Introduction- Artificial intelligence (AI), described as the ability of a digital computer to perform tasks commonly associated with intelligent beings (Copeland, 2020), is not a new concept. Alan Turing first asked the question "Can machines think?" in his famous paper Computing Machinery and Intelligence (Turing, 1950) in 1950. However, in recent years the field of AI has seen a dramatic development thanks to advances in machine learning techniques as well as the availability of massive datasets, or "big data," which has led to AI applications being increasingly prevalent in society and becoming an intrinsic part of our everyday lives (Laï et al., 2020). Some examples are Amazon's product recommendation system for online shopping, ridesharing apps like Uber or Lyft and smart personal assistants such as Cortana, Alexa and Siri.

AI technologies are already being applied in healthcare, with the potential to profoundly transform medical practice and patient care. Possibly the most successful domain of medical AI applications is that of AI-assisted analysis of radiological images (Yu et al., 2018), which utilizes deep learning (a specialized subset of machine learning that uses neural networks to learn from unstructured data) to recognize disease patterns that could be missed even by experts. For example, a paper published on Nature shows that an AI system could outperform radiologists in the detection of breast cancer in mammograms (McKinney et al., 2020), while very recently an international team developed a diagnostic capable of predicting whether a patient is likely to have COVID-19 based on their symptoms (Menni et al., 2020).

Despite these positive initial results, there is still a lot of controversy and confusion on the subject of AI and its applications, with the public and even the scientific community being divided on its potential benefits and risks. While on one end of the spectrum the most skeptical are dubious about the actual capabilities of AI, on the opposite end some (including the late Stephen Hawking) are worried AI may eventually surpass human intelligence and become uncontrollable (Hawking et al., 2014). In the medical field, there are concerns that machine learning may lead to physician deskilling (Cabitza et al., 2017) and cause a distortion of the doctor-patient relationship (Karches, 2018). However, such concerns are often not specific to AI or machine learning, but rather on the way they are employed and therefore other authors believe that an appropriate, informed use of AI may be beneficial and

may greatly improve patient care (McDonald et al., 2017; EsteChanva et al., 2019; Liyanage et al., 2019).

In the evolution of new technologies Artificial Intelligence (AI) is the burning area of research[1]. AI undoubtedly plays an exponential role in healthcare and medicine. It is because of the advances in learning algorithms which are becoming more precise and accurate day by day. Secondly ,the rapid increases in computational power and parallel processing technologies have even made AI more powerful. Thirdly, the availability of huge volume of data supported by endless storage in cloud is a major advantage which helps in development of many AI applications. This data is used to train the learning algorithms to make them more accurate. The algorithms interact with the training data and allow new insight in diagnosis and treatments .Hence it improves patients' outcomes[2].

How AI Algorithm Works?

Looking at the advances in AI, medical practice in the forthcoming years might be like where a patient would have to see the computer for initial diagnosis before visiting a doctor. The accumulating data generation in clinics stored in EMR makes applications of highly data driven. AI algorithms are trained to do the task using these data generated. The data that is generated may be structured or unstructured. AI algorithms can process only structured data. So, the initial task is to convert all unstructured data into structured format. Labeling all data points or annotating data points so that algorithms recognize them is the process of converting unstructured data to structured format. The algorithm is then exposed to large sets of data points and their labels. The algorithm is trained to get the desired output, if the output. This process is repeated until the algorithm satisfies its requirements. Figure 1 shows the process of how AI algorithm works.

The World Health Organization reports that by 2020, the prevalence of chronic disease is expected to rise 57%. However, advancements in detecting and diagnosing diseases will help to minimize the cost of treating chronic diseases. Some of these new technologies include genomics, proteomics, cell biology, stem cell and organ therapy, and minimally invasive and robotic surgery.

In the past 10 years, medical advances and breakthroughs have included new technologies including:

3D printing to create human body parts, reproduce blood vessels and printing skin cells for rapid wound healing

An artificial eye by California-based, Second Sight, that enables patients to attain a level of vision

A small, implanted, remote controlled device that sends electrical pulses to help reduce the impact of headaches

Graphene, an extremely flexible material 200 times stronger than steel, is now being produced at a lower cost and can be used to develop revolutionary medical devices used in biomedical applications like tissue engineering

Eye drops that dissolve cataracts, eliminating the need for surgery

An artificial pancreas that measures blood glucose using a sensor and delivers insulin, adjusting the dosage according to readings

An implant for opioid dependent patients that automatically administers doses of buprenorphine, a narcotic that can treat pain as well as addiction to narcotic pain relievers

According to VentureBeat, 55 out of 218 health care AI startups selected from an industry database were involved in predictive medicine.

According to a 2016 study by Frost & Sullivan, the market for AI in healthcare is projected to reach $6.6 billion by 2021. This is not surprising as the collection of multiple AI technologies continues to grow. AI is definitely part of the future of healthcare, and it will evolve in a way that will help doctors, not replace them.

The Emergence of AI & its Significance

The term "artificial intelligence" was coined at a conference at Dartmouth College in 1956. Until 1974, AI consisted of work that included reasoning for solving problems in geometry and algebra and communicating in natural language.

Between 1980 and 1987, there was a rise in expert systems that answered questions or solved problems about specific knowledge. Interest in AI declined until IBM's Deep Blue, a chess-playing computer, defeated Russian grandmaster Garry Kasparov in 1997. Since then, other AI achievements have come to include handwriting recognition, testing for autonomous vehicles, the first domestic or pet robot, and humanoid robots.

In February 2011, IBM's Watson, defeated the two greatest Jeopardy! Champions in an exhibitio-n match. Last year---, DeepMind's (Google) AlphaGo, an AI computer program, beat a human professional player in a game of Go. Today, big data, faster computers and advanced machine learning all play a role in the development of artificial intelligence.

AI has many applications in a myriad of industries, including finance, transportation and healthcare — which will change how the industry diagnoses and treats illnesses. AI has been applied to object, face, speech and handwriting recognition; virtual reality and image processing; natural language processing, chatbots and translation; email spam filtering, robotics and data mining. According to market intelligence firm, Tractica, the annual worldwide AI revenue will grow to $36.8 billion by 2025.

Role of AI in Healthcare

- **Virtual Health Assistant**

Virtual Health Assistants (VHA) can proactively help patients in a number of ways. For one, VHA's can help dementia patients stay on track with their prescribed medications by sending reminders. Moreover, virtual health assistants may give advice on treatments for common medical conditions or provide recipes for patients with specific diet restrictions. VHAs can also monitor patients based on data, allow doctors to engage with patients and pharmacies to remind patients of prescription refills and pickups, and even recommend preventive health screenings.

- **Diagnosis**

AI has been utilized to improve medical diagnosis. For example, AI aided medical image diagnosis from Beijing-based artificial intelligence high-tech company, Infervison, is being used to improve reading CT scans and x-rays. The technology, which is used in hospitals in China, can detect suspicious lesions and nodules in lung cancer patients. This allows doctors to provide patients with an early diagnosis as opposed to sending tissue samples to a lab for analysis, thereby providing treatments earlier than usual.

Researchers at Stanford University have created an AI algorithm that can identify and diagnose skin cancer. This technology, using images of moles, rashes, and lesions, may someday be available as a mobile app on smartphones.

Google's parent company, Alphabet, is working on an AI program to detect metastasis using high-level image recognition. The program will be able to do this faster than the conventional way, which again translates to earlier diagnosis and treatment.

Furthermore, because AI can analyze large volumes of data it enables the detection of disease and helps with clinical decisions.

- **Healthcare BOTs**

Bots for healthcare exist primarily for patient engagement. Healthcare bots, which are found in mobile messaging apps, can help patients quickly and in real time simply by sending a message. Health chatbots can answer health-related questions and even help patients manage medications by providing information on types of medications and recommended doses.

Some advancements that have been made in healthcare bots include the ability to:

- Learn and mimic human conversations

- Detect emotions to enable empathetic engagement with patients

- Incorporate Natural Language Processing, sentiment analysis, and concept mining into chat scripts

- Perform complex image recognition tasks to analyze photos, hand written notes and barcodes

Other artificial intelligence solutions being developed in the healthcare field include:

- Heart sound analysis

- Companion robots for the elderly

- Mining medical records

- Design treatment plans

- Assist in repetitive jobs

- Provide consultations

- Drug creation

- Using avatars for clinical training

Benefits of AI in Healthcare

- **Advancement in treatments**

AI is leading to advancements in healthcare treatments, such as improving the organization of treatment plans, analyzing data to provide better treatment plans, and monitoring treatments.

AI has the ability to quickly and more accurately identify signs of disease in medical images, like MRI, CT scans, ultrasound and x-rays, and therefore allows faster diagnostics reducing the time patients wait for a diagnosis from weeks to mere hours and accelerating the introduction of treatment options.
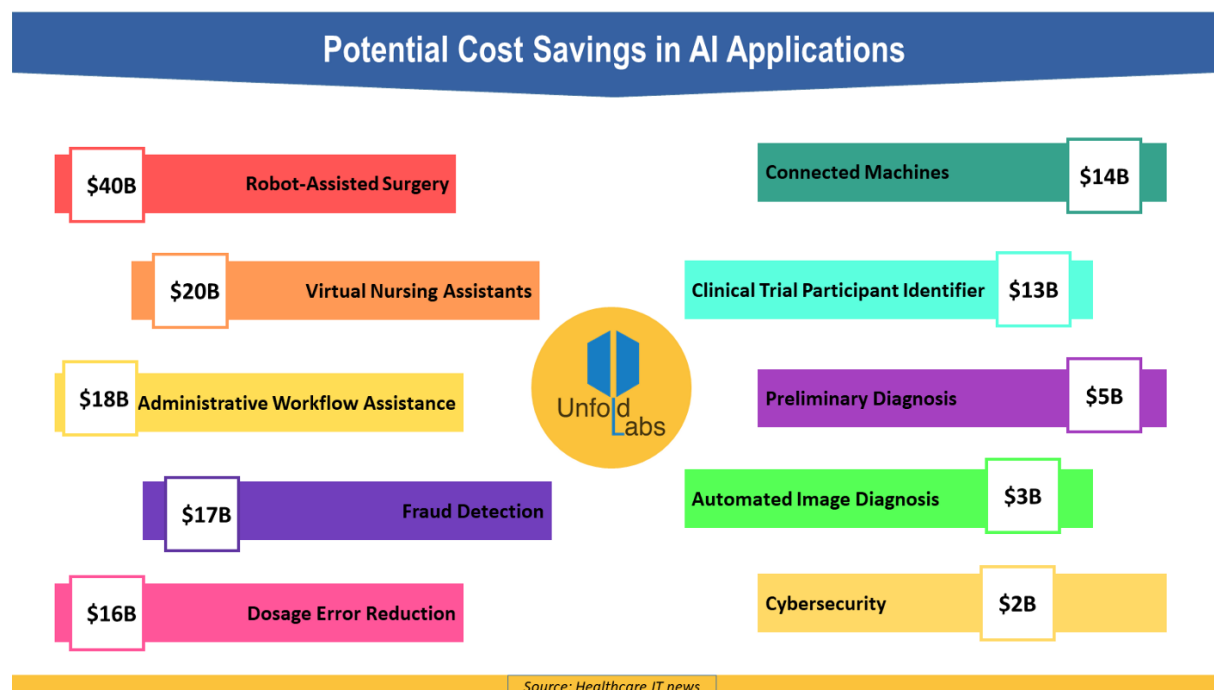
- **Virtual Assistants**

In this day and age when people expect to get answers instantly, virtual assistants enable patients to get answers in real time. Patients can ask medical questions and receive answers, get more information and reminders about taking medications, report information to physicians, and gain other medical support. Physicians can also take advantage of healthcare virtual assistants by tracking and following through with orders and making sure they are ordering the correct medication for patients.

- **Reduce Costs**

Frost & Sullivan reports that AI has the potential to improve outcomes by 30-40% and reduce the cost of treatment by as much as 50%. Improvements in precision and efficiency means fewer human errors, leading to a decrease in doctor visits. Doctors are also able to get information from data for patients who are at risk of certain diseases to prevent hospital re-admissions.

On a larger scale, according to Healthcare IT news, potential cost savings in AI applications in billions of dollars are:

Potential Cost Savings in AI Applications

$40B Robot-Assisted Surgery	Connected Machines $14B
$20B Virtual Nursing Assistants	Clinical Trial Participant Identifier $13B
$18B Administrative Workflow Assistance	Preliminary Diagnosis $5B
$17B Fraud Detection	Automated Image Diagnosis $3B
$16B Dosage Error Reduction	Cybersecurity $2B

UnfoldLabs

Source: Healthcare IT news

According to Accenture, key clinical health AI applications can generate $150 billion in savings annually for the healthcare economy in the United States by 2026.

- **Treatment Plans**

Another benefit of AI in healthcare is the ability to design treatment plans. Doctors can now search a database, such as Modernizing Medicine, a medical assistant used to collect patient information, record diagnoses, order tests and prescriptions and prepare billing information. Moreover, the ability to search public databases with information from thousands of doctors

and patient cases can help physicians administer better personalized treatments or find comparable cases.

AI Risks in Healthcare

- **Accuracy and Safety**

Since AI is fairly new, it has the potential to be less accurate and reliable thereby putting patients at risk. The BBC article, [The Real Risk of Artificial Intelligence](#) addresses this:

"Take a system trained to learn which patients with pneumonia had a higher risk of death, so that they might be admitted to hospital. It inadvertently classified patients with asthma as being at lower risk. This was because in normal situations, people with pneumonia and a history of asthma go straight to intensive care and therefore get the kind of treatment that significantly reduces their risk of dying. The machine learning took this to mean that asthma + pneumonia = lower risk of death."

Furthermore, AI has to be reliable enough to keep sensitive data, like addresses and financial and health information secure. Institutions that handle sensitive medical information need to make sure their sharing policies keep information safe.

- **Risk in new/exceptional health cases**

Not only does AI have to be accurate and safe, it has to be created so it is up to date with new health cases. In other words, a program will only be as good as the data it learns. Programs need to be trained, or at least constantly updated, to be able to identify new/exceptional health cases.

- **Risk for Doctors & Patients**

AI can also pose a risk for doctors and patients. Since AI has not been perfected, doctors cannot fully rely on AI and still need to make decisions based on their knowledge and expertise. Patients are also at risk for the same reason. If a program provides incorrect information, patients will not be treated properly.

Challenges for AI in Healthcare

- **Adoption**

One of the challenges AI faces in healthcare is widespread clinical adoption. To realize the value of AI, the healthcare industry needs to create a workforce that is knowledgeable about AI so they are comfortable using AI technologies thereby enabling the AI technologies to "learn" and grow smarter.

- **Training Doctors/Patients**

Another challenge is training doctors and patients to use AI. Learning how to use technology may be a challenge for some. Likewise, not everyone is open to information given by a "robot." In other words, accepting AI technology is a challenge that needs to be addressed through education.

- **Regulations**

Complying with regulations is also a challenge for AI in the healthcare industry. For one, there is the need for approvals from FDA before an AI device or application is applied to health care. This is especially true because AI is at a nascent stage and not a technology that is fully known or understood. Moreover, the existing approval process deals more with AI hardware

and not about data. Therefore, data from AI poses a new regulatory challenge for FDA and needs to be validated more thoroughly.

How healthcare will grow in Future with AI?

AI is gaining traction in many fields. AI has the possibility to have a huge and positive impact for doctors and patients in healthcare. Because of the ability to aggregate and analyze a massive amount of varied data, AI could yield significantly faster and more accurate diagnoses for a broader segment of the population. Individuals without access to highly specialized healthcare could gain the benefit of that experience through AI. Healthcare costs could potentially drop due to earlier and more accurate diagnoses. That said, AI also poses risks for the medical profession and patients. Until the data repository gets large enough and extremely well validated, doctors will have to continue to use their training and experience to assure that artificial intelligence is yielding the proper diagnoses and course of medical treatment. That said, we're not expecting to see a robot in our doctor's office for quite some time.

LITERATURE REVIEW

A study conducted (by Castagno S, Khalifa M.) on Perceptions of Artificial Intelligence Among Healthcare Staff: A Qualitative Survey Study. The purpose of this study was to assess the awareness of AI technologies among health professionals and to investigate their perceptions toward AI applications in medicine. Design: A web-based Google Forms survey was distributed via the Royal Free London NHS Foundation Trust e-newsletter. Only staff working at the NHS Foundation Trust received an invitation to complete the online questionnaire. 98 healthcare professionals out of 7,538 (response rate 1.3%; CI 95%; margin of error 9.64%) completed the survey, including medical doctors, nurses, therapists, managers, and others. It was found that 64% of respondents reported never coming across applications of AI in their work and 87% did not know the difference between machine learning and deep learning, although 50% knew at least one of the two terms. Furthermore, only 5% stated using speech recognition or transcription applications on a daily basis, while 63% never utilize them. 80% of participants believed there may be serious privacy issues associated with the use of AI and 40% considered AI to be potentially even more dangerous than nuclear weapons. However, 79% also believed AI could be useful or extremely useful in their field of work and only 10% were worried AI will replace them at their job.

Another study conducted (by Rainey C, O'Regan T, Matthew J, Skelton E and others) on Beauty Is in the AI of the Beholder: Are We Ready for the Clinical Integration of Artificial Intelligence in Radiography? An Exploratory Analysis of Perceived AI Knowledge, Skills, Confidence, and Education Perspectives of UK Radiographers. The aim of this survey was to determine the perceived knowledge, skills, and confidence in AI amongst UK radiographers and highlight priorities for educational provisions to support a digital healthcare ecosystem. A survey was created on Qualtrics® and promoted via social media (Twitter®/LinkedIn®). This survey was open to all UK radiographers, including students and retired radiographers. Participants were recruited by convenience, snowball sampling. Demographic information was gathered as well as data on the perceived, self-reported, knowledge, skills, and confidence in AI of respondents. Insight into what the participants understand by the term "AI" was gained by means of a free text response. Quantitative analysis was performed using SPSS® and qualitative thematic analysis was performed on NVivo®. It was found that Four hundred and eleven responses were collected (80% from diagnostic radiography and 20% from a radiotherapy background), broadly representative of the workforce distribution in the UK. Although many respondents stated that they understood the concept of AI in general

(78.7% for diagnostic and 52.1% for therapeutic radiography respondents, respectively) there was a notable lack of sufficient knowledge of AI principles, understanding of AI terminology, skills, and confidence in the use of AI technology. Many participants, 57% of diagnostic and 49% radiotherapy respondents, do not feel adequately trained to implement AI in the clinical setting. Furthermore 52% and 64%, respectively, said they have not developed any skill in AI whilst 62% and 55%, respectively, stated that there is not enough AI training for radiographers. The majority of the respondents indicate that there is an urgent need for further education (77.4% of diagnostic and 73.9% of therapeutic radiographers feeling they have not had adequate training in AI), with many respondents stating that they had to educate themselves to gain some basic AI skills. Notable correlations between confidence in working with AI and gender, age, and highest qualification were reported.

Another study on "What's in a name? A comparison of attitudes towards artificial intelligence (AI) versus augmented human intelligence (AHI)" was conducted by Romero-Brufau S, Wyatt KD, Boyum P, Mickelson M, Moore M, Cognetta-Rieke C. Ninety-three staff completed surveys. The findings were that With a power of 0.95 to detect a difference larger than 0.8 points on a 5-point scale, we did not detect a significant difference in responses to six questions regarding attitudes when respondents were alternatively asked about AI versus AHI (mean difference range: 0.04-0.22 points; $p > 0.05$).

A study on "Attitudes and perceptions of dental students towards artificial intelligence" was conducted by Yüzbaşıoğlu E. A 22-question survey was distributed through Google Forms to all dental students at 9 Turkish dental schools in March 2019. It consisted of various sections aiming to evaluate the dental students' knowledge and attitudes toward AI and possible applications in dentistry. Respondents' anonymity was ensured. The findings of the study were that A total of 1103 students (650 female, 453 male; mean age was 21.36 ± 1.93 years) responded to the questionnaire for a 21.69% response rate. Of these, about 48.40% had basic knowledge about AI technologies and 10.6% stated that they had no information sources about AI. 85.70% agreed that dentistry would be revolutionized by AI but 28.60% did not agree that AI could replace themselves in the near future. In addition, 74.60% and 79.80% of agreed on topics about AI to be included in undergraduate and postgraduate dental education, respectively.

The purpose of this study is to assess the awareness of AI programmes among staff working at the Heathcare orgnaisations and to investigate their perceptions toward AI applications in healthcare.

Objectives

1. To assess the awareness and knowledge of AI technologies among health professionals
2. To examine the perceived challenges and opportunities of AI applications

Materials and Methods

We investigated the prior knowledge and opinions on the subject of AI of a variety of health professionals at the healthcare organizations using an online survey.

Study design- Cross-sectional study

Study area- India

Inclusion criteria- Healthcare workers who uses AI.

Exclusion Criteria- Healthcare staff who do not use AI.

Study participants- Those who participated in online survey

Data- Primary data was collected

Study tools- Online survey through Google form

Study Duration- 15th Mar to 15th june

Data collection-

An electronic questionnaire on the perceptions of AI in healthcare was developed using the open-source "Google Forms" platform and was distributed to all who are working in healthcare organizations. Participation was voluntary and participants were informed about the goal of the survey in the preface of the questionnaire. All responses were anonymous and participants could not be identified from the material presented. Responses were not recorded unless the "submit" button at the end of the questionnaire was pressed and only one submission per participant was allowed.

Results-

A total of 101 healthcare workers completed the survey of whom, 61 were medical doctors, 10 managers, 9 therapists and 21 other professional. (Fig 1)
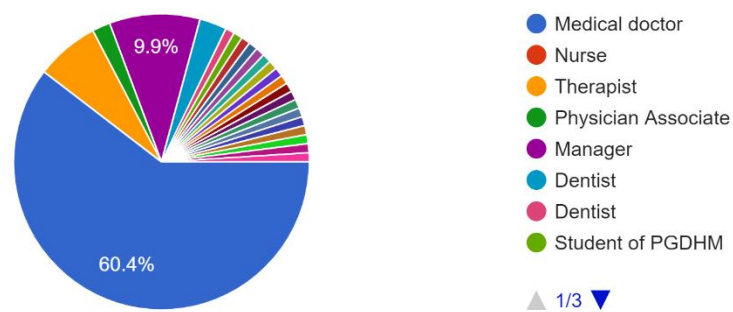

Fig 1. *Professions of the healthcare workers participated in the study.*

In the knowledge base section of the survey, 40.6% reported that they had never come across applications of AI in their work, while 32.7% reported that have come across two to four applications of AI in their work.(fig.2) A 36.6% did not know the difference between machine learning and deep learning (fig.3), although 32.7% know both the terms and difference is also clear to them. Furthermore, 52.5% stated using speech recognition or transcription at work rarely, while 24.8% never utilize them. (fig.4)

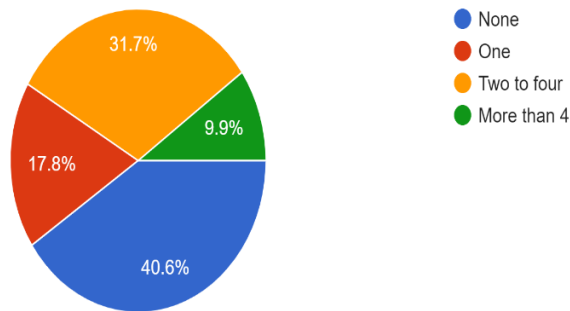How many applications of AI have you come across in your work?

101 responses

● None
● One
● Two to four
● More than 4

31.7%

9.9%

17.8%

40.6%

Fig 2.

Knowledgebase section denoting how many applications of AI participants have come across.

Do you know the difference between machine learning and deep learning?

101 responses

● Not at all
● I only know one term
● I know both terms but the difference is not clear to me
● I know both terms and difference is clear to me

32.7%

36.6%

22.8%

Fig-*3 Participant's knowledge of differences between machine learning and deep learning*

How often do you use speech recognition or transcriptions applications?
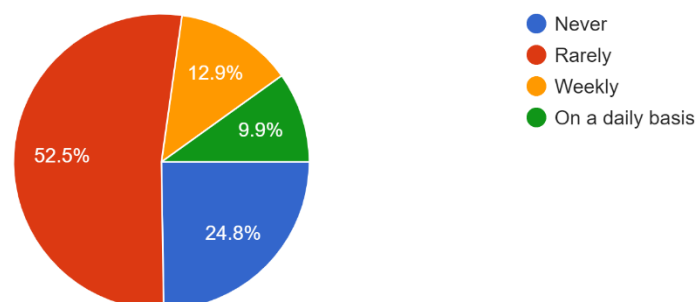
101 responses

● Never
● Rarely
● Weekly
● On a daily basis

12.9%

9.9%

52.5%

24.8%

Fig 4*. Participants' usage of speech recognition or transcriptions applications*

When investigating the attitudes of healthcare staff toward AI, the vast majority of respondents (53.5%) believed that there may be serious privacy issues associated with the use of AI (fig. 5) and 36.6% considered AI to be potentially even more dangerous than nuclear weapons (fig. 6). However, most participants (82.6%) also believed AI could be useful or extremely useful in their field of work (fig.7) and 33.7% were moderately worried that AI will replace them at their job.(fig.8)

Do you think there may be serious privacy issues with the use of AI?
101 responses

Completely agree
Partially agree
Partially disagree
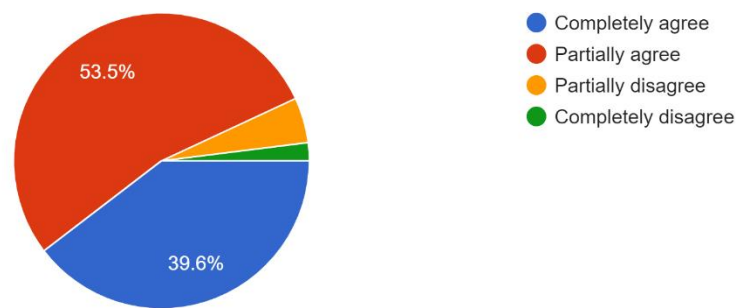Completely disagree

53.5%
39.6%

Fig 5. *Participants' perception of privacy issues with the use of AI.*

How much do you agree with the following statement: "AI is more dangerous than nuclear weapons".
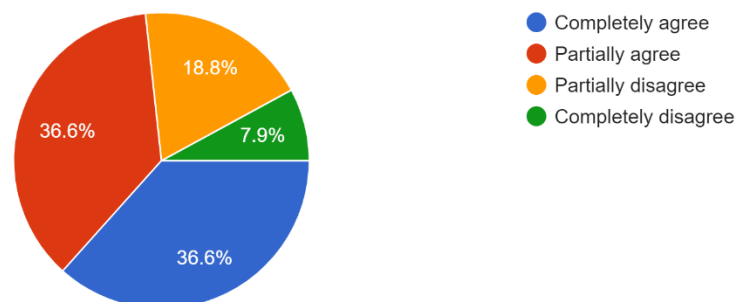101 responses

Completely agree
Partially agree
Partially disagree
Completely disagree

18.8%
36.6%
7.9%
36.6%

Fig 6*. Participants' perception of the given statement*

How useful do you think AI could be in your area of work?
101 responses

● Extremely useful
● Useful
● Of limited use
● Of no use at all

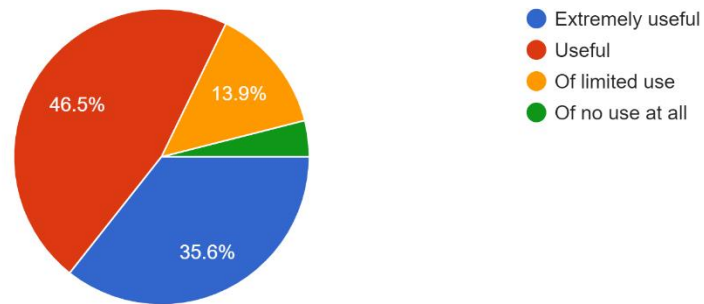Fig 7. *Participants' perception of importance of AI in their area of work*

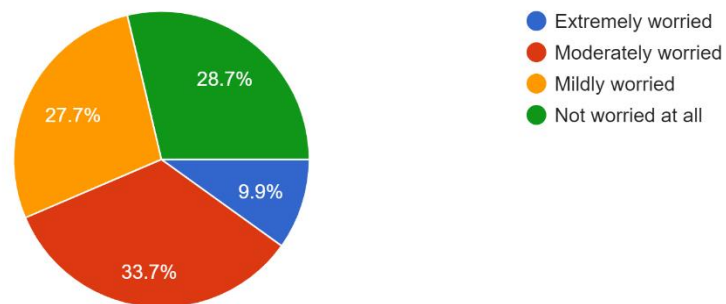How worried are you that AI will replace you at your job?
101 responses

● Extremely worried
● Moderately worried
● Mildly worried
● Not worried at all

Fig 8. *Participants' perception of the AI as a replacement at their jobs.*

Discussion

The results of this survey demonstrate a general lack of knowledge on the subject of AI and of awareness of its applications. Many respondents did not know the difference between machine learning and deep learning. This general lack of education on AI as well as a degree of confusion regarding what constitutes AI could also explain why, despite AI programs already being used extensively in everyday clinical practice (from electronic health records and electronic prescribing to automated ECG interpretation, for example), almost half of the respondents reported never coming across AI in their work. Furthermore, although speech recognition applications such as Alexa of Siri are widely used in everyday life, 25 respondents reported never using them at work. This may reflect a certain resistance to change that is quite typical of healthcare and may be secondary to a lack of clarity regarding who is to be held responsible in the event of an error caused by an AI tool, especially when there is not a full understanding of how that AI tool behaves.

From this survey it also transpires that the majority of participants considers AI to be useful in the medical field, which is consistent with the previous studies. Nonetheless, there are undoubtedly concerns on the safety of AI, with 93.1% of respondents believing there may be privacy issues associated with the widespread use of AI in healthcare and 37 respondents agreeing with Elon Musk's statement that "AI is more dangerous than nuclear weapons". Interestingly, 56.4% denied any worry that AI will replace them at their job, which is in contrast with the findings of previous works on AI. For example, already in the 2013 on oxford study (Frey and Osborne,2017) suggested 47% of United States jobs are at risk of "computerization" in the next few decades, while two surveys by the Pew Research Center in

2015 (Smith and Anderson, 2016) and 2017 (Smith and Anderson, 2017) determined that two thirds of Americans expect that within 50 years robots and computers will do much of the work currently done by humans and that 72% are worried about such a future. A possible explanation for such discrepancy is the belief that AI cannot replicate human emotions or express empathy and therefore cannot engage in the multi-layered interaction necessary to reassure patients and gain their trust (Krittanawong, 2018).

The literature on the perceptions of the general public toward medical AI is scarce. However, a recent article published on Nature (Tran et al., 2019) showed that, out of the 1,183 participants enrolled, only 50% believed that the development of AI in healthcare was an important opportunity and 11% even considered it a great danger for their care and privacy. In particular, patients were worried about the possible consequences of an unwanted replacement of humans by AI and only a minority were ready to integrate fully automated AI tools in their care. These results show a more pessimistic view of the general public toward medical AI compared to healthcare staff; however, they also highlight very similar concerns regarding safety and the quality of care delivered and provide an important cue for reflection on how to best integrate AI tools in clinical practice.

Conclusion

In conclusion, although the healthcare community is starting to realize the potential of AI to radically improve patient care, AI applications are still not being integrated in medicine as fast as the technology has been advancing (Laï et al., 2020). This discordance is at least partly due to a resistance of medical workers to accept technologies that they do not understand, and in some cases even fear, and could end up being very costly for the NHS. As a matter of fact, the potential of AI to cut costs, improve treatment and increase accessibility to healthcare (Forbes Insights, 2019) is expected to be extremely rewarding. For instance, Accenture predicts that AI applications may potentially result in annual savings of $150 billion for the United States healthcare economy (Accenture, 2017). It is therefore evident there is a need to educate healthcare staff and the general public on the principles of AI as well as create regulatory frameworks to define the responsibilities of each stakeholder. Because of the complexity of the subject, however, further discussion and research are required: for example, once the COVID-19 emergency has passed, a questionnaire on a larger scale could better highlight discrepancies in attitudes between various health professionals and in a diverse range of working environments. It would be useful to include a larger number of researchers in the study, including researchers involved in AI projects as they are likely to have a greater knowledge of AI compared to other groups of healthcare professionals and their attitudes toward this technology may therefore differ significantly. Finally, as the topic of responsibility in AI is controversial, it would also be interesting to ask participants who they think should be responsible for the clinical outcomes of AI as well as what legal and ethical issues they believe this AI revolution will bring about.

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