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ARTIFICIAL INTELLIGENCE IMPACT ON RESPONSABILITIES IN ETHICS HEALTH POLICY

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Abstract

The implementation of artificial intelligence (AI) in the healthcare sector brings both significant benefits and complex challenges related to ethical, administrative and legal responsibilities. To fully understand the impact of AI on health ethics policies, it is essential to analyze the recommendations of international organizations, national initiatives and recent academic studies.

The integration of AI in healthcare is reshaping the responsibilities of professionals and decision-makers alike. In addition to its obvious benefits, AI raises critical concerns related to data privacy, diagnostic accuracy and liability in case of errors.

This article examines how AI accountability and governance should be integrated into public health ethics policies, through an interdisciplinary approach that combines applied ethics, administrative sciences and policy analysis. We will argue that effective ethical governance of AI requires new institutional models, transparent policies and a clear distribution of responsibilities between human and technological actors.

Keywords: artificial intelligence in healthcare, legal and administrative responsibility, ethics in public policy

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INTRODUCTION

Rapid advances in artificial intelligence (AI) are fundamentally transforming the way public health systems operate, both in terms of service delivery and administrative decision-making. AI applications—from algorithmic-assisted diagnosis to epidemiological prediction to automated patient triage—promise increased efficiency, but at the same time raise serious questions about their ethical responsibility and governance.

In the context of the implementation of these technologies in public health institutions, the responsibility for AI decisions is no longer clearly delineated. The question “Who is responsible when an algorithm makes a mistake?” is becoming central to the debate on administrative ethics and public health policies (Mittelstadt et al., 2016). The problem is compounded by the fact that many AI systems are opaque (“black boxes”), and the decisions generated cannot be clearly explained even by their developers (Floridi & Cowls, 2019).

Thus, public health is facing a reconfiguration of responsibility, in which traditional actors — doctors, hospital managers, authorities — must share or cede control to non-human entities, namely algorithmic systems. This change requires not only a solid ethical framework, but also a robust model of public governance, which includes transparency, shared responsibility and clear mechanisms for responding to errors or abuses.

Furthermore, existing public policies — many of them built before the emergence of modern AI — are insufficient to deal with the challenges generated by these technologies. The lack of clear regulations regarding surveillance, risk assessment and citizen involvement in decision-making risks undermining trust in public health institutions (Veale and Edwards, 2018).

Here are some relevant definitions of ethical and legal responsibility in the context of the use of artificial intelligence in health ethics policies, extracted from the literature and regulations published between 2015 and 2025.

Starting from “The fundamental ethical principles applied to AI in health include respect for autonomy, beneficence, non-maleficence and justice.” (Pasricha, 2022), principles that guide the design and use of AI to ensure that decisions are in the best interest of the patient and respect rights, it can be stated that the responsibility of AI in health is governed by these four fundamental ethical principles.

The World Health Organization (2024, November 27) in its statement on the ethics of using artificial intelligence in health applications emphasizes that AI must complement, not replace, human intelligence, and its use must respect human rights and be subject to appropriate ethical governance.

The EU Regulation on AI, adopted in 2024, establishes a legal framework for the use of AI, classifying AI systems according to the level of risk and imposing strict requirements for high-risk ones, such as those used in health. These requirements include risk assessment and mitigation, the quality of datasets, traceability of results and adequate human oversight. The goal is to ensure that AI systems are safe, transparent, ethical and under human control (European Commission, 2024).

The European Union has established a set of ethical principles for digital health, which include placing digital health in a framework of humanistic values, actively involving individuals in managing their health data, developing inclusive digital health, and implementing green digital health. These principles emphasize the importance of explainability of AI and the avoidance of discriminatory biases in digital health systems (Henninger, 2022).

The aim of this study is to analyze how moral and legal responsibility is reconfigured in the context of the use of artificial intelligence (AI) in public health, with a focus on identifying the actors involved, delimiting responsibilities and evaluating the current ethical and legal framework. The study aims to contribute to the understanding of the challenges and solutions needed for responsible AI governance in this critical area.

Research question:

How can responsibility for AI decisions in public health be clearly and fairly assigned, given the opacity of these technologies and the impact on human life?

Objectives:

1. Analysis of the differences and overlaps between moral and legal responsibility in the use of AI in health, and the identification of the actors involved.
2. Evaluation of European and international AI legislation and ethical norms, as well as the capacity of institutions to regulate and apply these norms responsibly.

Research method

The study uses a qualitative documentary analysis, based on scientific literature published between 2015–2025, international regulations (e.g. EU Regulation on AI), official reports of public institutions and ethical guidelines of relevant organizations. Institutional positions and policies are comparatively analyzed, together with relevant case studies from public health.

The results will highlight the ambiguity of responsibility in the use of AI, especially in cases of algorithmic errors, where it is not clear who is responsible—the developer, the institution, or the user. The lack of a unified legal and ethical framework is confirmed, but also the need for convergence between the two types of responsibility. Documentary analysis proved suitable for exploring these aspects, providing an overview of the challenges and proposed solutions at national and international level.

A major limitation of the study lies in its theoretical and documentary character, without an applied empirical component (e.g. interviews with practitioners or analysis of effectively implemented national policies). Also, the rapid dynamics of regulations may outpace the validity of some conclusions soon.

Future research should include empirical case studies on the implementation of AI in public health institutions, the analysis of the real impact of these technologies on patients and medical staff, as well as the development of operational models of responsibility sharing between human and non-human actors.

1. MORAL RESPONSIBILITY AND LEGAL RESPONSIBILITY IN THE CONTEXT OF AI

The widespread use of artificial intelligence (AI) in critical areas, including health, justice, and public administration, has led to a profound reconfiguration of the concepts of moral and legal responsibility. Although these two forms of responsibility are distinct, they converge in the context of AI, generating new ethical and legal dilemmas. Moral responsibility involves judgments about the ethical character of actions, while legal responsibility refers to the formal attribution of guilt and the sanctions associated with violating legal norms. In the case of AI, this distinction becomes problematic, as non-human agents cannot be considered moral subjects in the traditional way (Coeckelbergh, 2020).

Recent literature highlights that AI systems can cause harm without conscious intention, which complicates the attribution of responsibility. Thus, "moral responsibility rests with the human actors who design, implement, or oversee AI, while legal liability tends to focus on companies and developers" (Bottomley & Thaldar, 2023). For example, if a medical diagnostic algorithm makes an error, the doctor and the developer may be held liable from different perspectives – ethical vs. legal. This division reflects the complex nature of AI as an "artificial agent" that acts without its own will, but with real and sometimes fatal effects (Floridi & Cows, 2021). A convergence between the two types of responsibility is visible in new legislative proposals, such as the European Artificial Intelligence Act, which imposes mandatory ethical requirements on high-risk AI systems. At the same time, the "AI Liability Directive proposes a reversal of the burden of proof in cases of harm caused by automated systems", marking a rapprochement between moral and legal requirements (European Commission, 2022). In conclusion, moral and legal responsibility is not equivalent, but increasingly interacts in AI regulation, requiring mixed governance that includes digital ethics, legal regulation and institutional self-assessment.

2. THE ROLE OF PUBLIC INSTITUTIONS IN ENSURING RESPONSABILITIES IN THE USE OF AI

In the context of the expansion of artificial intelligence in areas of public interest such as health, justice and administration, public institutions have an essential role in defining and enforcing the responsibility related to the use of these technologies. Moral responsibility implies the assumption of ethical standards by developers, users and regulators, while legal responsibility involves compliance with the regulatory framework, attribution of blame and application of sanctions in case of damages. The differences between the two lie in their nature: the moral one is normative and voluntary, while

the legal one is formalized and binding. However, they are converging in public policies regarding AI, by developing regulations that have both legal and ethical foundations (Floridi & Cows, 2021).

The lack of AI literacy among healthcare professionals creates significant barriers to the ethical and effective implementation of these technologies (Shinners et al., 2022) requiring understanding of AI for healthcare staff, training in risk assessment and AI-based decision making, awareness of technological limits and moral implications.

Public institutions play a dual role: on the one hand, they function as regulators, developing policies to prevent abuses and inequalities generated by AI, and on the other, as ethical shapers, by promoting values such as transparency, equity and democratic accountability. According to the European Commission, "governments have a responsibility to create a trusted ecosystem in AI, ensuring that high-risk technologies are used safely and fairly" (European Commission, 2021). In this regard, recent legislative proposals – such as the EU AI Law – reflect a convergence between moral and legal responsibility, by imposing binding rules on explainability, human oversight and risk management. Also, public institutions must develop audit and compliance mechanisms, but also support the digital and ethical literacy of officials and citizens, thus reducing the power asymmetries between the state, industry and society. Thus, public accountability in the use of AI is not only a matter of legal regulation but also one of collective moral governance (Smuha et al., 2023).

3. WHO IS RESPONSIBLE WHEN AI GOES WRONG?

Accountability in the use of artificial intelligence (AI) is essential, having a direct impact on public trust, organizational reputation, legal responsibility and ethics. As AI is increasingly involved in decision-making and operational processes, accountability cannot be treated as secondary. The absence of clear accountability structures can lead to major risks and harm.

Table 1 Main actors and responsibilities in the use of AI

Actor	Primary responsibility
Regulators	Establishing and enforcing laws for the ethical use of AI; protecting the public interest
AI Providers	Providing secure, transparent AI products; informing clients about risks
AI Developers	Designing AI without errors and biases; implementation of safety measures
Data Providers	Data quality and ethics; compliance with privacy regulations
Employers	Clear usage policies; AI risk and incident management
AI User Managers	Team training; monitoring usage in accordance with internal policies
AI Users	Fair Use and Supervision; aware of the limitations of AI

Source: <https://emerge.digital/resources/ai-accountability-whos-responsible-when-ai-goes-wrong/>

While each actor has distinct roles and responsibilities, they all contribute to the responsible AI ecosystem. Those in the operational area (users, managers) manage day-to-day use, those in the technology area (developers, suppliers) deal with integrity and functionality, and strategic and normative entities (employers, regulators) create the framework in which AI can operate safely for society.

4. ARTIFICIAL INTELLIGENCE HARM AND LIABILITY ISSUES IN PUBLIC HEALTH ETHICS

With the accelerated integration of artificial intelligence (AI) into public health, numerous ethical and legal challenges arise related to potential harms and associated liability. AI is being used for diagnosis, triage, epidemiological prediction and even therapeutic decisions, but the lack of a clear accountability framework raises significant concerns.

A central aspect is the difficulty of assigning responsibility for algorithmic errors. For example, in cases where a diagnostic algorithm makes a wrong recommendation that leads to patient harm, it is

often unclear who is responsible: the software developer, the medical institution, or the human user (Morley et al., 2020), a dilemma also highlighted by Yu & Kohane (2019), who stress that current liability frameworks lag behind the clinical risks introduced by AI-assisted decisions. This problem is accentuated in public health, where AI decisions can affect entire groups and have systemic implications.

Another challenge is the lack of transparency of AI models, a phenomenon known as "black box". This makes it difficult to audit decisions and undermines public trust in the technology. As Mittelstadt (2019) states, "opaque algorithmic decisions risk undermining principles of justice and moral accountability in public health."

In healthcare, artificial intelligence systems used to diagnose diseases have also been embroiled in controversy. Saenger et al. (2024) present a case where an AI system misdiagnosed a patient's condition, leading to a delay in treatment, illustrating the practical risks of AI in a clinical context. Although AI algorithms are designed to assist healthcare professionals, when mistakes occur, it can be unclear whether the responsibility lies with the AI developers, healthcare providers, or both (Bottomley & Thaldar, 2023).

In addition, the use of AI can lead to indirect discrimination by perpetuating or amplifying existing biases in the training data. AI systems used in patient triage or resource allocation can disadvantage certain ethnic or socio-economic groups, which runs counter to principles of equity in public health (Leslie, 2020, Vinuesa et al., 2020), who underline how AI can reinforce structural inequalities in healthcare access if not ethically governed.

These cases highlight the difficulty of applying traditional legal frameworks to AI systems, where accountability is often unclear. They expose the need for updated liability systems that can handle the nuances of AI-based decisions, ensuring fairness and protection for those affected by AI-related harm (Goudkamp, 2023).

To meet these challenges, robust ethical and legal regulation is needed, including external audits, clear mechanisms for challenging AI decisions, and algorithmic accountability standards. The World Health Organization (WHO, 2021) recommends adopting a human rights-based framework for all AI applications in health.

In conclusion, although AI offers significant opportunities for improving public health, the potential harms and lack of clarity in the attribution of responsibility require a critical and regulated approach to ensure the ethics and safety of the use of these technologies.

5. GLOBAL APPROACHES TO ACCOUNTABILITY IN AI

Governments around the world are working to develop legal responses to help mitigate some of the risks associated with AI. However, regulatory strategies and approaches vary significantly across regions.

The proposed EU AI Law and AI Liability Directive aim to close liability gaps by shifting part of the burden of proof to developers and operators (Council of Europe, 2024). This legislation is designed to make it easier for victims of AI-related harm to seek compensation and to hold developers accountable for failures. According to the Digital Watch Observatory (2024), Romania, aligning itself with this direction, launched the National Strategy for Artificial Intelligence 2024–2027, which emphasizes the integration of AI in public administration and the digital economy, with an emphasis on regulations adapted to the national context and inter-institutional cooperation.

The United States government issued an executive order, Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence, signed by President Joe Biden on October 30, 2023,

on safe, secure, and trustworthy artificial intelligence, emphasizing the responsible development of artificial intelligence while leaving detailed liability issues to state and industry-specific regulations.

In 2024, The Association of Southeast Asian Nations (ASEAN) endorsed the AI Governance and Ethics Guidelines, which provide guidance for the responsible implementation of AI in member states while encouraging innovation.

The UAE and Saudi Arabia have adopted a soft-law approach with ethical guidelines in AI, focusing on flexible, principles-based regulation to encourage the growth of AI while managing risks (Artificial Intelligence Office, 2023; SDAIA, 2023).

While India does not have AI-specific legislation, regulators support a risk-based approach, particularly in sectors such as healthcare. The Indian Council of Medical Research has issued ethical guidelines on artificial intelligence, emphasizing the responsibility of developers for decisions based on artificial intelligence (Indian Council of Medical Research, 2023).

The UK signed on 5 September 2024 the first international treaty, the Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law, which addresses the risks of AI, strengthening its commitment to prevent AI-related harm while promoting responsible development of AI (UK Government, 2024).

To fully understand the impact of artificial intelligence on ethics policies in the field of health, an integrated analysis of recommendations formulated by international organizations, national initiatives and recent academic literature is essential, such as the study by Jobin, Ienca and Vayena (2019), which mapped globally the impact of guidelines on the coherent and responsible record of these technologies in the health sector.

6. DISCUSSIONS

In the context of the accelerated digitization of public health services, accountability associated with the use of artificial intelligence (AI) is becoming an essential aspect of regulatory and governance policies. Preventing legal liability does not only require compliance with existing rules, but also involves a proactive approach, focused on transparency, rigorous technical validation and extensive documentation. Especially in healthcare, where AI-based decisions can directly impact patients' lives, ensuring traceability and decision reliability is crucial.

One of the major challenges in investigating AI litigation lies in the difficulty of proving harm and the causal link between algorithmic decisions and effects on patients. For this reason, maintaining clear records of the development, testing and use of AI systems becomes an essential measure of diligence. Careful documentation of data sources, training models and decision-making mechanisms provides a solid basis for defending against potential legal disputes.

Ongoing testing of AI systems, with a focus on detecting algorithmic errors and biases, is another essential tool in ensuring accountability. Particularly in public health, the use of diverse and representative datasets is essential to avoid discriminatory outcomes that can undermine the equity of healthcare services. In this sense, creating an internal accountability framework – with clearly defined roles for compliance and risk assessment – can support responsible use aligned with evolving legal standards.

Amid the accelerated development of the European legislative framework, including through the Artificial Intelligence Law and the Product Liability Directive, healthcare organizations must remain proactive in updating internal policies and procedures. In the future, it is expected that regulations will shift the burden of proof to developers, requiring increased levels of transparency and auditability.

Thus, public health policies will need to integrate these emerging demands, balancing consumer protection with the need to support technological innovation. A robust and proactive approach to AI accountability will help not only to avoid legal risks, but also to strengthen public trust in digital health systems.

7. CONCLUSIONS

The integration of AI in health systems implies a redistribution of responsibilities between human actors (doctors, managers, authorities) and algorithmic entities. This change requires rethinking the ethical and administrative framework, as AI becomes an active but non-human decision-maker.

Existing policies are outdated compared to new AI technologies, and the regulatory vacuum can lead to unclear decisions and harm. An integrated legislative framework combining ethical regulation, legal accountability and citizen engagement is essential for the fair and safe operation of AI in health.

The opacity of AI decisions ("black box") compromises fundamental principles of medical ethics, such as patient autonomy and responsibility. Algorithmic explainability thus becomes a mandatory condition for public trust and auditability of decisions.

AI cannot be held morally or legally accountable. Therefore, human actors (developers, users, institutions) must take responsibility for AI decisions. Future regulations must clearly articulate mixed responsibility and anticipate the ethical-legal dilemmas of decision-making automation.

Governments and public health institutions need to develop policies that promote ethical and safe AI, through audit mechanisms, ethical and digital education, and by supporting transparency in algorithmic decision-making.

A responsible approach to AI requires clearly defining roles: developers are responsible for technological safety, data providers for information quality, and users and institutions must properly oversee implementation. All of these actors contribute to a responsible ecosystem.

AI errors in diagnosis or treatment can have serious consequences, but accountability is often diffuse. Modern legislative and institutional tools are needed that allow for the traceability of decisions and access to fair legal remedies for those affected.

From the EU AI Law to the ASEAN guidelines or the US and UK strategies, a global consensus is emerging around the idea that AI in health must be safe, fair, transparent and under human control. In this context, AI governance is not just technical, but deeply ethical and social.

Accountability in the use of artificial intelligence in health is not a technical task, but a deeply political, moral and institutional challenge. Effective regulation must go beyond mere legal compliance and be based on a culture of distributed responsibility, in which all actors—public and private, human and technological—are integrated into a transparent, adaptive, and democratic framework.

Without these conditions, there is a risk not only of medical errors or injustices, but also of a loss of trust in the entire public health system, which would nullify the very positive potential of AI. In this sense, accountability is not only a legal concept, but the foundation of sustainable ethical governance in the digital age.

8. RECOMMENDATIONS ON ACCOUNTABILITY AND ETHICAL GOVERNANCE OF AI IN PUBLIC HEALTH

The implementation of artificial intelligence (AI) in public health represents a major technological advance, but also an unprecedented governance challenge. The analysis of the text reveals a deep tension between the transformative potential of AI and the associated risks, especially in terms of moral, legal and institutional responsibility. I believe that this context requires a much more systematic approach, centered on three fundamental directions: proactive regulation, operational transparency and shared responsibility.

1. The need for proactive and adaptive regulation

My personal opinion is that the current approach in many states is reactive, often designed in response to incidents or damage already done. In a field with a direct impact on human life, such as public health, this model is unacceptable. I propose the adoption of anticipatory regulatory mechanisms, based on continuous risk assessment, with an emphasis on ethical testing from the development phase of AI systems.

The European model, which classifies AI systems according to risk and imposes strict requirements for those in health, is a positive example. However, I recommend that this framework be complemented by dynamic mechanisms for updating regulations, given the accelerated pace of technological innovation.

2. Transparency and explainability: essential conditions for AI ethics

One of the most serious problems reported is the opacity of AI systems ("black box"), which makes it impossible to understand algorithmic decisions even for experts. In my view, this lack of explainability is incompatible with the basic principles of medicine and public health.

Establishing mandatory standards of transparency, auditability and explainability for all AI systems used in healthcare would imply the obligation of developers to provide "ethical passports" of algorithms, access of control institutions to the decision-making logic of AI, the possibility for patients or citizens to challenge decisions made based on AI (Agheorghiesei, 2025).

An AI that cannot be understood and contested cannot be held accountable and public trust will inevitably be eroded.

3. Clarification and sharing of responsibility between actors

The text correctly emphasizes the complexity of the distribution of responsibility between developers, providers, users, public institutions and governments. However, I believe that this approach, although theoretically correct, is insufficient in practice if it is not accompanied by formal mechanisms for shared responsibility.

The development of a standardized contractual framework between the actors involved in the AI chain — from the developer to the end user — specifying who is responsible in case of damage or what procedures are activated in the event of an error or what remedial and compensation mechanisms are provided, would be welcome.

Without such clear structuring, there is a risk that responsibility will be passed into a "legal vacuum", to the detriment of the affected citizen/patient.

4. Integrated and participatory ethical governance

A strong opinion is that public health, being a collective good, requires democratic participation in AI governance. Citizens should not be considered merely as data subjects or passive beneficiaries of technology, but as legitimate actors in AI decision-making.

I recommend the creation of advisory ethical committees at regional and national levels, made up of experts in AI, bioethics, public administration and civil society representatives. These structures should participate in approving the use of AI in new sensitive applications, developing best practice guidelines and of course assessing the social impact of AI implementation.

This public participation would reduce power asymmetries and strengthen collective responsibility.

5. Ethical and digital education as a prevention tool

Last but not least, it is obvious that many of the mistakes related to AI stem from a lack of understanding of how these technologies work. I believe that digital literacy and ethics must become an integral part of healthcare professional training.

Training programs should include: digital skills and understanding of AI for medical staff, training in risk assessment and decision-making based on AI, awareness of technological limitations and moral implications.

These measures will reinforce professional autonomy and reduce the risk of blind delegation to algorithms.

AUTHORS CONTRIBUTIONS

The author/authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

CONFLICT OF INTEREST STATEMENT

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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