Empirical Paper

Exploring inappropriate levels of care in intensive care

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Abstract

Background: Levels of care deemed as inappropriate generate moral distress among nurses and other intensive care professionals. Inappropriate levels of care and related moral distress are frequently broached as individual and psychological phenomena, reduced to how individuals feel and think about specific cases. However, this tends to obscure the complex context in which these situations occur, and on which healthcare professionals can act. There is thus a need for a more contextual and team-level lens on inappropriate levels of care.

Research objective: This study aims to explore and understand the issue of inappropriate levels of care in an intensive care unit (ICU) through a contextual and team-level lens.

Research design: Semi-structured interviews were conducted with nurses, respiratory therapists, and intensivists. Thematic analysis focused on understanding the causes and consequences of inappropriate levels of care, as well as potential avenues for improvement. This study is part of a 5-phase participatory living lab project on inappropriate levels of care conducted in the ICU of a Montreal (Quebec, Canada) hospital. This paper relates the initial phases of the project, focusing on understanding the issue, with reported events spanning from June 2022 to May 2023.

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Ethical considerations: Ethics approval was sought and granted by the Research Ethics Board of the CIUSSS de l'Est-de-l'Île-de-Montréal.
Findings/Discussion: Five broad themes intrinsically related to the phenomenon of inappropriate levels of care were explored with and by participants: (1) the process of determining levels of care, (2) the distinction between appropriate and inappropriate levels of care, (3) causes of inappropriate levels of care, (4) consequences of inappropriate levels of care and (5) potential avenues for improvement.
Conclusion: This research provides a comprehensive understanding of inappropriate levels of care in the ICU and emphasizes the relevance of team-level explorations of complex ethical issues.

Keywords
Intensive care, inappropriate levels of care, ethics, moral distress, nursing, living lab

Introduction

The intensive care unit (ICU) is a unique and complex healthcare environment, one of the most technology-oriented in healthcare. This area of healthcare is not only one where lives are continuously at stake but also where discussions routinely surface about the meaning of prolonging life-supporting care. This unavoidably leads to difficult questions about appropriate levels of care and the use of scarce resources, within the pressurized context of limited time and high workload.

Background

We know from previous studies and reviews that levels of care deemed as inappropriate[1], that is, levels of care perceived as potentially non-beneficial or harmful, is an ongoing concern in intensive care.[1,2] In fact, in a 2005 study involving 200 Canadian hospitals, 87% of intensivists and 95% of nurses reported that futile care had been administered in their ICUs in the previous year.[3] Inappropriate levels of care are thus a vexing ethical and professional issue that can generate moral distress among nurses and other ICU healthcare professionals.[4–6]

Moral distress can be defined as the psychological distress experienced by individuals when they face a moral event that challenges their ethical values.[7–9] Moral distress not only affects the mental health of healthcare professionals, but also compromises the integrity of healthcare systems, driving some to leave the profession altogether.[10,11] Inappropriate levels of care and related moral distress are frequently broached as individual and psychological phenomena, reduced to how individuals feel and think about specific cases. Consider, for instance, the individual measures offered to healthcare professionals (e.g., psychological counseling) to help overcome work-related difficulties. However, approaching inappropriate levels of care and related moral distress as individual problems tends to obscure the complex context in which these situations occur, and on which healthcare professionals can act. There is thus a need for a more contextual and team-level lens on inappropriate levels of care to obtain a more holistic and empowering understanding of this issue. As explained below, the jurisdiction in which this study was undertaken (Quebec) has a process and publicly available tool available to support individuals in making decisions regarding levels of care with healthcare professionals. However, despite years of existence, these fall short of fully capturing "appropriate" levels of care and addressing the concerns of ICU nurses and other healthcare professionals in their daily practice.

Research objective

We initiated a 5-phase participatory living lab project on inappropriate levels of care in the ICU. We explored this issue within the context of interrelated institutional culture and interpersonal relationships among patients, their relatives, and healthcare providers. Living labs are a set of innovation-oriented participatory methodologies which encourage the understanding of problems as they occur and the participatory exploration of solutions with interested parties.[12,13] This paper specifically relates the initial phases of the project, which aimed to explore and understand the issue of inappropriate levels of care in the ICU through a contextual and team-level lens. Subsequent phases of the living lab experiment will involve co-developing and experimenting targeted interventions to address the issue.[13]

Research design

The project took place in the ICU of a Montreal (Quebec, Canada) hospital.[13] The reported events occurred from June 2022 to May 2023.

Collaborative process with ICU actors. In the initial 7 months of the project, a project team consisting of key intensive care actors (the chief of nursing (VM succeeded by ACSA), the chief of respiratory therapists (EV), a nursing advisor (LR) and an intensivist (SA)) was formed to support the study. This collaboration facilitated subsequent consultative meetings with the ICU team (nurses, respiratory therapists, and intensivists). These meetings were meant to determine the study's topic, which turned out to be inappropriate levels of care in the ICU. A detailed research protocol was subsequently developed, for which ethics approval was sought and granted (see the "Ethical considerations" section).

Recruitment process. Over the subsequent 4 months, participants were solicited through poster announcements and in-person presentations from the research team. Interested participants contacted the research coordinator (BD) for a brief in-person or phone meeting to obtain more information, consent to participate, and schedule the interview. Consent included approval for audio-recorded interviews, anonymous publication of interview data, as well as a 50$ compensation post-interview.

Interview process. Semi-structured interviews were conducted in French, in person or by phone, on a rolling basis between January and April 2023 as the research coordinator recruited participants. Interviews, typically lasting 35 to 80 min, were audio-recorded and then sent to a professional service for verbatim transcription.

Interview guide. Two initial interview guides were developed by the research coordinator and the principal investigator (ER). There was one for nurses and respiratory therapists, and another for intensivists to adapt the wording of the questions based on the participants' specific professional roles. The guides began with an explanation of the context and objective of the study, which was followed by 26 to 36 open-ended questions regarding various aspects of inappropriate levels of care (see Table 1).

Both interview guides were further refined throughout the data collection phase by the research coordinator and the research assistant who were conducting the interviews following approval by the principal investigator.

We implemented several measures to foster confidentiality of participants during the research process. We interacted individually (via phone calls or emails) with participants for the recruitment and data collection. We also offered participants the option of conducting interviews either in person at the hospital or via telephone to enhance privacy. To ensure anonymity, each participant was assigned to a specific pseudonym. All identifiable data were securely stored in password-protected files, accessible only by designated team members.

Table 1. Main topics of interview questionnaires.[a]

Reasons for participating in the study
Conceptualization of levels of care
Process for determining levels of care
Appropriate vs. inappropriate levels of care
Experiences of inappropriate levels of care
Factors contributing to inappropriate levels of care
Impacts of inappropriate levels of care on patients
Impacts of inappropriate levels of care on self and job satisfaction
Impacts of inappropriate levels of care on the team
Impacts of disagreements over levels of care on the care relationship
Impacts of disagreements over levels of care on teamwork
Ease of discussing disagreements over levels of care
Communication with the team about levels of care
Desire for change

[a]Please see online version of full interview questionnaires.

Transcripts of interviews and institutional files were labeled with the corresponding pseudonyms, and any details that could potentially identify participants were carefully removed from the transcripts.

Data analysis & validation. The data analysis process was inspired by basic principles of thematic analysis[14] and relied on both deductive and inductive coding strategies. In view of our aim to generate an understanding of inappropriate levels of care which could set the stage for subsequent steps of the living lab experiment, we explored causes, consequences, and avenues for improvement in coding and analyzing the interviews, following the principles of instrumentalist concept analysis[2,15]. We also approached this topic with an eye to moral distress—a consequence well documented in the literature.[1,2,4,5,16–19]

Interview transcripts were first read by the research coordinator and the principal investigator. An initial coding guide was iteratively developed and pilot-tested on a subset of interviews, using the MAXQDA qualitative data analysis software, by the research coordinator, research assistant, and principal investigator. This initial coding guide was then refined through coding tests, meetings with the research team and the project team, as well as through an exploration of the literature on levels of care and moral distress in ICUs. Instances of disagreement between coders were presented to the principal investigator for discussion and arbitration. This coding process led to a final coding guide comprising 30 codes and subcodes (see Table 2). These were collated into 5 overarching themes capturing important elements of the research topic. Each interview underwent an initial coding round by either the research coordinator or the research assistant, followed by a second coding round by both, to ensure consistency in code application.

To help sort the different codes into themes and visually represent the findings in a holistic manner, we adopted both an interpretive (*verstehen*) as well as a more explanatory (*erklären*) orientation,[20,21] which resulted in the development of two figures. Figure 1 illustrates the interpretive ecosystem of inappropriate levels of care, namely, the 5 main themes that were explored with and by participants. These themes were carefully selected during the analysis process as intrinsically linked and inseparable dimensions that must be considered to fully grasp the phenomenon of inappropriate levels of care. In Figure 2, we aimed to generate an emerging explanation of the phenomenon to grasp potential causal pathways between its dimensions. These orientations thus offer two complementary lenses to organize and portray the results.

Table 2. Coding guide.

Codes	Subcodes
Motives for participating in the research project	None
Appropriate level of care	Definition
	Example
Inappropriate level of care	Definition
	Example
	Frequency
Process for determining levels of care	Clinical form
	Patients' role
	Relatives' role
	Intensivists' role
	Nurses and respiratory therapists' role
Causes of inappropriate levels of care	Emotional shock or unreasonable expectations
	Fear of legal prosecution
	Interventionist healthcare culture
	Uncertainty
	Difficult communication
	Physician's mode of remuneration
	Levels of care hastily determined
Consequences of inappropriate levels of care	On patients
	On patients' relatives
	On the team
	On the care relationship
	On the healthcare system
Communication between the team	None
Potential avenues for improvement	None

After analyzing the data, the results were shared with both the project team and ICU members through concise presentations. The aim was to validate whether these findings resonated with their perspectives and experiences. Feedback from those consulted indicated no necessity for adjustments to the data analysis. During those presentations, participants' identity remained undisclosed, and we took extra precautions to "disguise" the latter when potentially identifiable information was disclosed (e.g., unique job-related features, distinct gender).

Regarding the presentation of data in this article, cited excerpts of interviews were translated by a bilingual member of the team (BD) and validated by another bilingual member (ER). Participants are identified correspondingly to their profession.

Ethical considerations

Ethics approval was sought and granted by the Research Ethics Board of the CIUSSS de l'Est-de-l'Île-de-Montréal (approval no. 2023-3229). Informed consent was fostered by providing participants with information about the study prior to their consent through posters, presentations, a detailed consent form, and an individual meeting with the research coordinator. Participants were informed that participating in the study was voluntary and that they could withdraw their participation at any time without explanation. Participant confidentiality was ensured by using pseudonyms, securely storing all identifiable data, offering interview options that allow privacy, and removing identifying details from transcripts and quotes.

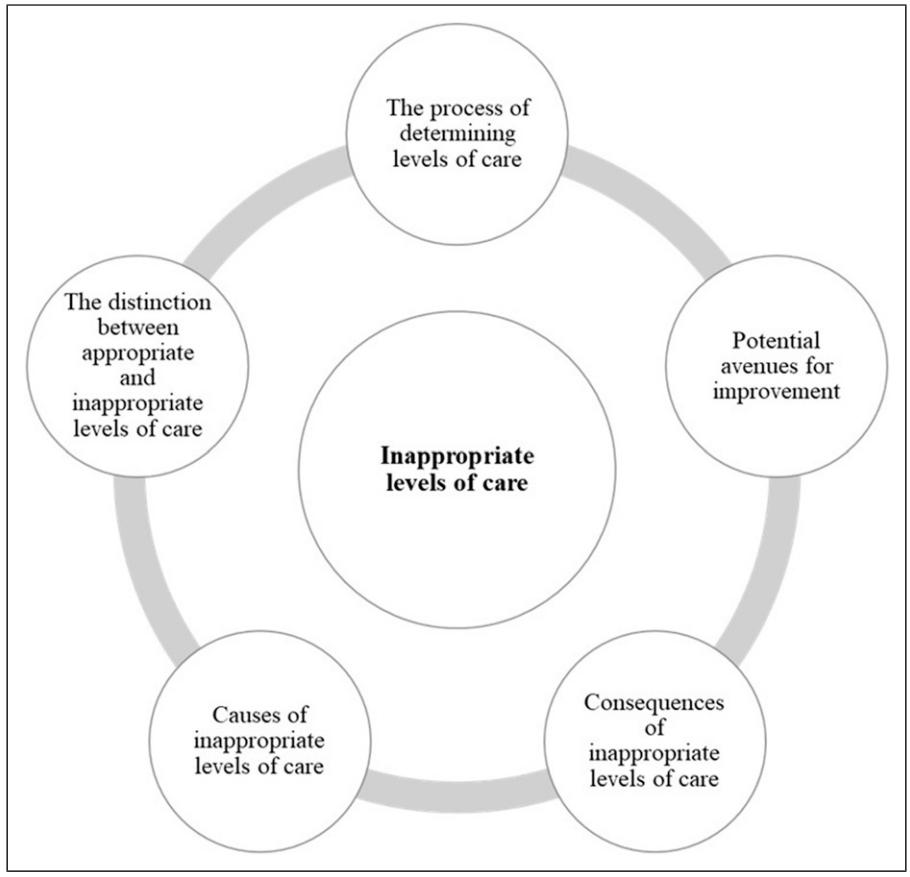

Figure 1. Interpretive ecosystem of inappropriate levels of care.

Findings

Among the hospital's entire intensive care team, 15 intensive care professionals took part in a semi-structured interview: 9 nurses, 3 respiratory therapists and 3 intensivists. A variety of reasons prompted participants to take part in the project. First, the issue of inappropriate levels of care was seen as a major concern. There are often disagreements about what constitutes appropriate care not only between patients, their relatives, and the clinical team, but also among members of the clinical team themselves. In addition, the fear of becoming desensitized to such situations as well as an interest in the ethical dimensions of intensive care work were other incentives reported. Importantly, participating in this project was seen as an opportunity to express one's views and bring about change, as one nurse commented: "Your research project was my power to have a say."

Overview of findings

As illustrated in Figure 1, five broad themes intrinsically related to the phenomenon of inappropriate levels of care were explored with and by participants: the process of determining levels of care, the distinction between

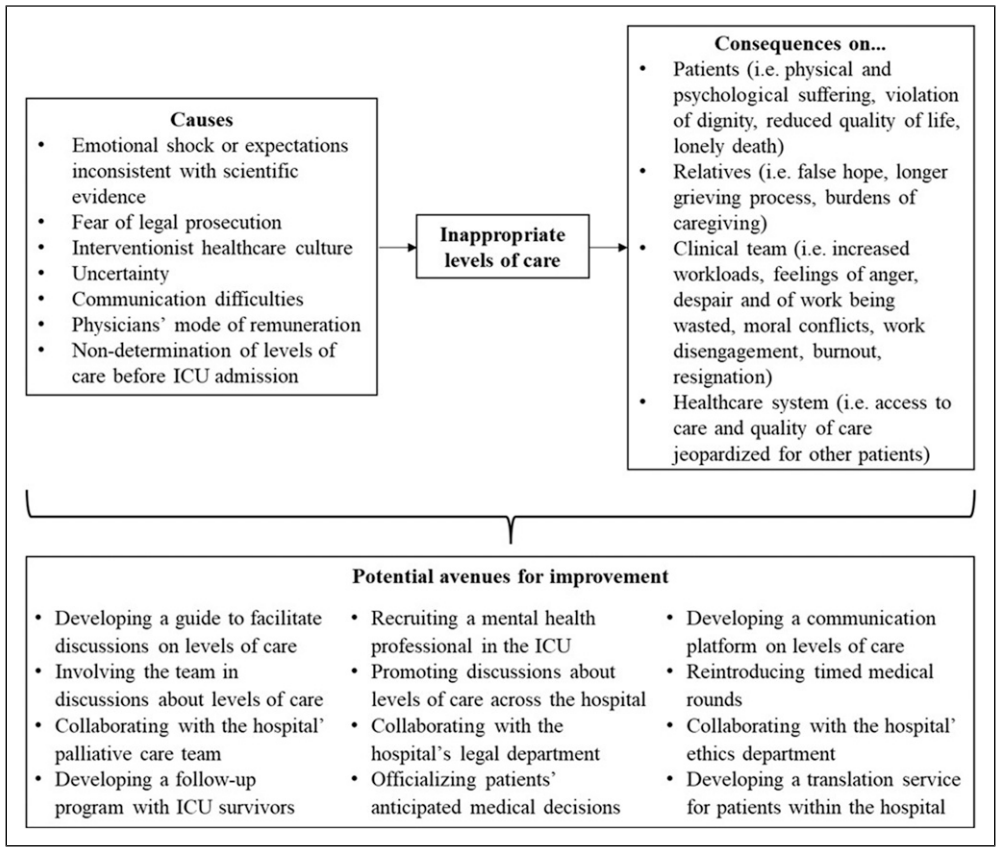

Figure 2. Emerging explanatory model of inappropriate levels of care.

appropriate and inappropriate levels of care, causes of inappropriate levels of care, consequences of inappropriate levels of care and potential avenues for improvement.

The process of determining levels of care in the ICU

Determining a patient's level of care in the ICU unfolds within a discussion that usually occurs between the intensivist and the patient's relatives. Although patients may be both present and involved in this discussion, they tend to play a more secondary role due to their critical health condition, which sometimes renders them unable to communicate or make medical decisions, along with the strong influence of their loved ones' wishes and views. Although nurses and respiratory therapists tend not to be involved in these discussions, partly because of their heavy workloads, they do play an indirect role in determining a patient's level of care by alerting intensivists to the need to revise these levels, for instance, during therapeutic impasses or following informal exchanges with patients or their relatives.

When discussing the process of determining levels of care, participants unanimously referred to the clinical form for levels of care. More specifically, the discussion regarding levels of care is guided by a clinical form used across all healthcare facilities in Quebec[3,3]. This form, completed by intensivists, delineates four levels of clinical intervention, each tailored to a specific objective: prolonging life by all necessary means (level A),

prolonging life through limited care (level B), ensuring comfort with priority given to prolonging life (level C), and only ensuring comfort with no aim of prolonging life (level D). For example, level A means that "care includes all interventions that are medically appropriate and transfer if the intervention is not available in the current setting" and that "all invasive interventions can be considered, including, for example, intubation and intensive care."[22] Level B entails that "care incorporates interventions with the aim of prolonging life, which offer the possibility of correcting deterioration in health status while preserving quality of life" and that "certain interventions are excluded since they are judged to be disproportionate or unacceptable by the user or their representative acting in the sole interests of the user, given the potential for recovery and undesired consequences (e.g., short-term or long-term intubation, major surgery, and transfer)."[22]

The discussion surrounding levels of care thus aims to determine and document the level of clinical intervention to which a patient or their representative consents to. Various opinions were expressed about this form, which was seen by participants as useful for decision-making and orienting care by providing clearer guidelines on the limits of care. At the same time, the form's inability to provide a clear and nuanced statement of the wishes of patients or their representative was emphasized. Another limitation emphasized by nurses and respiratory therapists is that the form does not prompt intensivists to thoroughly consider and engage in discussions about the potential risks and consequences of care with patients and their relatives.

The distinction between appropriate and inappropriate levels of care

The data collected provided insights into the distinction between appropriate and inappropriate levels of care according to nurses, respiratory therapists, and intensivists.

Appropriate level of care: Determining what constitutes an appropriate level of care is a challenging assessment, inherently tied to the values, beliefs and priorities of the individuals involved, in addition to the available information used to assess the situation. This was associated by participants with several considerations, including respecting patients' wishes, offering a reasonable quality of life, enabling patients to live a life that corresponds to their wishes and values, thorough explanation to patients of the risks and implications of care, reasonable consideration of the patients' overall health condition, and consistency with the resources available in the healthcare system.

Inappropriate level of care: An inappropriate level of care was associated with care perceived as either too aggressive or not aggressive enough, although most reported situations that concerned overly aggressive care. Participants also referred to futile care, or care that had the potential to worsen patients' quality of life and generate unnecessary suffering. The nuance between the value of life and that of quality of life was illustrated by a nurse: "We continue to prolong a quality of life that he [the patient] does not have [...] he has no sound, no image, but he is alive." An inappropriate level of care was also equated with care that does not respect patients' wishes and is continued with the aim of providing relatives with more time to adjust to the situation. Some participants also alluded to their own discomfort or refusal to provide care as an indicator of an inappropriate level of care. Such discomfort is highlighted in the words of a nurse who drew a parallel with her own life: "You get home and then you can say to yourself: 'Fuck, I would never have done this to someone I love, you know'."

Causes of inappropriate levels of care

As illustrated in Figure 2, numerous intricate and complex factors help explain the phenomenon of inappropriate levels of care.

Emotional shock or expectations inconsistent with scientific evidence: Being admitted to the ICU is often an emotionally charged event for patients and their loved ones, which may lead them to desire a level of care perceived as overly aggressive by the clinical team. Due to the severe and usually fast-paced nature of

these situations, patients or their relatives may find it difficult to accept the reality of illness or may be unprepared to cope with impending death. When the decision rests upon relatives, they may find it difficult to put their own interests and needs aside and determine the correct course of action on the patient's behalf. This was emphasized by one respiratory therapist:

> I feel that sometimes these people just can't face their own fears. They feel they must make the decision for someone else when all we ask of them is to act as the patient's spokesperson and put themselves in the patient's shoes.

The guilt associated with being the one who decides to restrict care can consequently lead them to agree to a more aggressive level of care, as elaborated by another respiratory therapist:

> People don't want that kind of guilt. So, we end up resuscitating patients who didn't want to be resuscitated, you know. There's a kind of discomfort in being the one who's going to, like, really end the patient's life by not providing care. Not by giving him morphine necessarily, but just by not providing care. 'He's going to die on my watch'. It seems like they don't want that responsibility.

Several nurses and respiratory therapists have raised concerns about the influence of relatives in decision-making regarding levels of care. They were questioning whether relatives are the most suitable individuals to make such critical decisions for patients. Decisions made by patients or their relatives regarding levels of care may also be inspired by religious beliefs or superstitions. Such unwavering faith can make the medical team feel powerless and undermine meaningful dialogue, as emphasized by an intensivist: "Often, you know, we're told bluntly: 'Doctor, we trust you'll be able to perform a miracle' or 'God will perform a miracle'. How do you respond to that, you know?" Furthermore, the idealized portrayal of intensive care on television was thought to lead patients or their relatives to hold unrealistic expectations about medicine's potential.

Fear of legal prosecution. The fear of legal prosecution held by intensivists, who are accountable for patient care, can prompt them to agree to a level of care that they, or other members of the clinical team, perceive as inappropriate. This is compounded by the fact that the legal process of a complaint or lawsuit can be highly stressful and challenging, in an already tremendously demanding profession. Disagreements between relatives and the clinical team about the right level of care are thus very delicate and represent ambiguous medico-legal situations, as an intensivist pointed out:

> It's always uncomfortable when you're not quite sure to what extent you should offer such inappropriate care. As I am telling you, there's always a sort of grey area. So, to what extent should we actually provide care? What can we perhaps not undertake? Being afraid of having conflicts with the family or the patient and being afraid of medico-legal consequences too. So, of course, we always have that somewhat in mind, even if we try to ignore it and take the patient into consideration, but, obviously, it's not always easy.

Another intensivist reported having once received a complaint after having told the family of a terminally ill patient that the latter was dying. Nurses and respiratory therapists are also aware of the risk of legal prosecution faced by intensivists, since this is a frequent justification for levels of care that they view as too aggressive. However, they perceive the likelihood of this risk differently than intensivists, as explained by one nurse: "It's a real risk, but I feel, and I want to say that it's a theoretical risk. In practice, it doesn't happen very often unless there's extreme negligence, obviously, you know."

Interventionist healthcare culture: Another factor that can result in inappropriate levels of care is the interventionist healthcare culture that prevails in ICU, which translates into a tendency to prioritize survival at all costs, and sometimes to the detriment of patients' well-being. This great optimism towards medicine, both among intensivists and among patients and their relatives, was highlighted by one respiratory therapist: "We're in an era of 'Let's save patients at all costs'. So, we're saving patients who will never be autonomous again, who will remain under 24-hour care for the rest of their lives." This attitude towards care and end-of-life was highly criticized by many participants, notably by another respiratory therapist who stressed the importance of reminding patients that medicalizing illness is optional:

> But you know, at some point, it's only about making people aware that they have the right to die of pneumonia without having 56 machines shoved in their face, you know. Especially when they're of a certain age, when they've lost their quality of life, their comfort and they're just feeling stress and suffering in their body. They have the right to be relieved and not to be cured of their ailments all the time, you know.

This call for greater acceptance of death is also reflected in the words of one nurse: "I think that as humans, we'll have to think. We'll have to step back and really ask ourselves, 'Is dying that bad'? I don't want to make the most patients die, that's not what this is about. It's about accepting that some people have to die."

Uncertainty surrounding patients' prognosis and wishes: The uncertainty surrounding patients' prognosis and their wishes, especially when they are incapable of communicating, can contribute to care being perceived as inappropriate by members of the clinical team. One intensivist, in particular, discussed the complexity of judging what an acceptable prognosis and quality of life are for patients when they are incapable of consenting to care:

> I've seen severe burn survivors and thought, 'Oh, I'd never want to live through that.' But there are some who survive, who learn to live with a disability, and who have a nice overall quality of life. [...] There are human beings who adapt to conditions we never thought we would be capable of.

Faced with such moral and prognosis uncertainty, there is thus a tendency to do everything possible to save patients' lives. However, very few participants acknowledged this prognosis uncertainty or discussed the importance of refraining from imposing their own beliefs and values.

Communication difficulties: Patients and their relatives sometimes consent to a level of care perceived as inappropriate by members of the clinical team due to a lack of information provided by intensivists on the risks and implications of care, which prevents them from making an informed decision, as one respiratory therapist emphasized:

> I feel that doctors don't explain, or don't explain well enough to the family what care entails [...] I have the impression they don't explain how serious the illness is, and what impacts it's going to have on their future. I think people are misinformed when they make decisions about the level of care of their loved ones.

In other cases, information is provided to patients and their relatives, but the latter seem unable to adequately understand or absorb it given their emotional state, as one intensivist pointed out:

> We approach the discussion with medical arguments of prognosis, probabilities, all that stuff. But relatives are just in the emotional state of 'No, don't let him go' but this does not make sense. We need to try to understand this. But sometimes, it's just too intense, we can't manage to reframe the discussion within a rational medical framework.

Additionally, since nurses and respiratory therapists usually do not participate in the process of determining levels of care, they are often unaware of how levels of care have been discussed and decided, whether the risks have been sufficiently explained, and whether the established level of care matches the patient's wishes. This can make them question or doubt the appropriateness of the care, especially when the words of patients or their relatives are inconsistent with the decision, or when their expectations seem at odds with the situation.

Physicians' mode of remuneration: In Quebec, most physicians are remunerated on a fee-for-service basis[4,23]. Some nurses and respiratory therapists were concerned that this remuneration mode might incentivize intensivists to provide or consent to more aggressive levels of care. In this regard, one nurse recounted the case of a centenary patient who was implanted with an expensive medical device just a few days before passing away:

> She [the patient] obviously didn't have another ten years to live. So, I think the intensivist could have decided not to implant a pacemaker in this patient, but he did it anyway. Did he do it for his salary? We'll never know. But there is this issue of physicians' mode of remuneration in Quebec that can influence decisions.

Levels of care hastily determined on arrival at the ICU: Levels of care often fail to be determined by physicians who treated patients before their arrival at the ICU, thus forcing the ICU medical team to initiate these complex and sensitive discussions hurriedly, as one intensivist explained: "Sometimes there's just no time to discuss it, or the patient is in distress, so it's not necessarily the right time. And then we find ourselves calling families in panic at 3 a.m." Levels of care hastily determined on arrival at the ICU can thus contribute to levels of care inconsistent with patients' actual wishes.

Consequences of inappropriate levels of care

As illustrated in Figure 2, inappropriate levels of care have a number of consequences for several parties, including patients, their relatives, the clinical team and the healthcare system.

Patients: Intensive care, often involving aggressive, invasive, and painful medical interventions, can cause patients physical and psychological suffering, undermine their dignity, and diminish their long-term quality of life, as expressed by one intensivist:

> Even if they survive intensive care, and the physical, moral, and psychological suffering that goes with it, well afterwards, it's rehabilitation. It may mean staying in hospital, and then in rehabilitation for several weeks, perhaps no longer being able to return to their previous living environment. It's not being able to do what they used to do, being dependent on others in their daily life activities. This plays on their autonomy and self-esteem. It's also potentially linked to cognitive disorders or concentration issues in the future, but even more to delirium. In short, it has consequences for the future, not only in terms of immediate suffering, but also in terms of what state that person will be in three months, six months, a year from now. And is this a state that is acceptable to them?

Furthermore, inappropriate levels of care may prevent patients from dying with dignity surrounded by their loved ones, as another intensivist emphasized: "In any case, I see this as a negative consequence for the patient himself who cannot have a truly dignified end of life then, you know, an end of life... without it being happy, but, you know, an end of life, in a certain sense, that is positive, with all the people who love him by his side."

Relatives: Participants considered that inappropriate levels of care also impact patients' relatives in several ways. They believed that this could create false hope and prolong the grieving process. One respiratory therapist notably discussed the financial and practical strain on caregivers for patients discharged from the ICU with limited autonomy:

> There are costs for the family, indirect costs. The family will come to realize that someone will have to non-stop take care, 24 hours a day, of this person, who can no longer feed or wipe himself. Some will stop working to take care of the patient. They hadn't realized that this could have been the end and that this is the price to pay for wanting their loved one to live at all costs, you know.

Additionally, participants explained that inappropriate levels of care, and more specifically, disagreements over the appropriate level of care for a patient, can undermine the care relationship between the patient's relatives and the clinical team. These disagreements can lead relatives to become distrustful and further pressure the clinical team. Such tensions, coupled with providing care that goes against one's own values, in turn, can lead the clinical team to be less forthcoming or supportive of the relatives, which can eventually indirectly undermine the quality of care.

Clinical team: Inappropriate levels of care also have several consequences for the clinical team, especially for nurses and respiratory therapists, as emphasized by one intensivist:

> As physicians, it certainly affects us. I mean, in the weeks when we have situations like that, it's really overwhelming. It becomes difficult. But I think it affects nurses and others probably even more because they're the ones providing direct care, you know. [...] They're the ones there, hour after hour, confronted with the situation.

These consequences include increased workloads as well as feelings of anger and despair, as highlighted by one respiratory therapist: "It leads to a lot of frustration, among respiratory therapists and nurses alike. We talk about it every day. Respiratory therapists don't want to go to the ICU anymore. They're sick of it, they're fed up." These situations may also lead nurses and respiratory therapists to feel that their work is futile or even wasted, a sentiment discussed by multiple participants, including a nurse: "Often, we work for nothing. There are very few times when we say to ourselves, 'Wow, what we've done has really paid off'." Providing care that is perceived as inappropriate can also evoke a sense of moral conflict, causing the clinical team to feel they are betraying their values and potentially harming the patient. This was underscored by another nurse who shared an experience of delivering invasive care to a patient, per the family's request, even though the individual rejected all forms of care and physically fought back when conscious:

> I arrived in the room, and he was in cardiorespiratory arrest. Then, I had to code him, basically. So, we performed CPR on him, we intubated him, we broke his ribs and so on… But you know, the moment when you say to yourself: 'Ah! I can't believe I'm going to do this' [...] It's discouraging for the team, because sometimes we feel like torturers. We do more harm than good.

Such situations can diminish the clinical team's job satisfaction, fostering disengagement, potentially resulting in burnout and consequently, resignation. Inappropriate levels of care can also lead to tensions and sometimes even conflicts among team members, further undermining the work atmosphere and job satisfaction.

Healthcare system: Inappropriate levels of care also represent a significant use of the limited human, material, and financial resources of Quebec's free healthcare system. These extensively impact access and quality of care for other patients, as several participants, including a respiratory therapist, pointed out:

> All those resources, all that time, all those operating room hours and scans for people who have cancers which progress, at home, which could be taken in time, for patients who will never come out of it. All the money invested for patients who won't make it."

Consequently, inappropriate levels of care have diverse repercussions on multiple parties.

Potential avenues for improvement

As illustrated in Figure 2, several possible ideas for tackling inappropriate levels of care emerged from the interviews although participants were not asked to provide suggestions at this stage of the project. Those included notably developing a guide to facilitate discussions on levels of care, involving the whole team in discussions about levels of care, promoting discussions about levels of care across the hospital and many other ideas. These ideas were further explored with participants in the subsequent phase of this participatory living lab project.

Discussion

Inappropriate levels of care have been tackled in the ICU context in previous research, but with less attention to the team as a lens from which this issue could be understood. By embarking on a participatory living lab study, we approached this topic in a way that would set the stage for understanding this issue at a contextual and team-level lens, while concurrently foreseeing that forthcoming changes would also call for this approach. In this study, our focus has been on delving into the perspectives of intensive care professionals as they, especially nurses and respiratory therapists, have limited opportunities to voice their concerns on this matter that deeply affects them. We thus examined inappropriate levels of care in an intensive care setting by integrating the perspectives of nurses, respiratory therapists, and intensivists. Overall, our study sheds light on the process of determining levels of care, the distinction between appropriate and inappropriate levels of care, causes of inappropriate levels of care, consequences of inappropriate levels of care as well as potential avenues for improvement. While our sample represents the reality of a single ICU team, these findings also have the credibility to relate to other ICU teams given the shared challenges experienced in this line of work.[2,6,17,24,25]

As for the process of determining levels of care, while supported by a clinical form, our findings suggest that the latter is, at present, exceedingly clinically oriented, leaving aside of the discussion essential dimensions, notably patients' lives goals as well as possible risks and implications of care. This process cannot be approached solely from a clinical perspective, as these are highly existential questions that require moral considerations and appropriate information. These conclusions are in line with those of Cardona et al.[26] and Kopar et al.[24] who recommend that discussing levels of care elicits and focuses on patients' values rather than on the range of possible medical interventions. Additionally, our results confirm previous observations about the central roles of intensivists and relatives in decision-making about levels of care, as well as those of patients, nurses and respiratory therapists, who often assume more peripheral or even ambiguous roles in this process.[1,4,6,24,26] Nurses, in particular, may perceive the current configuration of roles and participation as exclusionary. This may lead to feelings of powerlessness and the belief that their capacity to exercise professional autonomy and act accordingly with their values is limited.[6] Our study thus reinforces the idea that the dynamics between different actors in determining levels of care is complex, asymmetrical, and sometimes greatly problematic in its present form as it undermines open communication between the team, patients, and relatives about levels of care.

As for the distinction between appropriate and inappropriate levels of care, our findings further support the view that the question of appropriate levels of care is complex and delicate as it is intrinsically linked to interested parties' values, beliefs, emotions, priorities and knowledge.[2] There were no single criteria or principle that informed what an appropriate level of care was for participants. Rather, it was a combination of considerations, including the principles of autonomy, quality of life, informed decision, and reasonableness of care, which ultimately depended on the specific situations in which they were applied.[26] Our study further indicates that, when

confronted with value conflicts related to levels of care, healthcare professionals may struggle to distance themselves from the situation and appreciate its moral and clinical complexity, thereby running the risk of value imposition.[27] For instance, the notion of inappropriate levels of care was rarely discussed by participants based on, notably, the values patients and families bring to the situation. This difficulty could be partly caused by a lack of ethics training and access to ethics support (e.g., ethics consultations). Moreover, it could be due to the profoundly existential and confronting nature of these situations.

As for causes of inappropriate levels of care, we have identified numerous factors, intricated in multiple and complex ways. Our study suggests that the process of determining appropriate levels of care in ICU environments is complicated by the emotional state and expectations of patients and their relatives,[4,6,24] the medico-legal burden on intensivists,[6,24] their mode of remuneration, the interventionist healthcare culture influencing perspectives on death and medicine,[2,6,24,26,28] the issue of uncertainty,[6,24] the communication difficulties between patients, their relatives and the clinical team[1] and, finally, by a lack of discussion about levels of care prior to admission in the ICU.[4] These findings are consistent with the results of previous studies but provide additional insights into the multifactorial and complex nature of inappropriate levels of care.

As for the consequences of inappropriate levels of care, our study demonstrates their diverse and concerning repercussions on multiple parties. Inappropriate levels of care can impact patients' physical and psychological well-being, dignity, and quality of life while potentially depriving them of the opportunity to die surrounded by their loved ones.[6] For relatives, this may result in false hope, prolonged grief, and significant financial and practical strains. Additionally, disagreements over levels of care undermine the care relationship between relatives and the clinical team, potentially compromising the overall quality of care of the patient.[1,4,6,19,24] However, since our study focused solely on the perspectives of the intensive care team, relatives may experience these situations differently than what was perceived or believed by participants. For the clinical team, inappropriate care leads to increased workloads, feelings of frustration and despair, moral conflicts, fostering disengagement, burnout, and potential resignation—manifestations all consistent with moral distress.[1,5,19] Therefore, while the present study did not specifically investigate moral distress, our results align with prior research, highlighting it as a noteworthy outcome resulting from inappropriate levels of care.[1,2,4,5,16–19] At a systemic level, this misuse of resources within the healthcare system detrimentally affects access and quality of care for other patients.[4,6,24]

The effects of inappropriate levels of care are therefore multiple and extend beyond intensive care settings, urgently calling for comprehensive interventions to address this issue. We join others in raising doubts about conceiving issues such as inappropriate levels of care and moral distress in the ICU as being personal (e.g., nurse) problems solved exclusively with individual-level solutions (e.g., psychological counseling).[27] Rather, our findings support the relevance of team-level investigations and identifies various potential interventions to tackle inappropriate levels of care in that group-minded perspective. Moreover, our study emphasizes the value of engaging interested parties in the exploration of interventions as moral problems are deeply rooted in existential experiences. Consequently, as they have personally experienced these morally challenging situations, this provides for a unique standpoint to envision innovative solutions that meet their specific needs. Additionally, conceptualizing those issues by building from experiential understandings can support actors in making sense of them and act upon their situations,[29] further emphasizing the relevance of participatory action research in ethics.[13]

Limitations

The current study is limited by the relatively small sample of participants, especially for respiratory therapists and intensivists, despite our energetic recruitment efforts. This difficulty could be due to unfamiliarity with

ethics and research, uneasiness with the topic tackled, work overload, and challenges in fostering communication between different professional bodies which are institutionally segmented. We were also unable to recruit medical residents nor beneficiary attendants, potentially reflecting hierarchies set in place among the ICU team. However, the validation of findings in several data sharing meetings with various ICU team members should have mitigated potential biases linked to the relatively small sample. Further, despite the team lens we adopted, we noted that groups of healthcare professionals often appeared to work in silos and little in teams sometimes despite best intents given organizational issues, hence creating challenges for the execution of this project, but supporting the necessity of a research project aimed at opening dialogue on this issue to promote greater collaboration.

Conclusion

In this study, conducted as part of a living lab project, we set out to understand inappropriate levels of care through a contextual and team-level lens. By comprehensively analyzing the process of determining levels of care, the distinction between appropriate and inappropriate levels of care, the causes and consequences of inappropriate levels of care as well as potential avenues for improvement, our research yields a holistic understanding of the issue. This further demonstrates that discussions about levels of care are essential for patients, their relatives, and the clinical team notably because inappropriate levels of care have major impacts for all parties involved. The next phases of this ongoing living lab project will involve the ideation of solutions with the ICU team, the enactment of changes and their evaluation following a participatory research design. Thus, we hope this study has provided an enlightening account of inappropriate levels of care, not only paving the way but empowering action for forthcoming changes. Furthermore, we aim for this research to enhance awareness of this issue within the scientific and clinical community, as well as among decision makers. This is crucial given our findings, which demonstrate that inappropriate levels of care have extensive consequences that go beyond patients, their families, or the clinical team. As highlighted by Klick et al.[17] regarding burnout in healthcare professionals, "Ignoring this progressive public health problem will not only be a stain on the moral compass of the health care system but also may ultimately result in its collapse" (p. 308).

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. Throughout this paper, we use the term "inappropriate levels of care" to designate levels of care which were experienced and thought as inappropriate (i.e., potentially non-beneficial or harmful) by intensive care professionals. We recognize that there is an implied value judgment underlying the notion of inappropriate levels of care. We use this term with the caveat that determining what constitutes an appropriate level of care is a challenging assessment, inherently tied to the values, beliefs and priorities of the individuals involved, in addition to the available information used to assess the situation.
2. Instrumentalist concept analysis is a process by which concepts come to be viewed as tools, and thus evaluated in light of their concrete ability to meaningfully grasp and help tackle situations towards greater human flourishing. It proposes that the refinement of tools be enriched by engaging interested parties and considering their lived experiences.
3. As we write this article, the clinical directives and official form for levels of care in Quebec are being revised by government agencies.
4. Physician remuneration in Quebec is complex. While most physicians are compensated on a fee-for-service basis, doctors, including intensivists, can opt for other remuneration methods such as mixed compensation (i.e., a base package for work attendance with an additional charge per procedure), salary, by capitation, and budgetary envelope. The specific remuneration mode of physicians may not be known by other healthcare professionals with whom they collaborate.

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