

The Medical Profession in the AI Era: At the Precipice of World War III

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Editorial

The medical profession stands at a historic inflection point. Artificial intelligence (AI) is rapidly transforming how physicians diagnose, treat, and interact with patients, promising unprecedented efficiency, accuracy, and personalization in care. At the same time, escalating geopolitical tensions—marked by ongoing conflicts in Europe, the Middle East, and elsewhere—raise the specter of a potential third world war. In such a scenario, healthcare systems could face mass casualties, disrupted supply chains, cyber threats, and overwhelmed infrastructure. This article explores how AI is reshaping the medical profession amid these dual pressures: a technological revolution that augments human capability and a fragile global security environment that demands resilience.

AI's Transformative Impact on Medical Practice

AI is already augmenting core aspects of clinical work. In diagnostics, machine

learning algorithms excel at interpreting medical imaging, often matching or surpassing human performance in fields like radiology and pathology. Tools powered by large language models assist with documentation, reducing administrative burden and combating physician burnout by freeing time for direct patient care.

Beyond efficiency, AI enables predictive analytics for personalized medicine, early disease detection, and optimized treatment plans. It can analyze vast datasets to identify patterns invisible to the human eye, supporting precision oncology, cardiology risk stratification, and population health management. Studies suggest AI could help address global health worker shortages projected to reach 11 million by 2030, potentially improving access in underserved regions.

For the profession itself, AI shifts physicians' roles from routine tasks toward higher-value activities: complex decision-

making, ethical judgment, patient communication, and multidisciplinary collaboration. Qualitative research indicates that while job profiles evolve, physicians will increasingly work in "human-AI teams," focusing on empathy, oversight, and integration of AI outputs rather than being replaced outright. Medical education is adapting, incorporating AI literacy to prepare future doctors for these hybrid workflows.

The Shadow of Global Conflict

Geopolitical instability adds urgency and complexity. Modern warfare—characterized by cyber attacks, hybrid threats, anti-access/area-denial strategies, and potential large-scale combat operations—would severely strain civilian and military health systems. High casualty volumes, delayed evacuations, destroyed infrastructure, and supply disruptions could overwhelm hospitals, as seen in recent conflicts.

In such environments, traditional medical practice becomes extremely challenging. Physicians may face resource scarcity, disrupted electronic health records, and threats to data integrity from cyberattacks. Mental health needs surge among both civilians and combatants, with trauma,

displacement, and loss amplifying demand for care that systems are ill-equipped to meet.

AI as a Double-Edged Tool in Crisis

AI offers powerful solutions for healthcare resilience in conflict or near-war scenarios. In humanitarian and battlefield settings, AI supports:

- **Triage and decision support:** Algorithms can prioritize casualties in mass events or austere environments, guiding interventions when human resources are limited.
- **Disease surveillance and early warning:** Predictive models monitor outbreaks, environmental risks, or chemical/biological threats in real time.
- **Logistics and supply chain optimization:** AI helps forecast and allocate scarce medical resources amid disrupted global supply lines.
- **Mental health support:** Chatbots and AI-driven tools provide scalable screening and initial interventions for PTSD, anxiety,

and depression in displaced populations or overwhelmed systems.

- **Surgical and operational aid:** In low-resource conflict zones like Sudan or Syria, AI-assisted tools show feasibility for enhancing clinical care despite infrastructure barriers.

Military medicine is actively exploring AI for prolonged field care, combat casualty management, and extending clinician capabilities in contested domains.

However, risks are significant. Algorithmic bias could exacerbate inequities in resource-scarce or diverse populations. Data privacy concerns intensify when handling sensitive information in unstable regions. Accountability questions arise: who is responsible when an AI-driven recommendation fails in a high-stakes crisis? Ethical deployment in humanitarian settings requires neutrality, transparency, and human oversight to avoid misuse or erosion of trust.

Broader geopolitical dynamics complicate matters. AI development is entangled with military supply chains and great-power competition, raising dual-use concerns

where health-focused models could be repurposed for warfare. Supply chain vulnerabilities for AI hardware (e.g., semiconductors) could hinder healthcare AI deployment precisely when it is most needed during conflict.

Navigating the Precipice:

Recommendations for the Profession

Physicians and healthcare leaders must prepare for both the AI-driven future and potential systemic shocks:

1. Build hybrid expertise —

Integrate AI training into medical curricula while emphasizing irreplaceable human elements: empathy, ethical reasoning, and holistic judgment.

2. Prioritize resilience —

Develop robust, offline-capable AI tools and redundant systems to function amid cyberattacks or infrastructure collapse.

3. Address ethics proactively —

Establish guidelines for trustworthy AI use in conflict, focusing on bias mitigation, informed consent in crises, and equitable access.

4. Foster international

collaboration — Support science diplomacy and data-sharing frameworks that transcend borders, even as tensions rise, to advance AI for global health security.

5. Advocate for policy

— Push for regulations that balance innovation with safety, including protections against weaponization of health AI.

The medical profession cannot control geopolitics, but it can shape how AI is harnessed. In an era of rapid technological change and rising global risks, doctors must evolve into not only clinicians but also stewards of responsible innovation and advocates for resilient health systems.

The precipice is real—technological disruption meets existential threat. Yet history shows that medicine often advances most rapidly under pressure. With thoughtful integration, AI could help the profession not only survive but deliver better care even in humanity's darkest hours.

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