

digitalhealth

AI  DATA

NHS burnout: can AI turn the tide?

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#AIDATA23

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Alison Moulds, Improvement Fellow

October 2023



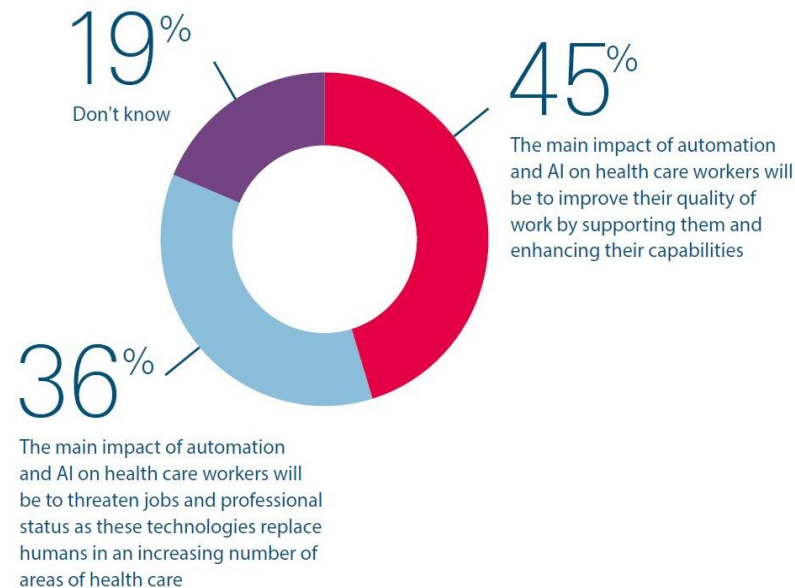
Impact of automation and AI on staff

In 2020 we commissioned YouGov surveys of over 4,000 UK adults and 1,000 NHS staff.

We asked NHS staff to choose between two statements on the impact of automation/AI on workers:

- 45% said the main impact will be to **improve the quality of work,**
- 36% said the main impact will be to **threaten jobs and professional status.**

If you had to choose, which one of the following statements comes closer to your view?



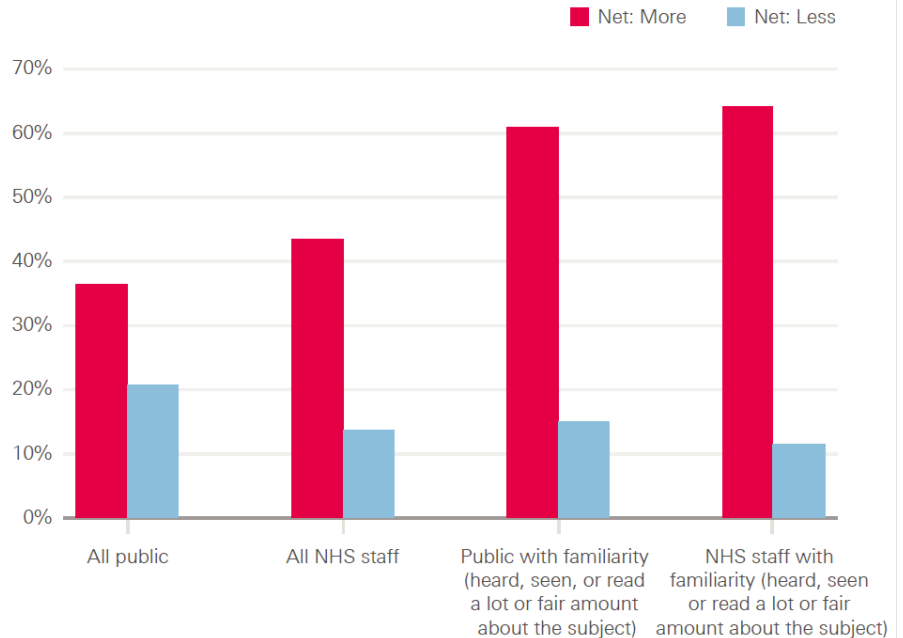
Confidence grows with familiarity

44% of NHS staff in our poll said they'd like to see **more use of automation and AI in health care** in future.

This rose to 64% among those who were **familiar with the topic**.

The same patterns were apparent for the public too.

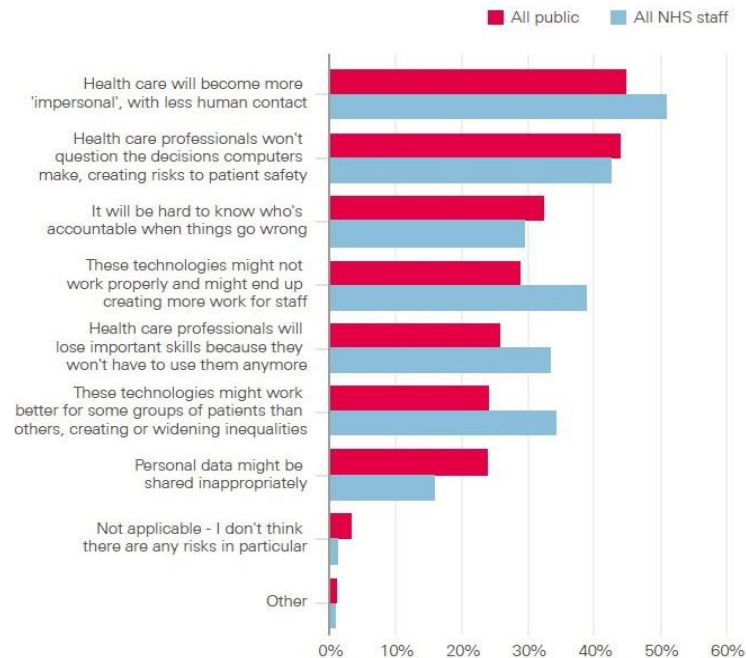
How much more or less would you like to see automation and AI used in health care in the future, or would you like to see about the same amount?*



Public and staff views on the risks

- In our poll, the **biggest risk** of automation and AI in healthcare, for both the public (45%) and NHS staff (51%), was that
- ‘healthcare will become more “impersonal” with less human contact’.

Which, if any, of the following do you think are the main risks of using automation and AI in health care?

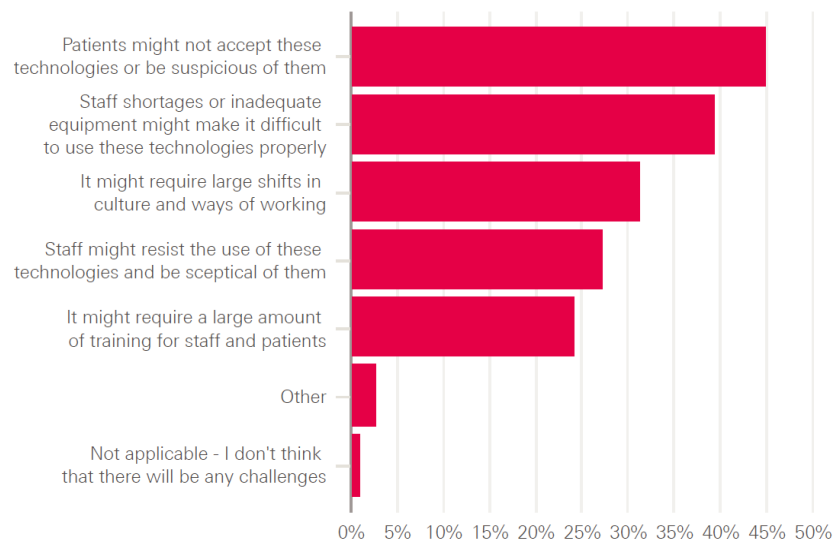


Staff views on the biggest challenges

In our poll, NHS staff thought the **biggest implementation challenges** for automation and AI were:

- patients not accepting new technologies (45%)
- staff shortages / inadequate equipment (39%).

Which one or two of the following do you think will be the biggest challenges for using automation and AI effectively in delivering health care?



Technology, workforce capacity and time for care in the NHS

- Where is technology making a difference for staff right now?
- Where might it make a difference over the next five years?
- What are the challenges and barriers staff face in using technology?
- What does the evidence show about technology 'releasing' time and how that time is repurposed?

AI and workforce burnout: what do we need to consider?

- **Where are the biggest opportunities to tackle burnout?**
 - From image analysis and risk prediction to reducing administrative burden
 - Opportunities for staff involvement in demand signalling
 - Ensuring technologies are accompanied by training and support
- **What are the risks we need to mitigate?**
 - Jeopardising human dimension of care
 - Pressures of doing more and more with freed up time
 - Expectation on staff to work more continually at the top of their scope of practice – lack of ‘buffer’
 - AI yielding more insights to act upon without additional capacity
 - Difficulties using the technologies

Thank you

Contact: alison.moulds@health.org.uk





The power of voice

Digital Health AI & Data
Conference

Phil Matthews – UK Director Product
Management

October 2023





Clinical documentation and administrative burdens continue to overwhelm clinicians

13.5 hours

per week (a third of working hours) is spent on clinical documentation.¹

25%

more time is spent on clinical documentation than 7 years ago.¹

3.2 hours

per week spent out of hours on clinical documentation.¹

62 minutes

per day is spent searching for missing information.¹

£57K

per annum - the value of time for a Consultant Doctor generating clinical documentation and searching for missing information.¹

68%

of clinicians felt it was likely or very likely their notes would be more complete with more time.¹

85%

of NHS healthcare professionals felt the burden of clinical documentation is a significant contributor to burnout.²

AI-driven speech recognition

Reduce cognitive burnout - Speech is at least **3x** faster than typing

No voice profile training: 99% accuracy with automatic accent and audio calibration

Cloud-based for mobility: Single voice profile accessible on different devices and locations

Select-and-say with voice commands: Format, correct and navigate notes quickly and easily

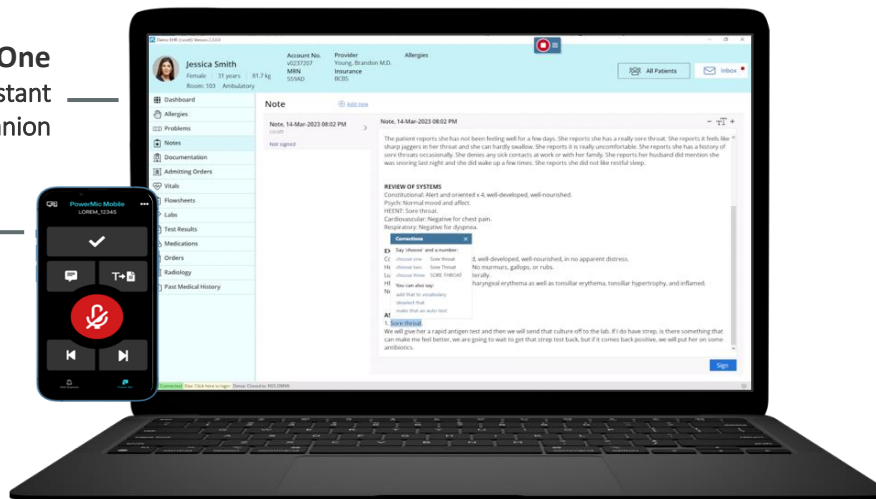
Save more time with templates: Templating feature promotes adoption of PRSB, GIRFT

Empowers clinicians Improves care quality with fast, accurate notes

Accelerates digital transformation Drives EPR adoption: clinicians simply speak to add to the note, using Nuance's powerful conversational AI

Dragon® Medical One
Conversational AI workflow assistant and documentation companion

PowerMic™ Mobile
Wireless desktop mic for Dragon Medical One





The Topol Review

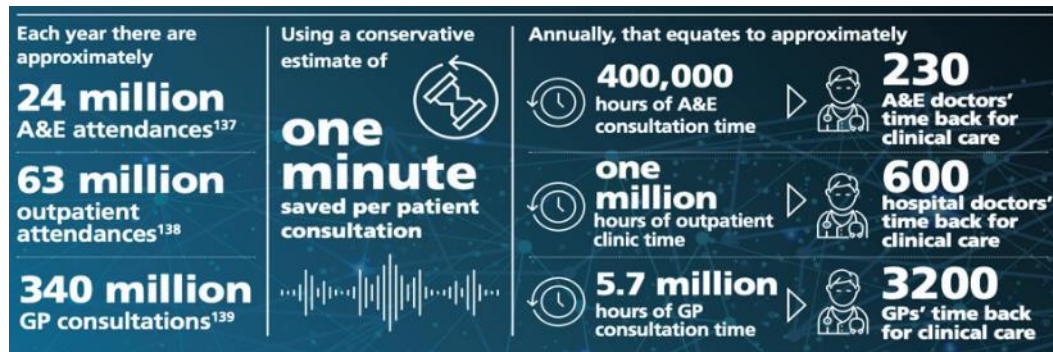
Preparing the healthcare workforce to deliver the digital future

An independent report on behalf of the Secretary of State for Health and Social Care
February 2019



Report: Impact of Voice in Preparing NHS Workforce for Digital Future

- Innovative technologies -- genomics, digital medicine, AI, and robotics – key to improve services
- Speech recognition and natural language processing (NLP) in top 10 digital technologies impacting NHS workforce 2020-2040:



Dragon Medical One customer testimonials

NHS
Homerton University Hospital
 NHS Foundation Trust

NHS
Oxford University Hospitals
 NHS Foundation Trust

NHS
Frimley Health
 NHS Foundation Trust

NHS
Guy's and St Thomas'
 NHS Foundation Trust

Queensland Government
 Mackay Hospital and Health Service

90%

letters sent within 24hrs.

12 days to 3

reduction in average letter turnaround time.

> £20k

saved on outsourced transcription per month.

4 wks to 5 days

reduction in dental letter turnaround time.

At least 2 mins

per patient saved in the ED.

"The speech recognition engine is super-fast and accurate making life for our clinicians easier."

Paul Adams
 Head of Clinical Information Systems

"As a cloud-based solution it's playing a vital role in supporting our doctors conducting clinics from home."

Paul Altmann
 CIO

"...a big opportunity for streamlining clinical documentation, reducing transcription burden and improving turnaround."

Graham Smith
 CIO

"The accuracy is excellent, even when writing long letters with complex clinical text and instructions."

Richard Manthorpe
 Dental Assistant General

"...create notes that are far more comprehensive and accurate, which is very important for patient handover and safety"

Dr Pieter Nel
 Chief Digital Director of Medical Service

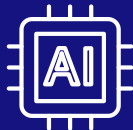
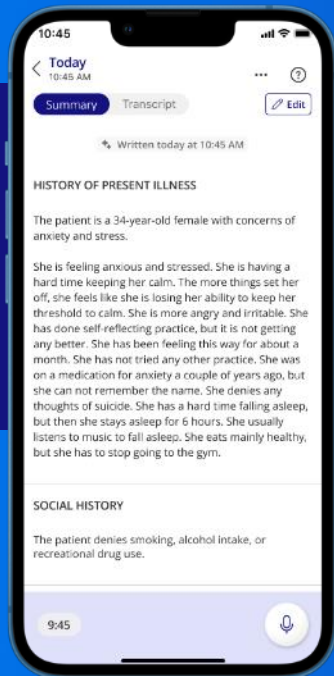
INTRODUCING

DAXXTM COPILOT

A new approach to today's challenges

DAX™ Copilot—AI-automated clinical summaries

Available
in the US



Trained on millions
of consultations



Standard
format



Integrated with Dragon
Medical One



Summaries
available
in seconds



Scalable

Fully automated clinical documentation that
delivers a draft patient note for
clinician review, editing, and signature.



**Moorfields
Eye Hospital**
NHS Foundation Trust



NHS burnout: can AI turn the tide?

Thoughts from Moorfields

Peter Thomas PhD FRCOphth FFCI

Director of Digital Development and CCIO, Moorfields Eye Hospital.
Digital Clinical Lead, NHS England Eyecare Programme.



There are, broadly, 3 stages of clinical activity in an outpatient clinic

1. Acquiring clinical information
2. Making clinical decisions and plans
3. Communicating with the patient

The longer any of those steps takes, or the more patients you perform the steps on, the longer the queue outside your door becomes.

Long queues are very stressful in an outpatient clinic.



**Moorfields
Eye Hospital**
NHS Foundation Trust





Moderate alternating exotropia (XT).

Bagolini test with glasses – used to identify binocular single vision, abnormal retinal correspondence, or suppression.

Frisby test for stereopsis – measured in seconds (") of arc.

VA R 0.10 L 0.10 Br logMar

CT N - sl Xp \bar{e} gd rec.
D - mod Alt XT

OM

Conv Bmac to nose

Bag_gls
N - BSV response
D - Alt suppression response

PFR N - 35°60 - 12° BI

Frisby 85" of arc

PCT N - 10° BI N \bar{e} +3.00DS - 25° BI
D - 30° BI

AC:A
 $\frac{25 - 10}{3} = \frac{15}{3} = AC:A = 5:1$

**sl exophoria at N (Xp or X).
c means with good recovery (gd rec).**

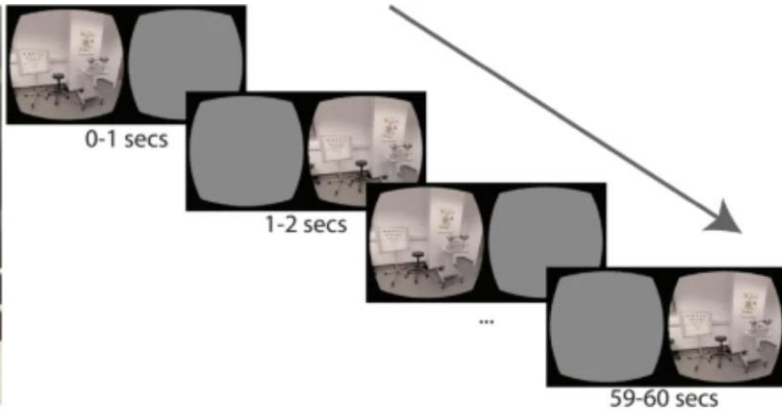
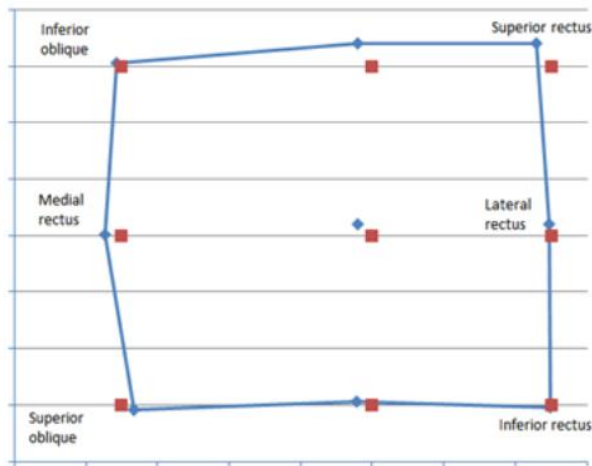
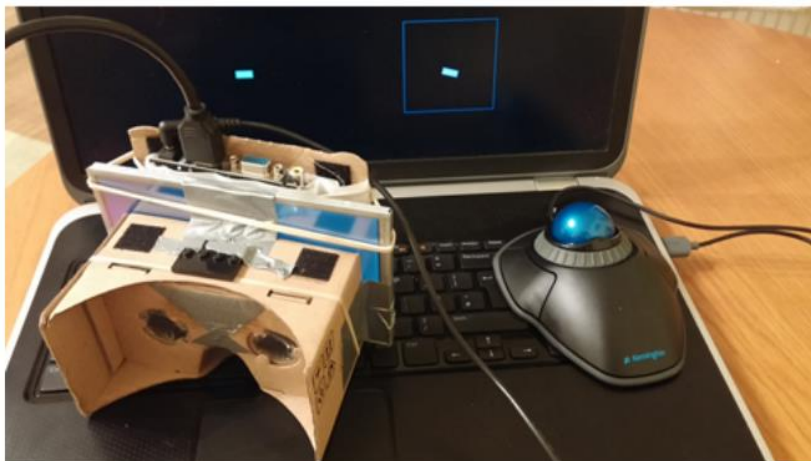
The vertical lines through the OM diagram represents the presence of either an 'A' or 'V' pattern.

PFR (prism fusion range) identifies the extent to which a patient can maintain BSV with increasing vergence.



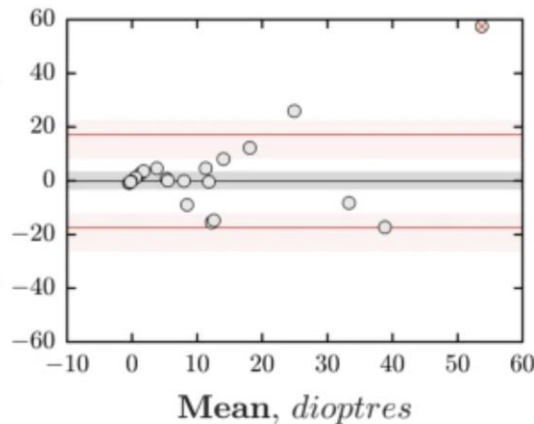
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A

Difference, *dioptries*
(STARE - APCT)





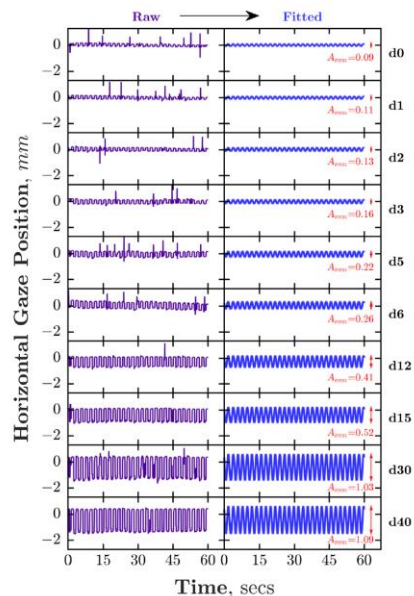
0-1 secs



1-2 secs

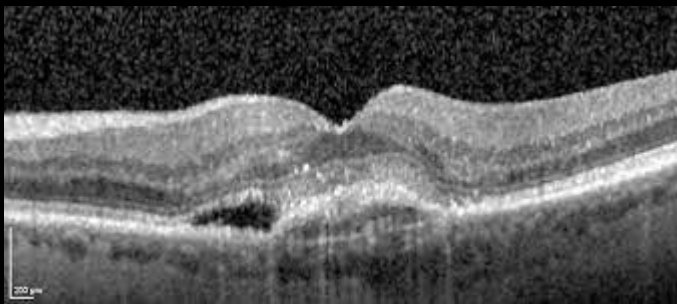
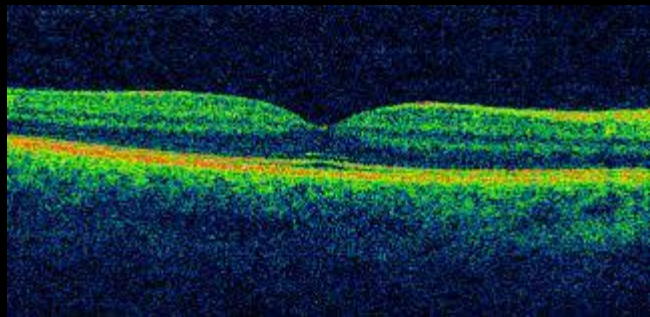
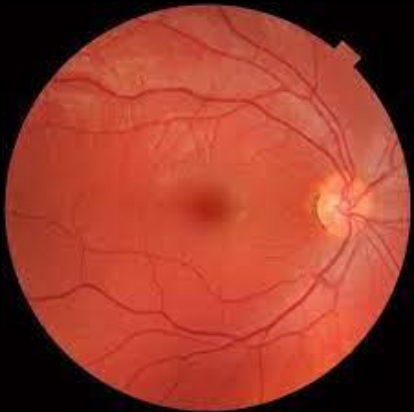


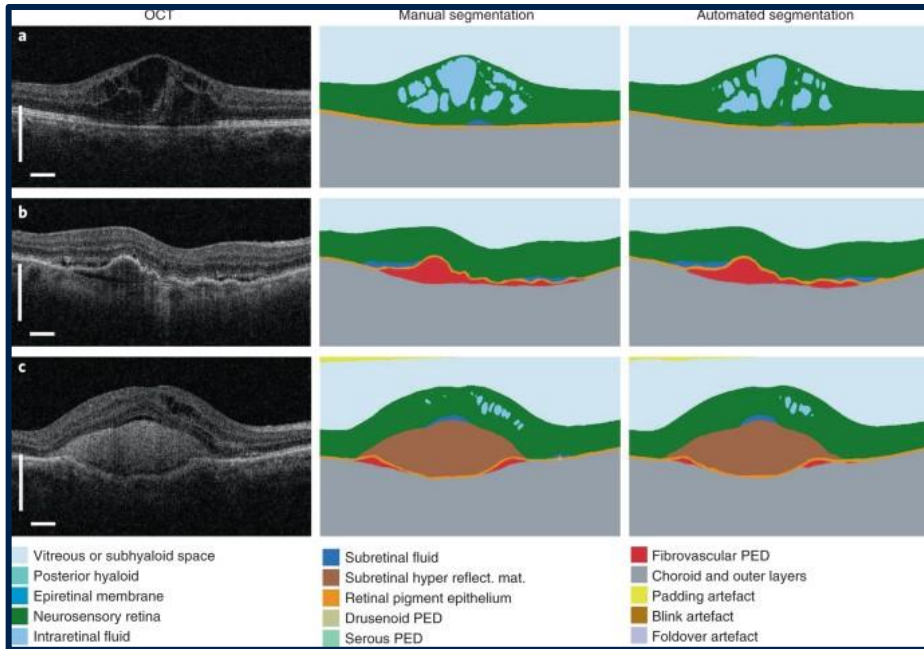
59-60 secs



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Eye Hospital
NHS Foundation Trust







De Fauw, J., Ledsam, J.R., Romera-Paredes, B. *et al.* Clinically applicable deep learning for diagnosis and referral in retinal disease. *Nat Med* **24**, 1342–1350 (2018). <https://doi.org/10.1038/s41591-018-0107-6>

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Parkinson's disease could be detected early with AI scans, scientists say

22 August

GETTY IMAGES

The researchers believe the eye scans could detect the disease early and hope they can be performed routinely in future

Eye scans powered by artificial intelligence (AI) could detect Parkinson's disease before people have symptoms, a study has suggested.

Teams from London's Moorfields Eye Hospital and the UCL Institute of Ophthalmology used AI to analyse a dataset and pick up on retinal markers.

The process found physical differences in the eyes of people with Parkinson's and those without the condition.

It is hoped the method could be used as a pre-screening tool.

The scientists studied data from a type of 3D scan known as optical coherence tomography (OCT), which produces a high detailed image of the cross-section of the retina, from a cohort of 154,830 patients aged 40 and over who had attended eye hospitals in London between 2008 and 2018.

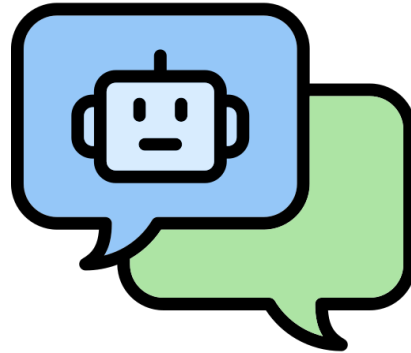
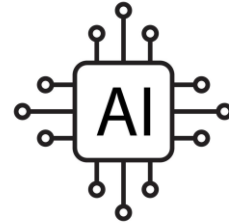
The process was repeated using data from a medical database, assessing 67,311 healthy volunteers aged between 40 and 69.

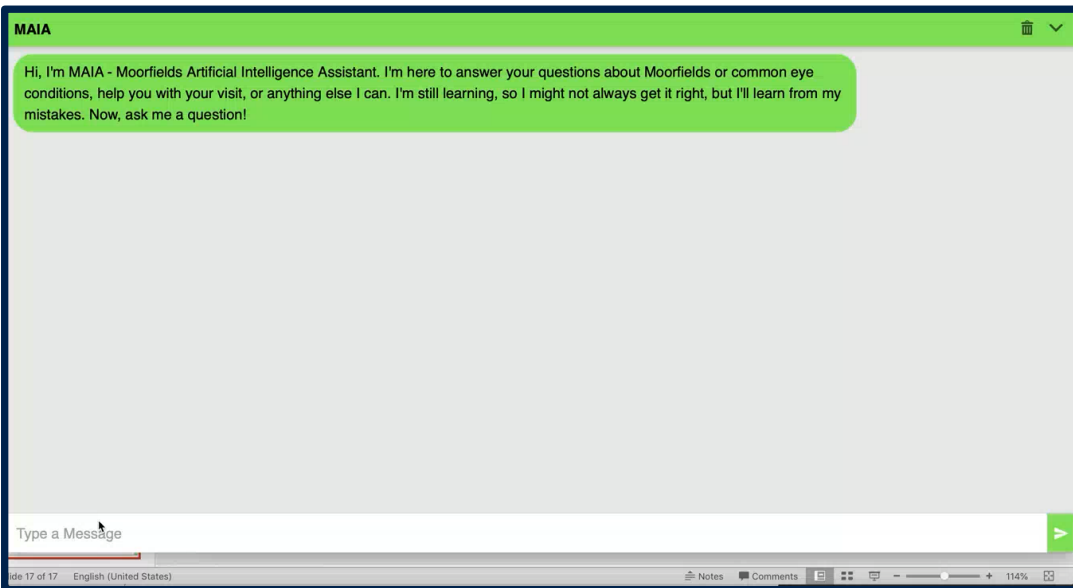


Clinician image capture and review



Technician capture and AI review





Your letter

— [Hide the automatic summary of your letter](#)

This summary was generated by an artificial intelligence algorithm, and might not be fully accurate. This summary must not be taken as medical advice.

The letter is from a doctor to another doctor. The patient is a 54-year-old woman named Marie Curie who was reviewed for cataracts, which means her eyesight is not good. She has a history of eye problems like glaucoma, macular degeneration and uveitis. She is taking aspirin once a day as her only medication. After discussing the risks, Marie has chosen to have surgery on her left eye which will involve removing the cataract and replacing the lens. The doctor has listed her for this surgery. The letter copies the patient's GP.

We found **4 potential medical terms** in the letter you uploaded.

Click a term or category to find out more details.

Categories: [All](#) [Diagnosis \(2\)](#) [Procedure \(1\)](#) [Medication \(1\)](#)

+ Uveitis

+ Primary open angle glaucoma

+ Aspirin

+ Cataract surgery

Summary

- A major driver of burnout is an overwhelming number of patients.
- AI and other technologies, combined with new service models, can allow low-complexity patients to be seen safely in fewer clinician-minutes.
- This should allow us to re-balance face-to-face clinics towards longer appointments with higher complexity patients.
- When waiting rooms are less overcrowded, and clinicians feel they are able to give patients the amount of time they need, everyone is happier.

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