ON THE THEME

Artificial Intelligence (AI) and the Transformation of Health Workforces: Challenges, Opportunities, and Multidisciplinary Insights

Journal

PAMJ

Policies, Administration and Markets

THEME: ARTIFICIAL INTELLIGENCE AND THE TRANSFORMATION OF HEALTH WORKFORCES: CHALLENGES, OPPORTUNITIES, AND MULTIDISCIPLINARY INSIGHTS

1. CONTEXT AND RATIONALE

The rise of Artificial Intelligence (AI) represents one of the most transformative forces of the 21st century. Nowhere is this disruption more visible and more complex than in the global healthcare sector. AI is not only revolutionizing diagnostics, therapeutic interventions, and patient monitoring, but it is also fundamentally altering the roles, structures, and operational paradigms of health workforces worldwide. Integrating machine learning algorithms, robotics, natural language processing, and big data analytics has initiated a profound shift in how healthcare services are delivered and who delivers them.

As AI-enabled tools begin to assume tasks traditionally performed by clinicians, nurses, technicians, and administrators, critical questions emerge for public policy, academic research, and strategic management. What does the future of healthcare employment look like in an age of intelligent machines? Which jobs will be transformed, augmented, or potentially displaced? What ethical, legal, economic, and social frameworks are needed to ensure that this transformation is inclusive, equitable, and sustainable?

This issue of the **Policies, Administration and Markets Journal (PAMJ)** is dedicated to examining these vital questions through a multidisciplinary lens. It aims to stimulate rigorous academic dialogue and high-level research contributions that explore the intersection of AI and the evolving dynamics of

human capital in healthcare systems. This includes not only frontline providers such as physicians and nurses, but also biomedical engineers, software developers, legal experts, hospital managers, health economists, public health officials, and educators involved in AI integration.

Moreover, the theme extends beyond medical sciences and healthcare administration into a broader intellectual ecosystem. Contributions from the following disciplines are especially encouraged, as they provide essential insights into this complex transformation:

- **Exact Sciences and Engineering:** AI-driven healthcare relies heavily on advances in computer science, data engineering, robotics, and systems modeling. Contributions from these fields offer foundational knowledge on algorithm design, model explainability, and system integration.
- **Medical and Clinical Sciences:** Changes in diagnostic pathways, surgical procedures, and patient interactions are central to understanding AI's real-time impacts on clinical practice.
- **Law and Ethics:** As AI intervenes in clinical judgments and patient privacy, legal scholars and ethicists must examine liability regimes, data protection laws, consent protocols, and the ethical use of autonomous decision-making systems.
- **Economics and Health Policy:** Economists and policy analysts are key to evaluating the macro and microeconomic implications of AI, including cost-effectiveness, labor substitution effects, funding models, and national innovation strategies.
- **Human and Social Sciences:** Understanding resistance to change, professional identity, trust in algorithms, and the cultural adaptation of technologies requires perspectives from psychology, sociology, and anthropology.

- **Management and Public Administration:** Strategic management of digital transitions in hospitals, capacity building, human resource planning, and change management practices are essential to facilitate the workforce's AI readiness.

- **Digital Transformation and Information Systems:** As healthcare becomes increasingly digitized, researchers in information systems and digital strategy must analyze platform integration, interoperability challenges, cybersecurity, and data governance.

- **Sustainable Development and Global Health:** The role of AI in addressing global health disparities, strengthening primary healthcare systems, and promoting inclusive digital ecosystems is aligned with the UN Sustainable Development Goals (SDGs).

- **Marketing and Communication:** In an era of patient-centered care and digital health platforms, the role of marketing and health communication becomes crucial in ensuring user engagement, trust, and the ethical promotion of AI-enabled services.

In light of the above, this theme is not only timely-it is imperative. The accelerating implementation of AI in healthcare systems presents unparalleled challenges and opportunities that cut across disciplines, sectors, and national boundaries. A scholarly forum such as this special issue is essential to articulate a roadmap for the future of work in healthcare, grounded in empirical evidence, normative critique, and innovative practice.

We therefore invite researchers, practitioners, and policymakers from across the globe to contribute cutting-edge articles that advance theoretical understanding, inform decision-making, and illuminate paths toward equitable and effective integration of AI in health workforce transformation. The diversity of contributions-from quantitative models to qualitative inquiries,

from national policy reviews to global governance frameworks-will form the cornerstone of **this inaugural issue of PAMJ**.

2. SUGGESTED SUB-THEMES AND AREAS OF FOCUS

We encourage contributions addressing **(but not limited to)** the following axes:

- **AI and the future of medical professions: job creation vs. automation**
- **Redefining roles and tasks in clinical environments**
- **Human-AI collaboration in diagnostics and treatment planning**
- **AI in nursing practice: tools, training, and tensions**
- **The emergence of new professional profiles: data scientists, AI-ethics officers, digital health managers**
- **Competency frameworks for AI-readiness in health education**
- **Workforce re-skilling and continuing professional development**
- **Algorithmic management and decision support systems in hospitals**
- **AI in public health administration: workforce implications**
- **Telehealth and its impact on traditional healthcare delivery roles**
- **Gender dynamics in AI-enabled healthcare work**
- **Mental health and well-being of health workers in AI-mediated environments**
- **AI and healthcare unions: bargaining power, protection, and rights**
- **Legal status of AI tools in clinical settings and liability issues**
- **Ethical challenges in delegating tasks to algorithms**
- **Trust and acceptance of AI among healthcare professionals**
- **Interdisciplinary collaboration between engineers, clinicians, and administrators**
- **Health system governance and the strategic deployment of AI**

- **Case studies of AI implementation and workforce restructuring**

- **Regional disparities and the digital divide in workforce transformation**

- **AI and healthcare in low-resource settings: workforce challenges**

- **Hospital accreditation and AI-readiness standards**

- **Global benchmarking of AI's impact on employment in health sectors**

- **Organizational change management in AI transitions**

- **Resistance to AI integration: cultural and professional barriers**

- **AI in medical education: curriculum design and faculty training**

- **Human-centered design in AI health tools**

- **Data ethics and worker surveillance**

- **Patient care continuity in the context of AI intervention**

- **Occupational health and safety in automated care environments**

- **AI and health leadership: strategic competencies**

- **Cross-sector collaboration (academia, industry, government)**

- **Financing models for AI workforce transformation**

- **Equity implications of workforce automation**

- **Policy frameworks for responsible AI in healthcare employment**

- **Health economics of AI-driven labor substitution**

- **Cross-border mobility of AI-skilled professionals**

- **AI literacy and digital inclusion in the health workforce**

- **The role of international organizations in AI workforce development**

- **Forecasting models of workforce evolution in the AI era**

- **Mathematical modeling and algorithmic optimization in healthcare workforce planning**

- **Biomedical signal processing and AI applications in clinical workflow automation**

- **AI in medical imaging: transforming radiology and diagnostic protocols**

- **Legal responsibility of algorithm-based medical decisions**

- **Ethics-by-design approaches for AI development in health contexts**

- **Economic modeling of AI deployment in public and private healthcare systems**

- **Public-private partnerships in funding AI-driven healthcare solutions**

- **Health workforce productivity metrics and AI intervention outcomes**

- **Role of behavioral economics in AI adoption by healthcare professionals**

- **AI and administrative law: the regulation of automated procedures in healthcare delivery**

- **Strategic human resource management for AI-integrated hospitals**

- **AI and change leadership in medical organizations**

- **Operational management challenges in AI-based health institutions**

- **Marketing strategies for AI-enabled health platforms and apps**

- **Patient engagement through AI-powered communication tools**

- **Branding and trust in AI-enhanced health services**

- **Digital transformation strategies for national healthcare systems**

- **Interoperability of AI systems across medical institutions and jurisdictions**

- **Cybersecurity and privacy governance in AI health workforce systems**

- **Smart contract applications for healthcare workforce management using blockchain**

- **AI and sustainable human resource models in healthcare**

- **The role of AI in achieving SDG 3 (Good Health and Well-being) and SDG 8 (Decent Work and Economic Growth)**

- **The environmental footprint of AI technologies in the health sector**

- **Social innovation through AI in health workforce empowerment**

- **Impact of AI on indigenous health systems and traditional medicine**

- **Comparative studies of AI integration in urban vs. rural healthcare workforce systems**

- **Transdisciplinary AI research centers and their influence on medical education**
- **Philosophical and epistemological foundations of decision-making with AI in healthcare**
- **Institutional governance frameworks for AI deployment in national health services**
- **Role of academic research in policy advocacy for ethical AI workforce integration**
- **Gender-sensitive policy design for AI-mediated healthcare transformation**
- **Integration of AI literacy in health workforce training institutions**
- **Ethical marketing of AI health solutions: balancing promotion and transparency**
- **Future scenarios and foresight studies on AI in human healthcare systems**
- **AI in humanitarian health operations: workforce deployment during crises**
- **…………………Authors may also propose other related topics, as this list is not exhaustive**

3. EDITORIAL INFORMATION

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5. SUBMISSION GUIDELINES

- Manuscripts should be original, unpublished, and not under review elsewhere.

- Contributions may include theoretical or empirical research, policy analyses, systematic reviews, or case studies.

- All papers must follow the **PAMJ** formatting requirements.

- Submissions should include an abstract (max. 250 words), keywords (max.6), and a short author bio (**author photo should be current**).

- All article submissions must be submitted in Word format via the **PAM Journal** platform by creating an account on its official website. These contributions **must also be sent by email to the following address: [https://journalpam.com]**

- **Language accepted: only English**

- **Important: For more details related to the Policies, Administration and Markets Journal (editorial policy, submission author guidelines, template, model article and a sample manuscript, submission procedure, email, and contact), please visit the official website: http://journalpam.com**

6. IMPORTANT DATES

ACTIVITIES	DATE
Launch of Call for Papers	May 12, 2025
Deadline for Abstract Submission	June 10, 2025
Notification of Abstract Acceptance	June 25, 2025
Full Paper Submission Deadline	August 10, 2025
Peer Review Feedback	September 30, 2025
Final Version Due	October 25, 2025
Online Publication (Expected)	December 10, 2025