**Artificial Intelligence: Rejuvenating the HEART of the Commercialized Healthcare Industry**

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*‘Artificial Intelligence can bring empathy into the current profit-mined healthcare sector by contributing in the Health Information Systems.’*

**H**ealth Informatics also known as Health Information Systems is an interdisciplinary field belonging to the healthcare industry. It is a merger of healthcare with technology.

The health informatics engages itself with the resources, devices, methods involved for acquiring, storing, retrieving and usage of health and medical data. This technology is used to facilitate better organization and analysis of the health records which in turns improves the healthcare outcomes. Such as an electronic access of the medical records can be provided to the patients, doctors, nurses, hospital administrators, insurance companies and health information technicians using Healthcare informatics. This new emergence of health care technologies provides a great wealth of data to the health professionals to provide quality patient care. [1]

**A**rtificial Intelligence (AI) is a technology which mimics the human cognitive processes. It emulates human intelligence, such as thought, deep learning, adaptation, engagement and sensory understanding, interpretation and decision making

AI in healthcare market is about to grow by $7,988.8 million by 2022.[2] AI technologies ingest, analyze, report large volumes of data across different modalities to detect disease and guide clinical decisions. Several AI applications are used in clinical decision-making, disease diagnosis, rehabilitative, surgical and predictive practices.

**A**reas where AI can be implemented in healthcare:

* **Health services management**:

AI can be used to provide real-time medical information updates from various journals, textbooks and clinical practices.

Clinicians can get hold of the data immediately whenever they need it, it will allow better safety for Nurses when they administer medication to the Patient, the Patients will become more informed and engaging in their care with the medical teams.

AI can also be utilized to optimized logistics processes like realizing drugs according to the supply system based totally on predictive algorithms, for training of the personnel, for leveraging the multiplicity of data in the electronic health records by predicting data heterogeneity across hospitals and outpatient clinics, checking for outliers, performing clinical tests on the data, unifying patient representation, improving future models that can predict diagnostic tests and analyses, creating transparency with benchmark data for analyzing services delivered.

* **Predictive medicine:**

AI can also be used for disease prediction, diagnosis treatment, outcome prediction and prognosis evaluation. It can support diagnostic, treatment and prediction outcomes in varied medical situations. Through the help of AI techniques, new drugs can be designed and developed along with monitoring patients and personalizing treatments.

* **Clinical decision-making:**

Through AI, the physicians could make better clinical decisions and also be able to remove human judgement in health-care-specific functional areas.

* **Patient data and diagnostics:**

AI systems can contribute a big deal in managing medical big data such as screening, diagnosis and treatment assignment. The AI systems could analyze raw data within short time provide meaningful and helpful insights. In diagnostic process, the AI could be used to recreate a 3D mapping solution of a patient’s body to provide a high-speed body scan. It can be used in rehabilitation therapy by using AI trained robots to physically support and guide a patient’s limb during motor therapy and surgical robots can perform semiautomated surgical tasks with very high efficiency.[3]

* **Deep Learning to Diagnose Diseases:**

Due to the ability of AI for rapidly processing large amounts of information and arrives at likely causes for symptoms drastically reduces the diagnosis-treatment-recovery cycle for many patients.

The University of Virginia School of Medicine has been able to develop a machine learning tool to rapidly analyze thousands of images from children’s biopsies, distinguish between environmental enteropathy and celiac disease at the early stages when the two disorders can be easily confused.

* **Machine Learning and Radiology:**

Osaka University researchers have been able to develop a deep-learning algorithm able to reliably diagnose many neurological diseases which even include epilepsy.

* **Automating Administrative Tasks:**

Implementing AI in healthcare will drastically reduce the expenses with shifting that time and money back toward patient care.

Using AI in health care administration can drastically reduce expenses and help health care providers to use their limited resources in providing care to the patient.

AI in health care drastically reduces the operational costs resulting in more resources for the practice, time for the patient.[4]

Thus, applying Artificial Intelligence in Health Informatics will bring back the *mojo of the HUMAN HEART* in the now commercialized Doctor’s sleeves.

References:

1. [What is Health Informatics? 3 Key Trends to Know (northeastern.edu)](https://www.northeastern.edu/graduate/blog/what-is-health-informatics/)
2. [5 Emerging Technologies and Their Impact on Health Informatics | UIC](https://healthinformatics.uic.edu/blog/5-emerging-technologies-and-their-impact-on-health-informatics/)
3. S. Secinaro, D. Calandra, A. Secinaro, V. Muthurangu and P. Biancone, “The role of artificial intelligence in healthcare: a structured literature review,” BMC Medical Informatics Decision Making, vol.21, article.125, 2021.
4. [AI in Healthcare: 4 Examples in Health Informatics | UIC Online Health Informatics](https://healthinformatics.uic.edu/blog/ai-in-healthcare-4-examples-in-health-informatics/#:~:text=%20AI%20in%20Healthcare%3A%204%20Examples%20in%20Health,care%20organization%20can%20be%20staggering.%20This...%20More%20)

Future Readings:

1. Deep Medicine: How Artificial Intelligence Can Make Healthcare Human Again. Authored by [Eric J. Topol](https://www.goodreads.com/author/show/390092.Eric_J_Topol)
2. [Is this the future of health? | The Economist - YouTube](https://www.youtube.com/watch?v=jZg5QhL3Ckc&ab_channel=TheEconomistTheEconomistVerified)
3. [How Machine Learning and Artificial Intelligence could improve your patient's experience (luxoft.com)](https://www.luxoft.com/podcasts/how-machine-learning-and-artificial-intelligence-could-improve-your-patient-s-experience/)