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Sliding doors at the bedside: conditional outcomes and moral judgments in end-of-life care

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Abstract

Background Intensive care medicine has increasingly embraced shared decision-making and advance care planning as core components of good clinical practice. Nonetheless, clinical reasoning is sometimes implicitly framed as a linear, biologically driven process. In contexts of prognostic uncertainty, this framing risks obscuring a structural feature of decision-making: the constitutive role of value-based judgments in shaping prognosis and outcomes.

Main body This paper introduces the concept of conditional outcomes to clarify a structural feature of certain clinical situations, in which survival or death does not follow from biology alone but is co-determined within the range of biologically possible trajectories by value-based choices made by patients, families, and clinicians regarding whether and how to intervene. Using the case of Mrs. Elizabeth, a woman with advanced amyotrophic lateral sclerosis, we show how an identical clinical state may be framed as either terminal or amenable to escalation, not because it is assessed differently, but because values and goals are interpreted and enacted differently. Even when shared decision-making is practiced, the way value judgments shape prognostic determinations often remains implicit. Making these assumptions explicit complements shared decision-making and advance care planning, clarifying how clinical outcomes are logically dependent on prior value-based commitments that shape judgments about benefit, burden, and the goals of care.

Conclusions Making the conditional structure of outcomes explicit clarifies that value-based judgments are not ancillary to prognosis but structurally shape prognostic determinations and subsequent outcomes. Recognizing the conditional nature of prognostication strengthens clinical reasoning by integrating biological knowledge with ethical commitments in end-of-life care.

Keywords Conditional outcomes, End-of-life care, Advance care planning, Medical ethics, Critical care, Decision-making, Patient autonomy

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Patients are not just cases, they are people with stories. The privilege of being a doctor is being invited into those stories, sometimes at their most vulnerable point, and trying to help.

Rinaldo Bellomo, 1956-2025

If men define situations as real, they are real in their consequences.

W. I. Thomas and D. S. Thomas, The Child in America (1928)

Introduction

Intensive care medicine has increasingly embraced shared decision-making (SDM), advance care planning (ACP), and explicit attention to patients' goals and values as core components of good clinical practice [1–4]. SDM refers to a collaborative process in which clinicians, patients, and families integrate medical evidence with the patient's values and preferences when making treatment decisions. ACP extends this process over time by enabling individuals to articulate goals and preferences for future care in the event of serious illness or loss of decisional capacity. Nonetheless, clinical reasoning is still sometimes implicitly framed as a linear, fact-driven process: signs and symptoms lead to a diagnosis; the diagnosis dictates a course of treatment aligned with the patient's goals (explicitly stated or reconstructed) and the response to treatment determines the likely outcome [5]. Contemporary guidelines and evidence-based pathways explicitly acknowledge the importance of patient values and family perspectives in end-of-life decision-making [2, 6]. However, the way these recommendations are structurally organized (around evidence hierarchies, decision algorithms, and standardized clinical pathways) may still implicitly reinforce a linear, biologically driven understanding of clinical trajectories.

This framing obscures the fact that in certain clinical situations value-based judgments (by patients and clinicians alike) are not ancillary to prognosis, but structurally shape what prognosis and outcomes are. In contexts of prognostic uncertainty and multiple clinically plausible trajectories, outcomes may not be determined by biology alone but are structurally dependent on value-based judgments about benefit, burden, and the goals of care. Anyone who has worked in an intensive care unit (ICU) will recognize situations that resist a purely technical interpretation of events**.** Prognosis after devastating brain injury, candidacy for extracorporeal life support after refractory cardiac arrest, or decisions to intubate and ventilate in advanced neuromuscular disease routinely depend as much on extra-clinical factors as on the disease process.

In this paper, we propose the concept of "conditional outcomes" to make explicit a structural feature of clinical decision-making in contexts of uncertainty and moral pluralism. Survival or death may depend not only on pathophysiology, but on prior value-laden decisions and assumptions that determine which therapeutic pathway is pursued. When this conditionality remains implicit, outcomes that are in fact value-dependent may be presented as biologically inevitable, obscuring the moral structure of decisions that are already being made.

Not just biology: how values structure conditional outcomes

In probability theory, conditional probability refers to the likelihood of an event A occurring, given that another event B has already occurred [7]. This is denoted as P (A | B). Traditionally, in clinical reasoning, outcomes such as survival or death (event A) are treated as depending solely on biological factors (event B), and are often assumed to be independent of human decision-making or agency. SDM, ACP, and attention to patients' goals and values have changed this approach.

However, the concept of conditional outcomes that we propose draws attention to a further layer of conditionality that often remains implicit. In several medical situations, outcomes are not determined by biology alone but are also contingent upon value-laden decisions. Consider, for example, the case of survival in a vegetative state after catastrophic brain injury, or death following the withdrawal of life-sustaining treatment. These outcomes cannot be fully defined or predicted without first deciding whether and how to intervene [7, 8].

In such cases, the outcome (A) is conditionally dependent not only on biological processes (B), but also on a decision (C) to initiate, withhold, or withdraw specific interventions, decisions that are themselves grounded in competing value judgments that frame the prognosis for a given same clinical situation in different ways [7, 8].

ACP and SDM have long recognized that future treatments should align with patients' values and counterfactual preferences ("If this happens, I would want…"). The conditionality described here, however, concerns the logical structure of certain outcomes themselves, and how value-laden prognostic judgments contribute to determining which outcome becomes actual. In some clinical situations, whether a patient survives or dies depends on which therapeutic pathway is chosen, and that choice is grounded in value-based commitments about proportionality, benefit, and the goals of care. The outcome is therefore not merely value-sensitive; it is conditionally determined in part by prior value-laden decisions, within the constraints set by pathophysiology.

Making the value-based components of prognostication explicit does not deny the existence of biological constraints. Rather, it clarifies that, within the boundaries set by pathophysiology, multiple clinically plausible

trajectories may exist, and the trajectory that is realized is selected through interpretive and ethical judgment. When this structural conditionality is not acknowledged, outcomes that follow from value-based decisions may later be framed as if they had been biologically inevitable.

The case of Mrs. Elizabeth

The fictionalized case of Mrs. Elizabeth exemplifies how outcomes in critical care may be structured not only by biological status, but also by prior and sometimes conflicting value-laden prognostic framings and decisions.

The clinical course

Mrs. Elizabeth was a 58-year-old former secondary school teacher, a widow with two adult children. Three years earlier, she was diagnosed with limb-onset Amyotrophic Lateral Sclerosis (ALS). Her disease follows a typical but relentless course: progressive loss of ambulation, followed by worsening bulbar function requiring gastrostomy feeding, and, over the past six months, a steady decline in respiratory function requiring nocturnal non-invasive ventilation (NIV). She remained cognitively intact and retained enough fine motor control to type slowly on a tablet.

Six weeks before the index hospitalization, her pulmonologist raised the question of tracheostomy during a routine visit. Elizabeth declined, stating that a life anchored to invasive ventilation was "not the life I want to live." Her words were documented, but no formal Advance Care Planning (ACP) was completed. The conversation was intended as a starting point, one that unfortunately never continued.

On a July afternoon, Elizabeth was found unresponsive by her sister-in-law during a courtesy visit. Emergency medical technicians recorded SpO_2 75% and a very low respiratory rate. Bag-valve ventilation promptly improved her oxygen saturation.

Upon arrival at the hospital, arterial blood gases showed severe hypercapnia and uncompensated respiratory acidosis. A chest X-ray revealed no infiltrates. An ICU clinician arrived promptly, joining Elizabeth's daughter and son at the bedside.

Elizabeth's daughter, a healthcare worker who had long managed her mother's care, insisted on immediate intubation, asserting that with ventilation "Mom could live for many years." Her insistence may have stemmed from love, hope or a sense of duty to preserve life at all costs, but her brother strongly objected: "As far as I know her, and based on what she told the pulmonologist that day, Mum wouldn't want invasive treatments like a tracheostomy or ventilation. She wants to die at home." She countered: "Sure, but not now. Mom is not a terminal patient." As the ICU team hesitated, she became increasingly distressed and threatened legal action for withholding care.

The decision-making process

In situations like this, clinical decision-making rarely unfolds as a single, predetermined course of action. Rather, the same clinical condition can be understood through different value-sensitive prognostic framings, each giving primacy to a different ethical commitment and shaping both the interpretation of prognosis and the therapeutic pathway pursued (Fig. 1). Path A consists of comfort-only care, involving palliative support. Path B represents a time-limited trial of non-invasive ventilation (NIV), aimed at reversing hypercapnia, restoring consciousness, and reassessing goals of care in real time before committing to either full escalation or comfort-focused treatment. Path C involves full escalation of treatment, including tracheal intubation, ICU admission, and tracheostomy if required.

In practice, these options are rarely presented or understood as purely technical alternatives. They are interpreted through the lens of the patient's previously expressed wishes, the surrogate's understanding of those wishes, and the clinical team's judgment about prognosis, proportionality and benefit. Whether this episode was seen as a terminal collapse or a condition amenable to stabilization through escalation of therapy hinged on how Elizabeth, her family, and the clinical team made sense of the same physiological data.

In this case, Elizabeth's own perspective had not been formally documented. With no structured care plan to guide them, the team proposed Path B as an intermediate option: a short NIV trial to reverse hypercapnia, restore consciousness, and reassess goals of care in real time.

After two hours of NIV, Elizabeth regained consciousness. When asked about intubation, she clearly shook her head to refuse. When asked about continuing NIV, she nodded in agreement. Laboratory and chest X-ray results ruled out infection or aspiration pneumonia. Despite maximal support, her $PaCO_2$ remained > 80 mm Hg, indicating poor respiratory reserve.

The following day, with her children at the bedside, Elizabeth laboriously typed: "I am too tired, ready to leave." A palliative care consultant joined the team, and comfort-focused medications were administered to relieve dyspnea and distress, in accordance with her expressed wishes. The NIV mask was removed, and she died peacefully 40 min later.

A subsequent morbidity-and-mortality review underscored the conditional nature of the outcome. Had Path A been chosen immediately, her daughter might have lived with lasting anger and regret. Had Path C been pursued, Elizabeth would likely have survived, undergone tracheostomy, and entered long-term invasive ventilation, a condition she had explicitly deemed "worse than death." Instead, Path B created a temporary space to clarify her wishes. Clearly, the outcome was not determined

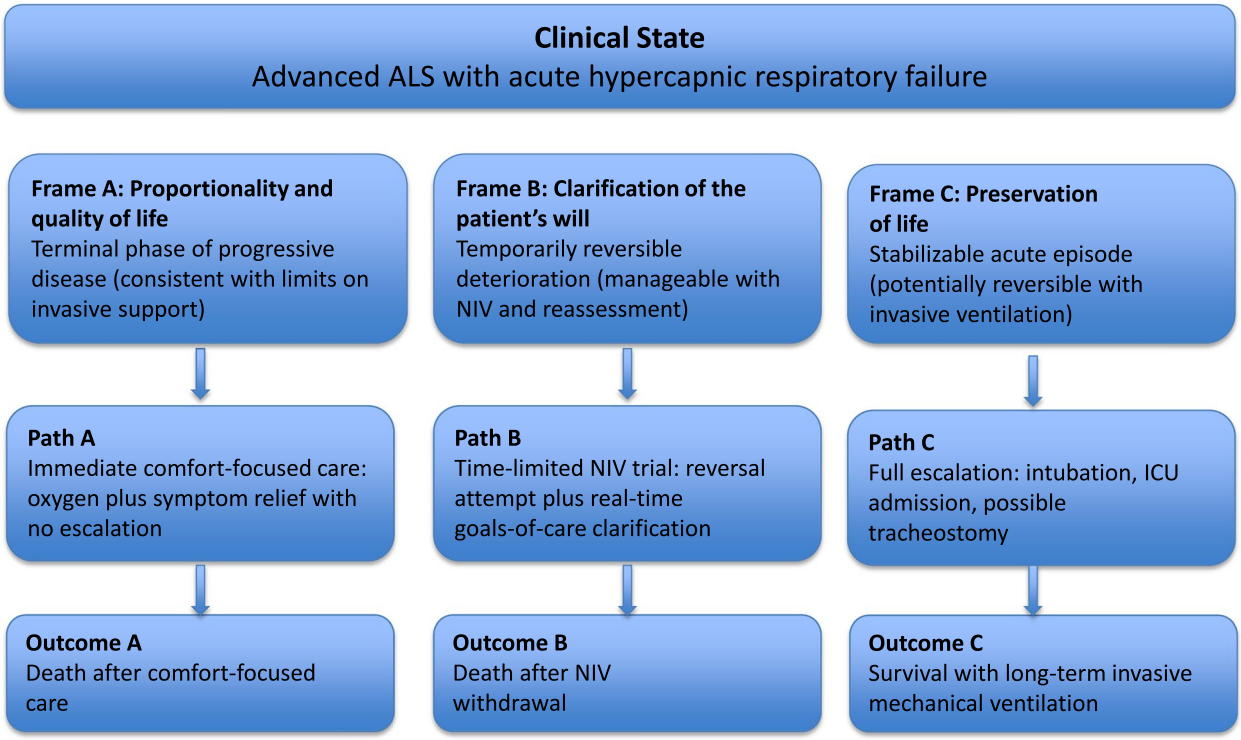

Fig. 1 Conditional Outcomes Model: Divergent Trajectories from the Same Clinical State. An identical clinical state (Level 1: advanced Amyotrophic Lateral Sclerosis [ALS] with acute respiratory failure) may be interpreted through different value-sensitive prognostic framings (Level 2), each giving primacy to a different value-based commitment: proportionality and quality of life, clarification of the patient's will, or prolongation of life. These framings shape the therapeutic pathway pursued (comfort-focused care, a time-limited trial of non-invasive ventilation, or full escalation to invasive ventilation) and thereby determine distinct trajectories. The resulting outcomes are conditional not only on pathophysiology but also on prior value-based interpretations and decisions that guide clinical action. NIV: non-invasive ventilation. ICU: intensive care unit

by biology alone but shaped by how clinical facts were interpreted, acted upon, and aligned, at last, with the patient's values as clarified and enacted through shared deliberation [Fig. 1].

Notably, in this story, Path B only became necessary because no structured ACP had been in place.

When rules falter: the limits of guidelines and laws in value-laden healthcare choices

Evidence-based pathways and clinical guidelines are designed to manage diseases. But physicians care for people, not conditions, and their role is to adapt these tools to the unique values, contexts, and priorities of each person. The best clinicians use guidelines not as fixed protocols, but as flexible resources to support personalized decision-making [9].

Clinical pathways perform best when therapeutic goals are well defined and broadly shared among all parties: the person receiving care, their family, and the healthcare team. In such cases, unity of purpose can create the illusion that a single outcome is both expected and appropriate. Yet even in these scenarios, multiple outcomes may remain possible, conditioned not just by biology but by how that biology is interpreted and acted upon.

This becomes especially evident near the end of life, where the meaning assigned to clinical facts gains importance. Here, divergences often emerge: what one person sees as a life worth prolonging, another may view as a fate worse than death. The same clinical picture may therefore lead to different choices, each grounded in distinct value systems, and produce radically different outcomes**.** Furthermore, the same person may also change their mind over time, adapting their vision to the changing situation and possibilities.

In many Western countries, legal frameworks rely on thresholds such as "poor short-term prognosis" to justify the limitation or withdrawal of life-sustaining treatment, the initiation of deep palliative sedation, or the avoidance of invasive interventions. While many contemporary guidelines explicitly incorporate patient values through a shared decision-making approach, tensions may still arise when prognostic thresholds are treated as if they were value neutral. Such thresholds are, indeed, often inherently unstable and can inadvertently turn into self-fulfilling prophecies. For example, in advanced ALS or severe brain injury, prognostic expectations differ dramatically depending on whether patients receive full intensive treatment, limited trials, or purely palliative care [10, 11].

Similarly, recent European consensus statements on ECMO eligibility oscillate between objective inclusion criteria and moral language such as "futility" or "acceptable burden" [12]. These judgments inevitably rest on how clinicians frame identical clinical states, as either justifying or contraindicating aggressive support.

Without recognizing conditional outcomes, practice may become inconsistent: the same patient might receive entirely different care based solely on the personal perspective of clinicians treating him without taking his values in the due consideration [7, 13].

Ultimately, when guidelines and laws do not accommodate value pluralism or outcome conditionality, they risk obscuring the complexity of care, especially at the thresholds of life and death.

Navigating clinical meaning with the patient's compass

Embracing conditional outcomes reframes the clinician's role: from identifying a single "correct" technical solution to negotiating a morally defensible narrative by helping individuals co-construct a care plan that aligns with what matters most to them. This is not a retreat into relativism, but a structured commitment to meaningfully engage with the patient's perspective. Biological facts still set real boundaries on what medicine can achieve; acknowledging conditional outcomes does not deny these limits, but recognizes that within them, different morally legitimate paths may exist.

This process can be supported by four conceptual pillars that promote shared understanding while keeping the patient's values at the center. The clinician's task becomes one of guiding reflection, clarifying implications, and aligning choices with the person's evolving preferences and goals [14]. Communication frameworks such as the Best Case/Worst Case approach may help clinicians make explicit the assumptions and value judgments embedded in prognostic conversations, thereby supporting more transparent deliberation about possible clinical trajectories [15]. These four pillars are:

1. Epistemic humility: Acknowledging the limits of prognostic certainty, rather than masking them behind misleading numerical precision.
2. Narrative competence: Understanding the current medical situation within the broader arc of the patient's life story.
3. Process transparency: Making decision-making visible and inclusive, including when there are differing perspectives [16].
4. Iterative review: Revisiting values, goals, and proportionality over time, as circumstances and perspectives evolve.

ACP operationalizes these four pillars in practice. ACP does not replace real-time goals-of-care conversations; rather, it provides a framework that must be interpreted and refined in dialogue with patients and surrogates when clinical crises occur. Contemporary intensive care practice is inherently multidisciplinary and already deeply engaged in patient-centered deliberation. Nurses, palliative care specialists, psychologists, and allied health professionals routinely contribute to shaping goals-of-care discussions alongside ICU physicians. Moreover, ACP, SDM, and time-limited trials remain areas of active debate regarding their implementation, interpretation, and measurable clinical impact. Our proposal does not seek to replace or diminish these established frameworks, but to offer a conceptual clarification that may help articulate more explicitly the structural conditionality that is already present within them. Evidence from randomized trials and observational studies shows that ACP can meaningfully reduce intensive care use at the end of life, leading to fewer ICU admissions, shorter stays, and less use of invasive ventilation. At the same time, it improves key outcomes such as access to hospice, satisfaction with care, and the psychological well-being of surviving family members, without affecting overall survival [17–22].

Practical recommendations

Clinicians should be trained to recognize and navigate conditional outcomes, especially in individuals with progressive, life-limiting conditions who are approaching loss of decisional capacity. Early integration of the patient's values is essential. ACP should be initiated well before a crisis occurs, with clearly documented preferences in the electronic medical record.

When uncertainty exists, whether within the individual or among family members, it is often helpful to propose short treatment trials as part of an explicit goals-of-care discussion. Such conversations should explicitly clarify whose values are guiding decisions, the patient's stated preferences, the surrogate's interpretation, or the clinician's assessment of proportionality, so that these perspectives remain transparent and distinguishable. These trials allow clinicians to initiate care without committing to a fixed trajectory, while preserving space for reflection as values are clarified and goals are refined through shared deliberation [23, 24].

Finally, healthcare systems should create space for reflective practice. Morbidity-and-mortality conferences and team debriefings should explicitly include discussions of ethical tensions and value conflicts, not only technical or procedural issues. These steps can help clinical teams prepare for complex decisions and deliver care that remains aligned with what matters most to the patient, even amid uncertainty and rapid clinical change.

Conclusions

Conditionality does not apply to all clinical situations. In many contexts, biological constraints remain dominant, sharply limiting the range of possible outcomes. Conditional outcomes primarily emerge in areas of prognostic uncertainty and moral pluralism, where multiple clinically plausible trajectories exist and no single course of action is dictated by physiology alone. In such circumstances, prognosis cannot be understood independently of the decisions that shape which therapeutic pathway is pursued. Recognizing this conditional structure does not diminish the authority of biological knowledge or clinical guidelines; rather, it clarifies how ethical commitments and scientific reasoning interact in determining which trajectory becomes actual. Acknowledging this reality can restore coherence between ethical commitments, clinical actions and clinical reasoning, placing the patient's voice expressed through values, goals, and choices at the center of care.

Recognizing conditionality is not about abandoning evidence or precision, but about integrating meaning and context into medical decision-making. In doing so, we move closer to a form of medicine that respects both scientific integrity and human dignity.

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All authors were involved in the conceptualization of the paper, contributed to drafting and critically revising the manuscript, and approved the final version for publication.

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