with their environment. Pain and suffering would not be essential to the definition, but they make cases of futility particularly distressing to health care workers.

Reasons why medically futile care is provided

When participants were asked to explain why patients receive inappropriate or excessive care, 3 common themes emerged (Box 1, Table 2). Most of the participants felt that futile care is often given at the insistence of the patient’s family or substitute decision-maker. They said that, in

some cases, these people directed care to an amazing degree, usually against the advice of the treating team, and sometimes even against the previously expressed wishes of the patient. When participants were asked why they follow the instructions of families or substitute decision-makers instead of doing what they feel is appropriate, almost all cited a lack of legal support.

Another common theme that emerged was a lack of skilled and timely communication. This leads to a situation in which life support is initiated because the treating physician does not have adequate information or time to discuss life support with the patient or substitute decision-maker before having to initiate it. Some participants said that this was a serious problem because it is more difficult for them to withdraw life support than to withhold it. The most frequent example cited by participants was that of a patient who presents with a complication of end-stage disease (e.g., pneumonia associated with widely metastatic cancer). By the time the ICU team is called to assess the case, the patient is at the point of death and requires immediate resuscitation; therefore, there is no time to discuss the prognosis of disease or present alternative treatment options such as palliative care.

Table 2: Examples of participants’ reasons why inappropriate or excessive care is provided in the intensive care unit

Theme	Comments
Demands of family or substitute decision-maker	<p>“The family insisted that we push vitamin C into this patient because they read it on the Internet. ... The team ... they pushed vitamin C into this patient.” – RT</p> <p>“The patient verbalized that they did not want to be intubated. ... All of a sudden [they] become unconscious and the family has different ideas.” – RT</p>
<i>Fear of legal outcomes*</i>	<p>“[T]he safest thing was to err on the side of the family, who felt we should continue [treatment even when] the medical staff uniformly felt it was not appropriate. It was the safest [plan of action] from a medical-legal perspective.” – MD</p> <p>“Right now a lot of the physicians perceive that the medical-legal environment is stacked against them.” – MD</p>
Lack of skilled and timely communication	<p>“[For] a patient [who] comes in with a complication related to their metastatic cancer and nobody’s discussed their code status, we respond to a pre-arrest or an arrest. You don’t have either the information or the time, and so you have to err on the side of resuscitating.” – MD</p>
Lack of consensus among treating team	<p>“[Our oncologists are] very upbeat [and tell patients] ‘you’re gonna make it’ ... so when [patients] end up in the ICU, they don’t trust the physician that comes to them and says ... you’ve got a very short time to live so we need to make some decisions. ... I don’t find that our oncologists are truly supportive to come in and say ... ‘I agree with this intensivist’.” – RN</p>

*This is a subtheme of “Demands of family or substitute decision-maker.”

Table 1: Examples of participants’ descriptions of inappropriate or excessive care provided in the intensive care unit

Theme	Comments
Cognition	<p>“My perception of an unacceptable outcome is a patient who cannot relate to the environment in a meaningful manner.” – MD</p> <p>“I think when ... the patient can’t interact, [and] all their activities of daily living are dependent upon others, they don’t meaningfully interact with their environment, then I think providing life support is futile.” – MD</p>
Use of resources	<p>“I often worry about the amount of resources we’re spending on patients and the number of patient-days that are consumed for poor outcomes and who’s been denied care.” – RN</p>

A final common theme that participants mentioned was a lack of consensus among the treating team, particularly the medical staff. Participants felt that in most cases one physician would push for futile care because he or she was looking only at a small aspect of the patient's overall condition.

Reasons why families pursue futile care against the advice of clinicians

Participants felt that patients and families usually pursue futile care against the advice of physicians for 1 of 2 reasons: cultural or religious reasons; and lack of education or knowledge about critical care (Box 1, Table 3). Participants explained that in some cases people felt compelled from a cultural or religious standpoint to insist that absolutely everything be done, regardless of their own judgment. Others commented on cases in which the family's religion did not accept certain medical definitions. Participants also felt that many families do not understand the reality, complications and limitations of ICU care, which leads them to pursue inappropriate or excessive care against the advice of the treating team.

Current strategies used to avoid or limit medically futile care

Participants described strategies for avoiding or limiting medically futile care that fell into 4 broad categories (Box 1, Table 4). The most common approach was to improve communication between the family or substitute decision-maker and the care team by organizing early and regular family meetings. Participants felt that this is critical to establishing a rapport, informing the family of the clinicians' opinions and answering any questions that the family may have. Many emphasized the importance of multidisciplinary representation (including physicians, nurses, respiratory therapists, ethicists and spiritual care counsellors) and consistency of message.

A particularly effective strategy was felt to be the implementation of "rapid response teams." Participants said that these teams could help to stabilize sick patients on the ward so that they do not need ICU care and could communicate with patients and their families before the patients become too sick to participate in decision-making. Participants felt

Table 3: Examples of participants' reasons why inappropriate or excessive care is provided against the advice of the physician

Theme	Comments
Cultural or religious reasons	"[The ethicist] explained to us that the son could never agree to withdrawing care on the father. ... His role as a son is to preserve his father's life." – MD "A family said their religion ... does not adhere to the definition of brain dead, that God created the machines and it is the machines that are keeping the heart." – MD
Lack of education or knowledge about critical care	"I think part of the trouble is that the family is not aware of all the measures that are involved, for example, bed sores perhaps, or oral care, lines, infections." – RN

that such timely discussions were very useful in avoiding cases of perceived inappropriate care.

Another approach participants identified was to wait a day or 2 before asking the family whether to continue or withdraw ICU care. This wait-and-see strategy allows a trial of therapy to assess whether ICU interventions are effective, or it simply allows time for a family to accept the reality of the situation before making an important decision. Participants felt that this strategy made subsequent decisions easier for the family or substitute decision-maker.

A third approach was strong paternalism. Some of the participants said that making the decision for the family or refusing to accede to a family's demands was the best way to prevent futile care.

A very small number of participants described the approach of taking legal recourse to remove the authority of the family or substitute decision-maker for a patient's care. Those who mentioned this approach said that it was used when all other strategies failed to resolve the issue and the family fought the physician's decision (usually to not escalate care).

Suggestions for new strategies to avoid or limit medically futile care

Participants' suggestions for new strategies to avoid or limit futile care fell into 4 broad categories (Box 1, Table 5). Respondents unanimously felt that education of the general public, patients, their substitute decision-makers and health care practitioners was the first step. Many participants felt that the current crisis in ICU resources is due in large part to unrealistic expectations by the general public. They suggested that public education should focus on the role and limitations of the ICU and the option of palliative care.

Some of the participants suggested that a pamphlet be available for patients and their substitute decision-makers that discusses a range of topics, including a definition of criti-

Table 4: Examples of current strategies used by participants to avoid or limit medically futile care in the intensive care unit

Theme	Comment
Communication	"We try to have a family meeting within 24 hours of every patient being admitted so at least there's a baseline introduction with physicians and families and then follow-up from there." – RN "Rapid care response teams allow the discussion of treatment options by experts before treatment gets escalated." – MD
Wait-and-see	"A lot of times when a patient [with a poor prognosis] comes into the intensive care ... you can't expect that family to make a decision on the first day. Give them 3 days and you'll find that they start to [understand the realities of the ICU and the prognosis]." – RT
Paternalism	"[I say that] I can't escalate treatment anymore. ... Sometimes I just tell families that [cardiorespiratory resuscitation] in this case will not be of any benefit and we're not going to provide it." – MD

cal care, limitations of the ICU, and rates of death following admission to the ICU. Participants also suggested that health care providers receive additional education about how to conduct end-of-life discussions with patients and their substitute decision-makers. They also suggested that health care professionals need to explain that there are alternatives to the ICU that may be more appropriate.

Many of the participants felt that health care professionals should discuss resuscitation status with their patients before they ever enter a hospital, for example during regular check-ups with their family practitioners. Others felt that the staff physician should routinely address resuscitation status at the time of hospital admission.

Most of the participants expressed the view that admission to the ICU should not necessarily be offered to every patient who wants it. Some suggested that individual physicians ought to be the ultimate arbiters of care, deciding who should and should not be admitted, and sometimes deciding when care should be withdrawn. Others suggested that system-wide admission criteria would be an appropriate way to decide when a patient should be admitted to the ICU, thus avoiding arbitrariness or inconsistency. Such admission criteria would be ethically comparable to those used to allocate other finite resources, such as transplanted organs.

Some of the participants suggested that the assistance of a clinical ethicist might be useful for avoiding care perceived to be inappropriate or excessive. Some simply wanted a dedicated ethicist in their hospital, whereas others suggested greater involvement of ethics committees, ethicist support at rounds or ethical guidelines.

Interpretation

Based on the common themes identified by the participants, we generated a working definition of medically futile care to mean the use of considerable resources without a reasonable hope that the patient would recover to a state of relative independence or be interactive with their environment. We did not attempt to generate a consensus definition of futile care because we felt that the effort itself would have been futile in view of prior unsuccessful attempts by others in the medical literature.¹⁴ Still, this working definition is similar to a controversial definition suggested by Schneiderman and colleagues,¹⁵ in that there must be a reasonable chance (e.g., 1%) of benefit and that the patient must be expected to regain a minimal degree of independence for a treatment not to be deemed futile. Our working definition also incorporates the concept of “considerable resources.” The scarcity of such resources is a major driver behind the futility debate.

Our working definition is by necessity vague, failing to quantify “considerable resources” or “reasonable hope” and failing to specify how to determine “relative independence.” Previous investigators have been unable to establish a universally accepted threshold for futility,¹⁴⁻¹⁸ and physicians cannot predict the probability of success for an individual patient with any precision.^{19,20} Predictive models such as the APACHE III system are useful in large populations, but they are not intended to predict an individual’s risk of death,²¹ and there are no validated prediction tools for functional outcome in elderly patients following ICU admission.²² It is pointless to include precise parameters in the definition when nobody can

Table 5: Examples of participants’ suggestions for new strategies to avoid or limit medically futile care in the intensive care unit

Theme	Comments
Education	<p>“The problem with our capacity is not infrastructure or a lack of mechanical ventilators or beds, it’s the completely unrealistic expectations of the population. We just have acquiesced [to] whatever [the public demands].” – MD</p> <p>“People who are faced with critical care interventions ... don’t understand the burden and ... the potential benefits.” – MD</p> <p>“I visited 4 ICUs, I’ve seen brochures in the ICU waiting room. I searched each one for the word ‘death’ or ‘mortality’ ... [and it wasn’t there].” – RN</p> <p>“[S]ometimes the discussion is: Do you want to have everything done or not? The alternative to doing everything is often left blank.” – MD</p>
Early discussion of resuscitation status	<p>“People in our community who should have end-of-life discussions with their caregivers and their families never do, and so you’re always having these discussions in a crisis.” – MD</p>
Guidelines for admission to intensive care unit	<p>“I mean they’re professionals, they’ve been to school for many years. I’m not saying that ... there shouldn’t be an opportunity for dialogue ... but I do think that they should ultimately be able to decide from a medical standpoint how the patient should be treated.” – RN</p> <p>“We have to have standardized exclusion criteria for ICU patients that is upheld province-wide... . And we [make this sort of judgment] all the time... . [For example, if] we have a patient who ... has a cardiomyopathy, [and] if they’re 75 years old ... they’re not gonna get a heart [transplant]... . The bottom line is that ... there has to be exclusion criteria for a finite resource.” – MD</p> <p>“Most people would agree that we ... probably shouldn’t give a heart transplant to someone who’s in the last year of their life. And I would argue that we shouldn’t provide [critical care] for someone who’s in the last year of their life.” – MD</p>
Assistance of a clinical ethicist	<p>“I think ... we need guidelines around the ... more complex cases where the patient’s wishes and the family’s wishes are different.” – RT</p>

predict an individual's outcome with comparable precision.

Most of the participants in our study reported that pressures from families or substitute decision-makers were a driving force for the provision of medically futile care. This finding echoes that of previous studies that cited either cultural and religious reasons^{23,24} or a lack of knowledge about the ICU and resuscitation¹¹ for such pressure. Lack of knowledge about the ICU and resuscitation was shown clearly in a survey by Heyland and colleagues,²⁵ who found that only 11% of seriously ill patients and their families could name more than 2 components of cardiopulmonary resuscitation and less than 3% had an accurate knowledge of outcomes of cardiopulmonary resuscitation.²⁵ Participants in our study stressed the importance of educating the public and health care professionals alike about the role and limitations of the ICU and about the alternatives to ICU care (e.g., palliative care).

Many of the participants felt that there should be a mandatory discussion of resuscitation status each time a patient is admitted to hospital. This may not be an easy task. In the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment (SUPPORT), the investigators showed that, even after US law mandated the discussion of resuscitation status at the time of admission and staff were provided specifically to ensure that this would happen, there was no increase in the rates of documented discussions or do-not-resuscitate orders for patients who wanted to forego resuscitation, and no decrease in the number of attempted resuscitations at the time of death.²⁶

There are barriers to resuscitation discussions on both sides. Previous studies have shown that 37%–58% of seriously ill patients do not wish to discuss their preferences for resuscitation,^{25,27} and many physicians are too busy or feel uncomfortable raising the subject.²⁸ Therefore, these discussions generally do not take place in a timely manner.^{29–32} As a result, many terminally ill patients receive care that is not consistent with their wishes, and many are admitted to the ICU without a proper discussion of the alternatives (e.g., palliative care),^{31,33,34} which leads to patient dissatisfaction and increased use of ICU resources.^{35,36}

This underscores the need for skill and delicacy whenever a physician discusses goals of care. Previous studies have suggested that improved communication would have a profound impact on patient and family satisfaction.^{25,37} Many of the participants in our study commented that health care professionals should receive specific training on discussing resuscitation status or end-of-life decision-making. Effective communication interventions have been published previously.^{38–40}

Many of the participants also felt that physicians are a driving element behind futile care, particularly when there is disagreement among team members about the futility of care. This echoes other recent survey results that suggest that physicians who are uncertain¹¹ or unrealistic²⁸ about a patient's prognosis may insist on providing care that other members of the team feel is futile. The reasons for this disagreement are sometimes ascribed to the role of the team member. Often nurses and residents have been found to be more pessimistic about dignity and quality of death than attending physicians and family members,⁴¹ which potentially leads to career-

ending moral distress.^{42–44} Nurses have also been found in general to be less satisfied with end-of-life decision-making than physicians^{42,45,46} and are often the first team members to feel that life-support should be withdrawn,^{19,47–49} which can lead to conflict with physicians.⁵⁰ Nevertheless, nurses may predict mortality more accurately than physicians,¹⁹ and physicians frequently offer treatment that does not reflect the poor prognosis of seriously ill patients.⁵¹

In cases of true prognostic uncertainty, a trial of ICU therapy may be warranted. Many of the participants suggested this wait-and-see strategy. Some cases of futility become apparent only after several days in the ICU,¹¹ and observational studies have shown that clinical deterioration or improvement during the first 72 hours is a strong predictor of outcome in severely ill patients admitted to the ICU.⁵² This waiting period also gives families and substitute decision-makers an opportunity to understand the reality of ICU treatment, and perhaps accept a grim prognosis.

Many of the participants supported the establishment of guidelines for admission to the ICU. Such guidelines would be based on the idea of resource rationing^{53,54} and hence the ethical principle of justice. In Canada, ICU admission guidelines have been proposed for future crisis situations (e.g., terrorist attack, influenza pandemic) but are currently not in use.

Some of the participants suggested that the rationing and selective allocation of ICU resources would be ethically comparable to the selective allocation of donated organs — another finite resource. Organs are allocated on the basis of need, but also on the basis of likelihood of benefit. Patients with multiple comorbidities, poor functional status or advanced age are typically refused organs on the basis of minimal benefit.

Most of the respondents expressed a desire for better legal and ethical support when dealing with cases of futility. The Canadian Critical Care Society supports withholding life support in cases of medical futility,⁵⁵ but there is very little case law to guide decision-making in the face of opposition by patients or their substitute decision-makers. There is currently no legal precedent in Canada for withholding or withdrawing life support against the wishes of a competent patient if continuing such treatment would fall under the accepted standard of care. Since there is currently no clear consensus regarding what constitutes medically futile care in the ICU setting, clinicians have no clear standard of care to help guide their decision-making. Without a standard of care, unilateral withdrawal or withholding of life support can be challenged according to the policies of the provincial colleges of physicians and surgeons, civil and criminal law, and even the Canadian Charter of Rights and Freedoms. Legal precedence in the United States is similarly vague.⁵⁶ Thus, any physician who faces truly intractable opposition from a patient or substitute decision-maker in a case of futility should seek immediate legal assistance before embarking on a unilateral course of action. The best solution is always to achieve consensus, and ethical consultation may be helpful in resolving cases of seemingly intractable conflict.^{57–59}

We identified a number of common themes expressed by the participants from all 3 professions. We could not identify

any obvious association between the role of the participant as and the type of responses he or she provided. We did not seek unanimous approval for any of the responses given, but no participant expressed ideas that were contrary to those of another participant. Palda and colleagues¹¹ found similar concordance in responses from physicians and nurses.

The main limitation of our study is that it may not be generalizable to other ICUs or ICU staff. Although we interviewed staff from a broad range of ICU practices, the experiences and opinions of Ontario ICU staff may differ from those of ICU staff in other regions. Also, because of their administrative duties, physicians who are ICU medical directors may have perspectives that differ slightly from those of other professionals in the same role. In the case of nurse managers, their current position may or may not be considered frontline, despite their previous bedside nursing experience. Finally, it was difficult to identify any differences in opinion among ICUs since the maximum number of participants from each ICU was 3 individuals. Despite these limitations we feel that the experience and seniority of our participants adds a considerable contribution to the literature.

In summary, frontline ICU physicians, nurses and respiratory therapists in Ontario have similar and well-formed opinions about how to define and resolve medically futile care and where to focus future efforts to limit the impact of futile care in the ICU. As the need for critical care beds increases, their input will be invaluable to ensure effective use of this scarce and finite resource.

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Appendix 1: Questions asked during semi-structured interviews with participating intensive care unit (ICU) staff

- Describe a case where you believe that the treatment given was not appropriate because it was excessive. What was it about the case that made ICU care inappropriate?
- Describe what circumstances you believe led the care team to deliver inappropriate levels of care?
- What is a good outcome for patients in the ICU? What is a bad outcome?
- What strategies do you currently use to deter or resolve cases of inappropriate care? How effective are they?
- If you could change hospital or public policy, or legislation, what would you do to deter inappropriate care?

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