Increasing patient demand, chronic disease, and resource constraints put pressure on healthcare systems. Simultaneously, the usage of digital health technologies is rising, there has been an expansion of data in all healthcare settings. If properly harnessed, healthcare practitioners could focus on the causes of illness and keep track of the success of preventative measures and interventions. As a result, policymakers, legislators, and other decision-makers should be aware of this. For this to happen, computer and data scientists and clinical entrepreneurs argue that one of the most critical aspects of healthcare reform will be artificial intelligence (AI), especially machine learning ([1](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B1)). Artificial intelligence (AI) is a term used in computing to describe a computer program's capacity to execute tasks associated with human intelligence, such as reasoning and learning. It also includes processes such as adaptation, sensory understanding, and interaction. Traditional computational algorithms, simply expressed, are software programmes that follow a set of rules and consistently do the same task, such as an electronic calculator: “if this is the input, then this is the output.” On the other hand, an AI system learns the rules (function) through training data (input) exposure. AI has the potential to change healthcare by producing new and essential insights from the vast amount of digital data created during healthcare delivery ([2](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B2)).

AI is typically implemented as a system comprised of both software and hardware. From a software standpoint, AI is mainly concerned with algorithms. An artificial neural network (ANN) is a conceptual framework for developing AI algorithms. It's a human brain model made up of an interconnected network of neurons connected by weighted communication channels. AI uses various algorithms to find complex non-linear correlations in massive datasets (analytics). Machines learn by correcting minor algorithmic errors (training), thereby boosting prediction model accuracy (confidence) ([3](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B3), [4](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B4)).

The use of new technology raises concerns about the possibility that it will become a new source of inaccuracy and data breach. In the high-risk area of healthcare, mistakes can have severe consequences for the patient who is the victim of this error. This is critical to remember since patients come into contact with clinicians at times in their lives when they are most vulnerable ([5](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B5)). If harnessed effectively, such AI-clinician cooperation can be effective, wherein AI is used to offer evidence-based management and provides medical decision-guide to the clinician (AI-Health). It can provide healthcare offerings in diagnosis, drug discovery, epidemiology, personalized care, and operational efficiency. However, as Ngiam and Khor point out if AI solutions are to be integrated into medical practice, a sound governance framework is required to protect humans from harm, including harm resulting from unethical behavior ([6](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B6)–[17](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B17)). Ethical standards in remedy may be traced lower back to the ones of the health practitioner Hippocrates, on which the idea of the Hippocratic Oath is rooted ([18](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B18)–[24](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B24)).

Machine Learning-healthcare applications (ML-HCAs) that were seen as a tantalizing future possibility has become a present clinical reality after the Food and Drug Administration (FDA) approval for autonomous artificial intelligence diagnostic system based on Machine Learning (ML). These systems use algorithms to learn from large data sets and make predictions without explicitly programming ([25](https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full#B25)).