The Factors Impacting the Perceptions in the Field of Clinical Research and Challenges, Potential Implications of the Same on Clinical Trials Along With Impact of the New Technologies Like Ai on the Clinical Trial Process

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Abstract

Perceptions about clinical research run deep, and the influence of such perceptions on trial recruiting and outcomes is the emphasis of this study. Historical factors of public mistrust and ethical misconduct by the clinical community come into play in views opposing those of the lay public and health professionals alike; however, competing new technologies, particularly AI, create new opportunities and new challenges. This study seeks to identify the main drivers behind these often-negative perceptions and evaluate how they may be inhibiting recruitment and retention in clinical trials. Furthermore, the paper discusses the tendency of AI to either promote efficiencies in clinical trials or give rise to ethical concerns on data privacy and algorithmic bias. By reconciling elements of varying theoretical perspectives, this study hopes to initiate a dialogue leading to more informed and transparent clinical research, thereby enhancing public trust and participation. Recommendations include stakeholder engagement; targeted training; and responsible high-tech use, all of which should ensure inclusive, credible, effective clinical trials.

(Keywords: Clinical research, public perception, Artificial Intelligence, ethical challenges, recruitment, trust, transparency, stakeholder engagement)

1. INTRODUCTION
1.1 Background Study
Clinical research has a major role in achieving medical advancements, development through new treatments, and achieving patient safety and care standards (OGBETA et al. 2023). However, perceptions in clinical research have varied from strong public trust in science to scepticism about the motives of the pharmaceutical industry and ethical practices and transparency. Many factors such as media representation, historical wrongdoings, culture, regulatory frameworks, and the level of understanding about research procedures and their benefits by the public shape these perceptions. Simultaneously, clinical trials basis for evidence-based medicine face a myriad of operational and ethical complexities (Robinson, 2021). These challenges include recruitment difficulties, retention issues, concerns regarding informed consent, and the balancing act between participant rights and scientific objectives.

Technological innovation also moulds the clinical trial landscape. More specifically, the latest emerging disruptive force in clinical research is Artificial Intelligence (AI) (Lampreia et al. 2024). It has the prospect of applying itself to various elements of the clinical research landscape, such as streamlining patient recruitment through predictive analytics, improving data monitoring, and decentralizing trial models. AI thus promises to overcome many of the traditional inefficiencies that hinder clinical research. However, the same technology raises ethical, regulatory, and trust issues that need consideration before they can be used.

1.2 Research Aim.
This study identifies the fundamental issues that shape views in clinical research and the challenges such views might present for the conduct of clinical trials. It also seeks to answer how emerging technologies such as AI will transform the manner and extent to which these aspects beneficially or detrimentally address challenges within clinical research.

1.3 Research Objective
● To identify and analyze the primary factors affecting public and professional perceptions of clinical research.

● To evaluate the challenges these perceptions create for the planning and implementation of clinical trials.
● To investigate the role of AI and other emerging technologies in mitigating or amplifying these challenges.

1.4 Research Question
- What are the key factors impacting perceptions in the field of clinical research?
- How do these perceptions influence the conduct and outcomes of clinical trials?
- What are the implications of emerging technologies, particularly AI, on the clinical trial process?

1.5 Research Significance
As global health crises show the need for rapid yet ethical medical innovations, it becomes even more important to understand ways through perception-related challenges that confront clinical research. Negative public or professional perception can seriously hamper recruitment into trials, compromise data integrity, and delay the development of therapies that could save lives (da Silva, 2024). In studying such factors and their interaction with new technologies like AI, this work aims to evolve a more informed, transparent, and efficient clinical research environment. The findings may assist the policymakers, trial designers, sponsors, and regulators in inculcating the need for trust-building strategies and technological integration while maintaining ethical limits to improve the conduct of trials.

1.6 Research Rationale
Today, research continues to battle public suspicion and mercenary dilemmas. These stem from episodes like the notorious Tuskegee Syphilis Study and a string of data manipulation scandals. Those olden times have brought us some very formidable challenges in the modern world, including digital misinformation and misunderstanding about clinical processes. On the other hand, AI is looked at with promise, if not proof, of being the solution for many of the operation-aiding issues from patient matching algorithms through real-time monitoring of trial adherence (Mchirgui et al. 2024). However, ethical concerns, data privacy issues, and the potential for AI bias remain under-researched in the setting of clinical trials. Hence, this study has a valid justification for trying to bridge the divide between societal perception and technological evolution in the world of clinical research.

1.7 Problem Statement
The clinical research industry is in a crisis. While it should develop treatments requiring a cure and validate new forms of treatment, there are increased instances in public opinion and healthcare professionals regarding ethical conduct, transgressions, and historical misconduct (Stabile et al. 2023). These views greatly influence subject recruitment, retention of trials, and overall faith in scientific outcomes. Meanwhile, new technology, such as AI, raises both prospects and dangers. AI can automate and optimize every step of the clinical trial process, from patient screening to data analysis, yet it raises accountability issues: algorithmic fairness, data security, informed consent, and regulatory oversight.

2. LITERATURE REVIEW

2.1 Theory and Model
Different psychological, sociocultural, and organizational theories might influence the perception of clinical research. One main framework for understanding stakeholder engagement and perception is the **"Health Belief Model (HBM)**," which asserts that individual attitudes toward health interventions are influenced by perceived susceptibility, severity, benefits, and barriers (Ogbonna, 2023). At the level of clinical research, HBM helps understand how patients evaluate the risks and benefits of their involvement in a trial, especially when it deals with new or experimental therapies. An individual will, in most cases, be less willing to participate in a trial if the associated risk is greater than the benefit.
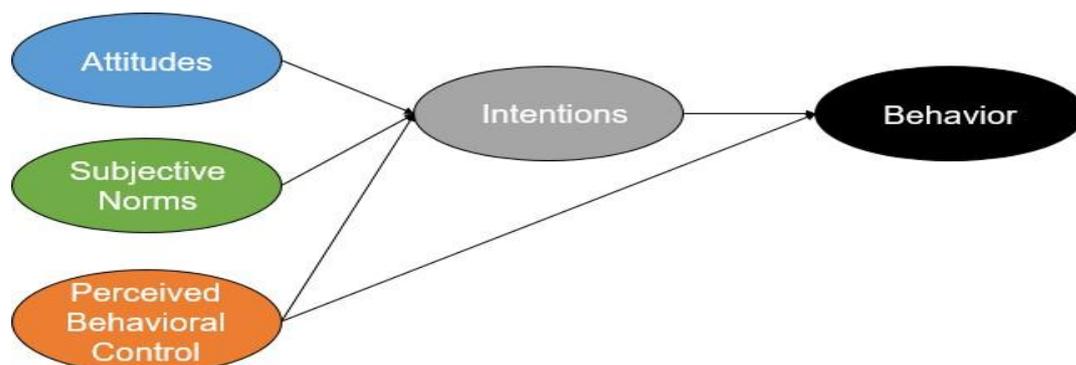

Figure 1: "Theory of Planned Behavior (TPB)"
(Source: Pressbooks, 2023)

There is yet another relevant model, **Ajzen's "Theory of Planned Behavior (TPB)":** it suggests behavior (such as enrolling in a clinical trial) is an outcome of attitude, subjective norms, and perceived behavioral control (Yarmohammadi et al. 2023). Concerning clinical trials, it emphasizes how public trust in institutions and social influence (e.g., healthcare providers' opinions) may significantly affect trial participation.
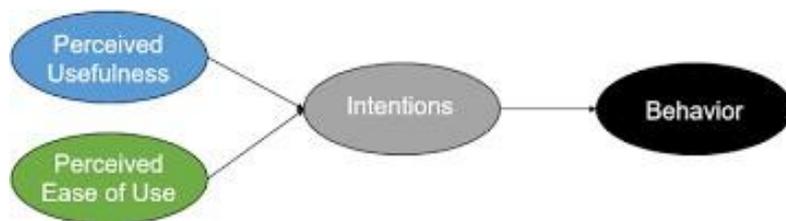

Figure 2: "Technology Acceptance Model (TAM)"
(Source: Pressbook, 2025)

The "**Technology Acceptance Model (TAM)**" is increasingly relevant for understanding to what extent researchers and participants adopt digital health innovations like AI (Zin et al. 2023). The TAM model awards primacy to the perceived usefulness and perceived ease of use as factors of technology adoption. In clinical trials, the adoption of AI in recruitment, data monitoring, and protocol management would be largely on users' perceptions of its reliability and transparency. The theory of organizational trust, and especially Mayer, Davis, and Schoorman's integrative model of organizational trust, will help explain how pharmaceutical companies and research institutions obtain or lose credibility (Collier and Sarkis, 2021). Trust is made on ability, benevolence, and integrity; these three constructs are often scrutinized in the pharmaceutical research context, especially against the backdrop of past ethical violations.

2.2 Perceptions and Trust in Clinical Research

Public perception stands on a threshold of crucial determinants for the success of a clinical trial. Willingness to engage in research by participants heavily depends on their trust in the sponsoring institution, perceived personal benefits from participation, and past experiences with the health system itself (vandyke et al. 2023). Perception is very much related to transparency, communication of results, and whether participants feel they matter beyond being "test subjects". Conflicts in culture can also sow seeds of doubt. Minority communities in Western countries see the spectre of historical exploitation and underrepresentation hovering over clinical research. Such perceptions affect not just diversity in the trials but the generalizability of findings as well.

2.3 Challenges in Clinical Trials

Clinical trial management is replete with various challenges, most of which are perception-related. Poor participant recruitment and high dropout rates due to issues of safety, inadequate information, or mistrust of pharmaceutical companies (Ashwell et al. 2023). There are also ethical concerns relating to informed consent and misuse of data. In essence, clinical trials cost money, take time, and are heavily regulated. With growing complexities, the burden on researchers and participants goes up even more. Aspects of vulnerability in the clinical trial system affected by COVID-19 accelerated the demand for decentralized and digitized models.

2.4 AI and Emerging Technologies in Clinical Trials

The new phenomenon in clinical research is undoubtedly Artificial Intelligence (Májovský et al. 2023). From natural language processing of electronic health records for better patient matching, optimizations in protocol design, and the prediction of dropout risks to remote monitoring, AI promises to slash costs and time in clinical trials dramatically. Yet, the questions of bias in the AI algorithms, data privacy, and explainability remain the walls of the prohibitive entrance. Ethical implications are under-researched. Artificial Intelligence in healthcare will only be as unbiased as the data it was trained on, raising red flags for population-wide equity and inclusion in trials (Zidaru et al. 2021). The situation regarding the regulation of artificial intelligence in trials is also very fluid at the moment. These regulators, particularly the FDA and EMA, have begun working on a framework for the digital health tool, but this is still evolving and varies widely from jurisdiction to jurisdiction. Such uncertainty could impact adoption rates and stakeholder confidence in the technology.

2.5 Perception of Technology in Clinical Trials

There are diverging viewpoints on the use of AI in clinical research; for some stakeholders, AI is a means to greater efficiency, transparency, and patient centricity, while others raise scepticism with worries about data misuse, absence of human oversight, and loss of clinical roles hitherto carried out manually (Hogg et al. 2023). It is especially relevant to consider how participants think about this matter. If patients feel AI somehow jeopardizes their confidentiality or supplants human care, they may be dissuaded from participation. Alternatively, patients may trust and engage even more in studies where AI collaborates with human decision-making instead of substituting it.

2.6 Literature Gap

Absence of an Integrated Perspective: Most scholars in the field differentiate studies as separate studies concerning opinion, problem, and technology; very few have adopted an integrated view of how these factors interrelate and subsequently affect one another.

Neglect of AI Ethics in Trials: Despite being abundant in operational gains, AI is not paying enough attention to its ethical aspects, especially algorithmic bias, consent from participants, and transparency of decision-making. There is also limited cross-cultural research (Urassa et al. 2021). Many of these studies are conducted in high-income countries, and little consideration is given to how perception varies in low- and middle-income regions where trust in medical research is usually lower. Addressing these voids is necessary to ensure that clinical trials are inclusive, trustworthy, and technologically advanced. This research intends to fill these gaps and contribute to a more complete perception of dynamics in clinical research in the digital age.

3. METHODOLOGY

3.1 Research Philosophy

This study follows an interpretivist philosophy, seeking to understand the subjective meanings and social contexts which influence human behaviour (Acharya, 2024). The emphasis is on discerning individual interpretations and responses to clinical research, thus shedding light on perceptions, trust issues, and the impact of modern technology within the existing confines of clinical trials.

3.2 Research Approach

The study uses a qualitative approach to collect data on subjective perceptions and experiences in clinical trials (Houston et al. 2021). This narrative and interpretative ensemble of data is to help the study garner more in-depth perspectives from the stakeholder views, trust issues, and technological influences that cannot be measured using statistical methods.

3.3 Data Collection Method

Secondary methods of data collection were utilized, including established academic literature, policy documents, reports on clinical trials, and published case studies (Tabuena et al. 2021). This allows the researcher to analyze a much broader range of views and developments in history without having to conduct direct fieldwork, thus ensuring time and cost efficiency.

3.4 Data Analysis Procedure

This thematic method can identify and analyze the repetitive patterns that exist in the data. As such, the researcher systematically codes and therefore categorizes themes related to perceptions, challenges, and impacts associated with technology; they then provide a rich and detailed understanding of the complexities involved in phenomena in clinical trial processes (Christou, 2022).

3.5 Ethical Consideration

Ethical clearance is not required because secondary data will be employed. The research, however, upholds academic standards by citing all sources appropriately, avoiding any form of plagiarism, and ensuring that no sensitive or proprietary information has been misrepresented (Mulenga and Shilongo, 2024). The analyses took into consideration the context and original purpose of all published materials reviewed.

4. Findings and Results
4.1 Theme 1: Factors Affecting Public and Professional Perceptions of Clinical Research

Figure 3: Factors Influencing Clinical Decision Making

(Source: Manja, 2025)

Public and professional perceptions of clinical research are influenced by several factors, including historical mistrust, lack of transparency, perceived risk, and media portrayal. To the public, safety concerns, the potential for side effects, and privacy of their data still overshadow clinical research. Based on a survey run by the Center for Information and Study on Clinical Research Participation (CISCRP), 61% of the general public felt poorly informed about clinical trials, contributing to an atmosphere of low enrollment and scepticism (de Bruin, 2024). Professionals also speak about the administrative burden, regulatory complexity, and uncertainty around trial outcomes as contributing factors to their rather cautious opinion. Ethical lapses in the past, such as the Tuskegee Syphilis Study, leave enduring marks on all sides regarding how clinical research is considered, especially about communities underrepresented (Tobin, 2022). Furthermore, pharmaceutical sponsorship of trials is seen as profit-oriented, which diminishes the trust of the public. Effective communication strategies and raising health literacy could help with the trust issues highlighted above.

4.2 Theme 2: Challenges in Planning and Implementation Due to Perception Barriers

Perceptive barriers greatly affect clinical trial planning and operational processes. Recruitment is the worst impacted, with GlobalData estimating that up to 80% of clinical trials miss their enrollment timelines. Such delays push costs up and impact the credibility of research findings. Participants are often fearful of being "guinea pigs" or questioning whether their participation might even yield relevant health benefits (Vanderslott et al. 2023). Widespread misperceptions may indeed foster poor retention and high drop-out rates, both of which jeopardize data completeness and study outcomes. On the other hand, logistic inconveniences posed to clinicians, such as very complicated protocols and the time-consuming approval process, further question their willingness to take part in clinical trials. The absence of culturally sensitive trial designs impedes the participation of diverse populations, thus introducing limitations to the generalizability of the results across demographics (Malik and Norman, 2023). To tackle the barriers in planning and implementation, engaging stakeholders effectively, involving patient advocates, and designing inclusive trials are emerging considerations.

4.3 Theme 3: The Role of AI and Emerging Technologies in Addressing or Worsening Challenges
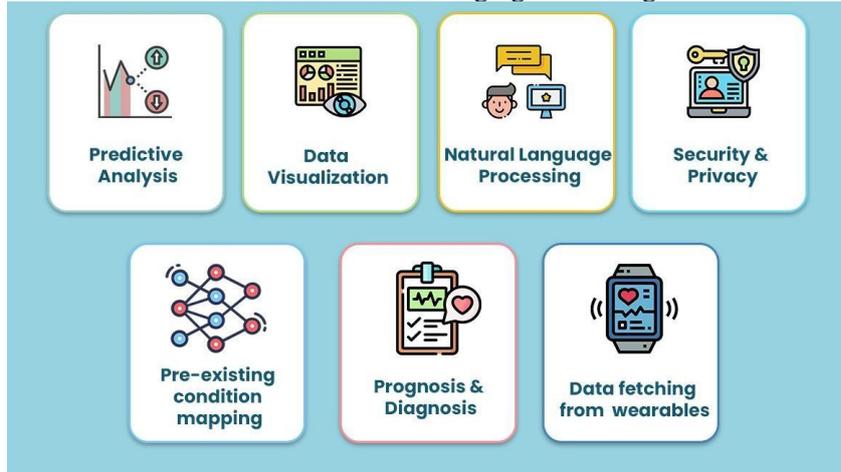

Figure 4: Advantages of AI in EHR

(Source: Itechindia, 2025)

Though the duality of Artificial Intelligence (AI) and the rest of the digital technologies leaves space for both amelioration as well as amplification of the existing challenges in clinical trials- on the good side, AI can facilitate the patient recruitment process through efficient screening of electronic health records (EHRs), wherein it may match the required participants with highest accuracy. For example, IBM Watson reported an improvement in the applicability matching for some cancer studies by 80% (Petiwala et al. 2021). AI enables non-invasive remote monitoring, predictive analytics for dropout risk, and automated data analysis, making the trial simpler and cheaper to manage. These efficiencies contribute to rebuilding the public's confidence by making trials more patient-centred and less intrusive.

Yet, concerns over algorithmic bias, lack of transparency, and data misuse remain with unaddressed cases fueling public distrust. According to a Reinertsen and Liland, (2023), 58% of healthcare professionals surveyed were uncertain about the fairness and accuracy of AI tools used in clinical settings. Thus, whereas AI does present opportunities concerning efficiencies and personalization, ethical oversight, transparent design, and responsible use of datasets are critical to ensure that these technologies support rather than impede clinical research.

5. DISCUSSION

The findings of this study showcase the complex and multifaceted nature of perceptions in clinical research, as well as their real impact on the planning, execution, and even progress of clinical trials. Public and professional perceptions are historically, ethically, and operationally conditioned and thus mould attitudes toward participation and engagement with clinical studies at large.

The **first theme** elucidates how public distrust and little knowledge of clinical trials greatly impede participation (Godskesen et al. 2023). The absence of relevant information, compounded by memories of ethical lapses, feeds scepticism, especially among marginalized communities. Most concerning is the fact that over 60% of the public considers itself uninformed on clinical trials, which brings into stark relief the need for widespread public education and candid information (Faye, 2021). On the other hand, professionals cite regulatory burdens and uncertain outcomes as additional reasons for their disinterest. Considerable parts of the above list of reasons might suggest that the twin strategies of enhancing public awareness and good professional support programs could boost participation rates and eventually improve the image of clinical research.

The **second theme** demonstrates how these perceptions feed directly into operational impediments, especially during the recruitment and retention phases of clinical trials. The disparaging notion, that 80% of trials do not recruit to plan, speaks to the gravity of this issue (Prashant Kumar, 2023). Additionally, uncertain benefits of trials, or fears of being exploited, lead to participant dropout or poor data quality. Inadequate support from the institution and cumbersome trial protocols can also dissuade clinicians to participate in or refer patients to clinical trials. Restructuring clinical trials to be culturally attuned, inclusive, and flexible, and engaging community leaders and patient advocacy groups from inception, is crucial to fully addressing this challenge.
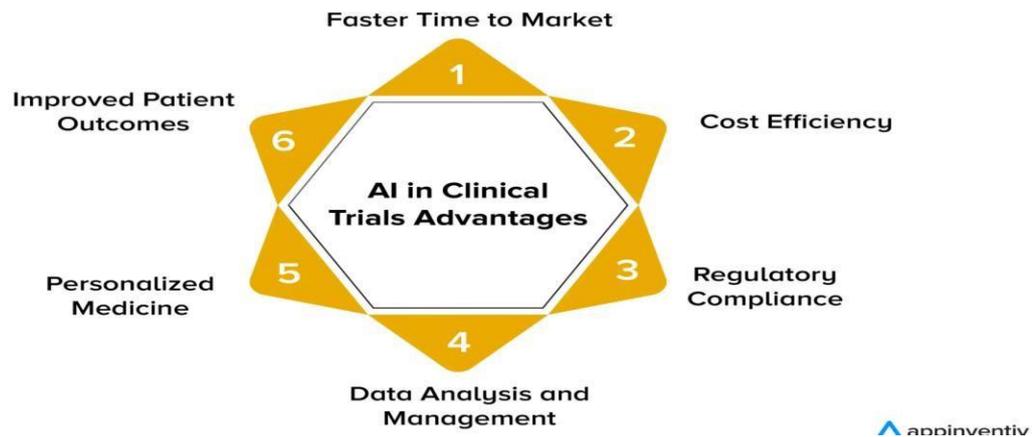
Figure 5: AI in Clinical Trial

(Source: Appinventiv, 2025)

The **third theme** addresses the potentially transformative yet double-edged nature of emerging technologies, particularly AI, concerning the clinical research landscape. AI can help fast-track trial processes by automating recruitment by EHR and the timely analysis of large data pools (Subbiah, 2023). Increasing the speed and decreasing the cost of processes, should help embed attractiveness, even accessibility, into trials. However, pressing ethical questions like data privacy, algorithmic bias, and lack of transparency still exist. It must be pointed out that a huge pool of professionals expressing distrust in AI tools makes it clear we need an ethical framework and design principles to oversee the way we can accentuate the capabilities of these technologies. Therefore, while perceptions surrounding clinical research constitute tremendous hindrances, they equally pose imminent opportunities for change and innovation. Stakeholder engagement, inclusive trial design, targeted education, and the responsible application of technology may all work together to convert clinical trials into more efficient, equitable, and trusted processes (Jean-Louis and Seixas, 2024). Linking these perception gaps is, therefore, necessary not just for the success of particular trials, but also for the credibility and sustainability of the larger research ecosystem.

6. CONCLUSION

This research investigates: which are the primary influences persuading certain public and professional perceptions towards clinical research; how these perceptions pose challenges to trial planning and implementation; and the changing trends in technology, especially AI, affecting this landscape. The combination of historical mistrust, ignorance, and operational difficulties maximizes the scepticism and reluctance both among potential participants and healthcare professionals, that thereafter impede recruitment, retention, and, ultimately, the efficacy of the trials.

The research highlights the growing importance of AI and other digital devices in effecting change within clinical trials. Though these technologies now act as the antidote to longstanding ailments such as poor recruitment and obsolete data management, they are also agents of new ethical and regulatory issues that ought to be addressed well in advance. The key to empowered and inclusive future clinical trials is adopting a patient-centric patient approach to trust-building through transparency, education, and community involvement; likewise harnessing new technology to boost the effectiveness of trials without eroding ethical standards. In conclusion, this will reconnect it to the credibility and sustainability building block of clinical research and foster wider public and professional engagement in the advancement of medical science.

REFERENCE

1. Acharya, R., 2024. Examining Interpretivism in Social Science Research. Education.

2. Appinventiv. (2025). Appinventiv.com. Available at: https://appinventiv.com/wp-content/uploads/2023/11/The-future-of-clinical-trials-Unlocking-AIs-potential-to-revolutionize-healthcare-research-05-1-scaled.webp

3. Ashwell, M., Hickson, M., Stanner, S., Prentice, A. and Williams, C.M., 2023. Nature of the evidence base and strengths, challenges and recommendations in the area of nutrition and health claims: a Position Paper from the Academy of Nutrition Sciences. British Journal of Nutrition, 130(2), pp.221-238.

4. Christou, P.A., 2022. How to use thematic analysis in qualitative research. Journal of Qualitative Research in Tourism, 3(2), pp.79-95.

5. Collier, Z.A. and Sarkis, J., 2021. The zero trust supply chain: Managing supply chain risk in the absence of trust. International Journal of Production Research, 59(11), pp.3430-3445.

6. da Silva, R. G. L. (2024). The advancement of artificial intelligence in biomedical research and health innovation: challenges and opportunities in emerging economies. Globalization and Health, 20(1), 44.

7. de Bruin, A., 2024. Latest CISCRP Patient Survey Reveals Diversity Gaps, Yields 5 Tips For Improve-ment. Clinical Leader.

8. Faye, S., 2021. The transgender issue: An argument for justice. Penguin UK.

9. Godskesen, T., Björk, J. and Juth, N., 2023. Challenges regarding informed consent in recruitment to clinical research: a qualitative study of clinical research nurses' experiences. Trials, 24(1), p.801.

10. Hogg, H.D.J., Al-Zubaidy, M., Technology Enhanced Macular Services Study Reference Group, Talks, J., Denniston, A.K., Kelly, C.J., Malawana, J., Papoutsi, C., Teare, M.D., Keane, P.A. and Beyer, F.R., 2023. Stakeholder perspectives of clinical artificial intelligence implementation: systematic review of qualitative evidence. Journal of Medical Internet Research, 25, p.e39742.

11. Houston, L., Yu, P., Martin, A. and Probst, Y., 2021. Clinical researchers' lived experiences with data quality monitoring in clinical trials: a qualitative study. BMC Medical Research Methodology, 21, pp.1-15.

12. Itechindia (2025). Itechindia.co. Available at: https://itechindia.co/us/wp-content/uploads/2023/01/blog-2ndjan-2.jpeg

13. Jean-Louis, G. and Seixas, A.A., 2024. The value of decentralized clinical trials: Inclusion, accessibility, and innovation. Science, 385(6711), p.eadq4994.

14. Lampreia, F., Madeira, C. and Dores, H., 2024. Digital health technologies and artificial intelligence in cardiovascular clinical trials: A landscape of the European space. Digital health, 10, p.20552076241277703.

15. Májovský, M., Černý, M., Kasal, M., Komarc, M. and Netuka, D., 2023. Artificial intelligence can generate fraudulent but authentic-looking scientific medical articles: Pandora's box has been opened. Journal of medical Internet research, 25, p.e46924.

16. Malik, H.B. and Norman, J.B., 2023. Best practices and methodological strategies for addressing generalizability in neuropsychological assessment. Journal of Pediatric Neuropsychology, 9(2), pp.47-63.

17. Manja, (2025) Available at: https://www.researchgate.net/profile/Sandra-Monteiro-16/publication/330348444/figure/fig1/AS:791084393316352@1565620625155/Domains-Factors-influencing-clinical-decision-making-CEA-cost-effectiveness-analysis_Q320.jpg

18. Mchirgui, N., Quadar, N., Kraiem, H. and Lakhssassi, A., 2024. The applications and challenges of digital twin technology in smart grids: a comprehensive review. Applied Sciences, 14(23), p.10933.

19. Mulenga, R. and Shilongo, H., 2024. Academic integrity in higher education: Understanding and addressing plagiarism. Acta Pedagogia Asiana, 3(1), pp.30-43.

20. OGBETA, C.P., MBATA, A.O., UDEMEZUE, K. and KATAS, R.G.K., 2023. Advancements in Pharmaceutical Quality Control and Clinical Research Coordination: Bridging Gaps in Global Healthcare Standards. IRE Journals, 7(3), pp.678-681.

21. Ogbonna, F. S. (2023). Assessing the awareness/knowledge of cervical cancer and screening among rural women, and the health stakeholders' perception of the relevant strategy implementation in Imo state, South-Eastern Nigeria (Doctoral dissertation, Anglia Ruskin Research Online (ARRO)).

22. Petiwala, F.F., Shukla, V.K. and Vyas, S., 2021. IBM watson: redefining artificial intelligence through cognitive computing. In Proceedings of International Conference on Machine Intelligence and Data Science Applications: MIDAS 2020 (pp. 173-185). Springer Singapore.

23. Prashant Kumar, S., 2023. The instrumental Brahmin and the "half-caste" computer: Astronomy and colonial rule in Madras, 1791–1835. History of Science, 61(3), pp.308-337.

24. Pressbook (2025). Pressbooks.pub. Available at: https://ua.pressbooks.pub/app/uploads/sites/28/2021/04/TAM-New.png

25. Pressbooks. (2023). Pressbooks.pub. Available at: https://ua.pressbooks.pub/app/uploads/sites/28/2021/04/TPB-new2.png

26. Reinertsen, M.L. and Liland, J., 2023. Choosing the Right Course of Action: Implementing Al Medical Deuices in Healthcare (Master's thesis, Handelshøyskolen BI).

27. Robinson, A.J., 2021. Ethical Transhumanism: How can a nudge approach to public health make human enhancement more ethical?. University of Kent (United Kingdom).

28. Stabile, S., Cenna, R., Sinna, V., Veronica, F., Mannozzi, F., Federici, I., Testoni, S. and Cagnazzo, C., 2023. Clinical trial units and clinical research coordinators: a system facing crisis?. AboutOpen, 10(1), pp.1-3.

29. Subbiah, V., 2023. The next generation of evidence-based medicine. Nature medicine, 29(1), pp.49-58.

30. Tabuena, A.C., Hilario, Y.M.C. and Buenaflor, M.P., 2021. Overview and exemplar components of the research methodology on the research writing process for senior high school students. International Journal of Trend in Scientific Research and Development, 5(3), pp.117-126.

31. Tobin, M.J., 2022. Fiftieth anniversary of uncovering the Tuskegee syphilis study: the story and timeless lessons. American Journal of Respiratory and Critical Care Medicine, 205(10), pp.1145-1158.

32. Urassa, M., Lawson, D.W., Wamoyi, J., Gurmu, E., Gibson, M.A., Madhivanan, P. and Placek, C., 2021. Cross-cultural research must prioritize equitable collaboration. Nature Human Behaviour, 5(6), pp.668-671.

33. Vanderslott, S., Palmer, A., Thomas, T., Greenhough, B., Stuart, A., Henry, J.A., English, M., Naude, R.D.W., Patrick-Smith, M., Douglas, N. and Moore, M., 2023. Co-producing human and animal experimental subjects: Exploring the views of UK COVID-19 vaccine trial participants on animal testing. Science, Technology, & Human Values, 48(4), pp.909-937.

34. VanDyke, M.S., Lee, N.M., Abitbol, A. and Rush, S.W., 2023. How message appeals and prior product use influence information processing, risk perceptions, trust, attitudes, and genetic test purchase intentions. PloS one, 18(3), p.e0283102.

35. Yarmohammadi, S., Mousavi, S., Ajori, L., Mohammadzade, F. and Marashi, T., 2023. Impact of attitude, subjective norms and perceived behavioral control on health behaviors among women with low-risk HPV, and the mediating role of behavioral intention: An interventional study. International Journal of Health Promotion and Education, 61(2), pp.70-82.

36. Zidaru, T., Morrow, E.M. and Stockley, R., 2021. Ensuring patient and public involvement in the transition to AI-assisted mental health care: A systematic scoping review and agenda for design justice. Health Expectations, 24(4), pp.1072-1124.

37. Zin, K.S.L.T., Kim, S., Kim, H.S. and Feyissa, I.F., 2023. A study on technology acceptance of digital healthcare among older Korean adults using extended tam (extended technology acceptance model). Administrative Sciences, 13(2), p.42.