

Inclusive Development Through AI: Enhancing Healthcare Access for the Disabled with Large Language Models

Dr. Vandana Kalra

Sri Guru Gobind Singh College of Commerce, University of Delhi, Delhi.

Email: vandana.kalra@sggscscc.du.ac.in

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ABSTRACT

People with disabilities (PwDs) are often faced with barriers that contribute to their inability to access healthcare services. This directly translates to a deepened sense of inequality for people who fall within this demographic. It's imperative to provide equitable protective measures in the health care system, especially in regards to areas such as communication, treatment, and diagnosis. New technologies, including Large Language Models (LLMs) like OpenAI, GPT-4, promise to eliminate many of these barriers to provide enhanced articulation of health symptoms and accurate responses to medical queries. This research proposes the first known initiative to incorporate LLMs into existing telemedicine systems. The goal is to improve the initial symptomatic assessment process and provide initial diagnoses that can be followed by triage to the appropriate medical professional. The improvements are called the Telemedicine Triage Module that works like a chatbot which can describe the patient's symptoms as well as their past medical history, enabling a more effective discussion during the consultation. Some of the additional enhancements target broader public needs, like multilingual use, prioritization based on the urgency, and self-adjusting algorithms to improve accuracy over time. A practical example and pseudocode illustrate how these systems can support effective telemedicine for many people. Solving systemic problems, this study builds the foundation of the first truly AI-powered, inclusive healthcare system. This allows people with disabilities to receive faster, more specialized, and more accurate treatment without being limited by a language barrier or geographic location.

1. INTRODUCTION

The first step towards achieving global health development is ensuring that access to healthcare is equitable for everyone, including people with disabilities. The World Health Organization (Rastogi & Sharmila, 2023) reports that approximately 1.3 billion people or 16% of the entire global population, experience substantial disability. The health outcomes of PwDs are usually poor due

to many reasons like limited access to proper diagnostic tools, complex methods of symptom articulation, and communication barriers that often lead to delayed treatment.

Most existing telemedicine platforms lack the requisite specificities that ensure proper accessibility, communication, and multilingual reporting; making it more difficult for PwDs to effectively report symptoms (Yu et al., 2018). However, the development of large language models has the ability to change this by allowing unstructured reporting of symptoms and effective articulation of AI driven diagnostics and predicting medical conditions (Singhal et al., 2023). In addition, the use of LLMs in telemedicine triage allows for enhanced communication during virtual healthcare consultations by providing accurate summaries of patient symptom descriptions and medical histories (Topol, 2019; Nazi, 2024).

Even though there have been improvements in AI-driven healthcare, a lot of telemedicine services are out of reach for the disabled due to a lack of urgency management, organized communication, and multilingual services (Esteva et al., 2019). This framework employs intelligent technologies to develop seamless healthcare access by integrating triage, symptoms completion, disease reasoning, and telemedicine into one system. The proposed system which focuses on structured data and multilingual communication, processes patient responses, establishes urgency, organizes medical information, and ensures improved communication all for a more inclusive and scalable healthcare system.

To improve healthcare accessibility for PwDs, LLMs must address key challenges in communication, diagnosis, and integration into existing systems. This research explores:

- How can LLMs address communication barriers have faced by PwD's during telemedicine consultations?
- What practical benefits can urgency-based prioritization, telemedicine triage, and multilingual capabilities offer in healthcare delivery?
- How does adaptive learning enhance the accuracy and personalization of healthcare insights for PwD's?
- How can such frameworks be integrated into existing healthcare systems to scale inclusive healthcare solutions?

By investigating these research questions, this study seeks to develop a robust, AI-powered framework that enhances telemedicine accessibility and contributes to more inclusive healthcare systems globally.

Moreover, this AI-based system helps providers improve accessibility for physically challenged persons by employing adaptive learning, prioritization, and multilingual skills. Multilingual accessibility divides populations, while scalable design allows unrestricted integration into mobile clinics, telemedicine platforms, and public health systems. Dynamic learning adapts user feedback to improve future predictions and enables urgency-based prioritization to flag critical cases in need of timely intervention. In addition, the telemedicine triage module aids patients in condensing symptoms and medical histories to enhance virtual consultations with healthcare professionals. By nurturing AI and equity in healthcare, this framework ameliorates accessibility problems for the disabled, combats existing imbalances, and strengthens the effort to create a accessible universal healthcare system.

2. RELATED WORK

The involvement of AI and LLMs in healthcare has brought remarkable benefits in enabling access for PwDs. These advantages facilitate speech of medical symptoms, aid in clinical decisions, educate patients, and enable two-way telemedicine communication (Mehigan,2020). Nevertheless, these developments still have some lingering issues like ethical questions and existing biases in AI models or the absence of multilingual elements (Benboujja , 2024). This part discusses the recent advances in assistive healthcare technologies using AI, pointing out the issues that the proposed framework intends to resolve.

Technologies that assist disabled persons are of paramount importance, for example, screen readers (JAWS, NVDA) as well as speech-to-text programs (Dragon NaturallySpeaking) for those with speech and visual impairment (Martínez et al., 2024). These tools indeed have their advantages, but not being context aware renders them useless in the field of telemedicine (El Morr, 2024). AI enabled accessibility tools such as Microsoft's Seeing AI and Live Transcribe from Google, provide image recognition and speech to text in real time. However, they fall short in critical areas like symptom description and clinical analysis (Ly et.al, 2024).

The COVID-19 pandemic gave rise to remote medicine, aiding people with disabilities who have difficulty moving (Keesara,2020). The use of AI in platforms like Ada Health and Babylon Health has been shown to assist in triage, directly increasing patient participation and initial diagnosis (Singh et.al., 2024). Nevertheless, these platforms disregard the unorganized description of symptoms, absence of sign language, and urgency recognition as access barriers for people with disabilities (Naji, 2024). At the same time, their multilingual capabilities remain unsatisfactory, confining non-English speaking People with Disabilities to inadequate virtual consultation (Mehigan,2020).

Non-native speakers benefit from the interaction facilitated by multilingual AI systems. Yet, these systems are frequently inadequately tailored towards health care, an essential component in ethnically diverse regions (Badlani, 2021). The promotion of health depends on accurate culturally adapt translations for the various forms of work published. The development of multilingual capabilities in AI systems is of utmost importance in addressing the linguistic needs of patients so that all patients are able to access decent healthcare services. In the publication *Frontiers in Public Health* (2024), a multilingual AI supported curriculum for elimination of language barrier for pediatrics is described. The study highlights the growing need for AI systems to speak in multiple languages to facilitate healthy interactions with people from different linguistic backgrounds.

GPT-4 along with Med-PaLM, have managed to transform clinical decision making, medical record summaries, and patient interaction (Ly. Et.al., 2024). Research shows that LLMs are capable of both comprehending intricate clinical documents, lending a hand in structuring medical reports, and providing help in the treatment process (Blease & Torous, 2023). However, healthcare needs of PWDs remains largely unexplored. Due to the biases that exist in AI models, non-standardized ways of communication are often misinterpreted which is a challenge especially for PWDs with such communication styles. (Benboujja, 2024). Furthermore, there appears to be problems on the cultural as well as linguistic diversity within Western AI healthcare trained LLMs which affect their accuracy in multilingual healthcare consultations. (Hassan et al., 2021).

Shady et al. (2024), incompletely captures the primary study, that focused on the factors hindering the accessibility of healthcare for adults suffering from developmental disabilities and at the same

time grappling with communication barriers. Within this study, it was established that the manner in which patients interact with their caregivers contributes negatively to the health outcomes and satisfaction of the PwDs. This analysis has shown that the majority of the people with intellectual disabilities and/or autism have unmet health needs and do not access primary health care comparably to the rest of the population. The study makes it clear that without addressing the specific issues faced by the PwDs, the health care services will not be effective.

Conventional methods for symptom reporting solely depend on the use of pre-defined questionnaires, which are inappropriate for patients with speech, cognitive, or motor disabilities (Bautista et al., 2023). Such limitations, however, can be overcome with the use of LLMs which are able to construct logical narratives from partial symptoms which could help enhance the communication between doctors and patients (Martínez et al., 2024). AI-enhanced telemedicine triage systems have proven to be effective in improving response time and focusing on patients most at risk, but these systems are still somewhat out of reach for the general population due to their complex interfaces and restrictive language (Blease & Torous, 2023).

AI's use in healthcare raises clear ethical issues. LLMs that have been trained with incomplete datasets could either spread false information or ignore various health issues associated with disability (Hirani, 2024). Equally important is the debate around data privacy given how much patient data AI models need, which puts security and confidentiality at risk (Pressman et al., 2024). These developments have prompted key stakeholders, including WHO, to call for ethical standards and principles of accessibility, equity and confidentiality to be followed for AI technologies in medicine (Mehigan, 2020).

Though there have been developments in assistive technology (Karki, 2023) and AI based telemedicine, there are still many unresolved issues:

- Many PwDs struggle to describe their symptoms accurately, leading to misdiagnosis or delays in appropriate medical care.
- The absence of AI-powered tools in telemedicine makes it difficult to organize and summarize patient symptoms and medical history before consultations.
- Limited multilingual support and lack of culturally adaptive features in AI healthcare solutions restrict accessibility for diverse populations.
- The inability of telemedicine systems to automatically detect urgency results in delayed intervention for critical cases.
- Unstructured symptom descriptions make it challenging for healthcare providers to assess cases efficiently and provide timely care.
- The high costs and limited scalability of AI-driven healthcare solutions prevent widespread adoption, particularly in resource-constrained settings.

Addressing these gaps is crucial for developing inclusive healthcare solutions that cater to the diverse needs of PwDs. The framework augments healthcare access for PwDs by way of symptomatology and medical history templates gives a way towards better consultations. It enables predicting the severity of a patients' condition, allocating them a treatment priority, and providing multilingual support to consult for more serious conditions. Real-time data transfer reduces delays, and its scalable, cost-effective design ensures wider adoption for inclusive healthcare. This

research aligns with existing efforts to utilize AI for healthcare accessibility while introducing novel features tailored for PwDs, contributing significantly to the vision for inclusive healthcare.

3. PROPOSED FRAMEWORK-TELEMEDICINE FOR PwD'S

Within the framework, LLMs are incorporated in telemedicine systems to solve existing issues in communication, disease inference, and healthcare delivery related to communication barriers with most PwD's, and to offer better quality care. The framework incorporates four important new modules whose aim is to increase the quality of service in telemedicine for PwDs as depicted in table 1. These modules combine efforts to facilitate articulation of symptoms, automate disease inference, enable sharing of structured data, and improve the efficiency of telemedicine consults. With the inclusion of AI powered technologies, the framework provides real time response, supports multiple languages, and detects urgency, making healthcare more efficient and inclusive.

Table 1: Description of Telemedicine for PwD's Framework Modules

Module	Purpose	Functionality	Impact
Symptom Completion Module	Convert incomplete symptom inputs into clear, complete descriptions with multilingual support.	1. Accept input in any language. 2. Use LLM to complete and clarify. 3. Translate if needed.	Improves communication for PwDs, ensuring doctors receive complete symptom descriptions.
Disease Inference Module	Analyze symptoms, predict conditions, assign urgency, and translate results for patients.	1. Process completed symptom description. 2. Predict condition and urgency. 3. Translate results.	Prioritizes urgent cases, reducing delays while making diagnoses clear for patients.
Telemedicine Integration Module	Send structured reports to healthcare providers and enable multilingual communication.	1. Format patient input and diagnosis. 2. Send structured report to provider. 3. Enable real-time translation.	Enhances doctor-patient communication with structured, multilingual reports.
Telemedicine Triage Module	Summarize symptoms and medical history, providing multilingual support for telemedicine consultations.	1. Summarize symptoms and history. 2. Translate and send to patient. 3. Share structured report with doctor.	Prepares patients for telemedicine visits with clear, translated medical summaries.

The framework enhances healthcare decision making by dynamically easing patient inputs such as symptom refinement, condition predictions, and structured medical report generation, as well as providing multilingual communication support. This minimizes waiting periods, enabling targeted action, and promotes an all-encompassing, user-friendly telemedicine service.

This framework also allows categorizing patient case's for more timely and accurate responses by the healthcare providers to critical conditions and moderate or routine cases that can be attended

to at a later time without straining the healthcare resources available. This strategy ensures that life-threatening conditions receive instantaneous care and are treated in a timely manner.

The table 2 shows practical applications of this framework based on urgency levels of the disease, focusing on the efforts of AI in improving relations and exchange of information between patients and healthcare providers by narrowing the patient's problem, automating evaluation functions, enabling structured exchange of data, and communicating with patients and healthcare practitioners based on priorities.

4. USE CASE: TRADITIONAL vs. AI-ENHANCED TELEMEDICINE

Scenario: A Deaf Patient Seeking Telemedicine Consultation for Chest Pain

Traditional Telemedicine System

Background: A hearing-impaired individual who uses sign-language as their first means of communication suffers from chest pain and are out of breath at night.

- ✓ They cannot use their voice to explain what the problem is during a telemedicine call, so they depend on relatives or free text.
- ✓ The patient enters “chest pain” into a low-level telemedicine chatbot.
- ✓ The response is not customized for the individual and it is just scripted without examining its necessity.
- ✓ The doctor or healthcare professional is furnished with insufficient particulars, which results in wrong assumptions and response.
- ✓ The patient should have stayed for hours to receive a consultation, which causes them to be in danger for possible worse situations or health outcomes.

Challenges:

- ✓ Communication Barriers: Inferring the severity of the text input is complicated for a chatbot.
- ✓ Time-consuming Diagnosis: Physician do not receive structured annotation report, leading to delayed responses.
- ✓ Lack of Urgency Detection: The system fails to flag cases of great concern and treats all cases in the same manner.
- ✓ No Assistive or Multilingual Support: Patients who require sign-language instructions cannot receive translated responses from the practitioner.

AI-Powered Telemedicine Framework

The telemedicine case is analyzed and managed using the Automated AI Voice Telemedicine Framework.

Complete Symptom Module:

- ✓ When a patient states “chest pain,” the AI expands it to “Severe chest pain while resting, with difficulty breathing,” thus helping physicians assess the chest pain issue better.

Table 2: Real-World Medical Use Cases Across Core Modules of the Proposed Framework Based on Urgency Levels

Urgency Level	Symptom Completion Module	Disease Inference Module	Telemedicine Integration Module	Telemedicine Triage Module
Low Urgency (Seasonal Allergies)	Patient inputs "itchy eyes, sneezing" in German → LLM completes "Frequent sneezing and itchy eyes, worse in spring" → Translates to English.	LLM infers "Allergic Rhinitis" → Assigns Low Urgency → Returns results in German & English.	Structured report generated for allergy symptoms → Sent to provider → AI enables real-time German-English translation.	AI-generated summary: "Mild seasonal allergies, antihistamines recommended" → Patient prepares for consultation.
Low Urgency (Mild Back Pain)	Patient inputs "mild back pain" in Italian → LLM completes "Mild back pain after sitting for long hours, no numbness" → Translates to English.	LLM infers "Muscle Strain" → Assigns Low Urgency → Returns results in Italian & English.	Structured report generated for mild back pain → Sent to provider → AI enables real-time Italian-English translation.	AI-generated summary: "Muscle strain, suggested stretching and posture correction" → Patient prepares for routine checkup.
Medium Urgency (Gastritis Symptoms)	Patient inputs "stomach pain" in Hindi → LLM completes "Sharp stomach pain after meals with acidity" → Translates to English.	LLM infers "Gastritis" → Assigns Medium Urgency → Returns results in Hindi & English.	Structured report generated for gastritis symptoms → Sent to provider → AI enables real-time Hindi-English translation.	AI-generated summary: "Gastritis, dietary modifications advised" → Patient prepares for telemedicine consultation.
Medium Urgency (Uncontrolled Diabetes)	Patient inputs "high sugar levels, fatigue" in Arabic → LLM completes "Fatigue, frequent urination, blood sugar over 250 mg/dL" → Translates to English.	LLM infers "Uncontrolled Diabetes" → Assigns Medium Urgency → Returns results in Arabic & English.	Structured report generated for diabetes case → Sent to provider → AI enables real-time Arabic-English translation.	AI-generated summary: "Uncontrolled diabetes, medication adjustment needed" → Patient referred to endocrinologist.
High Urgency (Chest Pain & Breathing Difficulty)	Patient inputs "chest pain, breath issue" in French → LLM completes "Severe chest pain with shortness of breath" → Translates to English.	LLM infers "Possible Heart Attack" → Assigns High Urgency → Returns results in French & English.	Structured report generated for severe chest pain → Flagged as high priority → Sent to emergency response team with French-English translation.	AI-generated summary: "Severe cardiac symptoms, emergency intervention needed" → Directs patient to the nearest hospital.
High Urgency (Severe Head Trauma)	Patient inputs "hit head, dizzy" in Russian → LLM completes "Severe head trauma, persistent dizziness, vomiting" → Translates to English.	LLM infers "Severe Concussion" → Assigns High Urgency → Returns results in Russian & English.	Structured report generated for head trauma → Emergency protocol activated → AI translates Russian-English report for neurospecialist.	AI-generated summary: "Severe head injury, urgent hospitalization required" → Patient directed to neurology specialist.

- ✓ Sign-supported speech recognition or gesture AI is enabled for more effective communication with the system.

Module of Inferring Disease:

- ✓ Due to the chest pain issue, and after analysis of the symptoms, AI infers “Possible cardiac issue” with High Urgency.
- ✓ Alert prompts are triggered to alert the doctors and ensure that the quizzed severity is prioritized.

Integration of Telemedicine Module:

- ✓ The physician is presented with a report formatted in a manner that is easy to understand that the AI structures based on symptoms, history, urgency level, and patient's previous contact details.
- ✓ The report is formatted in AI's proprietary language, more effective than the doctor's personal language, eliminating the potential of miscommunication problems.

Module for Triage Telemedicine:

- ✓ The concise case summary is complemented with the AI generated recommendation; use of “emergency” is strengthened to ensure the patient understands the urgency of the case.
- ✓ AI helps provide real-time translation using AI or visual aids for communication, if required.

The table 3 illustrates a comparison of how classical telemedicine differs from telemedicine that is AI-driven, stating how AI technology enhances symptom reporting, identifying the level of urgency, diagnosis accuracy, the number of languages spoken, and response to emergency situations to facilitate healthcare for people with disability more effectively and inclusively.

Table 3: Comparison of Traditional vs. AI-Enhanced Telemedicine for PwDs

Aspect	Traditional Telemedicine	AI-Enhanced Telemedicine (With AI Framework)
Communication Method	Patient types minimal symptoms; misinterpretation risks.	AI expands inputs, supports sign language recognition, and provides structured symptom narratives.
Urgency Detection	Misses severity levels, treats all cases equally.	AI flags critical cases and prioritizes high-risk patients.
Diagnosis Time	Delayed, as doctors lack structured reports.	Faster, since AI-generated reports provide clear symptoms and history.
Language Support	Limited, non-multilingual chatbot.	Real-time multilingual translations for doctor-patient interaction.
Patient Preparedness	Patient lacks clear symptom summary, increasing confusion.	AI provides personalized health insights and recommendations.
Emergency Response Time	Slow, as doctors manually triage cases.	Immediate, as AI flags and routes high-urgency cases to specialists.
Overall Outcome	Risk of misdiagnosis or delayed care.	Improved healthcare efficiency and accessibility.

5. RECOMMENDATIONS

Developing AI accessibility for people with disabilities requires a collective effort from the government, the private sector, and international bodies to ensure scalability and inclusivity. AI needs to be integrated into the national strategies and pilot projects need to be put in place to test and improve existing AI assisted technologies. Companies have to invest in AI technologies that enhance opportunities for people with disabilities in recruitment, access, and training in employment. Knowledge databases can mitigate the most pressing issues in law, health, and education, which AI-enabled systems help to solve. Assistive innovation grants should be directed towards the development of inclusive technologies while international aid can make the AI assistance more effective. The growing adoption of multilingual AI models and training will make digital inclusion possible for the majority and the permanent adaptation of AI will improve equality in the healthcare system.

6. CONCLUSION AND FUTURE DIRECTIONS

Use of LLMs in telemedicine for PwDs improves the expressiveness, urgency detection, multilingual and information sharing. With the improvement of symptom description, it is easy to overcome communication barriers and provide care in a more convenient and expedited manner. The merging of urgency-based prioritization with adaptive learning allows for AI accuracy to gradually increase along with the delivery of timely medical assistance. Designed for effortless incorporation with pre-existing systems, this framework provides a scalable and AI-powered answer for fair healthcare. Future directions should include real-world implementations using pilot studies, improving AI's ability to understand the context related to different disabilities, and improved multilingual and cultural adaptability. Other areas of consideration should include the merging of AI-powered telemedicine and wearable health monitoring devices to foster real-time data collection and the collaboration with international health bodies for improved standardization in telemedicine practices.

REFERENCES

- Badlani, S., Aditya, T., Dave, M., & Chaudhari, S. (2021). Multilingual healthcare chatbot using machine learning. In 2021 2nd International Conference for Emerging Technology (INCET) (pp. 1-6). IEEE. DOI: 10.1109/INCET51464.2021.9456304
- Bautista, Y.J.P., Theran, C., Aló, R., Lima, V. (2023). Health Disparities Through Generative AI Models: A Comparison Study Using a Domain Specific Large Language Model. In: Arai, K. (eds) Proceedings of the Future Technologies Conference (FTC) 2023, Volume 1. FTC 2023. Lecture Notes in Networks and Systems, vol 813. Springer, Cham. https://doi.org/10.1007/978-3-031-47454-5_17
- Benboujja, F., Hartnick, E., Zablah, E., Hersh, C., Callans, K., Villamor, P., & Hartnick, C. (2024). Overcoming language barriers in pediatric care: a multilingual, AI-driven curriculum for global healthcare education. *Frontiers in Public Health*, 12, 1337395. Doi: 10.3389/fpubh.2024.1337395.
- Blease, C., & Torous, J. (2023). ChatGPT and mental healthcare: balancing benefits with risks of harms. *BMJ Ment Health*, 26(1). DOI: 10.1136/bmjment-2023-300884

El Morr, C., Kundi, B., Mobeen, F., Taleghani, S., El-Lahib, Y., & Gorman, R. (2024). AI and disability: A systematic scoping review. *Health Informatics Journal*, 30(3), <https://doi.org/10.1177/14604582241285743>.

Esteva, A., Robicquet, A., Ramsundar, B., Kuleshov, V., DePristo, M., Chou, K., ... & Dean, J. (2019). A guide to deep learning in healthcare. *Nature medicine*, 25(1), 24-29. <https://doi.org/10.1038/s41591-018-0316-z>

Hassan, S., Huenerfauth, M., & Alm, C. O. (2021). Unpacking the Interdependent Systems of Discrimination: Ableist Bias in NLP Systems through an Intersectional Lens. In *Findings of the Association for Computational Linguistics: EMNLP 2021*, pp 3116–3123, Punta Cana, Dominican Republic. Association for Computational Linguistics. DOI:10.18653/v1/2021.findings-emnlp.267

Hirani, R., Noruzi, K., Khuram, H., Hussaini, A. S., Aifuwa, E. I., Ely, K. E., ... & Etienne, M. (2024). Artificial Intelligence and Healthcare: A Journey through History, Present Innovations, and Future Possibilities. *Life*, 14(5), 557. doi: 10.3390/life14050557.

Karki, J., Rushton, S., Bhattarai, S., & De Witte, L. (2023). Access to assistive technology for persons with disabilities: a critical review from Nepal, India and Bangladesh. *Disability and Rehabilitation: Assistive Technology*, 18(1), 8-16. <https://doi.org/10.1080/17483107.2021.1892843>

Keesara, S., Jonas, A., & Schulman, K. (2020). Covid-19 and health care's digital revolution. *New England Journal of Medicine*, 382(23), e82. DOI: 10.1056/NEJMp2005835.

Lv, X., Zhang, X., Li, Y., Ding, X., Lai, H., & Shi, J. (2024). Leveraging Large Language Models for Improved Patient Access and Self-Management: Assessor-Blinded Comparison Between Expert-and AI-Generated Content. *Journal of Medical Internet Research*, 26(1), e55847. doi:10.2196/55847

Martínez, P., Ramos, A., & Moreno, L. (2024). Exploring Large Language Models to generate Easy to Read content. *Frontiers in Computer Science*, 6, <https://doi.org/10.3389/fcomp.2024.1394705>

Mehigan, T. (2020). Towards intelligent education: developments in artificial intelligence for accessibility and inclusion for all students. In *ICERI2020 Proceedings* (pp. 539-547). IATED. doi: 10.21125/iceri.2020.0169

Nazi, Z. A., & Peng, W. (2024, August). Large language models in healthcare and medical domain: A review. In *Informatics* (Vol. 11, No. 3, p. 57). MDPI.

Pressman, S. M., Borna, S., Gomez-Cabello, C. A., Haider, S. A., Haider, C., & Forte, A. J. (2024, April). AI and ethics: a systematic review of the ethical considerations of large language model use in surgery research. In *Healthcare* (Vol. 12, No. 8, p. 825). MDPI. <https://doi.org/10.3390/healthcare12080825>

Rastogi, P., & Sharmila, K. (2023). Disability and Geriatric Health: A Review. *Journal of Coastal Life Medicine*, 11, pp.102-106.

Shady, K., Phillips, S., & Newman, S. (2024). Barriers and facilitators to healthcare access in adults with intellectual and developmental disorders and communication difficulties: an integrative review. *Review Journal of Autism and Developmental Disorders*, 11(1), 39-51.

Singh, M., Mittal, M., Dewan, P., Kaur, A., Kaur, G., & Gupta, A. (2024, February). From Text to Treatment: An Overview of Artificial Intelligence Chatbots in Healthcare. In 2024 11th International Conference on Computing for Sustainable Global Development (INDIACom) (pp. 690-696). IEEE. DOI: 10.23919/INDIACom61295.2024.10498497

Singhal, K., Azizi, S., Tu, T., Mahdavi, S. S., Wei, J., Chung, H. W., ... & Natarajan, V. (2023). Large language models encode clinical knowledge. *Nature*, 620(7972), 172-180.

Topol, E. J. (2019). High-performance medicine: the convergence of human and artificial intelligence. *Nature medicine*, 25(1), 44-56. . DOI: 10.1038/s41591-018-0300-7.

Yu, KH., Beam, A.L. & Kohane, I.S. Artificial intelligence in healthcare. *Nat Biomed Eng* 2, 719–731 (2018). <https://doi.org/10.1038/s41551-018-0305-z>