Navigating the AI-Driven Healthcare Era: A Review of Key Developments

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Abstract: The application of Artificial Intelligence (AI) in the provision of healthcare has brought some tremendous changes in medical practices; achieving breakthroughs in diagnostics, treatment and healthcare management. Artificial Intelligence in particular is improving diagnosis identification, disease identification and diagnosis, managing administration information, etc. Chronic disease management: Using artificial intelligence tomorrow's sicknesses today, using your genes, environment, and even lifestyle/personal choices to deliver more effective cures with minimal side effects. However, several ethical questions are attached to the use of AI in healthcare such as data control, fairness of the algorithms used, and user control and thus for any organization to adopt the use of AI, the following questions should be appropriately answered. Nonetheless, there is a great deal of promise for the application of AI in healthcare including: the alleviation of healthcare inequalities, enhancement on the clinical decision making processes, positive promotion of prevention and patient-centered care delivery. Depending on the further advancement of AI the future in the field of healthcare will include new creations in a predictive analysis of a patient's condition and in automated systems for a personalized treatment that will improve the operating quality and accessibility of the options for medical services. However, technology and Artificial Intelligence in specifically have the potential of transforming the industry completely than envisaged especially if there shall be set down stringent ethical consideration and research collaboration in this domain by health care professional, technologist, and policymakers. At the end, the purpose of AI in health care is to make health care smarter and superior with the help of human intelligent thus making health care systems efficient, fair towards all patients.

Key words

AI and ML in healthcare, AI in diagnosis, AI pains, and gains, the ethics of AI, bias in AI, data privacy, and protection, AI in predictive analysis, healthcare automation, patient-centric care, healthcare equality, early diseases detection, clinical decision-making, AI and healthcare innovation, the fundamentals of health AI, AI & healthcare ethic.

INTRODUCTION

The concept of Artificial Intelligence (AI) has expanded with increased speed and is now one of the most influential innovative concepts in the healthcare sector. Its inclusion into the realm of medicine guarantees a paradigm shift in the practice of health care delivery, patient outcomes, costs and operationalization. Most significantly, various algorithms of AI, and especially machine learning and deep learning, are very effective for analyzing big data, identifying patterns or making predictions that might be hardly discernable or time-consuming for human professionals [1]. Healthcare application of AI incorporates NLP, Computer vision, robotic processing, and automation, and advanced analytics. These technologies allow AI to help with everything from clerical work involving appointments and invoices, up to diagnosis with the help of X-rays, CT-scans, development of a new medicine and proposing molds for a patient's treatment. Thus, as the applications of AI develop with time, AI has the capabilities to revolutionize healthcare practices in a largely comprehensive practice, consequently influencing every area related to patient care, treatment and research, not forgetting administration in health care facilities [2].

Of all the areas where the use of AI has had an impact on healthcare, the most important is diagnosis. In clinical practice, doctors are expected to make sense of numerous medical signs including imaging, laboratory findings in an effort to diagnose diseases and determine the appropriate management. Sophisticated techniques like Deep learning algorithms have been clearly explained, how AI is capable of interpreting Medical image such as X-ray, CT scan and MRI with exceptionally high degree of accuracy [3]. AI itself has been found to be more accurate than radiologists at times in identifying conditions such as tumor, fractures and lung diseases. Such diagnostic refinement can give an indication of diagnosis at an initial stage, diagnosis with higher accuracy and better results for the patients. AI has also come to be known as an important tool in precision medicine. Through the analysis of big data from potentially numerous domains, such as genes, behaviors, and environment, it is possible to make individualized treatment for every patient. This also is likely to enhance efficiency in delivering treatment as well

as reduce side effect as the treatment regimen that is likely to be effective in a specific patient is taken into consideration [4].

Apart from enhancing diagnosis and treatment, AI is also used to optimize the function of a hospital. What's more, the AI related tools can simplify daily jobs like managing appointments, invoicing, and insurance reimbursements and, thus, free the healthcare workers to deliver more services to patients. AI can also be used to assist in controlling a hospital's resources, estimating number and timing of patient admissions, or developing better schedules for staffing to enhance effectiveness and yet minimize expense. These operational improvements are called for as healthcare costs rise and hospitals must cope with a dearth of employees and tools. However, the integration of AI in healthcare has not lack of its obstacles or challenges even though the subject area has a lot of potential for application of these technologies [5]. The most important issue that one can come across when using the discussed types of sources is data privacy and security. Medical data is one of the types of data that cannot be violated due to the sensitivity of patient data and output data, and since AI systems, depending on the amounts of data to achieve the desired level of functionality, often need patient data, the issue of data confidentiality and data integrity becomes critical. Such urgency is felt from regulatory bodies including the Health Insurance Portability and Accountability Act (HIPAA), which strive towards putting into check the worries around AI, but the stipend is stiff because it is demanding to ensure that the sophisticated tools do not run afoul of the law or ethics [6].

The first problem relates to AI implementation in the existing healthcare environment. However, the compatibility of some kinds of technologies remains a major challenge for using them in healthcare, and their effectiveness, alongside their diffusion, depends on several factors such as their price, availability of infrastructure, and skilled human resources for the management of these technologies. Further, in the application of conducting an AI solution, the practitioners must integrate the use of AI with human intelligence in a way that the AI serves more as an aid to the skewed judgment of the professional. The problem of bias in AI models is current. AI systems are taught on past data and, therefore, if this data does not reflect the patient population, the models may actually enhance current prejudices. For instance, if an AI system was developed using data from one ethnic background, it will not be as effective at diagnosing diseases from other ethnic groups and this means unfair treatment custody ALWAYS [7]. To counter these types of bias, there's a need to diversify datasets, and more critically, to continuously assess AI in actual contexts.

Contemplated applications of AI technology include improving the diagnostic capabilities of the system, the choice of treatment tailored for an individual, clerical work, and strategies for managing a hospital. Nevertheless, the proper utilization of this technology is eminently possible as the AI technology becomes more embedded in healthcare, which requires overcoming issues around data privacy, system compatibility, and algorithmic unfairness. As the future unfolds and enters the age of AI mediated healthcare, the synergy between innovative applications of technology and the human professional would comprise the vital aspect for the health industry to drive the effectiveness of this groundbreaking innovation [8].

AI-POWERED DIAGNOSTICS: INCREASING THE ACCURACY AND SPEED OF WORKING IN CLINICAL CONTEXT

Diagnostic assist is one of the most attractive examples of the use of artificial intelligence in the healthcare sector. Sherlock AI is expanding its horizons in Medical diagnosis, patients' experience, and Health care delivery by the potential to process big data of the medical field at the capacity and speed that is beyond human ability. Although the existing diagnostic approaches have been proved to work, they demand the involvement of human skills that may err or overlook specific vital considerations [9]. However, the problem here is that current AI systems are able to analyze large quantities of data that may initially be unnoticed by any experienced and skilled physicians and consist of medical images, laboratory tests, or patient history.

One of the most important uses of AI that has recently developed into a true powerhouse for diagnostics is the application of machine learning and deep learning techniques to image analysis. Diagnostic imaging is one of the most important areas of medicine; techniques including x ray, MRI and CT scans, and ultrasound have the ability of diagnosing multiple ailments. Deep learning specifically has proven to show high efficiency in automating analysis of these image. In many cases involving medical images, particularity tumors, fractures, or symptoms of various diseases including pneumonia, cancer, and heart diseases the delicate algorithms applied on large database of medical images overcome human accuracy by skilled radiologists [10]. For example, AI proves to be effective in recognizing breast cancer from the mammogram, melanoma from the derma scopical picture and various lung diseases from the chest radiography. Certainly, these AI systems can not only mark suspect regions for further examination but also minimize the number of both false positives and false negatives—enabling diseases to be identified prior to their progression and accurate diagnoses to be made. Sometimes, AI tools can be very beneficial and can be used to prevent many fatalities since most doctors may not easily diagnose these illnesses [11].

Another important area in which AI is finding applications in diagnostics is in the use of predictive analytics. Through analyzing patient records, EHR, laboratory data, and genetics, Artificial Intelligence can predict a patient's chances of developing specific diseases. For instance, AI can be used to estimate the probability of a patient developing heart diseases, stoke or diabetes from his or her health history, and lifestyle and genetic background. These types of models can also serve as useful and timely clinical decision supports by helping clinicians identify patients who need to adopt more prudent life styles, undergo early preventive interventions or require additional diagnostic investigations before unfortunate clinical events fully manifest themselves. Advancements have also been made in interpretation of laboratory results through application of the emerging AI technology [12]. For instance, systems developed using AI technologies can process an enormous number of patients' data embraced within tests and investigations, such as blood tests, and assist the doctor in identifying possible infections, hormonal dysfunctions, or even minimal signs of cancers. These systems are not only useful for diagnosis, but for recommending follow up tests or interventions, which even enhances the efficiency of achieving accurate outcomes.
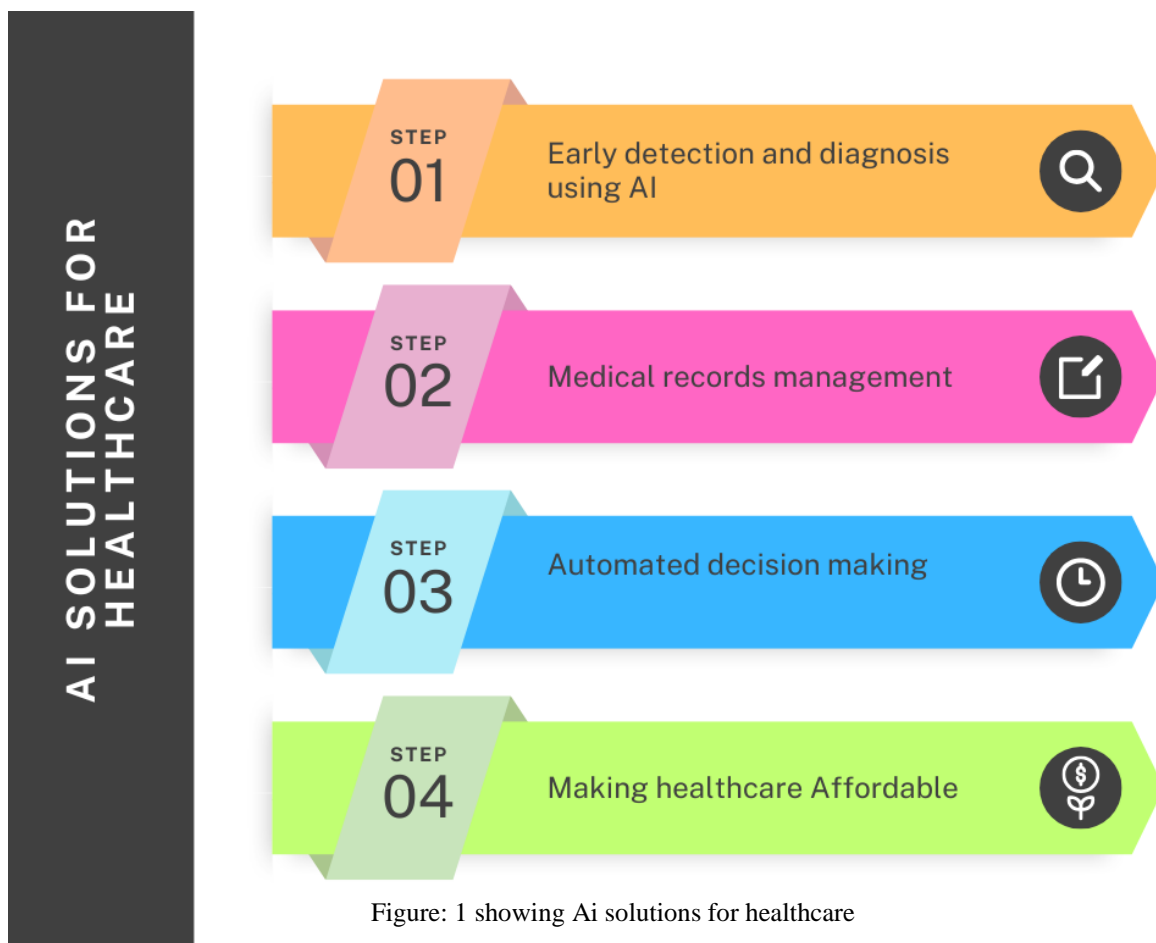

Figure: 1 showing Ai solutions for healthcare

Thus, technology with AI capabilities is especially useful in clinical environments because it can help medical personnel address increasing patients' demand for diagnostics and treatment. Used in some of the routine examination processes related to diagnosis and analysis of patients' data, AI relieves clinicians of some monotonous and labor-intensive work and allows them more time to attend to the actual needs of their patients and provide them with optimal individualized care, to reach better informed decisions in critical situations than merely relying on rigid protocols or best practice computer aided algorithms [13]. For instance, AI systems can sort cases depending on the category, the category of diseases that requires urgent attention will be attended to first. Further, it can assist in organizing the work in the centers of flow intensity such as hospitals and clinics and guarantee the timely delivery of the results of diagnostic examinations. Nevertheless, despite numerous advantages associated with the use of AI diagnostics, it is worth admitting, there are peculiar difficulties to deal with. The first big issue is to consider the models' robustness and relevance on new data indicative of the populations on which the interventions are to be tested. Similar to any other artificial intelligence systems, an AI diagnosis system can only provide results as accurate as the data it was trained on, and if this data set contains inherent or some missing information then the results generated may not be all too accurate. New knowledge to medicine and new conditions have to be fed in the systems from time to time to support its operations. Another concern rises regarding the

overuse of the technology and the shrinking of the clinician's position into just that – a button, to press when necessary [14].

Incorporation of artificial intelligence in diagnostics is making a significant change in clinical practice through integration of speed, accuracy and efficiency in diagnosis. It has been done through innovations including, machine learning, deep learning, and predictive analysis to define diseases at an earlier stage, make diagnostic tests more accurate and assisting in delivering customized care [15]. However, there are still issues with the quality of the data itself, and also with issues relating to the algorithms used to power the AI to make these diagnoses: there are still multiple ways in which AI can be damaging to the diagnostic process, and there are still multiple factors that could potentially limit the utility of these systems in the years to come.

PERSONALIZED MEDICINE AND AI: PERSONALIZING TREATMENT FOR PATIENTS

Precision medicine also referred to as personalized medicine is innovation technique in health care whereby medical procedures are based to an individual depending on his/her genetic make-up and environment. This approach is also different from the traditional population approach that favors giving all individuals in a population a certain treatment regardless of their distinct characteristics [16]. AI is becoming incredibly useful in the advancement of personalized medicine because it helps doctors to use reliable data to predict patient outcomes and reduce the side effects in the process.

There is arguably no better aspect that AI is playing a critical role of improving personalized medicine than the analytical aspect where the technology is able to process large volumes of patient data including genetics, medical history, and lifestyle and environs. With these different types of data, AI can teach the various relations that seem difficult for clinicians to see. These all lead to greater specificity in treatment that the diagnostic techniques help doctors achieve: doctors develop a set of treatment approaches that would fit each individual case rather than use overgeneralized treatments [17]. For instance, AI can assist the oncologist to determine individualized cancer treatment through making a comparison of the patient's DNA sequence with a tumor and work out mutations that determine behavior of the cancer. From these findings, it can be possible for clinician to decide which course of treatment should be given to the patient and if it may be in the form of specific chemotherapy agents, therapies that are known to combat the cancer cells that possess specific genetic characteristics [18].
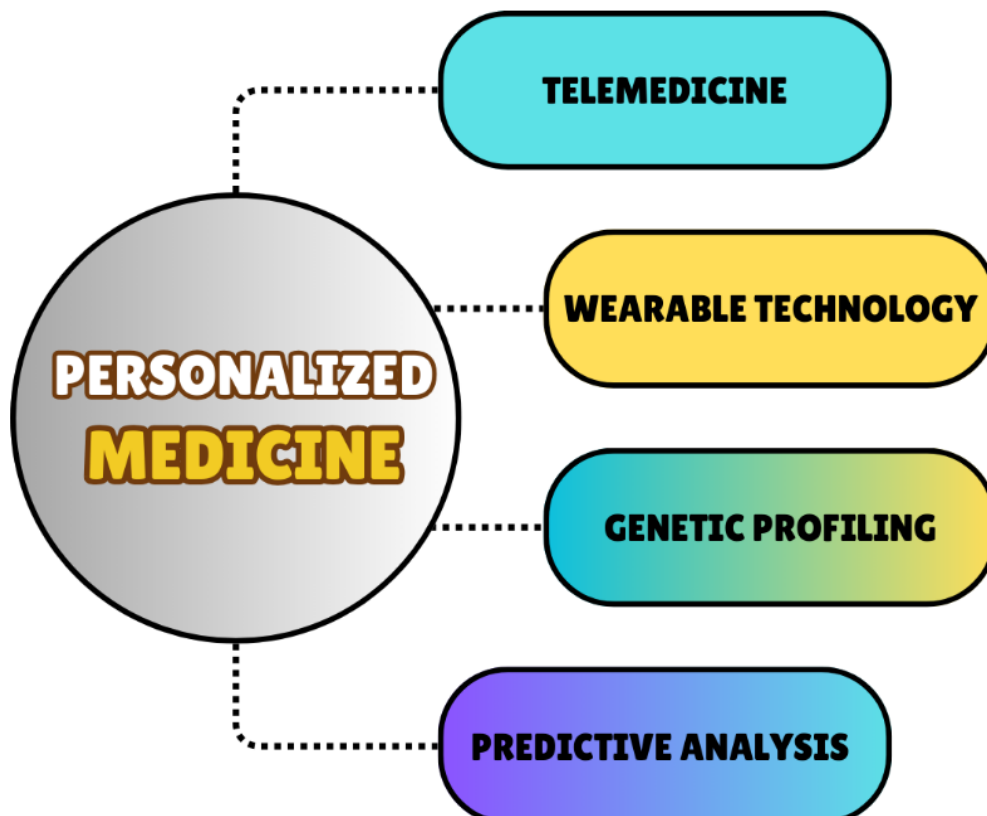

Figure: 2 showing introduction to personalized medicine

AI is also advancing in pharmacogenomics, now known as the science of understanding how genes contribute to an individual's response to medications. Patients are unique in how they process medications since the genes they inherited also make them unique; the same medication might help one patient while at the same time potentially harm the other. The advanced algorithms in AI can be used to examine the genetic make-up of an individual and determine how he or she will be affected by treatment, which drugs to use in a specific treatment process without the likelihood of experiencing side effects [19]. This capability can prove particularly useful in conditions that are, often, chronic in nature such as cardiovascular diseases, diabetes and psychiatric disorders due to the huge inter-Patient variability in drug response and side effects.

Likewise, they can incorporate other sorts of patient data characteristic that is not genomics or pharmacological, including the electronic health records, life history, and even the SDOH data including the patient's economic status and healthcare access. Collectively, AI can compose a better and far more specific picture of the state of the health of each individual patient and point clinicians into developing genuinely individualized treatments [20]. For instance, AI can pick out notable aspects about a patient's life including diet, exercise, and stress that can significantly influence their health, and enable the healthcare service providers to suggest a routine that can be appropriate to the medical history of the patient, besides the way that he or she leads his or her life. Also, it can help to further track and control individual therapy sessions in real-time manner as an integral part of prescriptive approaches. Smart clothing, wearables and health trackers can present a constant flow of data about vital statistics, activity level, metabolic rates or other physiological indices. Clinicians loading this information can update treatment plans as needed because AI algorithms can interpret this data in real-time. For instance in treating diseases such as diabetes, AI can analyze aspects such as blood sugar levels and suggest the right dosage for insulin or right portions to take for a meal to be taken in order to treat the disease [21].

Nevertheless, there are some analyzing factors that put into question the efficiency of the integration of AI in the personalized medicine. One of the biggest barriers though is the fact that AI requires big high-quality datasets to learn from. Recommendations based on machine learning are based on the data that the algorithms process, and if data is inch complete, or worse, prejudice, an unfavorable suggestion will be made. In addition, issues arise as to how patient data will be protected and handled bearing in mind that the AI system is going to handle such data. Moreover, the increasing use of AI in personalized medicine presupposes multiple investments in related infrastructure, personnel, and laws to make sure that related technologies will be applied safely and proficiently [22]. AI is a great weapon in the promotion of Precision or personalized medicine, which greatly assists the health care providers to give or promise fathom and accurate treatment. Clinically, patients' data are used or analyzed by AI in large volumes to eradicate diseases, diagnose them, and manage them. Incorporating the role of Artificial Intelligence in healthcare advances, personalized medicine is likely to bring more efficient and patient specific treatments, sooner diagnosis, improved health status and thus improved patient's quality of life. Nevertheless, solving the issues of data quality, patient data protection, and healthcare IT will be critical to achieving not only the goal of using AI in personalized medicine but also to go beyond its conventional conservative application [23].

ETHICAL IMPLICATION AND ISSUES OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE.

With continuous admittance of AI in the field of healthcare, several advantages such as accuracy in diagnosis, distinctive treatments and optimized functioning comes into view. But at the same time, its uptake also brings a number of ethical questions and problems, to which a special attention should be paid to guarantee that the new technologies of artificial intelligence will not harm people and will not deepen parochial differences or stimulate discrimination in society. They include privacy, fairness, openness, traceability and reckless acceleration of existing health disparities. That's why one of the most important and burning issues in the ethic of constructing an AI-based system in healthcare is protecting the information of patients. Healthcare data is always considered to be restricted as it involves the information of the person along with his/her medical history. These mounds of data that AI systems perform marvelously with are comprised mostly of this private data [24]. This poses questions on the manner in which patients' information is obtained, handled and passed across to other parties, and hence the issue on whether or not patients give their permission for their data to be used in a given way. There is a great tension between using data for the improvement of AI and protecting the information of patients. These risks are provoking the development of preventive measures, such as encryption of the data, de-identification of patient's information, and refining the patient consent mechanisms to increase public acceptance of AI [25].

Another ethical dilemma concerns the ethnicity factor; the algorithms used in making these decisions may well be prejudiced. Training data of AI systems are normally massive databases, and if these databases are not including all groups of society the algorithms will reproduce biased results. For instance, an AI model that has been fully trained on data obtained from one racial or ethnic group will perform poorly when applied to people from other

groups, and may result in wrong diagnosis or poor treatment plan [26]. This bias could complicate existing work done on the intersection of race and health, as those with less access to care may end up in hospitals or dying of their illnesses. In response to this, developers require proper ways of preparing the training datasets that are more general and able to cover a wider demographic of the patients and there is a consistent need to run diagnostic checks to check if the bias is arising in the AI systems [27].

Explain ability and transparency are also other important ethical implication in AI healthcare applications. A number of AI techniques specifically deep learning architectures often lack transparency, making their decisions hard to understand, hence the term 'black box'. In healthcare, this can be offsetting, as people have to rely on the words of AI systems in terms of recommendations. Lack of explain ability and understanding of how an AI system made the decision to diagnose and recommend a treatment plan can considerably limit clinicians' willingness to rely on the system and/or make patients more reluctant to accept treatment guidance from a 'black box'. It is clear that researchers and developers are putting considerable effort into improving an AI model's explain ability so that it will become more useful to healthcare professionals [28].

The question of reporting is another significant problem in the management of the healthcare industry through artificial intelligence. Should an AI system give an erroneous diagnosis and recommend a course of action that causes an adverse effect to a patient, it is not clear who is liable and that could be the developers, the people who deployed the technology in practice or the institution that adopted the technology [29]. A patient's right must come with accountability and legal responsibility somewhere in the process to have recourse whether for failure or negligence]. Also, supplementation with AI is an avenue that may diminish the degree of professionalization that clinicians possess since uses of the technology may involve attributing choices to the system instead of the professional. This means that AI should complement human talent in delivering quality patient care with health care workers always being involved in delivering care [30].

One of the most critical ethical problems of the AI is its ability to deepen existing disparities within the sphere of healthcare. There is no doubt that, in the future, AI may enhance the access to the healthcare services and, therefore, cut costs, though not each citizen is likely to benefit from the technology. Some proposed that embodied costs of developing and deploying artificial intelligence technologies may only be accessible to few populations, especially those in developed countries or few developing countries with sufficient resources or in urban areas but not in rural affection counties [31]. This might result in benefiting only the side of rich patients or well-equipped healthcare organizations which only widen the gap between different layers of population. For this reason, further attempts aiming at providing equal opportunities to clients in attaining technological medical solutions such as; affordable prices, investment in infrastructures in districts neglected is highly crucial not to worsen healthcare inequalities . Applying AI in solving healthcare issues introduces concern of human aspect into the equation. I still believe that artificial intelligence possesses enormous potential but lacks the human touch, feel, pulse and sense characteristic to the healthcare providers. People almost get emotionally attached with certain doctors, making a personal appointment so crucial to patient/girl ratio and the role that the technology is taking over, can be a big issue. AI must be deployed in a manner where it assists human providers to deliver their services and not to replace what we know patients need which is warmth [32].

It is thus apparent that the integration of AI offers a possibility of reforming the health care systems; but its benefits must be other of its ethical effects. The tied AI systems should always be comprehensible; non-discriminatory; protected enough to store all patients' information, and to all demography. To redress the above ethical issues therefore it will mean carrying out an on-going dialogue between health care givers, technologist, policy makers and patients to come up with; Patient-centered framework, equitable frameworks, credible frameworks. For that reason, besides the fact stated that positive impact must be achieved in the sphere of healthcare, profound ethical concerns have to be introduced to obtain the approaches in the development of the AI which will be ethically admissible and let reach the necessary results [33].

CONCEPT OF INNOVATION ARTIFICIAL INTELLIGENCE IN HEALTHCARE

Machine learning is the current additional advantage in health care; it leads to better results of diagnosis, working effectiveness and non-effective therapies. Machine learning and NLP are becoming more widespread in the ranges of healthcare prescribing individual therapies and defining health threats and challenges [34]. This brief is primarily concerned with existing applications of AI to pre-position HI for the future, major opportunities and some challenges.

AI in Diagnostics and Early Disease Detection: The use of AI application is again changing the diagnosis in a manner where diseases can be now diagnosed and identified in more efficient and accurate way. Computer learning

is also useful in patient's analysis and management of some illustration such as MRI and X-ray through pathophronosis like cancer and heart diseases [35].

Personalized Medicine and Treatment Optimization: This article establishes that one of the major trends tied to AI is dooming to create the concept of an individualized therapeutic approach, personalized medicines. Another way by which AI is helpful in changing the sector is by foretelling likely diseases after considering genetic data of a patient as well as his or her past data with a view of coming up with a tailor made approach that guarantees efficiency accompanied by minimal side effects [36].

Predictive Analytics for Preventive Care: Because of chances of gathering big historical health data the AI is in a position of developing predictive models that create chances of identifying the prospective risks that may lead to deep health complications. This enables early detection for action and correction as well as individual risk management treatment measures which in point of fact can help to reduce healthcare cost in the broader sense and improve overall health among patients [37].

Operational Efficiency: AI is also enhancing the supporting areas of health care in its application such as appointment scheduling, registering patients details and even payments. Using of recognizant AI-driven talking bots and entertainers recover fewer loads from executive personnel and allow the health care professionals to deal more with the patients [38].

Ethical Considerations and Challenges in AI Healthcare: AI technology integration in healthcare also has the effect of raising data privacy and security concerns and the prejudice within the algorithm. HAL opines that if the AI systems are made more transparent, and are ensured to uphold neutral, ethical standards of patient care, then patients will be more trusting of these healthcare systems [39].

AI-Driven Cybersecurity: Technological Security Development and Threat Recognitions Methodology; Artificial Intelligence has been valued and enhanced as one of the most useful technologies for defense in the cybersecurity domain, threat detection, protective measures and countermeasures. Recent academic work talks about the exponential use of AI to work as an add-on to enhance work by providing higher accuracy rates for threat identification and prevention than prior methods utilized [40]. As for now, machine learning, deep learning, and anomalous detection are analyzed to recognize he patterns, to forecast the further lohers, and to solve new threats in real time. To this, one should stress the notion of integrating the AI to the operation of cyber defense, the latest innovations are centered on increasing the security of operating systems [41]. They range from sharpening the current capacity to detect malware through to establishing adaptive and self-organizing security approaches. The paper on threat detection by using artificial intelligence describes some o o the AI methods that have been embraced in cybersecurity. For instance, machine learning models generate big data that are used to alert various breaches and intrusions or signal suspicious activity [42].
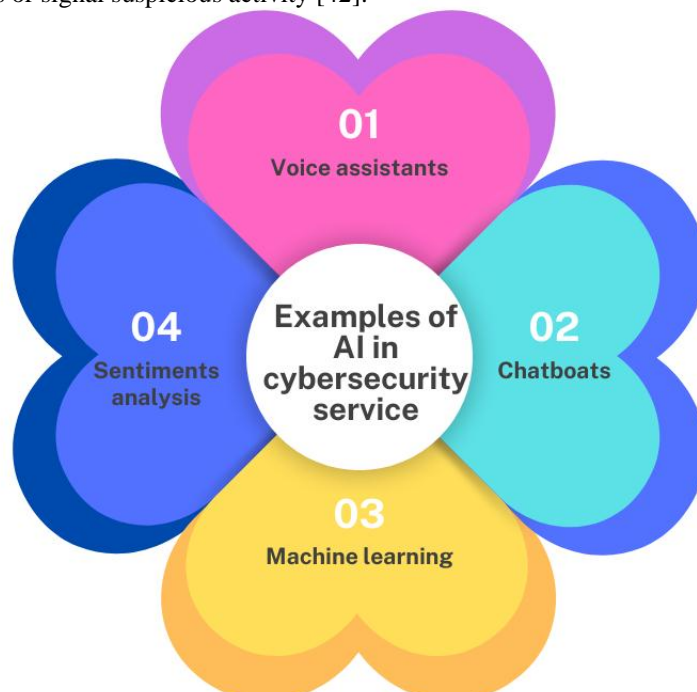

Figure: 3showing examples of Ai in cybersecurity services

FUTURE OF AI IN HEALTHCARE: TRENDS AS SUCH, INNOVATIONS AND POSSIBILITIES FOR ENCOUNTER: THEORETICAL REFLECTIONS

AI in healthcare is already showing glimpses of what that greatness may look like in the future, the trends and innovations to the horizon that outlines this future imply that the future of medicine will be one fraught with novelty. Health care systems will start getting benefited from application of AI in the sense of proactively forecasting the future of growth of such technology, which will turn on the intrinsic worth of AI in even brighter way. AI growth and innovation areas are: on new development in diseases diagnosis, on precision medicine, on use of predictive analysis, on automation of health care [44]. Another important activity that can be mentioned is a further development of the industry along the line of providing more customized services. Decision making is being improved in identifying which treatment type is applicable based on the given patient's genes, diet and conditions surrounding the patient. The higher is the values of the genetic coefficients the better will be described by AI such treatments which are trying to avoid undesired side effects. It should increase in few different fields as oncology field because precision medicine is valuable in treatment of cancer.
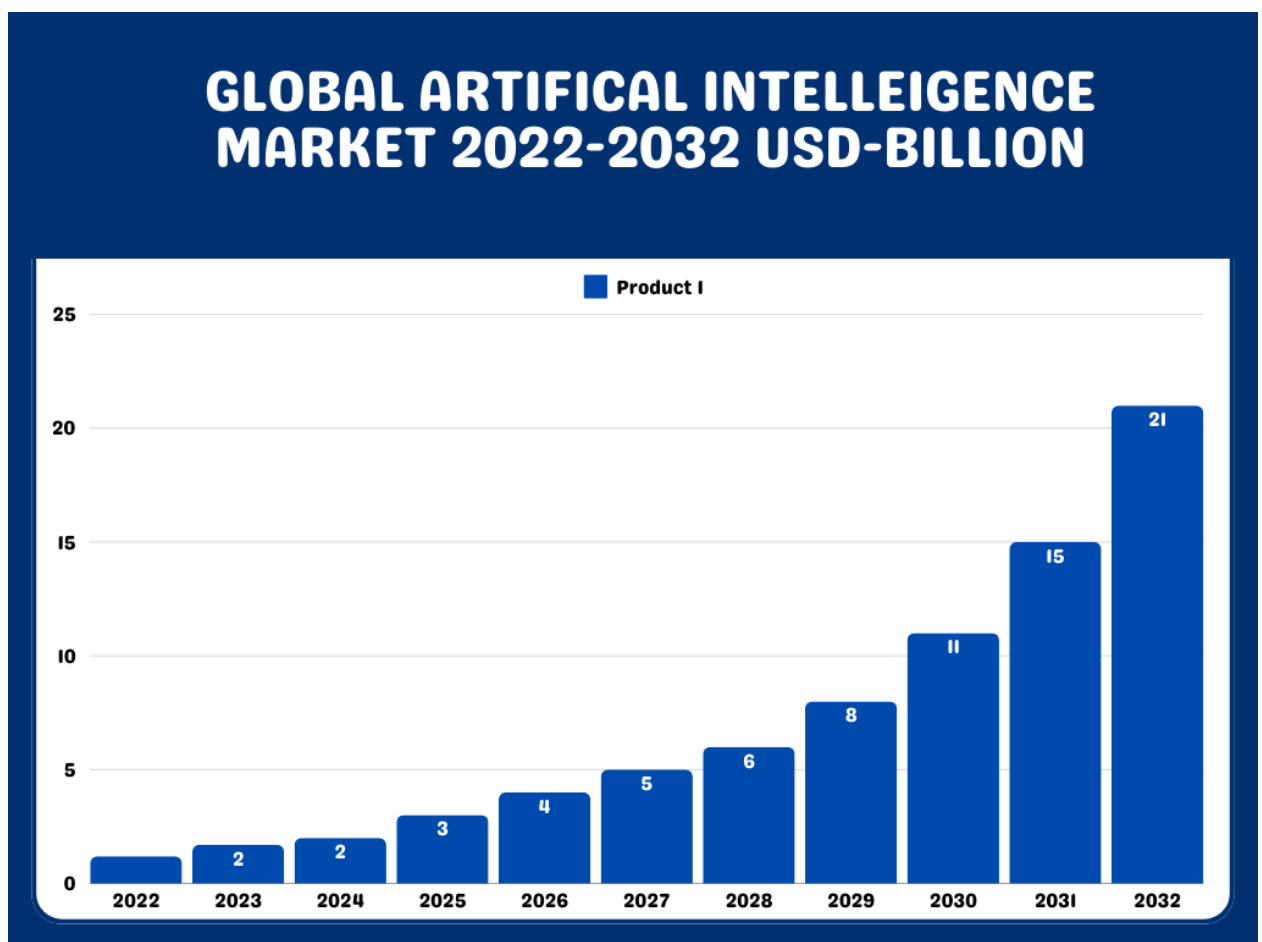

Figure: 4 showing Global AI market

It is however going to increase in AI role in case of assaying early diseases because is going to be used in analyzing imaging, genomic and other data of the patient with a view to determine ailment like cancer, heart diseases, neuronal diseases in their initial stage [45]. Such diseases are the ones that may need a while to be checked and the time which AI takes in order to detect early deviation will reduce the death rate and enhance the overall quality. Other important techniques that will be applied include predictive analysis. Utilizing big data, AI can identify probable future diseases and such problems as readmissions and learn how to avoid them. This will make the healthcare providers to act of doing all possibility to avoid the cost at the same time enhancing the standards of the patients. An increase in the level of overall use of automated work in the healthcare sector will conformably change clerical work in future [46]. For some of the functions like appointment making, charging and among others AI will ease the doctors and /or nurses by taking a shorter time hence leaving most of the time on the side of the

patient. When these innovations come into play the practice of AI will greatly revolutionaries the prescriptive, the diagnostics, and the health systems in general and make them efficient and friendly to the patient.

CONCLUSION

Consequently, the present paper investigates the subject of AI in the present and conceivable future health-care organization setting since there are many organization merits as the following can show. There are a lot of diagnostic means, which use the AI, which improve the quality of the medical images, the early diagnose of the diseases by clinical results of gene mapping, completely individual, individual oriented medical treatments based on the genetic and life parameters are two primary forms of machine learning, which is actively transforming the sphere of health care already. AI has not been defeated on the premise that each time they are coming up they are bringing some ethical concerns that needs to be followed. Among these concerns, data protection, algorithm justice and accountabilities of algorithms being used the artificial intelligence is some of the present imperative considerations that define the adequate use of AI. The above problems have to be worked out and solved so that the consideration of the advice given above does not lead to deepening of the bedside or human factor approach in the health care sphere with the help of artificial intelligence.

However, in the case of artificial intelligence the future of health care seems bright. Other health technology themes like the targeted therapy, diagnostics and decision support system shall therefore continue raising an individualized preventative model of health themes management. All these shall in plenty a way help in enhancing quality of the patients besides bringing in efficiency as well as flexibility in offering of the health services. But to reach the correct developmental stage there must be a convergence of all the relevant proximal interested parties at the healthcare environment, Information Technologies and the governmental legislative supporting authorities to set the correct ethical tone with which to serve the AI better and improve the lot of every patient out there. While implementing the further development in the healthcare system where AI is going to play the more significant role we should pay more attention on increasing the human aspect and their decision more with the help of AI advanced options for equal accessibility of healthcare service for every one'.

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