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EDITORIAL

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The Ethics Committee of the Italian Society of Anesthesia, Analgesia, Resuscitation and Intensive Care (SIAARTI) — Artificial intelligence in end-of-life decision-making processes: ethical reflections

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Abstract

Recent proposals to use artificial intelligence (AI) in end-of-life decision-making for incapacitated patients without advance directives have prompted critical reflection by the Ethics Committee of the Italian Society of Anesthesia, Analgesia, Resuscitation and Intensive Care (SIAARTI). This position paper analyzes both general ethical concerns surrounding AI in clinical practice and specific issues raised by the hypothesis of using AI to reconstruct patients' presumed wishes through recorded clinical conversations or analysis of digital footprints. At a general level, major challenges include lack of explainability (the so-called black box problem), risks of bias linked to non-representative training data, environmental sustainability, and the potential erosion of the clinician-patient relationship. In end-of-life contexts, these concerns are amplified. Systematic recording and retrospective analysis of sensitive conversations raise serious questions regarding privacy, data security, informed consent, and the authenticity of communication. Moreover, algorithmic interpretation may fail to capture the complexity of non-verbal communication and the inherently interpretative nature of moral reasoning. The construction of a "social portrait" from digital traces risks oversimplifying personal identity and generating conflicts with family narratives at a particularly vulnerable moment. The Committee further highlights the risk of delegating ethically weighty relational tasks to technological systems, thereby reinforcing a procedural model of medicine and weakening shared decision-making. For these reasons, the proposed use of AI in this domain is considered ethically problematic in its current form. Any future application would require robust governance, transparency, and accountability, ensuring that AI supports rather than undermines authentic care relationships.

Keywords End-of-life, End-of-life decision-making processes, Artificial intelligence, Ethics, Intensive care medicine, Incapacitated patient, Privacy, Confidentiality, Representativeness, Non-competent subject

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Background

A recent proposal to incorporate artificial intelligence (AI) in end-of-life decision-making [1] has prompted reflection by the Ethics Committee of the Italian Society of Anesthesia, Analgesia, Resuscitation and Intensive Care (SIAARTI), not only regarding this specific application but also concerning the broader and rapidly expanding role of AI in clinical practice [2].

As AI increasingly permeates clinical settings, it is essential to initiate a critical reflection to avoid both its prejudicial rejection, which is neither realistic nor constructive, and unreflective adoption that fails to account for the clinical, ethical, and societal consequences of its use.

General considerations on the use of AI in clinical practice

Before focusing our attention on the ethical issues raised by the potential use of AI in end-of-life decision-making processes for individuals who lack decision-making capacity, it is worth recalling some broader problems posed by the introduction of AI into clinical practice [3].

A first major concern relates to explainability, commonly known in the literature as the "black box" problem [4, 5]: as long as we are unable to understand how AI reaches its conclusions, relying on these outputs in healthcare raises serious concerns. This lack of transparency undermines respect for patients, who may be offered diagnostic or therapeutic pathways without a clear understanding of their rationale, and places clinicians in a legally and professionally precarious position, as they ultimately retain responsibility for decisions, including in cases of error, algorithmic "hallucination," or legal dispute [6]. However, it should be noted that more transparent approaches exist (e.g., regression-based or rule-based models) which offer more readily interpretable clinical reasoning.

A second issue is the quality and representativeness of training data. AI systems trained on datasets that are insufficiently diverse or poorly generalizable, because they are representative of only certain segments of the population, risk producing biased or distorted interpretations. They also risk deepening discrimination and prejudices [7, 8], with the added concern that these outcomes may be perceived as neutral or objective because they are generated by an algorithm.

A third issue is that of environmental impact: AI is highly energy-intensive and its widespread and indiscriminate deployment raises concerns regarding environmental sustainability. Considering that the environmental burden of AI is largely attributable to the training of large-scale models, such training on issues relevant to the clinic should be reserved only to problems that cannot be properly addressed through less energy-intensive approaches.

A final issue, but certainly not least in importance, concerns the impact of extensive and systematic use of AI on the clinician-patient relationship, and more broadly on the relationship between care team, patients, and those close to them. If used without the necessary awareness, the introduction of AI tools presents the serious risk that clinicians may delegate to technology an essential task that is intrinsic to the therapeutic relationship itself and more broadly to care relationships. This would entail relinquishing essential clinical practices, including attentive listening to the patient's narrative, exploration of the individual's values and preferences, and the development of a shared care plan grounded in a genuine interpersonal encounter. It therefore appears evident that there is a need to safeguard and actively promote the care and trust relationship [9] as a fundamental space for dialogue, mutual listening, maturation of decisions, and a space for possible reconstruction of the personality and presumed wishes of persons no longer able to participate directly in the decision-making process.

While we ask ourselves what AI can do for clinical medicine, it remains equally necessary to reflect on what AI can do to clinicians, patients, and the care relationship itself, overcoming the naive assumption that the introduction of such a powerful technology is neutral or without consequences for the quality and meaning of care.

Considerations on Brender et al.'s hypothesis: use of AI for end-of-life choices for people unable to self-determine, in the absence of a living will

Regarding the specific proposal mentioned in the introduction—namely, the use of AI in end-of-life decisions concerning individuals who lack decision-making capacity and for whom no advance directives or reliable testimonies regarding their will are available—Brender et al. hypothesize two possible scenarios [1].

First, AI would be used to scan previously recorded conversations between clinicians and patients, with the aim of identifying end-of-life preferences. Second, AI would be tasked with examining the digital history of a patient who has become incapacitated to construct a sort of "social portrait," for example, through the analysis of purchasing behavior or other digital traces such as social media activity.

While recognizing and understanding the difficulty that healthcare teams frequently face when making end-of-life decisions for a person in the absence of advance directives, shared care planning, or family members able to reconstruct the person's wishes, we find the proposal advanced by Brender et al. ethically problematic for several reasons, which we outline below.

Privacy, confidentiality, reliability, and representativeness

A first set of problematic aspects regarding the proposal by Brender et al. concerns the security and interpretation of data.

First, the implications of systematically recording conversations of exceptional sensitivity and importance, such as those addressing health, prognosis and end-of-life issues, must be considered. At present, it appears difficult for healthcare systems to guarantee the inviolability of the databases in which these data would be stored, and therefore to ensure their long-term confidentiality.

Second, it should be noted that any documentation (audio or video) of clinical conversations would necessarily require the patient's full awareness, based on clear and comprehensive information, and explicit, documented consent. However, knowing that all conversations are being recorded and potentially reviewed later by third parties could influence the person negatively, undermining their freedom to speak openly and honestly with clinicians and introducing forms of self-censorship that are incompatible with an authentic therapeutic relationship.

Moreover, it is important to remember that clinical conversations are not constituted by words alone: tone of voice, pauses, facial expressions, and what is broadly understood as "non-verbal" communication are integral and relevant components of communication [10]. If AI analysis were based only on transcribed recordings, it would be reasonable to question whether the resulting interpretation would truly be representative of everything that took place in the clinical encounter, and thus of the person's thinking and of their values or existential horizon.

It should also be added that the ethical significance of a particular conversation, in which, unlike earlier discussions, an orientation or request of the patient is made explicit and clear, could be underestimated by AI systems, for example because it deviates from the "average" of the content expressed in other clinical conversations. As has been acutely observed, "the assumption that moral decision-making can be reduced to formal constraints and logic-based assessments overlooks the inherently interpretative and often ambiguous nature of human ethical reasoning" [11].

Another concern has to do with the dynamic nature of patients' preferences. A substantial body of literature demonstrates that individuals' stated preferences in hypothetical scenarios, particularly regarding health states perceived as "worse than death," frequently differ from decisions made when facing real clinical situations [12]. In addition, preferences regarding life-sustaining treatments are often unstable, evolving over time and varying with clinical context, even within the same individual [13, 14]. Collectively, these findings highlight the inherent limitations of static representations—such as stored clinical conversations or digital traces—in capturing the dynamic, context-sensitive, and ethically complex nature of real-world medical decision-making.

Finally, it is necessary to question whether information inferred from an individual's online activity can be considered representative of the person's complexity. Website visits, purchases, or participation in online groups occur for many different reasons that AI systems may be unable to fully grasp and contextualize [15]. Some online behaviors may be driven by social media algorithms, and this fact further challenges the assumption that digital personalities coincide with individuals' "authentic selves." People are always something much broader, deeper, and more complex than their consumption or public behaviors. Furthermore, if the AI reconstruction diverges substantially from the account provided by family members or close others, which version should be given more credence? In such cases, profiles developed by AI systems could alter or overturn the convictions of loved ones at an already vulnerable moment, potentially generating confusion and additional suffering.

Delegation effect and "technologization" of relationships

A second set of concerns regarding the proposal by Brender et al. relates to its potential impact on the relationship among healthcare professionals, patients, and those close to them.

First, it must be acknowledged that in current practice, healthcare professionals are often insufficiently trained to engage in meaningful dialogues about end-of-life scenarios and choices with their patients. This difficulty is compounded by increasingly constrained clinical timelines. The introduction of tools like those described by Brender et al. risks exacerbating this problem by further compressing time and space for communication. This would be at odds with frameworks that explicitly recognize communication as an integral component of care: for example, Italian Law 219/2017 significantly states that "the time of communication between physician and patient constitutes time of care" (Article 1, paragraph 8) [16].

More broadly, within the context of an increasingly "performance or procedure-based" model of medicine, reliance on AI may increase the temptation of outsourcing to third parties (an algorithm) responsibility for dialogues that properly belong to the clinical relationship itself and are necessary to make difficult choices. It is essential to remember that medicine cannot be reduced to technical actions but must always be grounded on authentic relationships, characterized by attentive listening, careful consideration of

available options, clarification of care goals, and genuinely shared planning of the therapeutic pathway.

A non-naive evaluation of emerging AI tools therefore requires verifying whether they truly support recognition of the "face of the other" [17], within a relationship of care and trust, or whether they simply offer the illusion of encounter while eroding its substance.

Conclusions

Critical reflection on the first proposals for the application of AI in end-of-life contexts appears both necessary and urgent. For the reasons outlined above—most notably concerns regarding reliability and the risk of undermining the clinician-patient relationship—we believe that Brender et al.'s proposal should be rejected in its current form. Even if AI is framed as "decision support," its use in end-of-life contexts still requires explicit governance—clear lines of accountability, auditability, and oversight—so that responsibility is not implicitly shifted from clinicians and institutions onto an opaque system.

Like all reflections that address still evolving disruptive innovations, the considerations presented above are provisional in nature and will require revision, integration, and updating as AI tools evolve, based on early experiences of application and on ongoing debate in bioethics and biolaw. Indeed, clinicians should remain curious and open-minded about future AI applications that may enrich their ethical and clinical toolbox. They should also engage in the development of tools designed to support the care relationship and inherently aligned with fundamental values and rights.

Even if provisional, we believe that our analysis offers a meaningful point of reference for navigating with greater awareness the fascinating and unsettling phase of technological development currently underway: *the goodness of any means must be evaluated in relation to its end*. To put it in Seneca's words (Letters to Lucilius, 71): "Ignoranti quem portum petat nullus suus ventus est" (No wind is favorable for those who do not know to which port they are sailing).

In considering the possible use of AI in end-of-life decision-making, the guiding question should therefore be whether AI tools (the means) ultimately support or undermine an authentic care relationship between healthcare professionals and patients (the end), within which sufficient time and attention can be devoted to addressing matters of fundamental human significance.

Abbreviations

AI	Artificial intelligence
SIAARTI	Italian Society of Anesthesia, Analgesia, Resuscitation and Intensive Care (SIAARTI)

Authors' contributions

AG conceived the paper. EF, NZ, MP, AM, PC and AG collectively analysed and discussed the different aspects of the topic, defining the contents of the position paper. EF drafted the manuscript. All the Authors revised and approved the final text.

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Declarations

Competing interests

The authors declare no competing interests.

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References

1. Brender TD, Smith AK, Block BL (2024) Can artificial intelligence speak for incapacitated patients at the end of life? JAMA Intern Med 184:1005–1006. https://doi.org/10.1001/jamainternmed.2024.2676
2. Angus DC, Khera R, Lieu T, Liu V, Ahmad FS, Anderson B et al (2025) AI, health, and health care today and tomorrow: the JAMA summit report on artificial intelligence. JAMA 334:1650–1664. https://doi.org/10.1001/jama.2025.18490
3. World Health Organization (2021) Ethics and governance of artificial intelligence for health; chapter 6, "Ethical challenges to use of artificial intelligence for health care", 31–64, https://www.who.int/publications/i/item/9789240029200. Accessed 30 Dec 2025
4. Rueda J, Rodríguez JD, Jounou IP, Hortal-Carmona J, Ausín T, Rodríguez-Arias D (2024) "Just" accuracy? Procedural fairness demands explainability in AI-based medical resource allocations. AI Soc 39:1411–1422. https://doi.org/10.1007/s00146-022-01614-9
5. Morley J, Floridi L (2025) The Ethics of AI in Healthcare: An Updated Mapping Review. In: Altman, M.C., Schwan, D. (eds) Ethics and Medical Technology. The International Library of Bioethics, 113. Springer, Cham. https://doi.org/10.1007/978-3-031-94690-5_2
6. Krügel S, Ammeling J, Aubreville M, Fritz A, Kießig A, Uhl M (2025) Perceived responsibility in AI-supported medicine. AI Soc 40:1485–1495. https://doi.org/10.1007/s00146-024-01972-6
7. Shachar C, Gerke S (2023) Prevention of bias and discrimination in clinical practice algorithms. JAMA 329(4):283–284. https://doi.org/10.1001/jama.2022.23867
8. Cross JL, Choma MA, Onofrey JA (2024) Bias in medical AI: implications for clinical decision-making. PLOS Digit Health 3(11):e0000651
9. Hatherley JJ (2020) Limits of trust in medical AI. J Med Ethics 46:478–481
10. Benbenishty JS, Hannink JR (2015) Non-verbal communication to restore patient-provider trust. Intensive Care Med 41:1359–1360
11. Giordano G, Ceccarelli G, Magnanimi E, Alessandri F (2025) The algorithm and the dying patient: a moral mismatch. J Bioeth Inq 22:611–613. https://doi.org/10.1007/s11673-025-10492-x
12. Ubel PA, Loewenstein G, Jepson C (2003) Whose quality of life? A commentary exploring discrepancies between health state evaluations of

patients and the general public. Qual Life Res 12(6):599–607. https://doi.org/10.1023/a:1025119931010
13. Fried TR, Bradley EH, Towle VR, Allore H (2002) Understanding the treatment preferences of seriously ill patients. N Engl J Med 346(14):1061–1066. https://doi.org/10.1056/NEJMsa012528
14. Fried TR, Van Ness PH, Byers AL, Towle VR, O'Leary JR, Dubin JA (2007) Changes in preferences for life-sustaining treatment among older persons with advanced illness. J Gen Intern Med 22(4):495–501. https://doi.org/10.1007/s11606-007-0104-9
15. Brown E (2026) Recommended selves: authenticity and algorithmic filtering. J Am Philos Assoc 12:15–34
16. Act 219/2017 "Provisions on informed consent and advance treatment directives", article 1, paragraph 8 (Legge 219/2017, "Norme in materia di consenso informato e di disposizioni anticipate di trattamento", articolo 1, comma 8), https://www.gazzettaufficiale.it/eli/id/2018/1/16/18G00006/sg. Accessed 30 Dec 2025.
17. Lévinas E (1985) Ethics and Infinity. Duquesne University Press, Pittsburgh

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