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AI-Driven Healthcare: A Systematic Review of Diagnostic, Robotic, and Business Applications with Focus on UAE Implementation

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Abstract

Artificial Intelligence (AI) is rapidly transforming the healthcare sector, offering innovative solutions to long-standing challenges in patient care, diagnosis, and treatment. This study aims to provide a comprehensive overview of AI applications in healthcare, focusing on its role in diagnosis and treatment, the use of AI-powered robotics, implementation in the UAE's healthcare system, and its potential benefits from a business perspective. A systematic literature review methodology is employed, analyzing peer-reviewed articles from 2015 to 2024 sourced from databases. The research utilizes a standardized data extraction form and thematic analysis to identify key trends and insights. Findings indicate that AI technologies, including machine learning and natural language processing, are enhancing diagnostic accuracy, personalizing treatment plans, and improving patient monitoring systems. The integration of AI-powered robotics is shown to streamline surgical procedures and patient care. In the UAE, AI adoption in healthcare is accelerating, with initiatives aimed at improving healthcare delivery and outcomes. From a business standpoint, AI demonstrates potential for optimizing resource allocation, reducing operational costs, and enhancing overall healthcare system efficiency. This study contributes to the growing body of knowledge on AI in healthcare, offering valuable insights for healthcare providers, policymakers, and researchers. It underscores the transformative potential of AI while also acknowledging the need for careful consideration of ethical implications and implementation challenges.

Introduction

Healthcare systems are inherently complex, creating persistent challenges for clinicians, administrators, and policymakers. Recent technological advances—particularly in artificial intelligence (AI)—are increasingly reshaping how healthcare is delivered, managed, and evaluated. AI refers to computational techniques that enable systems to perform tasks typically requiring human intelligence, including learning from data, identifying patterns, generating predictions, and supporting decision-making (Alowais et al., 2023). In healthcare, AI encompasses several subfields, notably machine learning, deep learning, and natural language processing, which can be integrated into clinical and operational workflows to address a range of healthcare needs (Kaushik, 2023).

AI has demonstrated potential to improve diagnostic and therapeutic decision-making, strengthen patient monitoring, and enhance efficiency across healthcare organizations. Current applications include diagnostic support, risk stratification and prediction, clinical documentation and data processing, clinical trial support, patient monitoring, and drug discovery (Kaushik, 2023). In treatment and care delivery, AI-enabled decision support systems can assist clinicians by analyzing large-scale patient datasets, including medical records and outcomes, to support more individualized therapeutic choices. In parallel, AI-powered monitoring systems can continuously track physiological indicators and alert healthcare teams to clinically meaningful changes, contributing to earlier intervention and improved patient management (Devi et al., 2023).

Given the expanding scope of AI and its implications for quality, safety, and efficiency, a structured understanding of current evidence is essential—particularly when considering implementation at health-system level and within specific national contexts such as the United Arab Emirates (UAE). Accordingly, this study synthesizes recent peer-reviewed literature to map key AI applications in healthcare, evaluate reported impacts, and highlight implementation considerations relevant to practitioners, healthcare leaders, and policymakers (Alowais et al., 2023).

Research Objectives

This study pursues four objectives: (1) to examine current applications of AI in healthcare diagnosis and treatment; (2) to analyze the role of AI-enabled robotics in healthcare settings; (3) to investigate AI implementation and reported impacts within the UAE healthcare sector; and (4) to evaluate reported organizational and business-oriented benefits of AI for medical staff and hospitals. In doing so, the review also considers recurring challenges and ethical considerations highlighted in the literature.

Methodology

Study design

This study employs a systematic literature review to synthesize peer-reviewed evidence on AI in healthcare, structured around four themes: (i) AI applications in diagnosis and treatment, (ii) robotics in healthcare, (iii) AI implementa-

tion in the UAE healthcare sector, and (iv) organizational and business impacts for hospitals and medical staff.

Data sources

To ensure multidisciplinary coverage across biomedical research and computing/engineering scholarship, the literature search was conducted in major bibliographic databases indexing peer-reviewed healthcare and AI research. Databases were selected based on relevance to the topic, breadth of indexing, and accessibility at the time of the review. In addition, reference lists of included studies were screened and forward citation checks were conducted for key papers to identify relevant publications not captured through database searching.

Search strategy

The search was executed on 30 April 2025 and restricted to studies published between 1 January 2015 and 31 December 2024, limited to English-language publications. Database-specific syntax was applied, combining AI-related terms (e.g., artificial intelligence, machine learning, deep learning, natural language processing, computer vision) with healthcare terms (e.g., healthcare, medicine, medical, hospital, clinic, patient). Additional keywords were used where relevant to capture robotics and automation, clinical decision support and operational/business outcomes (e.g., workflow, efficiency, productivity, cost), and UAE-related implementation (e.g., United Arab Emirates, UAE, Dubai, Abu Dhabi, Sharjah). All retrieved records were exported to reference management software and deduplicated prior to screening.

Eligibility criteria

Studies were included if they were peer-reviewed journal articles or peer-reviewed conference proceedings, published in English between 2015–2024, and reported empirical findings on AI applications in healthcare (clinical, robotic, implementation, and/or organizational contexts). Studies were excluded if they were reviews or meta-analyses, editorials/commentaries, non-peer-reviewed publications, non-healthcare studies, non-English publications, or lacked sufficient methodological detail to interpret the AI approach and evaluation.

Screening and study selection

Records were screened in two stages: title/abstract screening followed by full-text assessment against the inclusion and exclusion criteria. Reasons for exclusion at the full-text stage were recorded to ensure traceability. Any screening disagreements were resolved through discussion and consensus. Record counts were documented at each stage to support transparent reporting.

Data extraction and synthesis

A standardized extraction form was used to capture: publication details; clinical domain and setting; AI method category (e.g., ML/DL/NLP/computer vision) and data modality (e.g., imaging, EHR, laboratory, text); evaluation approach and reported outcomes (e.g., diagnostic performance metrics and/or operational indicators such as time, cost, throughput, workload); and implementation considerations including barriers and enablers. Findings were synthesized using narrative and thematic analysis, supported by summary tables. Studies were grouped into the four predefined themes to enable structured comparison across applications and contexts.

Quality considerations

The methodological quality of included studies was assessed using predefined criteria appropriate to study design (e.g., clarity of data sources, validation approach, transparency of performance reporting, and stated limitations). Quality considerations were used to contextualize the strength and generalizability of the evidence during synthesis.

Literature Review:

AI Use in Medical Diagnosis

AI has been extensively applied to strengthen diagnostic accuracy, with notable impact in radiology and pathology. Machine learning models analyze medical images, aiding in the detection of diseases like cancer, Alzheimer's, and cardiovascular conditions. Studies show that AI-driven systems can surpass human accuracy rates in certain diagnostic tasks, reducing error margins significantly (Esteva et al., 2021). Moreover, AI algorithms can be used to forecast patient outcomes based on clinical data, enabling the design of individualized treatment plans aligned with each patient's characteristics (Topol, 2019).

Despite significant advancements in medicine, the effective diagnosis of diseases remains a global healthcare challenge. The development of early diagnostic tools continues to be complex due to the intricate mechanisms of diverse diseases and their associated signs and symptoms. Artificial intelligence (AI) has increasingly reshaped healthcare practices and systems, particularly in the realm of medical diagnosis. ML and DL tools, key components of AI, demonstrate high applicability in identifying critical diagnostic patterns within large datasets, thereby enhancing healthcare systems' capabilities in disease diagnosis, prediction, and classification (Alowais et al., 2023).

In the context of medical diagnosis, AI offers several advantages over traditional methods:

1. Reduced Human Error: AI can process vast amounts of data with consistency, potentially lowering the risk of human error in diagnosis.
2. Improved Speed and Accuracy: AI algorithms can analyze complex medical data more rapidly than human practitioners, often yielding more accurate outcomes in less time (Davenport & Kalakota, 2019).
3. Enhanced Image Analysis: In radiology, task-specific deep learning image-recognition models have shown remarkable efficacy. For instance, these models can detect brain hemorrhages in MRIs or identify nodules in chest CT scans with high precision (Davenport & Kalakota, 2019).
4. Comprehensive Abnormality Detection: AI systems can assist in identifying a wide range of abnormalities, including tumors and fractures, enabling healthcare providers to conduct more thorough and accurate diagnoses (Alowais et al., 2023).

The application of AI in clinical laboratory testing represents another significant advancement. This critical medical process, which provides essential information for disease diagnosis, treatment, and monitoring, has seen improvements in efficiency, speed, and accuracy through AI integration. Clinical microbiology, a crucial area of laboratory testing, increasingly utilizes AI for:

- Detection, identification, and quantification of microorganisms
- Diagnosis and classification of pathogenic diseases
- Prediction of clinical outcomes

These applications have the potential to significantly enhance the accuracy and speed of microbiological diagnoses (Peiffer-Smadja et al., 2020).

The potential of AI in diagnostics extends to early detection of severe diseases, which can substantially reduce the risk of misdiagnosis. This capability enables healthcare professionals to provide more timely and appropriate care to patients, potentially improving overall health outcomes (Alowais et al., 2023).

However, it is important to note that while AI shows great promise in medical diagnosis, its implementation faces challenges such as data privacy concerns, the need for large, high-quality datasets for training, and the importance of maintaining human oversight in critical medical decisions. Future research should focus on addressing these challenges while further exploring the integration of AI into diverse diagnostic processes across various medical specialties.

AI Use in Medical Treatment

Personalized treatment is the most frequent application of AI, which is also recognized as personalized medicine or precision medicine. It is a method that enables healthcare professionals to tailor medical care for individual patient depending on their distinct characteristics including lifestyle, genetics, biomarker, and the environment. The purpose of this individualized approach is to enhance patient results by providing targeted therapeutic interventions that are safer, and more effective. AI has become an invaluable tool to advance personalized treatment by optimizing treatment strategies, predicting outcomes, and offering solutions to analyze complex datasets (Quazi, 2022).

In medical treatment, the use of AI to make predictions regarding treatment protocols, and therapy response is being widely recognized. Machine learning algorithms are trained to develop treatments that are best suited for a patient based on patient attributes and the relevant context of treatment. This approach is particularly used in devising recommendation and treatment plans by predicting therapy response for different types of cancers (Davenport and Kalakota, 2019; Alowais et al., 2023). In addition, AI is also used in dose optimization and predicting adverse drug events to improve treatments outcomes and enhance patient safety. Healthcare professionals can use AI algorithms to optimize drug dosage personalized for individual patient and predict adverse events regarding medication, thereby alleviating potential risks and enhancing patient care. For optimizing drug dose in individual patients, therapeutic drug monitoring is employed to prevent overdosing or toxic levels. Integration of AI in this process can revolutionize drug monitoring and prescription. Trained AI algorithms can be used to forecast responses of individual patient toward a particular drug and dose to ensure that right drug is given, at a right dose and a right time for achieving the desired medical outcomes (Alowais et al., 2023). Thus, the use of AI for developing personalized approaches to drug therapy and medical treatment can help healthcare providers to devise effective treatment and improve patient care and quality.

AI-Powered Robotics in Surgery and Patient Care

Robotic-assisted surgical platforms—often paired with advanced software and, increasingly, AI-enabled features—are helping make many procedures more precise and minimally invasive. For example, the da Vinci system uses wristed instruments and 3DHD endoscopic visualization, which can enhance surgeons' dexterity, visibility, and control in complex operations. Reviews of robotic surgery report potential benefits in a range of procedures, such as reduced surgical trauma and, in many

contexts, shorter hospital stay and recovery, although outcomes vary by specialty, team experience, and patient factors (Reddy et al., 2023). Beyond the operating room, robots are also being deployed in care settings, including robot-assisted rehabilitation and broader service-robot functions that can support clinical workflows and patient monitoring (Holland et al., 2021; Bessler et al., 2021).

The integration of AI and robotics in healthcare has become a rapidly emerging phenomenon of the 21st century. AI-powered robots have a great potential to transform the practice of medicine (Gyles, 2019). Robotics is an automation technology that employs AI algorithms to mimic tasks and activities of humans. In healthcare, robots are used in a variety of medical operations. They are particularly known for their roles in surgery such as using robots, software, and computers for accurate manipulation of surgical instruments and tools through one or more small incisions for different surgical procedures. The use of surgical robots is aimed at enhancing human capabilities and reduce existing limitations within surgical procedures (Deo and Anjankar, 2023). The instrument, da Vinci is a famous surgical robot that has performed numerous successful surgeries across the world. The use of robots in surgery provides a 3D-HD magnified display of the surgical field enabling surgeons to operate with high control and precision. Robot-assisted surgeries are proved increasingly successful in laparoscopy. In addition to this, they are widely used in various other surgical operations such as hip or knee replacement, neurological surgical procedures, etc. (Gyles, 2019).

Robots also have a major role in rehabilitation and mobility to physically assess patients to assist them in achieving goals. These robots help patients improve their flexibility, and meet their healing goals. Such robots can be used in community rehabilitation centers as well as in the inpatient care departments (Morgan et al., 2022). Apart from this, there are radiotherapy robots that help in the delivery of radiotherapy. Microrobots can pass through blood vessels and be used to deliver therapy such as medication or radiation to a targeted site. Robotic endoscopes (capsules) can be used for endoscopic functions as they can enter the digestive system through swallowing, from where they gather and send diagnostic information to operators (Gyles, 2019).

Advantages of AI for Medical Staff

Apart from increasing the efficiency of key medical processes, and improving patient outcomes, AI has numerous benefits for medical staff as well. AI-based systems are used in laboratory to replace medical staff required for performing repetitive and manual tasks which not only reduces their workload but also enable them to focus on more important tasks with an increased work efficiency. Moreover, AI-powered robots have wide-ranging roles in supporting healthcare staff. They not only assist in operating rooms, but also support medical staff to improve patient care. AI-powered robots in healthcare can be used to perform the roles of nurses, receptionists, ward boys and other healthcare staff. Different robot categories such as nurse robots, receptionist robots, and medical servers are able to perform the aforementioned roles effectively (Deo and Anjankar, 2023).

During Covid-19 pandemic, robots were used, instead of healthcare personnel, for the screening of suspected patients at the entrance of hospitals or other healthcare facilities. Therapeutic robots can be used for monitoring patients in remedial or rehabilitation treatment after paralysis, strokes or brain injuries. These robots physically aid patients to perform prescribed exercises and measure degree of mobility with greater precision than the human eye, provide exclusive patient care by replacing

Table 1. Summary of AI Frameworks in Medical Diagnosis

Framework	Description	Application
Deep Learning for Image Analysis	Using extensive medical imaging datasets, neural networks are trained to spot relevant patterns and potential irregularities.	- Detection of brain hemorrhages in MRIs - Identification of nodules in chest CT scans - Analysis of X-rays and other radiological images
Machine Learning for Pattern Recognition	Data-driven algorithms that learn and produce predictions or decisions.	- Identification of key diagnostic patterns among large datasets - Disease prediction and classification
AI-Enhanced Clinical Laboratory Testing	Integration of AI algorithms into laboratory processes to improve efficiency and accuracy	- Detection, identification, and quantification of microorganisms - Diagnosis and classification of pathogenic diseases - Prediction of clinical outcomes in microbiology
Data-driven forecasting	Leveraging historical data and analytical models, including machine learning, to forecast future outcomes.	- Early detection of dangerous diseases - Risk assessment for various medical conditions
Natural Language Processing (NLP)	AI methods for medical language understanding and analysis.	- Analysis of clinical notes and medical records - Extraction of relevant information from medical literature
Computer Vision	AI methods that enable computers to interpret and extract meaningful information from digital images or videos.	- Tumor detection in various imaging modalities - Fracture identification in X-rays - General abnormality detection in medical imaging

overworked nurses. Robotic nurses can also assist in other minor tasks such as drawing blood, digital entries, and moving carts. There are automated mobile robots used for performing strenuous tasks such as transferring patients, or lifting heavy patient beds. They can help in staff shortage to perform various patient-related jobs such as keeping rooms clean and sanitized, ensuring timely availability of medical equipment, and placing orders on time. All these activities of healthcare robots reduce physical and mental burden on healthcare staff (Deo and Anjankar, 2023).

AI in the UAE Healthcare System

In the UAE, the expansion of AI in healthcare is increasingly shaped by national policy, particularly the UAE National Strategy for Artificial Intelligence 2031, which sets a vision to become a leading global AI nation by 2031 (UAE National Strategy for Artificial Intelligence 2031, n.d.; Shamout & Abu Ali, 2021). Evidence from UAE-based studies shows AI-enabled digital health services—especially telemedicine—have been implemented and evaluated; for example, a cross-sectional study in Abu Dhabi compared telemedicine quality between hospital outpatient departments and community clinics (Alhajri et al., 2022). AI is also being explored for early detection and screening, including smartphone-based machine-learning tools designed to support diabetic retinopathy screening (Mujeeb Rahman et al., 2024). In addition, patient data and electronic health records are being leveraged for risk stratification, such as machine-learning survival analysis used to identify factors associated with COVID-19 ICU admission in a UAE cohort (AlShehhi et al., 2024). From the clinician adoption perspective, UAE physician interviews emphasize the importance of training, connected systems, interpretable outputs, and clear reimbursement pathways to integrate AI safely into routine care (Mansour & Bick, 2024). Overall, the literature emphasizes that sustainable scaling depends not only on technical capability, but also on connected systems, interpretability, governance, and clinician/patient acceptance—factors highlighted directly by physicians practicing in the UAE (Mansour & Bick, 2024).

One UAE-focused stream of literature discusses AI-supported patient portal systems, including the Patient Smart Portal (PSP), as a mechanism to facilitate secure access to and exchange of patient information, while emphasizing that AI can add functionality and help mitigate implementation and risk-management challenges (Khatib et al., 2021). Operationally, a Dubai-based hospital case study reports that integrating AI into hospital management processes (e.g., predictive analytics and scheduling optimization) can improve patient-flow performance indicators such as waiting time and resource utilization, while

Table 2: Summary of Robotics Frameworks in Healthcare

Framework/Type	Description	Application
Surgical Robots	Robotic systems designed to assist or perform surgical procedures	- Minimally invasive surgeries - Precise tumor removals - Orthopedic procedures - Cardiac surgeries
Care Robots	Robots designed to assist in patient care and daily living activities	- Assisting elderly or disabled patients with mobility - Medication reminders and dispensing - Monitoring vital signs - Providing companionship to reduce isolation
Rehabilitation Robots	Robotic systems used in physical therapy and rehabilitation	- Gait training for stroke patients - Upper limb rehabilitation - Neuromuscular re-education - Assistive exoskeletons for mobility
Pharmacy Robots	Automated systems for medication management and dispensing	- Accurate medication sorting and packaging - Inventory management in pharmacies - Reducing medication errors
Disinfection Robots	Robots designed to sanitize healthcare environments	- UV light disinfection of hospital rooms - Automated cleaning of high-touch surfaces - Reducing hospital-acquired infections
Telepresence Robots	Mobile robots that enable remote presence and communication	- Remote patient consultations - Virtual hospital rounds - Connecting patients with family members
Laboratory Robots	Automated systems for handling laboratory tasks	- High-throughput sample processing - Precise liquid handling in diagnostics - Automated blood testing and analysis
Prosthetic Robots	Advanced robotic limbs and organs	- Brain-controlled prosthetic limbs - Robotic organs (e.g., artificial pancreas) - Sensory feedback in prosthetics

also highlighting practical challenges including data privacy and staff training needs (Shamsi, 2024). Overall, these findings support the view that AI is contributing to ongoing digital transformation in UAE healthcare, but that sustained impact depends on strong governance, workforce readiness, and safe integration into clinical and administrative workflows.

Advantages of AI for hospitals/ healthcare from business perspectives

Business impacts of AI in healthcare extend beyond clinical care to include management and decision-making. While AI is often associated with improving diagnosis, treatment, and patient support, it also plays a critical role in strengthening business operations within healthcare facilities and hospitals. The data analysis potential of AI algorithms can help hospital to properly address the management of costly back-office issues related to managing, and organizing large quantities of medical or healthcare data, and improve accessibility to accurate information about various healthcare activities (Secinaro et al., 2021). AI healthcare tools can save time and reduce additional costs by improving accuracy of healthcare functions relative to traditional methods. The integration of AI into healthcare can automate different public health management activities including care coordination and patient outreach. This can assist hospitals to achieve better outcomes at lower costs (Alowais et al., 2023). Additionally, AI-based decision support systems contribute significantly to achieving cost-effectiveness in healthcare systems. Predictive tools based on AI improve decision-making processes by helping in the accurate prediction of medical treatment. This prevents extra costs that might result from wrong decisions and increases cost-effectiveness (Wicher and Rapp, 2022). Support systems based on advanced AI for healthcare professionals are proposed to enhance the efficiency of practical decision-making tools (Fig. 1).

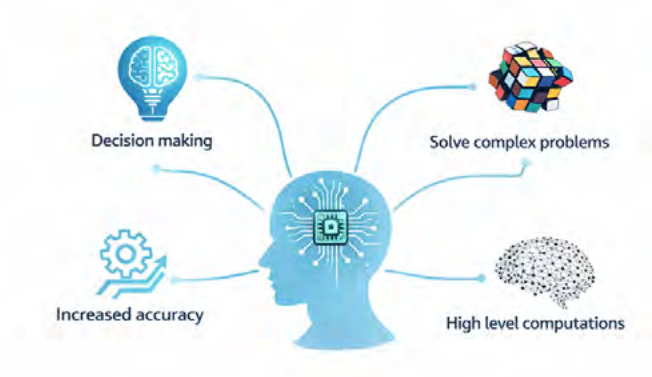

Figure 1. AI in Healthcare Decision-making

Hospitals and other healthcare systems have applied a large proportion of automated technologies in recent years which has successfully boosted the effectiveness of workflow and cost reduction while improving patient care, safety, and accuracy. This implies that AI can potentially assist healthcare systems in the effective management of businesses through efficient decision-making, automation of tasks, and proper management of workflow in a cost-effective and timely way (Alowais et al., 2023).

From a business perspective, AI helps optimize resource allocation and reduce operational costs, resulting in greater efficiency within healthcare systems. AI algorithms help predict demand for services, enabling hospitals to adjust staffing and equipment needs accordingly. The automation of administrative tasks also reduces overhead, giving clinicians more time for patient care (Gurjar, K., et al., 2024). Furthermore, AI-driven predictive analytics are assisting healthcare administrators in making more informed decisions that improve service delivery and financial outcomes.

Although AI offers significant benefits, there are significant ethical concerns as well as implementation challenges. Key challenges involve protecting data privacy, addressing bias in AI systems, and ensuring transparency in decisions (Loi et al., 2022). Addressing these concerns will require a collaborative effort between healthcare stakeholders, policy decision-makers, and AI system developers.

Final Comments and Conclusions

AI is reshaping healthcare globally, and its application in the UAE represents a forward-thinking approach to enhancing healthcare delivery and outcomes. While AI presents numerous benefits, such as improved diagnostic accuracy, personalized treatment, and operational efficiency, addressing ethical and practical challenges is essential for its sustainable integration into healthcare systems. Future research should focus on refining AI technologies, ensuring fairness, and building robust frameworks for AI's responsible use in healthcare.

Successful application of AI in healthcare systems has a great potential to transform medical and healthcare activities. AI-powered predictive analytical systems can substantially augment the effectiveness, accuracy, and efficiency of the medical diagnosis and treatment. AI algorithms trained to perform particular tasks related to diagnostics enable healthcare providers to make accurate and timely diagnosis. Moreover, AI use in providing personalized treatment through predicting therapy response and the success of a treatment not only decreases the potential risks but also ensures patients' safety.

Table 3. Business Perspective: AI Benefits for Medical Staff and Hospitals

Benefit Category	Description	Impact on Medical Staff	Impact on Hospitals
Operational Efficiency	AI-driven automation of administrative and routine tasks	- Reduced paperwork - More time for patient care - Decreased burnout	- Streamlined workflows - Reduced operational costs - Improved resource allocation
Diagnostic Accuracy	AI-assisted diagnosis and decision support	- Enhanced diagnostic capabilities - Reduced risk of misdiagnosis - Continuous learning opportunities	- Improved patient outcomes - Reduced liability risks - Enhanced reputation
Patient Care Quality	AI-powered personalized treatment plans and monitoring	- More informed decision-making - Improved patient engagement - Enhanced ability to manage complex cases	- Higher patient satisfaction rates - Reduced readmission rates - Improved health outcomes metrics
Resource Optimization	AI-based predictive analytics for resource management	- Optimized schedules - Reduced overtime - Balanced workload	- Improved inventory management - Optimized staffing levels - Reduced waste and costs
Financial Performance	AI-enhanced billing, coding, and financial forecasting	- Reduced administrative burden - More accurate documentation	- Improved revenue cycle management - Reduced claim denials - Better financial planning
Research and Development	AI-accelerated drug discovery and clinical trials	- Access to cutting-edge treatments - Opportunities for research involvement	- Potential new revenue streams - Enhanced reputation in medical community
Training and Education	AI-powered simulation and personalized learning	- Tailored skill development - Continuous professional improvement - Enhanced competency	- More skilled workforce - Reduced training costs - Improved staff retention
Patient Engagement	AI chatbots and personalized health recommendations	- Reduced routine inquiries - Focus on complex patient needs	- Improved patient communication - Enhanced preventive care - Potential for new service offerings
Data-Driven Decision Making	AI analytics for hospital management and strategic planning	- Evidence-based practice support - Improved clinical protocols	- Informed strategic decisions - Improved performance metrics - Enhanced competitive advantage

The increasing emergence of medical and healthcare robots have revolutionize the healthcare sector. Surgical robots are aiding doctors in complex surgical operations, enhancing human abilities, and lowering their limitations and shortcomings in the medical field. In addition, robots have effective applications in rehabilitation, delivery of radiotherapy, and endoscopy. Apart from improving patient care, AI is aiding medical staff across a variety of repetitive and manual tasks. Various medical robots can be used or replace overworked healthcare workers such as nurses, receptionists, and ward boys.

From the business perspective, AI can assist hospitals and other healthcare systems to achieve cost-effectiveness, and manage workflow through accurate decision-making which ultimately leads to effective management of overall business. Various hospitals and healthcare centers of the UAE are increasingly adopting AI in a variety of healthcare activities to ensure effective deliver of patient care with more accuracy and precision thereby increasing their quality of life. Nevertheless, AI has an immense potential in the field of healthcare to effectively enhance the quality of care and safety of patients by achieving desired outcomes. Therefore, successful integration of AI in the healthcare is essential to change the future of healthcare and medicine for the betterment of mankind.

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Conflict of Interest
None declared

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