An Overview of Artificial Intelligence (AI) Intervention in Indian Healthcare System

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Abstract: *As of late, there has been significant advancement in artificial intelligence and its application in medical healthcare. Days are coming, when these procedures are anticipated to assume control over some of the activities as of now being delivered by Medical Scholars and healthcare administrators. The amalgamation of artificial intelligence in healthcare system is being seen as a revolution towards reducing cost, and improving the efficiency, quality and accessibility of healthcare services to millions of users. From available literature on AI and healthcare systems, the emphasis of most AI based proposals in India has been to spread AI based medical services to remote rural lesser served people who cannot afford quality medical facilities. By leading descriptive, predictive and prescriptive capacities, AI in medicinal services in India is right now ushering to empower human limit instead of replacing overall human work. There are certain challenges for embracing AI in Health care in India–there is a necessity of a sustainable framework of guideline to manage protection and information trustworthiness, while addressing problems with social acknowledgment, consent, risk and clarify capacity. Thus, AI shall be employed in Indian healthcare system to address the problems of economic inequality by improving the accessibility of quality medical facilities. Existing literature also reports that foreign based healthcare firms are experimenting and developing new solutions to existing problems in India. As reported in a report by TCS, firms based in healthcare sector are expecting a significant effect on the employment levels in the near future. Available literature suggests that AI is assisting in providing diagnostic and prescriptive solutions in various leading hospitals in India. By using AI in their healthcare operations, they are able to improve the report quality and efficiency thereby leading to rise in patient's trust.*

Keywords: Healthcare, Healthcare Technology, Indian Healthcare, Arogya Setu, AI, Artificial Intelligence, COVID-19

1. Introduction

Artificial intelligence in healthcare sector shall be perceived as a compilation of internet based technologies allowing machines to feel realize and learn to facilitate organizational and clinical healthcare tasks and also to be able to be used in training and research based goals (Ma Si, 2017). Unlike some traditional technologies that aided human skills, artificial intelligence today has garnered substantial improvement in the overall health of human being. Such interventions comprise of computer vision, expert systems, natural language processing, chatbots, intelligence agents and voice recognition technologies (Ericson, 2017). These interventions can possibly be exercised to counterbalance for a doctor's perceptual bias (e.g. recency bias in which one is expected to let the last case to notify the treatment for the following patient) (Safavi, 2016). This usage of artificial intelligence in the healthcare sector can be experienced at diverse range of services. For example, machine learning can be employed to convey the information through electronic health records and send these reports directly for further analysis and predictive modeling (Vishal B. Javiya, 2018). Its application can also be experienced in preventive healthcare plans. On the other hand, machine learning can be employed to combine one's data with other type of data e.g. EHR s that is helpful to forecast the possibility of a disease, therefore aiding for starting a preventive healthcare treatment (R Eubanks, 2017). AI in healthcare helps in managing the problem of overloaded information associated with diagnostic and treatment related data of patients by offering machine learning algorithms through which everything can be handled in a controlled manner. Such procedures are often known as 'filter failure', in which the central dilemma is not too heavy information but how such enormous information can be utilized in an efficient manner.

This problem often gets aggregated by insufficient procurement of data in different Point of Care (POC) settings, trouble in retrieving significant evidence in diverse range of data sources and scarcity of healthcare literacy (Klerings et al., 2015). Healthcare programs such as IBM's Watson for Oncology rigorously assess available literature in medical science to propose the future agenda of medication and research (IBM Watson for Oncology, 2018). Medical scholars have employed smart algorithms to obtain information from medical records enclosed on a web repository from various institutions across world. This actually helps to retrieve a large amount of complex information that aid them to accelerate disease surveillance, image extraction and real time generation of clinical reports (Hassanpour, S. et al., 2016). Artificial intelligence can also help in checking relapse by offering future to-go suggestions. Electronic health records in association with AI can also aid to describe how an individual's genome may affect his/her health or their response to certain treatment. Therefore, artificial intelligence can help any person the most appropriate therapy with very less side effects (Perry, 2018).

Engineering science contains a variety of uses across the healthcare sector in a nutshell. By leading descriptive, predictive and prescriptive capacities, AI in medicinal services in India is right now ushering to empower human limit instead of replacing overall human work. There are certain challenges for embracing AI in Health care in India– there is a necessity of a sustainable framework of guideline to manage protection and information trustworthiness, while addressing problems with social acknowledgment, consent, risk and clarify capacity. AI-powered specialists can look, discover, introduce and apply the foremost updated clinical and medical knowledge in association with doctors, medical

attendants, and analysts, altogether improving clinician productivity and limit, and nature of care (Dare, 2017).

AI Intervention in Healthcare across different domains

Medical Scholars and healthcare administrations are confronting phenomenal pressure in light of evolving socioeconomics, regulatory prerequisites, workforce deficiencies and rising morbidity and changes in information technology need and expectations (Hurst J., 2000; Innes G., 2015). As of late, there has been significant advancement in artificial intelligence (AI) and its application in medical healthcare (Gambhir S. et al., 2016). Days are coming, when these procedures are anticipated to assume control over some of the activities as of now being delivered by Medical Scholars and healthcare administrators (Topol E., 2015; Diprose W et al., 2016).

"Artificial Intelligence" (AI) was the term first time created by John McCarthy for a conference regarding the subject held at Dartmouth in 1956 as "the science and engineering of making intelligent machines" (Society for the Study of Artificial Intelligence and Simulation of Behavior, 2018). After a time of reduced funding and interest for AI research about, likewise alluded to as the AI winter (Crevier, 1993), good faith in AI has commonly expanded since the mid 1990s. Artificial intelligence (AI) is a significant field of software engineering that tries to make complex machines with attributes of human knowledge. We can think about this idea as "General AI," which has machines that can think and reason and even observe and hear like human (Copeland, 2016). Frost and Sullivan appraises that AI can possibly improve patient outcome by 30% to 40% while decreasing treatment costs by up to half (Hsieh, 2017a).

Existing literature reports that AI has the potential to add nearly USD 957 billion (or 15% of current GVA) to the Indian economy by 2035 (Accenture, 2017), and share of AI in the Indian healthcare ecosystem seems to be rising. For instance, out of USD5.5.bn investment in worldwide healthcare based forms, sixteen of them are from India (Pranjal Sharma, 2020). Government helps are also offered to different startups in the recent times. In this line, Karnataka govt. has drafted a Startup policy and a corpus of venture capital fund is also created that provide assistance to startups (Pitchiah, 2017). The amalgamation of artificial intelligence in healthcare system is being seen as a revolution towards reducing cost, and improving the efficiency, quality and accessibility of healthcare services to millions of users (Re-engineering Indian health care, 2016; S. Rao, 2017). From available literature on AI and healthcare systems, the emphasis of most AI based proposals in India has been to spread AI based medical services to remote rural lesser served people from India who cannot afford quality medical facilities. Thus, AI shall be employed in Indian healthcare system to address the problems of economic inequality by improving the accessibility of quality medical facilities (A. Roy, 2017). Existing literature also reports that foreign based healthcare firms are experimenting and developing new solutions to existing problems in India. As reported in a report by TCS (2017), firms based in healthcare sector are expecting a significant effect on the employment levels in the near future.

Indian healthcare industry comprises of a large set of segments (IBEF Healthcare, 2017). A review of literature shows that AI has employed in a variety of ways suggesting varied number of applications as mentioned below:

a) **Hospitals**: These comprise of govt. hospitals (district hospitals, state level premium hospitals and other general hospitals) and private hospitals (premium private hospitals and nursing homes). Available literature suggests that AI is assisting in providing diagnostic and prescriptive solutions in various leading hospitals in India. For example, Manipal group of hospitals has made an alliance with IBM's Watson for Oncology for dealing with different types of cancer diagnosis and treatment. It is reported that nearly two lakh patients receive cancer related therapies in their facility every year (Manipal Hospitals, Watson for Oncology Report, 2016). By using AI in their healthcare operations, they are able to improve the report quality and efficiency thereby leading to rise in patient's trust. Especially, the patients are also aware about the full process and therefore are fully engaged in the process with their all accord. Also, during the entire process, patient privacy is also taken care of. Another firm Aravind Eye Care Systems is currently functioning with Google Brain, past assisting google to develop its retinal scanning system by providing pictures to train their machine learning algorithms. Through this, multiple clinical trials are also completed past which these services are soon going to assist a large number of patients having related disease (Simonite, 2017). Moreover, a number of products viz. Microsoft azure, data analytics, office365 and CRM online are continuously being employed by different leading hospitals such as Apollo, Naryana Health, Fortis and Max healthcare etc. to enhance medical facilities to patients (Jaiswal, 2016).

b) **Pharmaceuticals:** The methods here comprises of various stages such as extracting, processing, refining and packaging of chemical products manufacturing, extraction, processing, purification and packaging of chemical products for human or animals. In India, the pharmaceutical companies are testing and developing AI based algorithms for descriptive and predictive AI. Following are the important as well as most frequent usage of AI in pharmaceutical industry like, drug development, where AI is scanning across all existing literatures on a specific molecule for developing a drug (e.g. Targeted molecule discovery), or else this is near to impossible task for even a bunch of people to manually conduct (Jessica V. et al., 2019) also the drug discovery can be streamlined accordingly (Reuters, 2017), even the additional advantages are like detection of both physical and immaterial improved value proposition, improved rival distinction, optimal resources allotment for getting higher share in the market and have an edge over others in pharma marketing. This will leads to gain in revenue and profit, growth maximization, customization of marketing communication for better customer engagement, sales and marketing automation and optimizing channel management (2018). There is a very good example set by Abbott Healthcare where the initiatives are like apps for heart & liver ailments, vertigo exercises (that involve augmented and virtual reality) (Raghavan, 2016). Pharmarack is a software-as-a service (SaaS) based

application which utilizes artificial intelligence to mechanize the logistics in pharmaceutical industry (Choudhury, 2017).

c) Diagnostics: This contains sellers, laboratories and related institutions that provide investigative and diagnostic services. Apart from Google and IBM, India has become a host of newly launched firms which is concentrating on leveraging AI to diagnosing diseases and ailments. Diagnostics also applies descriptive and predictive AI in India. For example Artelus develops expert screening gears for medical practitioners and clinics to diagnose diseases that range from diabetes, TB, breast cancer and many more. DRISTi, too, provides offers smart early diabetes detection through its advanced AI based algorithm that can be done through merely a single check-up of eye. In an interview with Mr. Girish Somvanshi V.P. Artelus it has been found that Artelus has its deep learning and AI-based intervention that helps patients to develop blindness as it allows early recognition of diabetic retinopathy, caused by Type II diabetes. Artelus has done maximum penetration in Rural India in partnered with Shushruth Hospital by conducting camps for Diabetic Retinopathy clinics in villages where medical facilities are understaffed. By employing AI on a chip, Artelus have taken Diabetic Retinopathy screening to the far flung areas of the world. Their offline service too provides point of care solutions to underserved people that don't require internet connection. Every patient data is coded with numbers, so patients' privacy is not compromised. Healthcare datasets including literatures, case studies have fed in to the machine for machine learning. When machine learnt, then all the practical cases have been experimented which is known as Normative learning which is faster than initial learning by which the machine can screen highest number of Diabetic Retinopathy cases in India till now (Artificial Learning Systems, 2018). Niramai Health Analytics making use of thermal analytics for early-stage carcinoma detection (NIRAMAI Technology, 2018), while Advenio Tecnosys helps to detect tuberculosis from chest x-rays and severe infections from ultrasound pictures (Chironx, 2018). Qure.Ai also employs deep learning interventions to assist in disease screening moreover as recommending customized medications from available healthcare imaging resources (Qure. Ai, 2018). Also, Orbuculum employs AI to forecast diseases like cancer, diabetes, neurological disorders, and cardiovascular diseases through deeply analysing their genomes (Orbuculum, 2018). Cureskin detects nearly six different kinds of common skin ailments – pimples, acne, scars, dark spots, pigmentation, and dark circles – and suggests therapy through mobile apps. It also claims that its deep learning algorithms provides nearly exact precision equal to dermatologist for the six skin conditions it operates (Sharma, 2017). As per WHO, India hosts more than five crore people who are affected by depression, and this is contributing to significant number of global suicides (PTI, 2017). In India, actually needing a help to improve mental condition issues is still considered as a social stigma. Companies started addressing this problem by using technology to help handle mental condition issues through chatbots that provide counselling and also maintaining privacy. AI is applied through chatbot named Wysa to provide mental condition support in India. A person can chat without disclosing his or her identity with this AI-powered system, and the chatbot is providing empathetic support also suggesting Doctors for consultation. But these chatbots is not designed to help in more serious issues (which are transferred to doctors). These chatbots, having advantage of maintaining the privacy of the patient, will not disclose any patients' private information by enhancing its privacy norms. These chatbots can also become an interface which will be more empathetic without judging anybody this is why people opens up to them without hesitation (Mohandas, 2017). For example these interfaces may help the displaced workers from IT Companies in India where people will vent their fears about potential job losses which is faced by the people commonly in the industry (Fired tech workers intercommunicate chatbots for counselling, Bloomberg, S. Rai, 2017). Wysa is a chatbot having very high emotional intelligence which acts as a condition and behavioral coach. The interface is using smartphone sensors for identifying patients who are in need. The ML platform is collecting data from mobile phones and sensors and using it to detect probable health issues by changes in forms of communication, activities and sleep also warning if patients are going out of control with depression (Wysa AI, 2018). Almost similar one is Woebot which detects changes in user mood on weekly basis and identifies patterns in them, also offering techniques to handle the same (Woebot, 2018). For the above reasons patients are getting more honest with virtual humans which is ensuring more compliance with their coaching and care plans (Dare, 2017).

d) Medical Equipment and Supplies: This includes a company's premier manufactured medical instruments and hospital stocks viz. surgical, orthopedic, laboratory equipment etc. The companies engaged into above activities have also started employing descriptive and predictive AI. Niramai utilizes a high-resolution thermal sensing machine which is scanning the chest through a type of a camera, and exercises cloud-based solutions to assess the thermal pictures for early detection of cancer (Niramai Technology, 2018). Ten3T has developed a wireless gear that can be used by a number of heart ailment patients. This intervention constantly supervising vitals and transfers this data through the cloud service that can be checked on real time basis by doctors (Ten3Health, 2018). Along with that AI is also employed to see the patients' vital signs in intensive care units, and inform the doctor in case of any emergency, similar that of Philips IntelliSpace consultative critical care that can also be used medicinally, as within the Implantable Cardiovascular Defibrillator (ICD) that checks heart rates and spontaneously create shocks in case of any emergency.

e) Medical Insurance: Containing protection and clinical repayment facilities, covering a person's hospitalization costs brought about because of ailment. Firms offering medical insurance in India are also utilizing descriptive and predictive AI. Machine Learning is in an exceedingly position which is automating claims management by analyzing tremendous measures of data in less time, by decreasing time span and costs and improves consumer satisfaction. Identification of suspicious trends in data can also assist with distinguishing fraudulent cases, which is accelerating the settlement procedure of the genuine cases. There is a mix of big data with AI, by which insurance agencies are recognizing way of life-style changes and

habits for consumers and offering them customize plans. There ought to be more use of big data which can enable the insurance agencies to distinguish early-stage illnesses and maintaining a strategic distance from the treatment-related complications (Mantri, 2017) as of now insurance agencies in India are just managing operation oriented tasks. For an example, Bajaj Allianz General Insurance utilizing Boing, a chatbot, that addresses to client inquiries on motor insurance. ICICI Lombard is utilizing MyRA, a chatbot platform, to sell insurance policies. HDFC Life's email bot is first of its kind in India which automatically read, comprehends, arrange, organize and answer to client messages (Saleem, 2017).

f) Telemedicine: Telemedicine is using electronic communications and software to offer clinical types of assistance to patients at remote regions. Telemedicine is very often utilized to follow-up visits, management of chronic illness conditions, prescription compliance management, Doctor Consultation and other clinical and medical services that can be given remotely through secure video and audio streaming (Chiron Health, 2018). This is really done by freeing the obstructions of time and space and serving to give isolated communities for example currently Corona Virus Disease (COVID-19) affected patients where social distancing and lockdown is the new norms Telemedicine is helping the infected patients so that Govt. of India also releasing 'Telemedicine guidelines' for better treatment protocols (Sharma, 2020) likewise fast conveyance of medical consultation and services (Telemedicine in India - Legal Analysis, V. Dalmia, 2013). The Telemedicine companies in India additionally utilize descriptive and predictive AI. Telemedicine also can assist with meeting the difficulties of supply and need of medical services in rural and remote alongside different capacities, for example, in education, training and management within health sector (Vision 2K+ Inc. (2015). There are infrastructural challenges which may remain between the qualities of services proviced by the clinical experts. AI is removing human error component and standardize the quality of care. SigTuple is analyzing blood slides and generate a pathology report without any assistance from a pathologist. The service of SigTuple is used in remote areas at a very nominal cost (Chakraberty, 2017). An MNC like Microsoft has tie up with Telangana Govt. which is utilizing cloud-computing and predictive analytics for the 'RBSK' program by embracing MINE, this is an AI platform to decrease avoidable visual impairment in youngsters (J. Nagpal, 2017). The Philips Innovation Campus (PIC) in Bengaluru is utilizing utilization of innovation to make social insurance reasonable and open. They have created answers for TB identification from chest x-beams, and a product arrangement to distinguish and oversee high-hazard pregnancies. it's joined forces with Fortis Escorts Heart Institute, Delhi to arrange Philips IntelliSpace Consultative Critical Care, where emergency clinics is checking different clinical consideration units (ICUs) from a headquarters community which will be situated in an exceedingly topographically isolated territory (D'Monte, 2017).

Coronavirus disease (COVID-19) is a disease caused by a newly discovered coronavirus. This disease turned out to be deadly lately before the patient experience mild to moderate symptoms such as sneezes, cough, or may be no symptom at all. The virus can be spread through on person to another via personal contact, sneezes etc. Anybody can get infected by inhaling the virus if he or she is within close distance of other person who is infected with COVID-19, or by accidentally touching a contaminated surface then their eyes, nose or mouth. Social Distancing and personal hand hygiene is the most important norms to keep one safe from infections and community spread of the same. Worldwide over 3 Mn people affected with this till date and over 200,000 died with this. In India like other countries, AI intervention by Health Tech Companies initiated disruptive change in terms of tracking, measuring, treating or curing from COVID 19 disease (WHO, 2020). Few examples are here:

(a) Aarogya Setu is a COVID-19 tracing versatile mobile app created by the NIC that works under the Ministry of Electronics and IT, Govt. of India (Livemint, 2020). This is a tracing application which utilizes cell phone's GPS and Bluetooth attribute to discover the coronavirus contamination. Aarogya Setu application is accessible for Android and iOS portable working platforms. Aarogya Setu app with the help of Bluetooth technology tries to determine any probable whether near an infected person with COVID-19 (within arrange of six feet) by looking over a database of existing cases across India, and utilizing location services it recognizes one who is in the contaminated regions bolstered the information accessible. Aarogya Setu application is at present accessible in 11 different languages (English, Tamil, Hindi, Telugu, Kannada, Malayalam, Punjabi, Bengali, Oriya, Gujarati, and Marathi) and expected to be soon accessible in other languages too. After downloading and signing in to the application an individual is questioned to give wellbeing and other profiling data ("Aarogya Setu Mobile App". MyGov.in). The application is moreover based on a platform that will give API so other PC programs, mobile applications and web services can utilize the attributes and information accessible of Aarogya setu. Aarogya Setu surpassed 5,000,000 download inside the three days of its launch, making it one in all the principal famous govt. applications in India. It is the world's quickest developing mobile application with more than 50 million installs on the platform, at only 13 days in the wake of launching in India on April 2, 2020 (NDTV, 2020).

(b) Aster DM hospital like others launched an all day, every day COVID-19 help place for individuals from across India. Known as tele-triage strategy (appraisal of the illness and proper direction for treatment) service which is free for every single Indian resident. The Organization is taking the assistance of social media and digital channels to encourage individuals for registering on their site or Facebook page of any of Aster's 13 hospitals in India and book an appointment with doctors. The counselling meetings are led by internal medicine and emergency expert through a video call following clinical conventions affirmed by nearby specialists and WHO for triaging COVID-19 patients. From self-improvement/triage solutions for clinical evaluation and symptom checker, AI is in huge play. Aster DM is likewise utilizing AI-based intervention for mental health - clinical evaluation chatbots during this model where individuals are loaded up with tension and worry of getting sick. To help AI

driven arrangements, the healthcare firm has IoT based clinical gadgets in their emergency clinics and facilities which catch information from a patient's healthcare pattern and journey. This sort of information is additionally used in investigation for better decision making while at the same time sparing time and limiting danger and error (Aggarwal, 2020).

(c) Chennai-based start-up Helyxon is offering an artificial Intelligence (AI)-based biosensor device and a real time temperature monitor in association with IIT Madras' Healthcare Technology Innovation Centre (HTIC). The solutions are going to be used for remote monitoring of the sign of Covid-19 patients continuously. Oxy 2 might be a real-time temperature-, heart rate- and oxygen saturation-monitoring device that will be used on thousands of patients' reception or hospital, without requiring regular physical checking at a tenth of the worth. The alternative device is an AI-based biosensor, '98.6 Fever Watch', which continuously monitors temperature digitally and alerts doctors or attendants about any abnormal spike. Helyxon currently has 130,000 patients using these devices. However, these devices are particularly useful in monitoring Covid-19 patients since the data are going to be collected online and also the doctors or the nurses must attend the patients on condition that the equipment contributes any abnormal variation within the readings. Helyxon has occupied with a medical college in Chengalpattu, near Chennai and a private hospital to which it's supplied 25 devices to look at Covid-19 patients (Gireesh, 2020).

A country like India has its unique challenges to combat that there is a need of advancement in AI means India's approach towards AI strategy possesses to be balanced for both its country need greater well-being. The way forward for India in AI possesses to strategically empower its current status in AI and requirement of large scale transformation along with intervention in every aspect, govt. is leading the way and private sector is one step ahead to provide support on the same.

The need of the hour
The Indian patient base is increasing day by day and scattered irrespective of place and type. Access to even fundamental medical services is a challenge in light of the fact that the supporting foundation and assets are insufficient. Money related imperatives like rising healthcare expenses and restricted budget allocation for healthcare services by the govt. further oblige the medical services environment in India. Behavioral factors, for example, change in lifestyle have come about in more newer types of diseases which require access to medical experts who are very few and can't be reached through traditional methods for healthcare services conveyance (Pwc analysis, 2018). In the coming years expanded utilization of 'telemedicine' for remote diagnostics and treatment, convention driven health care to improve quality of care and better access to products and enterprises through changes in the association of transportation and delivery services might be seen. There may be centralized data for frameworks for health systems, regardless of whether big data and artificial intelligence (AI) instruments for reconnaissance, arranging and supervising or

"personalized data" in the form of universal electronic record frameworks and customized treatment conventions. With the development of digital health additionally brings on challenges, including who claims, controls, and deals with the information being gathered and how to keep up protection and secrecy in this information rich world (Mitchell M. et al. 2019).

India in a need of more up to date and inventive ways like AI to provide care and compensate the insufficiencies of the healthcare workforce and framework. The nation doesn't meet the minimum WHO standards for healthcare workforce and bed density. A huge portion of the populace lives in rural areas, where the numbers are far more detestable. Specifically, the low-income group needs access to quality medicinal services (Pwc, "The healthcare agenda" 2015). Moreover, there are some stressing insights on the Indian healthcare services ecosystem. Truth to be told, a huge portion of the populace is denied of even essential healthcare facilities. It is crucial to use novel approaches to make quality and affordable healthcare accessible to everybody. Existing literature reports that AI has the potential to add nearly USD 957 billion (or 15% of current GVA) to the Indian economy by 2035 (Accenture, 2017), and share of AI in the Indian healthcare ecosystem seems to be rising. For instance, out of USD5.5.bn investment in worldwide healthcare based forms, sixteen of them are from India (Pranjal Sharma, 2020). Government helps are also offered to different startups in the recent times. In this line, Karnataka govt. has drafted a Startup policy and a corpus of venture capital fund is also created that provide assistance to startups (Pitchiah, 2017). The amalgamation of artificial intelligence in healthcare system is being seen as a revolution towards reducing cost, and improving the efficiency, quality and accessibility of healthcare services to millions of users (Re-engineering Indian health care, 2016; S. Rao, 2017). From available literature on AI and healthcare systems, the emphasis of most AI based proposals in India has been to spread AI based medical services to remote rural lesser served people from India who cannot afford quality medical facilities. Thus, AI shall be employed in Indian healthcare system to address the problems of economic inequality by improving the accessibility of quality medical facilities (A. Roy, 2017). Existing literature also reports that foreign based healthcare firms are experimenting and developing new solutions to existing problems in India. As reported in a report by TCS (2017), firms based in healthcare sector are expecting a significant effect on the employment levels in the near future. A country like India has its unique challenges to combat that there is a need of advancement in AI means. India's approach towards AI strategy possesses to be balanced for both its country need greater well-being. The way forward for India in AI possesses to strategically empower its current status in AI and requirement of large scale transformation along with intervention in every aspect, govt. is leading the way and private sector is one step ahead to provide support on the same. Engineering science contains a variety of uses across the healthcare sector in a nutshell. By leading descriptive, predictive and prescriptive capacities, AI in medicinal services in India is right now ushering to empower human limit instead of replacing overall human work. There are certain challenges for embracing AI in

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Health care in India–there is a necessity of a sustainable framework and feasibility assessment to evaluate the AI intervention in Indian Health care system to provide protection and information trustworthiness, while addressing problems with social acknowledgment, consent, risk and clarify capacity. AI-powered specialists can look, discover, introduce and apply the foremost updated clinical and medical knowledge in association with doctors, medical attendants, and analysts, altogether improving clinician productivity and limit, and nature of care (Dare, 2017).

The way forward

New innovations are consistently being embraced in healthcare services (Blackwell G. et al., 2008; Health Policy Studies, 2010). Artificial Intelligence (AI) has been comprehended to improve service quality in the health service area in general and in clinical medication and at emergency clinics specifically, upgrading patient safety, staff proficiency and effectiveness, and lessening organizational costs (Scott RE., 2007; Baker A., 2001; Cooper JD., 2004; Rahimi B. et al., 2009). In the meantime, progress in the life sciences has prompted higher clinical specialization and requirements to share health information across institutional fringes (Hackl WO et al., 2011; Nadri H et al., 2017). Regardless of these necessities, health information system advancement strategies and research have concentrated on the technical aspects of the framework structure (Anderson JG, 1997; Jha AK et al., 2006; Poon EG et al., 2006; Lorenzi NM et al., 2008; Rahimi B. et al., 2007). In the event that the last endeavors are inadequate to address the issues of dynamic health service associations and individual clients, AI investments will be spent ineffectually, and majorly, patients put at risk (Catwell I et al., 2009). In this manner, the effect on AI adoption of various nontechnical and individual-level components should be built up (Black AD et al., 2009). In such manner, it is certain that innovation acknowledgment considers at the present are considered to remain as a develop field in information system research (Venkatesh V. et al., 2003) During the previous 30 years, a few hypothetical models have been proposed to evaluate and clarify acknowledgment and practices in relationship with AI presentation. Strong measures have been created of how well an innovation "fits" with client errands and have approved these assignment innovation fit instruments (Colera E., 2015).

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