Surging Waves of Artificial Intelligence in Healthcare: Current Statuses and Future Prospects

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This study highlights some of the emerging AI-powered tools in healthcare. The discussion also covers the current statuses and future prospects of healthcare services impacted by the rapid advance of generative AI technology. 110 AI-powered tools are listed under five primary healthcare fields: (1). Healthcare and medical management; (2). Healthcare robots; (3). Medical diagnosis and personalized treatment plans; (4). Medical and radiology imaging and screening; and (5). Patient care, consultation, and therapy. Further studies are still needed to follow the latest evolution of AI technology transforming all the healthcare domains. This study offers unique guidance for academic faculty, dental school students, LIS students, medical school students, nursing school students, subject librarians, and other healthcare professionals to track the future progression of generative AI in the healthcare sectors.

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Keywords: Artificial intelligence (AI), Generative AI, Healthcare, Healthcare robots, Medical diagnosis, Patient care and therapy

INTRODUCTION

The recent surging waves of Generative AI have been drawing more and more academic experts, faculty, scholars, scientists, and other professionals to enthusiastically explore innovative breakthroughs in diverse disciplines. Since John McCarthy, American computer scientist, first coined this term in 1955 (Computer History Museum, 2001), the definition of artificial intelligence (AI) keeps evolving in different subject fields (McCarthy, n.d.; NASA, 2024; Schank, 1987; Stryker and Kavlakoglu, 2025). According to the National Cancer Institute (NIH) in the United States, AI is defined as "The ability of a computer to perform functions that are usually thought of as intelligent human behavior, such as learning, reasoning, problem solving, and decision making. AI uses computer programs that analyze very large amounts of information to learn how to help make decisions or predictions. In medicine, the use of AI may help improve cancer screening and diagnosis and plan treatment. It may also be used in research and in drug discovery and development." (NIH National Cancer Institute, n.d.). As a scientific domain based on evidence-approached practice, healthcare (Wikipedia, 2025) is a very broad discipline involved with prevention, diagnosis, treatment, rehabilitation, plus medicine research and vaccine development, etc., inside the entire national and regional healthcare systems. This systematic study aims to assist academic faculty, healthcare professionals and medical students, librarians, and others to evaluate

and track the latest improvement of AI-powered tools for healthcare in the age of artificial intelligence.

STUDY DESIGN AND RESEARCH SOURCES

Study Design

This quantitative study is designed to identify AI-powered tools for healthcare in the age of artificial intelligence. This study addresses the following three research questions:

RQ1: Which AI tools are revolutionizing healthcare now?
RQ2: In which areas are the AI-powered tools transforming healthcare?
RQ3: What will be the future developing trend for AI in healthcare fields?

Research Sources and Web Search Engines

The primary resources selected for this study are healthcare and medical databases in the collections of Georgia Southern University Libraries (https://ww2.georgiasouthern.edu/library/), such as BioMed Central, CINAHL Complete, Coronavirus Research Database, DSM Library Medline, Health & Medical Collection (ProQuest), Merck Manual, Nursing & Allied Health Database (ProQuest), PsycINFO, PubMed, Web of Science, etc., for this study. To identify leading AI tools for healthcare, the EBSCO Folio Services (https://www.ebsco.com/academic-libraries/products/ebsco-folio), Google (https://www.google.com), and Google Scholar (https://scholar.google.com/) are web search engines used to seek general sources and peer-reviewed scholarly literature.

METHODOLOGY

This quantitative study used content analysis (Erlingsson & Brysiewicz, 2017) to categorize and organize the collected research works. Additionally, a descriptive analysis method (Stone, Sidel, & Bloomquist, 2008) was used to identify primary AI tools in healthcare.

Keyword Selection

Since the late 1990s, keyword search has become popular for information retrieval in healthcare and medical research (Wang et all, 2012). A keyword or keywords are the significant word(s) to describe search topics. In this systematic review, keywords specified in the scope of healthcare, such as diagnosis, healthcare, medical management, patient care, therapy, etc., were used to select information resources available.

Boolean Operators Combined with Keyword Search

To optimize information retrieval, Boolean Operators (Bekhuis, 2015) are often combined with keyword(s) to generate the needed information sources. Based on the Boolean algebra, Boolean Operators (AND, OR, and NOT) are widely used in computer programming, mathematics, medical

research, and information retrieval to refine logical relations or information searches. In this study, the Boolean Operator (AND) combined with the related keywords, was utilized to identify the relevant AI tools in healthcare.

Keyword Processing and Information Retrieval

To identify AI tools in various healthcare sectors, the selected keywords were divided into two groups. Keyword Group A contains the primary keyword(s) selected in the fields of artificial intelligence, while Keyword Group B includes the selected keywords or keyword phrases specified in the scope of healthcare realms. A Boolean Operator "And" was used to combine with the selected keywords from Group A and Group B as follows for example: Keyword A + And (Boolean Operator) + Keyword B, such as "AI tools and healthcare", "AI tools and medical diagnosis", "AI tools and patient care", etc. The finalized keyword process and information retrieval were optimized to support this study:
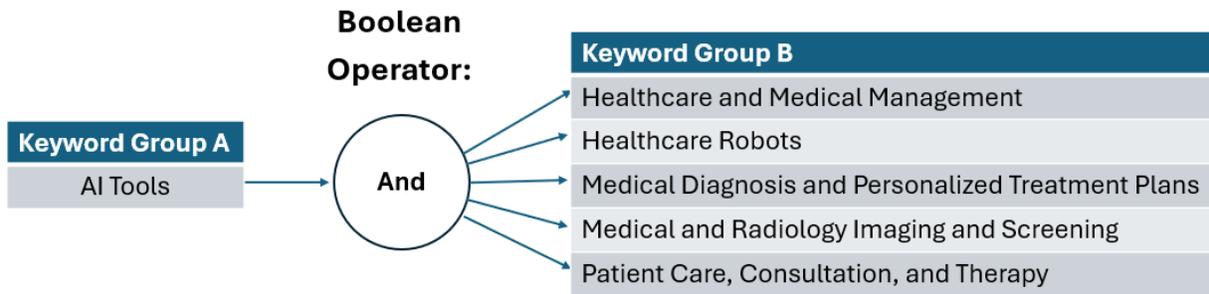

Figure 1. Optimized keyword search combined

RESULTS

AI Tools for Healthcare Fields
A total of 110 AI applications were listed in Table 1 in response to RQ1 and RQ2:

Table 1. AI-Powered Applications for Healthcare

No.	Healthcare Categories	AI Tools Identified
1.	Healthcare and Medical Management	30
2.	Healthcare Robots	20
3.	Medical Diagnosis and Personalized Treatment Plans	20
4.	Medical and Radiology Imaging and Screening	30
5.	Patient Care, Consultation, and Therapy	10
Total:		110

Healthcare and Medical Management

Based on reports from these sources: (ClickUp Engineering Team, 2025; DeskTrack, 2025; Horak et al., 2023; Nair, 2024), 30 AI tools are presented in Table 2 for the healthcare and medical management:

Table 2. AI-Powered Software for Healthcare and Medical Management

No.	Software	Healthcare Areas	Key Points
1.	Arcadia https://arcadia.io/	Healthcare data analysis	Arcadia is an AI-powered platform for healthcare data analysis including quality healthcare analysis, healthcare management, patient retention, patient engagement, population health management, etc.
2.	Asana AI https://asana.com/industry/healthcare	Healthcare project management	Asana is an AI-powered platform designed to enhance healthcare plan implementation, preclinical research management, prioritizing workflow, providing insightful summaries, etc.
3.	AthenaHealth https://www.athenahealth.com/	Electrical health record Medical billing Patient engagement	Athenahealth provides a generative AI-powered platform for medical billing and patient engagement.
4.	Augmedix https://www.augmedix.com/	AI-powered medical documentation	Augmedix provides three AI-powered software (Augmedix Go, Augmedix Assist, and Augmedix Live) to optimize medical documentation, such as coding, orders, referrals, and other post-visits.
5.	Birdview PSA https://birdviewpsa.com/solutions/healthcare-project-management/	Healthcare project management	Birdview PSA is an AI-powered platform for routine healthcare management and operation, such as AI assistance, billing and invoicing, budget and costs, clinical trials, departmental collaboration, internal research management, patient care, project management, reports, resource planning and scheduling, time tracking, etc.
6.	Chooch https://www.chooch.com/	Hospital inventory management	Chooch develops AI-powered software for hospital inventory management, facility safety monitoring, remote patients monitoring, and workplace safety.
7.	Clickup https://clickup.com/teams/health	AI resource management	Clickup provides a collection of AI-powered tools, such as AI Agents & Automatons, AI Assistant, AI chatbot, AI Knowledge Manager, AI Notetaker, AI Project Manager, AI Writing, AI Scheduling and Time Blocking, etc., to enhance project management and boost productivity across hospital and clinical settings.
8.	DeepScribe AI https://www.deepscribe.ai/	AI medical subscription	DeepScribe AI is an AI-powered platform for AI medical notetaking, AI coding, DeepScribe assistance, and personalized consultation.
9.	Doximity GPT https://www.doximity.com/	Medical documentation	Doximity is an AI-powered application for writing medical documentation, such as billing and health insurance details, list of historical and chronic ailments and symptoms, medical diagnosis and treatment, patient care plans and education, patient identification, contact information, date of birth, etc.

10.	Ensora Health https://ensorahealth.com /	AI-powered software for mental health.	Ensora Health provides an AI-powered solution for mental, behavioral, and rehabilitative therapy practice.
11.	Fellow https://fellow.app/	AI meeting assistant	Fellow is an AI software designed to automatically generate meeting agenda, meeting guidelines, meeting notes, meeting transcripts, and meeting minutes.
12.	FellowAI https://www.fellowai.com/	Healthcare supply chain management	FellowAI develops an AI-powered for supply chain management and inventory optimization within warehouses.
13.	Fireflies.ai https://fireflies.ai/	AI Meeting Assistant	Fireflies.ai provides an AI-powered application for healthcare professionals to automate clinical notes, capture patient insights, and transform clinical workflow.
14.	Forecast App https://www.forecast.app/	AI project and resource management	Forecast provides an AI-powered platform for capacity planning, digital projects, financial management, professional service automation, resource management, etc. for health project management.
15.	HealthForce AI https://www.healthforce.ai/	AI-powered Healthcare management	HealthForce AI leverages AI to transform healthcare services in the fields of automating administrative tasks, enhancing patient experience, and providing an AI-as-a-service model, such as at hospitals in Europe.
16.	KareXpert HIMS https://www.karexpert.com/	Cloud-based Hospital management	KareXpert HIMS (Hospital Information Management System) is an AI-powered platform for hospital management, including accounting integration, appointment management, bed management, billing & invoicing, claims management, inpatient management, inventory management, patient records management, physician management, etc.
17.	MocDoc https://mocdoc.com/	Healthcare management system	MocDoc is an AI-powered and cloud-based platform providing software solutions for hospital management, pharmacy management, laboratory management, ophthalmology management, dental management, etc.
18.	ModMed https://www.modmed.com/	AI-powered software for urology EHR (Electrical Health Record)	ModMed specializes with innovative AI-powered healthcare software, such as ModMed Scribe and gScribe, for administrative smarter faxing, patient collaboration for message routing, and claims denial assessment for flagging claims before submission.
19.	Navina https://www.navina.ai/	Healthcare management	Navia is an AI-powered platform designed to enhance patient care and improve the workflows for healthcare providers.
20.	Nextgen https://www.nextgen.com/	Healthcare EHR (Electrical Health Record) system	Nextgen is an AI-powered EHR (Electrical Health Record) system designed to enhance the performance of healthcare management and patient experience.
21.	Notable Health https://www.notablehealth.com/	Healthcare management	Notable Health is an AI agent platform to automate manual workflow without hiring more staff in demanding healthcare settings, especially suitable for front desk routines such as EHR (Electrical Health Records), payer portals, and more.
22.	Oracle Health HER (Electric Health Record) https://www.oracle.com/health/clinical-suite/electronic-health-record/	AI-powered EHR (Electric Health Record) software	Oracle Health HER (Electric Health Record) is an AI-driven platform for generating, maintaining, sharing, and updating patients' electrical health records among health providers.

23.	Regard https://regard.com/solutions/	AI-powered medical documentation	Regard provides an AI-powered platform assisting clinical administrators and other staff via proactive medical documentation.
24.	RXNT https://www.rxnt.com/	AI-powered software for healthcare management	RXNT provides multiple AI tools to optimize healthcare management in the fields of electrical health records, medical billing, medical scheduling, patient portal, etc.
25.	Sunoh.ai https://sunoh.ai/	AI-powered EHR (Electric Health Record) software	Sunoh.ai is an AI-powered software designed to enhance clinical documentation in healthcare settings
26.	Suvarna HIMS https://suvarna.co.in/	Hospital management	Suvarna HIMS (Hospital Information Management System) is an AI-powered and cloud-based platform to streamline operations for inpatient & ER management, outpatient management, patient engagement, revenue cycle management, supply chain management, etc. in hospital settings.
27.	Tebra HER https://www.tebra.com/	AI-powered Healthcare management	Tebra HER is an AI-powered platform to optimize the workflows of care, billing, scheduling, and more for routine healthcare management.
28.	TeleVox https://televox.com/	Patient engagement and communication	TeleVox offers an AI-powered platform to streamline the clinical routine operations and workflows by enhancing communication between healthcare providers and patients at the different stages (pre-visit, visit, and post-visit) of healthcare.
29.	TimelyCare https://timelycare.com/	Virtual support for medical care and mental health	TimelyCare is an AI-powered platform designed to optimize campus healthcare by providing virtual services for medical care or mental health from over 400 colleges and universities across the United States.
30.	TransDyne https://transdyne.com/		TransDyne offers a set of AI-powered software focusing services for virtual medical scribe, medical transcription, HER (Electrical Health Record), Tele-medicine, etc.

Healthcare Robots

Based on reports from these sources: (Case Western Reserve University, 2024; DocWire News Editors, 2023; Falcon, 2025; Knutsson, 2025; R2 Surgical, 2023; Yasar, 2025), 20 healthcare robots are presented in Table 3 for healthcare robots:

Table 3. Healthcare Robots

No	Generative AI Tools	Healthcare Areas	Key Points
1.	ADIBOT A1 https://adibot.com/	Assistive robot	ADIBOT A1 is an AI-powered and fully autonomous robot designed for UV-C disinfection supported by the LiDAR, radar, cameras, sensors, and AI algorithms, especially suitable for healthcare and hospital settings.
2.	Aethon TUG https://aethon.com/	Assistive robot	Aethon TUG is an AI-powered robotic system designed to assist nurses and other clinical staff to handle material and supply transportation in healthcare and hospital settings.

3.	Asensus Senhance https://www.asensus.com/senhance	Surgical robot	Asensus Senhance Surgical System is an AI-powered robotic surgical platform for general surgery, gynecology, urology, colorectal, and pediatric cases.
4.	Brainlab's Loop-X Mobile Imaging Robot https://www.brainlab.com/surgery-products/overview-platform-products/robotic-intraoperative-mobile-cbct/	Assistive robot	Brainlab's Loop-X Mobile Imaging Robot is an AI-powered robot platform providing optimal 2D or 3D images for various clinical disciplines.
5.	CMR Surgical Versius https://us.cmrsurgical.com/	Surgical robot	CMR Surgical Versius is an AI-powered robot designed for a wide range of procedures, including gynecology, colorectal, thoracic, urology, and general surgery.
6.	CyberKnife https://cyberknife.com/	Non-invasive robotic radiosurgery system	CyberKnife is a non-invasive robotic radiosurgery system to remove cancerous or non-cancerous tumors without incisions or surgery.
7.	Cyborg HAL https://www.cyberdyne.jp/english/products/HAL/	Assistive robot	Cyborg HAL (Hybrid Assistive Limb) is a wearable robotic system to improve and support the wearer's physical functions.
8.	Da Vinci Surgical Robot 5 https://www.intuitive.com/en-us/products-and-services/da-vinci	Surgical robot for urology, gynecology, general surgery, and thoracic surgery	Da Vinci Surgical Robot 5 is an AI-assisted robotic system designed to complete surgical operations more effectively and more precisely.
9.	Imerse Lab https://imerse.lcsr.jhu.edu/	Smart tissue autonomous robot (STAR)	Smart Tissue Autonomous Robot (STAR) is the first AI-powered robot that performs the first surgery without any assistance from a human surgeon.
10.	Intuitive Surgical Ion https://www.intuitive.com/en-us/products-and-services/ion	Surgical robot	Intuitive Surgical Ion is an AI-powered robotic bronchoscopy system designed for lung biopsies in the process of diagnosing lung cancer, other lung diseases, or lung infections.
11.	Monarch https://www.jnjmedtech.com/en-US/product-family/monarch	Surgical robot	Monarch, also known as Monarch Platform, is a robotic system, which can get to hard-to-reach lung nodules, to assist medical doctors for bronchoscopy.
12.	Moxi https://www.diligentrobots.com/moxi	Service robot	Moxi is an AI-powered robot designed to assist clinical staff to provide 24x7 services, such as delivering or fetching medical supplies or lab samples, etc., in demanding healthcare environments.
13.	NAVIO Surgical System https://rediscoveryourgo.com/navio-home/total-knee-replacement-surgery-with-the-navio-surgical-system/	Surgical robot	Novio is a hand-held robotics-assisted system for knee replacement surgeries.
14.	Nurabot https://global.kawasaki.com/en/corp/newsroom/news/detail/?f=20250704_7252	Nurse assistive robot	Nurabot is an AI-powered nurse assistant robot to handle routine tasks in hospital settings.

15.	Robot AIRec https://airec-waseda.jp/en/toppage_en/	Assistive robot	Robot AIRec is an AI-powered humanoid robot designed to take care of the elderly patients who are bedridden and unable to take care of themselves.
16.	Robot Dinsow https://www.ctasia.com/about-us/	Service robot	Dinsow is an AI-powered robotic assistant system used for the elderly care in Thailand and Japan since 2015.
17.	Robot Nurse Bear https://www.riken.jp/en/news_pubs/research_news/pr/2015/20150223_2/	Nurse assistive robot	Robot Nurse Bear is an AI-powered robot designed to assist nurses and other clinical staff to complete routine operations, such as lifting patients from beds to wheelchairs, helping patients roll over or standup, etc., in hospital and nursing homes settings.
18.	Robeaute Microbots https://www.robeaute.com/	Neurosurgery microrobots	Robeaute specializes in therapeutic microrobots for neurosurgery operations.
19.	Stryker Mako https://www.stryker.com/us/en/joint-replacement/systems/Mako_SmartRobotics_Overview.html	Surgical robot	Stryker Mako is an AI-incorporated robotic arm-assisted system to assist surgeons to complete orthopedic surgeries, specifically for partial and total knee replacements, and total hip replacements.
20.	Yomi https://www.neocis.com/	Surgical robot	Yomi is now the only AI-assisted robot system for dental implant surgeries in the United States.

Medical Diagnosis and Personalized Treatments

Based on reports from these sources: (Davidson, 2025; Ramki, 2024; SoluteLabs Team, 2025; Team Keragon, 2025; Tozzi, 2025), 20 generative AI tools were categorized for medical diagnosis and personalized treatments:

Table 4. Generative AI Tools for Medical Diagnosis and Personalized Treatments

No.	Generative AI Tools	AI Features	Key Points
A.	**AI Chatbots**		
1.	ChatGPT https://chatgpt.com/	AI chatbot	As a top generative AI chatbot, ChatGPT is impacting various fields including healthcare and medical diagnosis, treatment plan, patient education, etc.
2.	Claude https://claude.ai/	AI chatbot	As one of the powerful generative AI tools, Claude is more powerful as a conversational assistant to generate creative writing via in-depth analysis and reasoning.
3.	DeepSeek https://deepseek.com/	AI chatbot	DeepSeek is the first Chinese-made open-source generative AI application in the world. However, some states in the United States have banned DeepSeek on all government networks and devices due to severe concerns for data privacy and national security. [37].
4.	Google Gemini https://gemini.google.com/app	AI chatbot	To retain its pioneering position, Google Gemini is a generative AI tool which can adapt into healthcare scenarios based on its large language models (LLMs) to compete with OpenAI's ChatGPT and other generative AI competitors.
5.	Microsoft Copilot https://copilot.microsoft.com/	AI chatbot	Inherited from a large language model (LLMs) from GPT-4, Microsoft Copilot is a conversational generative AI

			application integrated into Microsoft's ecosystem (Bing, Edge, Office 365, Windows, etc.) to generate human-like responses for various subject fields including healthcare.
6.	Perplexity https://www.perplexity.ai/	AI chatbot	Perplexity is one of the top generative AI tools to retrieve and summarize web-based information based on users' inquiries. It can answer many healthcare-related questions by providing the needed web sources.
7.	xAI Grok https://grok.com/	AI chatbot	Designed and developed by Elon Musk's xAI (https://x.ai/), Grok 4 claims to be the most intelligent generative AI application in the world. Compared to ChatGPT and Gemini, Grok is strong for its reasoning and technical tasks. Compared to ChatGPT and Gemini, however, Grok 4 is weak for image generation.
B.	**AI Agent**		
1.	Ada https://ada.com/	AI chatbot +AI agent	Ada is an AI-powered customer service platform providing free symptom assessment based on the prompts input by users.
2.	Buoy Health https://www.buoyhealth.com/	AI chatbot +AI agent	Buoy Health is an AI-powered platform for assisting medical diagnosis and personalized patient care.
3.	Docus Symptom Checker https://docus.ai/symptom-checker	AI chatbot +AI agent	Running on the Amazon Web Services (AWS) cloud computing platform, Docus Symptom Checker offers a free online application to analyze symptoms and provide the related insights based on the information user input.
4.	DxGPT https://dxgpt.app/	AI chatbot +AI agent	Like Ada, DxGPT is a web-based service platform to analyze patient symptoms and medical history before offering potential diagnosis for rare diseases.
5.	Glass Health https://glass.health/info	AI-powered clinical decision support	Glass Health is an AI-powered platform for medical diagnosis and treatment plans for clinicians.
6.	Google's Med-PaLM https://sites.research.google/med-palm/	AI chatbot + AI agent	Google's Med-PaLM is an AI-powered large language model (LLM) designed to answer medical questions.
7.	Healthily https://www.livehealthily.com/	AI chatbot + AI agent	Healthily utilizes an AI-powered chatbot and agent to provide virtual medical assistance and personalized patient care.
8.	Hippocratic AI https://www.hippocraticai.com/	AI chatbot + AI agent	Hippocratic AI develops a set of AI-powered agents for various healthcare fields to enhance medical diagnosis and patient care.
9.	Medical AI GPT https://medadvice.ai/	AI chatbot +AI agent	Medical AI GPT acts as an AI assistant to offer clinical-medicine guidelines.
10.	ONE AI Health https://oneaihealth.com/	AI chatbot +AI agent	As an AI-powered clinical surveillance system, ONE AI Health utilizes AI technology to provide AI analytics for chronic disease management on its healthcare technology platform.
11.	Oracle Health Clinical AI Agent https://www.orcle.com/health/clinical-ai-agent/	AI chatbot +AI agent	Oracle Health Clinical AI Agent ((https://www.oracle.com/health/products/) is an AI-powered platform designed to enhance the workflows of medical documentation and patient care.
12.	Optum https://www.optum.com/en/	AI chatbot +AI agent	Optum focuses on AI-powered solutions for mental healthcare.

13.	Twill Health https://www.twill.health/	AI chatbot +AI agent	Twill Health utilizes an AI-powered solution focusing on personalized care for mental health.

Medical and Radiology Imaging and Screening

Based on reports from these sources: (Factspan, 2025; Luong, 2024; Nair, 2025; Webcom Designs, 2025), 30 AI-powered tools were collected for medical imaging analysis and screening:

Table 5. Medical and Radiology Imaging and Screening - Cloud-based AI Platforms

No	Generative AI Tools	Specialties	Key Points
1.	AEYE Health https://www.aeyehealth.com/	Diabetic Retinopathy	Approved by the FDA, AEYE Health is one of the three top AI diagnosis systems for Diabetic Retinopathy (DR) in the United States.
2.	Aidoc https://www.aidoc.com/	Cardiology Neurovascular Radiology Vascular	Aidoc offers AI-powered clinical diagnostic assistance by focusing medical imaging for medical diagnosis, such as aortic diseases, pulmonary embolism, deep vein thrombosis and IVC (Inferior Vena Cava), etc.
3.	BioMorph Technologies http://biomorphtech.com/index.html	Hard-to-Detect Diseases Diagnosis	BioMorph Technologies is using AI and molecular profiling to improve medical imaging diagnosis by focusing on hard-to-detect diseases like Lyme Disease.
4.	Blackford Analytics https://blackfordanalysis.com/	Radiology Ophthalmology Orthopedics, etc.	Blackford Analytics provides AI applications for medical imaging analysis and diagnosis.
5.	Butterfly Network https://www.butterflynetwork.com/	Cardiology Critical Care Emergency Medicine Musculoskeletal Inspection Obstetrics and Gynecology Ophthalmology Primary Care Ultrasound training Urology	Utilizing AI in its hand-held ultrasound devices and software, Butterfly Networks optimizes its process for AI-powered image acquisition and interpretation.
6.	DeepView AI https://www.deepviewai.com/	Burn Wound Assessment	DeepView AI is an AI-powered platform for analyzing wound assessment and predicting burn wound healing potentials.
7.	Derm https://skin-analytics.com/	Dermatology Skin Cancer Detection	Designed and developed by SkinAnalytics, Derm is an AI-powered application for skin cancer detection.
8.	Endex https://enlitic.com/endex/	Radiology	Developed by Enlitic (https://enlitic.com/), Endex is an AI-powered solution designed for enhancing medical data analysis and clinical diagnosis in radiology.
9.	EyeArt https://www.eyenuk.com/us-en/products/eyeart/	Diabetic Retinopathy	Approved by the FDA, EyeArt is an AI-powered eye screen application for detecting Diabetic Retinopathy (DB) in the United States.

10.	FastGlioma https://www.ucsf.edu /news/2024/11/428876 /ai-tool-helps-neurosurgeons-find-sneaky-cancer-cells	Brain Tumor Diagnosis Neurosurgery	FastGlioma is an AI-based diagnostic system combining microscopic optical imaging with AI models to detect cancerous brain tumors.
11.	GE Healthcare Medical Imaging https://www.gehealth care.com/products/im aging	Cardiology General Radiology Oncology Point-of-Care Ultrasound Pharmaceutical Diagnostics Theranostics Women's Health	As one of the divisions of GE HealthCare, GE Healthcare Medical Imaging offers AI-powered solutions for medical imaging analysis and diagnosis.
12.	Google Cloud Medical Imaging Suite https://cloud.google.c om/medical-imaging	Cancer Detection & Diagnosis Clinical Trial Optimization Drug Discovery General Radiology	Google Cloud Medical Imaging Suite is specially designed for healthcare providers and life science enterprises to develop AI-powered medical imaging diagnosis.
13.	IDx-DR https://www.healthvi sors.com/en/idx-dr/	Diabetic Retinopathy	IDx-DR is the first FDA approved AI-powered system to detect Diabetic Retinopathy (DR) in the United States.
14.	Merative https://www.merative .com/	Medical Image Analysis Oncology Radiology	To improve clinical decisions, Merative, formerly known as IBM Watson Healthcare, is an AI-powered analytics platform to analyze clinical data for cancer diagnosis and treatment plans.
15.	Microsoft Azure Data Services https://azure.microsof t.com/en-us/products/health-data-services#overview	Cancer imaging analysis Radiology-Pathology Analysis	Microsoft Azure Data Services are increasingly integrated with other AI models to provide radiology-pathology analysis for oncology analysis and diagnosis.
16.	MITK https://www.mitk.org /wiki/The_Medical_I maging_Interaction_T oolkit_(MITK)	Cancer Imaging Phenomics Image-Guided Therapy Medical Image Analysis Surgical Planning	MITK (Medical Imaging Interaction Toolkit is a free open-sourced toolkit to integrate AI-powered capabilities to analyze and diagnose medical images.
17.	Nanox.AI. https://www.nanox.vi sion/	Cardiology Liver Disease Detection Orthopedics Radiology	Merged with Zebra Medical Vision, Nanox.AI designs and develops AI-powered solutions for medical image analysis and diagnosis.
18.	Oracle Radiology and Imaging Solutions https://www.oracle.co m/health/service-lines-departments/imaging -radiology/	AI-powered imaging analysis and diagnosis	As a software giant, Oracle is now expanding its business domains to healthcare by designing and developing solutions such as AI-powered imaging analysis for MRIs (Magnetic Resource Imaging), CT (Computer Tomography) scans, and X-rays; Organ-Specific Imaging Tools; Radiology Information System (RIS) and Picture Archiving and Communication System (PACS), and more.
19.	Paige AI https://www.paige.ai/	Cancer Diagnosis Pathology	Page offers AI-powered solutions for revolutionizing cancer diagnosis and pathological analysis.

20.	PathAI https://www.pathai.com	Dermatology Gastroenterology Oncology Pathology Urology	Founded in 2016, PathAI designs and develops AI-powered pathology to enhance biomarker discovery and drug development.
21.	RapidAI https://www.rapidai.com/	Cardiac & Vascular Neurovascular Radiology	RapidAI is a clinical AI platform for medical image analysis and diagnosis regarding diseases in the fields of cardiac and neurovascular.
22.	RetCAD https://www.icare-world.com/	Diabetic Retinopathy Ophthalmology	RetCAD is an AI-powered software for detecting signs of vision threatening diseases, such as age-related macular degeneration (AMD), diabetic retinopathy (DR), and glaucoma, via retinal image analysis .
23.	Riverian Technologies https://www.riveraintech.com/	Lung Cancer Detection Cardio-Thoracic Diseases Radiology	Riverain Technologies offers AI-powered imaging solutions – ClearRead CT and ClearRead Xray – for lung cancer detection and related cardiothoracic diseases.
24.	Qure.ai https://www.qure.ai	Lung Cancer Detection Stroke Care Tuberculosis Detection	Qure.ai designs and develops AI-powered applications to detect lung cancers, strokes, and tuberculosis.
25.	Scopio Labs https://scopiolabs.com/	Digital Cell Morphology Hematology	Scopio Labs offers two AI-powered imaging platforms -- Scopio X100 and Scopio X100HT – to optimize cell morphology and hematology.
26.	Second Opinions https://www.secondopinions.com/	Neurology Oncology Orthopedic Surgery Radiology	Second Opinions offers AI-powered solutions for early detection of Neurology, Oncology, Orthopedic Surgery, and Radiology, plus medical specialists from Allergy and Immunology, Cardiology, Dermatology, and Endocrinology.
27.	Siemens Acuson Sequoia https://www.siemens-healthineers.com/en-us/ultrasound/new-era-ultrasound/acuson-sequoia	Breast Imaging Cardiology Fetal Imaging Liver Health Assessment Obstetrics and Gynecology (OB/GYN) Pediatrics Radiology Vascular	Siemens Acuson Sequoia is a versatile ultrasound system integrating AI-powered applications to streamline the diagnostic process for a wide range of diseases and conditions.
28.	Tempus Radiology/Arterys https://www.tempus.com/	Precision medicine	Tempus has expanded its areas of AI imaging diagnosis from oncology to neuropsychiatry, cardiology, infectious disease (through COVID), and radiology.
29.	Thirona https://thirona.eu/	Lung Cancer Diagnosis Radiology	Installed by over 600 clinical service providers worldwide, Thirona offers AI-powered image analysis and diagnosis for lung cancer.
30.	Viz.ai https://www.viz.ai/	Cardiology Neurology Vascular Medicine	Collaborating with Microsoft, Viz.ai offers FDA-cleared AI solutions for medical imaging analysis and diagnosis.

Patient Care, Consultation, and Therapy

Based on an extensive information search, 10 AI tools are listed for patient care, consultation, and therapy:

Table 6. AI Platforms for Patient Care, Consultation, and Therapy

No.	Generative AI Tools	Healthcare Areas	Technical Features
1.	Amelia AI 7.0 https://www.soundhound.com/	Patient care and consultation	SoundHound AI Amelia is a complete AI agent platform for answering inquires, providing human-like insights, scheduling appointments, etc. in healthcare settings.
2.	Cyberdyne HAL (Hybrid Assistive Limb) https://www.cyberdyne.j p/ english/products/HAL/	Rehabilitation robotics	Cyberdyne designs and develops and specializes in the Hybrid Assistive Limb (HAL) system to assist patients with lower limb disorders.
3.	Inbenta https://www.inbenta.com/	Patient care and consultation	Inbenta is an AI-powered platform to interact with patients regarding concerns for appointments, billing, payments, personal care, etc.
4.	Isabel https://www.isabelhealthcare.com/	AI-powered diagnosis and personalized care	Isabel provides a set of AI-powered tools, such as Isabel DDx Companion, Isabel Self-Trage, Isabel Clinical Educator, and Isabel Active Intelligence, for accurate diagnosis and personalized care.
5.	Medcal Chat https://medical.chat-data.com/	AI-powered chatbot	Medcal Chat is an AI chatbot designed to generate medical answers regarding human and veterinary healthcare.
6.	Paro Therapeutic Robot http://www.parorobots.com/	Therapeutic robot for personalized care	Paro Therapeutic Robot provides interactive therapeutic robots for patients who have Dementia, Alzheimer's, and other cognition disorders.
7.	Storyline AI https://storylinehealth.com/	Personalized care	Storyline AI is an AI-powered platform providing tools for precision healthcare, clinical trials, patient programs, telehealth and remote monitoring, etc.
8.	Vonage https://www.vonage.com/ solutions/healthcare/	Patient Care	Vonage provides an AI-powered platform for HIPAA-compliant communication services.
9.	Woebot Health https://woebothealth.com/	Patient care for mental health	Woebot Health provides an AI-powered chatbot to provide mental health support.
10.	Wysa https://www.wysa.com/	Patient care for mental health	Wysa is an AI-powered chatbot to respond to different mental health concerns.

DISCUSSION

The Revolution of Generative AI

On November 30, 2022, OpenAI (https://openai.com/) released ChatGPT, whose GPT stands for "Generative Pre-trained Transformer", marking a remarkable milestone that resonated globally. As the pioneer of generative AI, ChatGPT is an AI-powered chatbot that uses natural language processing (NLP) to generate human-like communication contents in response to user prompts (Sarrion, 2023, p. 4). The emergence of generative AI has significantly accelerated the adaptation of AI in healthcare sectors. In the context of human-machine interactions, generative AI can automatically produce new, high-quality audio, images, music, text, and video, effectively meeting dynamic user needs. As one of the significant branches of artificial intelligence, Generative AI represents the latest breakthrough of AI technologies, such as AI algorithms, computer vision, expert systems, deep learning, large language models (LLMs), machine learning, natural language processing (NLP), and so on. With pre-trained deep-learning modules, deep neural networks, large-language models (LLMs), robotics, etc., Generative AI applications, such as ChatGPT, Claude, DeepSeek, Gemini, Gork, Grammarly, Midjourney, Perplexity, etc., are also applicable to a wide range of healthcare environments (Lukan, 2025). Generative AI is the driving force behind the applications and tools in healthcare, including disease diagnosis and treatment, emergency services, laboratory services, medical imaging services, nursing assistance, patient care, rehabilitative and therapy services, among others.

The Rise of AI Agent

"An artificial intelligence (AI) agent refers to a system or program that is capable of autonomously performing tasks on behalf of a user or another system by designing its workflow and utilizing available tools" (Ali Alzain et al., 2025). Functioning like a virtual assistant or an expert system, an AI Agent system is designed to automatically process original information, analyze and compare related data, perform detective reasoning, and make critical decisions without human interference. Based on Table 3, the rise of AI agents are transforming medical diagnosis and personalized treatment by providing 24x7 patient support, appointment scheduling, cost reduction, diagnostic assistance, improved access to information, predictive analysis, etc. in healthcare.

Prospects for the Future Trend of AI Applications in Healthcare ~~Arenas~~

The list of 110 AI-powered healthcare tools presented in this study revealed that four types of AI applications: AI chatbots, AI agents, AI robots, and AI-powered platforms, hold significant transformative potential to impact the future of healthcare globally. For healthcare providers, AI chatbots are rapidly becoming essential applications for interacting with both inpatients and outpatients. AI agents can operate as virtual medical doctors to enhance medical diagnosis and deliver personalized treatment plans. The advancement of generative AI technology enables AI robots to perform complex surgeries and challenging tasks with direct human interaction. Meanwhile, AI-powered platforms offer integrated collections of AI-assisted applications and services, along with third-party software to meet the dynamic needs of patients in healthcare. Numerous studies (Barath et al., 2025; Bhardwaj, 2025; Elhattab et al., 2025; Gongor & Tutsoy, 2025; Jain & Kumar, 2025; Lee et al., 2025; Ranjan et al., 2025; Sun et al., 2023; Thang et al., 2025; Zezza, 2025) have indicated that future AI technology will continue to expand its dominant

influence in at least these healthcare sectors in response to RQ3: (1) Medical analysis and diagnosis; (2) Medical imaging and screening; (3) Robotic surgery and AI-assisted procedures; (4) Healthcare administration and operations; (5) Predictive analysis and population health; and (6) Patient engagement and virtual health assistance. Additionally, big data and cloud-computing are collaborating with generative AI technology, machine learning, deep learning, and large language models (LLMs) to process enterprise datasets for the future AI tools in healthcare.
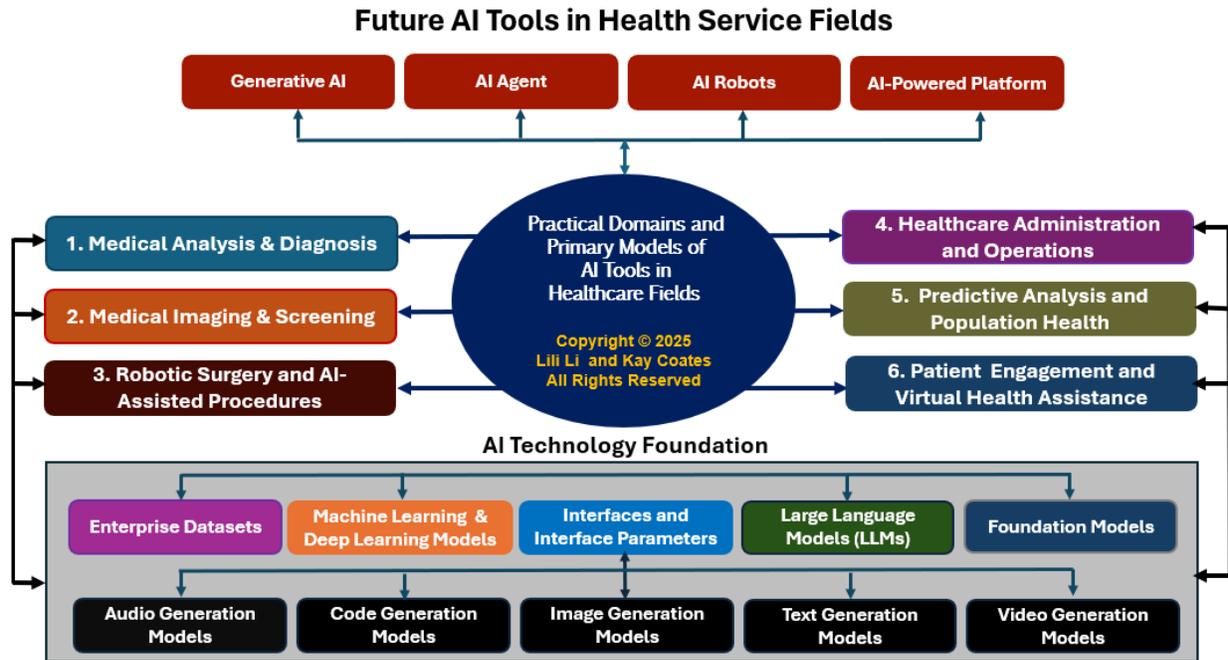

Figure 2. Practical domains of AI applications in healthcare and medical fields.

CONCLUSION

Artificial Intelligence (AI) is reshaping and transforming healthcare worldwide. Generative AI applications, AI agents, and robots are assisting healthcare professionals to optimize the treatment and prevention of human diseases. Since the early ten years of the 21st century, AI technologies have rapidly expanded into healthcare domains, including disease prediction and prevention, diagnosis and treatment, hospital care, lab analysis, medical resource optimization, mental health support, personalized treatment, and surgical assistance, rehabilitation and therapy services, among others. AI-powered healthcare is becoming a reality in this age of artificial intelligence.

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