Source A: Adapted article from *BBC News*, June 2023

What is AI, is it dangerous and what jobs are at risk?

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By Shiona McCallum & Jennifer Clarke

Artificial intelligence (AI) technology is developing at high speed and is transforming many aspects of modern life.

However, some experts fear that it could be used for malicious purposes and may threaten jobs.

What is AI and how does it work?

AI allows a computer to act and respond almost as if it was a human. Computers can be fed huge amounts of information and trained to identify the patterns in it, in order to make predictions, solve problems, and even learn from their own mistakes.

As well as data, AI relies on algorithms - lists of rules which must be followed in the correct order to complete a task. The technology is behind the voice-controlled virtual assistants Siri and Alexa. It lets Spotify, YouTube and BBC iPlayer suggest what you might want to play next, and helps Facebook and Twitter decide which social media posts to show users. AI lets Amazon analyse customers' buying habits to recommend future purchases - and the firm is also using the technology to crack down on fake reviews.

What are ChatGPT and Snapchat's My AI?

Two powerful AI-driven applications or apps which have become very high profile in recent months are ChatGPT and Snapchat My AI. They are examples of what is called "generative" AI. This uses the patterns and structures it identifies in vast quantities of source data to generate new and original content which feels like it has been created by a human. The AI is coupled with a computer programme known as a chatbot, which "talks" to human users via text. The apps can answer questions, tell stories, and write computer code. But both programmes sometimes generate incorrect answers for users and can reproduce the bias contained in their source material, such as sexism or racism.

Why do critics fear AI could be dangerous?

With few rules currently in place governing how AI is used, experts have warned that its rapid growth could be dangerous. Some have even said AI research should be halted.

In May, Geoffrey Hinton, widely considered to be one of the godfathers of artificial intelligence, quit his job at Google, warning that AI chatbots could soon be more intelligent than humans. Later that month, the US-based Centre for AI Safety published a statement supported by dozens of leading tech specialists. They argue AI could be used to generate misinformation that could destabilise society. In the worst-case scenario, they say machines might become so intelligent that they take over, leading to the extinction of humanity.

However, the EU's tech chief Margrethe Vestager told the BBC that AI's potential to amplify bias or discrimination was a more pressing concern. In particular she is concerned about the role AI could play in making decisions that affect people's livelihoods such as loan applications, adding there was "definitely a risk" that AI could be used to influence elections.

Others, including tech pioneer Martha Lane Fox, say we shouldn't get what she calls "too hysterical" about AI, urging a more sensible conversation about its capabilities.

What rules are in place at the moment about AI?

Governments around the world are wrestling with how to regulate AI. Members of the European Parliament have just voted in favour of the EU's proposed Artificial Intelligence Act, which will put in place a strict legal framework for AI, which companies would need to follow.

Margrethe Vestager says "guardrails" are needed to counter the biggest risks posed by AI.
The legislation - which is expected to come into effect in 2025 - categorises applications of AI into levels of risk to consumers, with AI-enabled video games or spam filters falling into the lowest risk category. Higher-risk systems like those used to evaluate credit scores or decide access to housing would face the strictest controls.

These rules will not apply in the UK, where the government set out its vision for the future of AI in March. It ruled out setting up a dedicated AI regulator, and said instead that existing bodies would be responsible for its oversight.

But Ms Vestager says that AI regulation needs to be a “global affair” and wants to build a consensus among “like-minded” countries. US lawmakers have also expressed concern about whether the existing voluntary codes are up to the job. Meanwhile, China intends to make companies notify users whenever an AI algorithm is being used.

Which jobs are at risk because of AI?

AI has the potential to revolutionise the world of work, but this raises questions about which roles it might displace. A recent report by investment bank Goldman Sachs suggested that AI could replace the equivalent of 300 million full-time jobs across the globe, as certain tasks and job functions become automated. That equates to a quarter of all the work humans currently do in the US and Europe.

The report highlighted a number of industries and roles that could be affected, including administrative jobs, legal work, architecture, and management.

But it also identified huge potential benefits for many sectors and predicted that AI could lead to a 7% increase in global GDP. Some areas of medicine and science are already taking advantage of AI, with doctors using the technology to help spot breast cancers, and scientists using it to develop new antibiotics.

END OF SOURCE A

Source B: Adapted article from *NHS*, June 2023

£21 million to roll out artificial intelligence across the NHS

From:
Department of Health and Social Care, The Rt Hon Steve Barclay MP, and Chloe Smith MP

Last updated 23 June 2023

The new technology will help diagnose patients more quickly for conditions such as cancers, strokes, and heart conditions.

- NHS Trusts will be able to bid for funding to accelerate the deployment of the most promising AI tools across hospitals to help treat people more quickly this winter
- Government commits to deploying AI decision support tools in all stroke networks by the end of 2023 to help treat strokes through improved diagnosis and access to treatment
- Ring-fenced funding announced by the Health and Social Care Secretary ahead of the NHS's 75th birthday

NHS staff will be given the latest artificial intelligence (AI) technology to diagnose and treat patients more quickly thanks to a new £21 million fund announced by the Health and Social Care Secretary today.

NHS Trusts will be able to apply to the AI Diagnostic Fund to accelerate the deployment of the most promising AI imaging and decision support tools to help diagnose patients more quickly for conditions such as cancers, strokes and heart conditions.

The Health and Social Care Secretary has also committed to rolling out AI stroke-diagnosis technology to 100% of stroke networks by the end of 2023 – up from 86% today – helping thousands of patients suffering from a stroke get treated faster.

The ring-fenced funding was announced by Health and Social Care Secretary, Steve Barclay, ahead of the NHS's 75th birthday.

Health and Social Care Secretary Steve Barclay said:

“Artificial intelligence is already transforming the way we deliver healthcare and AI tools are already making a significant impact across the NHS in diagnosing conditions earlier, meaning people can be treated more quickly. As we celebrate the NHS’s 75th birthday and look ahead to the future, I’m focused on adopting the latest cutting-edge technology across our health and care system to ensure we can continue to deliver the best care for our patients and cut waiting times, which is one of the government’s five priorities.”

This AI Diagnostic Fund will include the use of AI tools to analyse chest X-Rays - the most common tool used to diagnose lung cancer - which is the leading cause of cancer death in the UK. With over 600,000 chest X-rays performed each month in England, the deployment of diagnostic AI tools to more NHS Trusts will support clinicians to diagnose cancer patients earlier, improving patient outcomes.

The use of AI in the NHS is already having a positive impact on outcomes for patients, with AI in some cases halving the time for stroke victims to get the treatment they need by helping doctors diagnose stroke faster, which has been shown to triple the chance of patients living independently after a stroke.

Professor Stephen Powis, NHS national medical director, said:

“The NHS is already harnessing the benefits of AI across the country in helping to catch and treat major diseases earlier, as well as better managing waiting lists so patients can be seen quicker. As we approach our milestone 75th birthday, this is another example of how NHS is continuing its proud history of adopting the latest proven technology to deliver better care for patients, and better value for taxpayers.”

The £21 million funding will be open for bids for any AI diagnostic tool that trusts want to deploy but will have to represent value for money for the funding to be approved.

The government has already invested £123 million into 86 AI technologies, which is helping patients by supporting stroke diagnosis, screening, cardiovascular monitoring and managing conditions at home.

Secretary of State for Science, Innovation, and Technology Chloe Smith, said:

“Improving diagnosis and speeding up treatments for patients through AI is a game-changer. The application of AI across the NHS is supported by our balanced regulatory approach and has the potential to be truly transformative, both for patients and our unrivalled health and social care workforce both now and in the decades to come. Nothing could be a more fitting celebration of its 75th anniversary than a demonstration of how the NHS remains at the cutting edge of modern-day technology and innovation.”

Dr Deb Lowe, National Clinical Director for Stroke Medicine, NHS England:

“The use of AI decision support software in the initial stages of stroke care means patients get interventions quicker, reducing the likelihood of disability and saving the brains. We are already seeing the positive impact of AI decision support software on stroke care, where rapid assessment and treatment are of the essence, and we now have real world evidence of the benefit for NHS patients – “ as we approach the NHS’s 75th birthday and look ahead to the future, funding this technology will be key to reducing disability and saving brains.”

Dr Katharine Halliday, President of the Royal College of Radiologists said:

“At a time when diagnostic services are under strain, it is critical that we embrace innovation that could boost capacity – and so we welcome the Government’s announcement of a £21 million fund to purchase and deploy AI diagnostic tools.

All doctors want to give patients the best possible care. This starts with a timely diagnosis, and crucially, catching disease at the earliest point. There is huge promise in AI, which could save clinicians time by maximising our efficiency, supporting our decision-making, and helping identify and prioritise the most urgent cases. Together with a highly trained and expert radiologist workforce, AI will undoubtedly play a significant part in the future of diagnostics.”

The government also recently announced a new AI & Digital Regulation Service to help NHS staff find the right information and guidance when it comes to deploying AI devices safely. This has made it easier for developers and adopters of AI to understand regulations governing AI in the NHS and is saving them time in bringing products to market.

For medical technology alone, the NHS spends £10 billion a year and the global market is forecast to reach £150 billion next year. Access to new technologies means patients benefit enormously, with breakthroughs enabling prevention of ill-health, earlier diagnosis, more effective treatments, and faster recovery.

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