

In Emergency Crises AI Transforms Healthcare for Faster, Smarter Care

[Artificial intelligence](#) (AI) is a revolutionary blend of computing technologies that could transform humanitarian healthcare by developing novel solutions to crises.



Study

AI can partner with and power various technologies that could provide more efficient and high-quality healthcare responses in emergency situations, improving decision-making and resource allocation. It can predict [natural disasters](#), ensuring and improving real-time communication. Its use could ensure that populations at risk receive adequate and timely aid. The review analyzed peer-reviewed literature and real-world case studies from 2001 to early 2025, focusing on disease surveillance, disaster response, mental health, and ethical concerns.

The Scope of AI in Humanitarian Healthcare

Improving precision and speed in disaster responses

AI allows first responders and planners to respond more quickly and accurately to disasters such as floods, [earthquakes](#), hurricanes, and wildfires.

For instance, during the Los Angeles wildfires, AI-powered drones imaged the fire in real time and analyzed the data to predict how the flames would spread. This enabled the identification of the best evacuation routes and helped send medical teams to the right spots. In addition, the AI-driven triage of patients with burns or [respiratory symptoms](#) ensured that resources were used to help those in greatest need.

AI is being used in refugee camps on a pilot basis to analyze local conditions and predict disease outbreaks at an early stage. It also drives telemedicine applications in remote spots or when local medical resources are overwhelmed. The [Children Immunization App](#) (CIMA), implemented in Jordan's Zaatari refugee camps, supports vaccination surveillance in refugee populations and has increased the rate of follow-up vaccinations in such groups.

According to a non-randomized controlled trial by El-Halabi et al (2022), the intervention group using CIMA had a 26% follow-up return rate within one week, compared to 22% in the control group, with a 19% relative risk [reduction](#) in loss to follow-up.

Infectious disease surveillance

AI can track and predict infectious outbreaks, including [malaria](#), tuberculosis, and dengue, integrating variables related to the climate, human population movement, and socioeconomic factors. This could improve resource allocation and drive preventive policies.

For instance, IBM's Watson Health is used by ZzappMalaria's AI-powered app to increase the effectiveness and coverage of malaria elimination strategies while reducing the campaign's time required. The app analyzes satellite and environmental data to identify [mosquito breeding sites](#), enabling more targeted and effective larvicide operations.

Healthcare security

AI can be used along with blockchain to provide disaster [victims](#) with secure identities. This lets them access healthcare and medical data anywhere without losing their medical history. This helps both the treating professionals and the patients. Pilot studies are ongoing in refugee camps. According to the authors, these tamper-proof digital identities enable continuity of care and reduce the administration burden associated with displacement.

Ethical issues

Using AI in [humanitarian healthcare](#) is challenging unless urgent limitations are faced and resolved. These include biased algorithms that could skew medical decisions and wrongly allocate resources to the wrong people. This could deprive people in need who lack political or social power or representation of help. AI training requires deliberate use of diverse datasets with constant monitoring and transparency to avoid this.

Data privacy and security are other crucial issues. Another question is accountability: Who is responsible for AI-driven [patient care](#) decisions: The doctors, the algorithm developers, or the humanitarian aid providers?

Infrastructural issues could widen healthcare inequities, as AI-powered solutions demand internet connectivity and [digital infrastructure](#), which some populations lack. Regulatory oversight is essential to ensure AI's neutral, impartial, and humane use. This requires collaboration between government and non-governmental stakeholders.

As the paper emphasizes, achieving ethical [AI deployment](#) requires inclusive governance, human oversight of critical decisions, and deliberate efforts to avoid digital exclusion in low-resource settings.

Conclusion

While AI-powered interventions promise increased responsiveness, data-driven decision-making, and inclusivity, ethical regulation is vital during the design and implementation phases of such solutions during humanitarian [healthcare crises](#).

With coordination between governments, NGOs, academic researchers, and [technology companies](#), AI has the potential to become a core enabler of a more responsive, equitable, and human-centered humanitarian healthcare system.

Source:

<https://www.news-medical.net/news/20250704/AI-transforms-healthcare-for-faster-smarter-care-in-emergency-crises.aspx>