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Ethical Use of AI in Pharma and Healthcare: An Overlooked Domain

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ABSTRACT

Artificial intelligence (AI) in today's world is being increasingly adopted in healthcare and pharmaceutical industry to enhance diagnostics, drug discovery, clinical decision-making, personalized medicine and pharmacovigilance. These technologies offer substantial advantages in terms of efficiency, accuracy, cost reduction and scalability. However, rapid integration of AI also raises critical ethical concerns that must be addressed and cannot be overlooked to ensure responsible and trustworthy use. In pharmaceutical research, AI-driven models, which depends heavily on datasets, are increasingly being used for target identification, virtual screening, and clinical trial optimization. However, the use of biased or incomplete datasets can lead to inaccurate predictions and unequal treatment outcomes because algorithmic biasness. In healthcare applications, AI-driven clinical decision support systems may influence diagnosis and treatment pathways, raising ethical questions regarding explainability, physician autonomy, and patient safety. The limited interpretability of many deep learning models and "Black box" nature of AI further complicates validation, auditability, and regulatory approval. This poster discusses the ethical dimensions of AI use in healthcare and pharmaceuticals, focusing on patient data privacy, fairness, transparency, and informed consent. It emphasizes the need for clear governance frameworks, interdisciplinary collaboration, and continuous ethical evaluation throughout the AI lifecycle.

Keywords: Artificial intelligence (AI), Black Box, Algorithmic bias, drug discovery, AI lifecycle

