



What is AI?

Are there opportunities for the NHS?

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Agenda

Objectives

To introduce the world of AI and briefly explore the opportunities in healthcare.

1. Introduction – what is AI and where did it come from?
2. Some capabilities of AI in healthcare
3. What is 'Generative AI' in the news?
4. How are people using it at work?
5. An organisation's AI journey
6. Responsible and ethical AI
7. Your next steps ...

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Some types of AI

1. Virtual Assistants
2. Self-driving cars, image processing
3. Scientific tools, medical research, drug discovery, personalised meds
4. Diagnosis, monitoring and prediction systems
5. Telemedicine and long-distance surgery
6. Robots – industrial, general purpose, robo-porters, carers ...
7. Recommendation engines, resource scheduling & decision support
8. Wearables, metaverse and gaming
9. Generative AI

16 November, 2023

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One example - what is ChatGPT?

1. A Chat Bot developed by OpenAI Inc. but based on many prototypes and research
2. A 'large language model' presented as a simple command prompt that generates human-like responses to natural language questions: www.chat.openai.com
3. Trained on a massive amount of text data (the whole WWW), knowledgeable in a wide range of topics and languages
4. It can write text, summarise reports, automate tasks, produce storylines, create image and video, write computer code, understand human sentiment ...
5. Chat bots can offer major productivity benefits to healthcare organisations and patients/service users



A neural network architecture + lots of data + lots of computing
= a machine with human-like behaviour

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How could Bots help NHS & Social Care colleagues?

- Try www.google.com: "What is the NHS Long Term Workforce Plan"
- Try it on www.bard.google.com
- Make the summary 5 pages long
- List the responsibilities of a CCG and draft a project plan for an ICS to implement it

Provide a research brief of a new supplier named Smith Ltd. Include NHS references where available.

See the attached medical records. Extract everything relevant to this patient's condition and summarise in a table.

Reschedule this week's rota to reflect 2 Consultants off sick and 1 Nurse unavailable.

Describe a development project that went wrong. Regenerate in the tone of Samuel L. Jackson. No swearing!

Create a comprehensive candidate brief for this job description. Include local information and national priorities.

Create a detailed AI learning programme for a Senior Nurse. Make it 2 hours per week for 4 weeks.

Please help me with root cause analysis of medication errors on my hospital ward. Ask me one question at a time.

Please record this meeting and email me a transcript. Then summarise it in 200 words, with an action plan.

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Hundreds Thousands of other AI apps ...

1. Chat apps include Microsoft Bing Chat, Pi.ai, OpenAI Data Analytics, WhatsApp AI chatbots, Apple Ajax ... ?
2. Co-pilots in Google, Microsoft, business apps, computer programming
3. Auto language translation for different communities
4. Picture generation – text to image, image to text. Video creation – text or image to video
5. Poetry and music composition

Some of the most advanced technology ever.
Available to everyone, everywhere, for free.

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Image generation examples from Dall-e (OpenAI)



"An illustration of an avocado on a therapist's chair... the therapist is a spoon."



"An NHS ambulance with its own run chart painted on the side."



"A folk music band composed of autumn leaves, playing bluegrass instruments in a rustic forest."

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AI's sense of humour ...



User: "Why is this funny?"

Google Bard: "The cartoon is funny because it is unexpected and incongruous. The cartoon plays on the absurdity of the idea of using Photoshop to fix a broken bone. It is both unexpected and ridiculous."

In addition, the cartoon may be funny because it taps into our shared experience of the healthcare system. Many people have had the experience of going to the doctor and being told that they have a problem that cannot be easily fixed. The cartoon subverts this expectation."

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Voice Bots



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Real-Time Languages



*** Data protection warning!!

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How could we utilise some of these tools ... ?

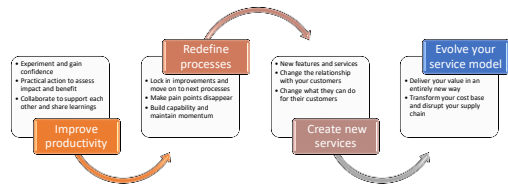


1. MiniGPT + Appointment System + Website FAQs
= A chatbot to prepare for a successful outpatient appointment.
2. MiniGPT + Voicebot + Outbound scheduler + Prescription Notes + Auto-translate AI
= Service to encourage/monitor patient medication adherence daily/weekly
3. Specialist GPT + Chat/Voicebot + Medical Notes + triage/escalation to a human
= psychiatric support just when it is needed.

Your journey starts with a little knowledge and a lot of curiosity.
"What could AI do and what could it do for me?"

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An organisation's AI journey



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Responsible and Ethical AI



Ethical/safety concerns

1. Stereotypes, bias
2. Hallucinations
3. Fake news
4. Personal privacy (cloud & R/I)
5. Corporate privacy/IP/Copyright
6. Impersonation, cybercrime
7. Transparency
8. Mis-alignment with human values

Microsoft Principles of Responsible AI



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Next steps in your journey



1. Be curious! Use critical thinking.
2. Access the free apps to explore and experiment. Ask a Chatbot to create a personal learning plan.
3. Discuss the opportunities, benefits and limitations with your colleagues.
4. Reach out to publishers and AI practitioners for new knowledge.
5. Ready or not, AI will become a job-share partner!

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"Every Leader should have an AI vision to set direction and an AI strategy to plan the practical next steps."

Touchpoint Change Consulting offers a 3i's workshop process to explore what AI can do and what it can do for you or your clients. Please contact us or see www.TouchpointChange.co.uk



Thank you.

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Inform ... imagine ... initiate!

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