TREGAI Checklist\*

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| Ethicist involvement | | | |
| Ethical discussions disclosed below involved contributions from philosophers and/or ethicists. | | Ethical discussions disclosed below were peer-reviewed by philosophers and/or ethicists. | |
| Additional involvement of philosophers and/or ethicists from relevant ethics subfield: \_\_\_\_\_\_ | | Peer-reviewed by philosophers and/or ethicists from relevant ethics subfield: \_\_\_\_\_\_ | |
| Ethical discussions | | | |
| Ethical Principles | Discussions in text (check all that apply) | | Position in text |
| Accountability | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Autonomy | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Beneficence | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Equity | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Integrity | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Morality | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Non-maleficence | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Privacy | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Security | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Transparency | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Trust | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |
|  | Not applicable | |  |
| Others: \_\_\_\_\_\_ | Discussed relevant issues arising from generative AI | |  |
|  | Further discussed possible solutions | |  |
|  | Discussed use of generative AI to resolve relevant issues | |  |
|  | Further discussed limitations and inadequacies | |  |

Citation: Ning Y, Teixayavong S, Shang Y, Savulescu J, et al. [Generative Artificial Intelligence in Healthcare: Ethical Considerations and Assessment Checklist](https://arxiv.org/abs/2311.02107). arXiv 2023; arXiv:2311.02107.  
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\*We strongly recommend reading this checklist in conjunction with the reference article for important clarifications on all the items.

**†**Definition in healthcare context:

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| --- | --- |
| **Ethical Principles** | **In-Context Definition(s)** |
| Accountability | * The explicit clarifications of to whom and to what extent responsibility and/or legal liability fall. * The mandated and moral duty to establish regulatory mechanisms to prevent potential adverse effects on patients from the use of generative AI. |
| Autonomy | * The preservation and fostering of patients’ dignity, rights for self-determination and capacity to make informed decisions. * Provision on understandable information to enable patients to employ according to their values. |
| Beneficence | * The putative benefits of AI tools offer and the limits of these benefits. |
| Equity | * The use of generative AI to promote equity according to some notion of fairness (e.g., equality of opportunity, outcomes, etc.) in health or health resources across diverse groups of patient populations, and to actively prevent and/or remedy systemic, unfavourable outcomes in specific patient population(s). * The equitable access to AI or generative AI technology. |
| Integrity | * The commitment to intellectual honesty, and personal responsibility to abide by responsible research conduct, including data integrity, to establish accountability and prevent harm. * The rightful acknowledgement of contributions to and ownership of intellectual work, when generative AI is used in clinical research. |
| Morality | * The use of generative AI aligned with stakeholders’ moral beliefs and values. |
| Non-maleficence | * The prevention of harm and potential risks to patients associated with generative AI use in healthcare. |
| Privacy | * The protection of patients’ information from illegitimate access, and of confidentiality of personal sensitive information. |
| Security | * The protection of health data integrity and safety, through careful assessments of vulnerabilities in data systems and the prevention of data breaches, cyberattacks or other threats. |
| Transparency | * The full-disclosure and thorough documentation of information regarding generative AI development, including its data set and evaluation of performance. * The ability to access and understand the processes underlying models’ outputs, especially pertaining to black-box models, in so far as this is possible |
| Trust | * The confidence of users in generative AI and/or its developers, and expectations that the model is competent in performing its pre-specified tasks and behave in ways that serve patients and medical community. * Evidence of performance and its limitations * The willingness to accept and integrate generative AI tools to assist delivery of care or research. * Trustworthy generative AI possesses and exhibition of a range of ethically-reliable properties, including performance robustness, fairness, security, etc. |