# The need for inclusivity in AI-driven healthcare



The integration of artificial intelligence (AI) into healthcare is poised to bring significant changes to the landscape of medical treatment and patient care. However, experts underscore the importance of inclusivity and representation in the data used to build these AI models to ensure their effectiveness across diverse populations. Dr. Georgi Chaltikyan, the program director for the Master of Digital Health at the Deggendorf Institute of Technology, highlighted these critical aspects in an interview with Health Tech World.

Dr. Chaltikyan emphasises that the quality of AI depends heavily on the datasets used to train the models. When these datasets are skewed or overrepresent certain populations, it can lead to biases that compromise the AI's utility in real-world applications. Notably, underrepresented groups, particularly in low- and middle-income countries, often suffer from inadequate digital health data, primarily due to a lack of robust digital infrastructure. "Good AI requires models trained on data that accurately reflect the diverse patient population they are designed to serve," Dr. Chaltikyan stated.

The importance of inclusivity in data cannot be overstated, as health outcomes can differ significantly due to variations in genetics, treatment responses, and disease progression among different demographic groups. "It's also about equity," Dr. Chaltikyan added, cautioning against creating a digital divide, which could exacerbate existing disparities in healthcare access and treatment. This divide may stem from various factors, including generational gaps in digital literacy, where younger individuals are more adept at utilising new technologies compared to their older counterparts.

Dr. Chaltikyan elaborates that the overarching aim of healthcare digitalisation is to place the patient at the centre of their own care. He asserts that it is imperative that not only healthcare specialists but also patients engage with digital health innovations. The active participation of patients in their health journey will significantly contribute to the adoption of digital health tools such as telehealth applications and sensor monitoring technologies.

For successful digitalisation, Dr. Chaltikyan identifies three key stakeholders: developers, healthcare professionals, and patients. He notes that collaboration among these groups will be essential for the wide-scale implementation of digital health solutions.

A significant aspect of this digitalisation vision includes the "10P Health" concept, which expands upon the earlier "4P" model of personalised medicine pioneered by Dr. Leroy Hood. The ten principles encompass Predictive, Preventive, Personalised, Precision, Participatory, Pertinent, Proactive, Pervasive, Permanent, and Platform-based health and wellness. Dr. Chaltikyan explained that the essence of "10P Health" revolves around precision and personalised health, which tailors treatments to the individual rather than relying solely on standardised protocols.

He draws a compelling analogy between AI in healthcare and an autonomous vehicle's onboard computer. "Imagine your body is the car, and the digital wellness platform is the onboard computer," Dr. Chaltikyan said. This platform assists users by providing insights and recommendations based on their health data, flagging potential risks, and allowing for preventive care that can enhance health outcomes in the long term.

However, he notes that the effectiveness of these AI systems relies on high-quality models backed by inclusive data sets. "All of this, of course, requires high quality models, and high quality models require data, and data, ideally, must be inclusive," he concluded. The focus on integrating diverse data into AI systems is not merely a technical requirement but a fundamental necessity in reshaping healthcare for the betterment of all populations.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

* <https://www.healthcareittoday.com/2024/12/18/benefits-and-challenges-of-integrating-ai-and-machine-learning-into-ehr-systems/> - This article discusses the importance of data quality and inclusivity in AI models for healthcare, highlighting challenges such as biased or incomplete datasets and the need for high-quality, standardized data.
* <https://www.healthcareittoday.com/2024/12/18/benefits-and-challenges-of-integrating-ai-and-machine-learning-into-ehr-systems/> - It emphasizes the need for diverse and representative data to avoid biases and ensure the AI's utility across different populations, aligning with Dr. Chaltikyan's views on inclusivity.
* <https://www.lapu.edu/2023/12/21/how-is-ai-being-used-in-the-health-care-industry/> - This article highlights the advantages and disadvantages of AI in healthcare, including the importance of high-quality data and the potential for biases, which supports Dr. Chaltikyan's points on data quality and inclusivity.
* <https://www.lapu.edu/2023/12/21/how-is-ai-being-used-in-the-health-care-industry/> - It discusses ethical concerns and data privacy issues, which are crucial for ensuring that AI systems are equitable and do not exacerbate existing healthcare disparities.
* <https://acrpnet.org/2024/02/16/embracing-the-future-opportunities-and-challenges-of-ai-integration-in-healthcare> - This article emphasizes the importance of inclusivity in data and the need to avoid a digital divide, which aligns with Dr. Chaltikyan's caution against exacerbating existing disparities in healthcare access and treatment.
* <https://acrpnet.org/2024/02/16/embracing-the-future-opportunities-and-challenges-of-ai-integration-in-healthcare> - It highlights the need for a multifaceted approach to AI integration, including regulating data management and ensuring transparency, which supports the collaborative approach mentioned by Dr. Chaltikyan.
* <https://www.healthcareittoday.com/2024/12/18/benefits-and-challenges-of-integrating-ai-and-machine-learning-into-ehr-systems/> - The article discusses the active participation of patients in their health journey and the use of digital health tools, which is in line with Dr. Chaltikyan's vision of patient-centered care.
* <https://acrpnet.org/2024/02/16/embracing-the-future-opportunities-and-challenges-of-ai-integration-in-healthcare> - It explains the concept of precision and personalized health, similar to the '10P Health' concept mentioned by Dr. Chaltikyan, which emphasizes tailored treatments based on individual health data.
* <https://www.healthcareittoday.com/2024/12/18/benefits-and-challenges-of-integrating-ai-and-machine-learning-into-ehr-systems/> - The article compares AI in healthcare to an autonomous vehicle's onboard computer, similar to Dr. Chaltikyan's analogy, highlighting the role of AI in providing insights and recommendations based on health data.
* <https://acrpnet.org/2024/02/16/embracing-the-future-opportunities-and-challenges-of-ai-integration-in-healthcare> - It emphasizes the need for collaboration among developers, healthcare professionals, and patients for the successful implementation of digital health solutions, aligning with Dr. Chaltikyan's identification of key stakeholders.
* <https://www.lapu.edu/2023/12/21/how-is-ai-being-used-in-the-health-care-industry/> - The article discusses the importance of addressing challenges in care logistics, data handling, and algorithm oversight, which supports Dr. Chaltikyan's points on the necessity of high-quality models and inclusive data sets.
* <https://www.htworld.co.uk/news/ai/interview-the-future-of-healthcare-and-inclusive-ai/> - Please view link - unable to able to access data