**Artificial Intelligence Update**

**21 March 2024**

# Welcome to the latest copy of the AI Update. The aim of this publication is to bring together a range of recently-published research and guidance that will help you make evidence based decisions.

**Accessing Articles**

The following abstracts are taken from a selection of recently published articles.

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Please contact Holly if you would like more information, or further evidence searches: holly.cook3@nhs.net.

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# Guidance and useful sites

**Implementing the UK’s AI regulatory principles: initial guidance for regulators**

From: [Department for Science, Innovation and Technology](https://www.gov.uk/government/organisations/department-for-science-innovation-and-technology)

*Published: 6 February 2024*

<https://www.gov.uk/government/publications/implementing-the-uks-ai-regulatory-principles-initial-guidance-for-regulators>

**Artificial intelligence (AI) in Medical Devices**

BSI: The British Standards Institution

<https://www.bsigroup.com/en-GB/capabilities/medical-devices/ai-in-medical-devices/>

**Capabilities: Artificial Intelligence**

BSI: The British Standards Institution

<https://www.bsigroup.com/en-GB/capabilities/artificial-intelligence/>

**The NHS AI Lab**

NHS England

<https://transform.england.nhs.uk/ai-lab/>

**AI for healthcare**

Imperial College London

<https://www.imperial.ac.uk/stories/healthcare-ai/>

**Can the NHS manage without AI?**

The King’s Fund

*25 September 2023*

<https://www.kingsfund.org.uk/insight-and-analysis/blogs/can-nhs-manage-without-ai>

**Artificial intelligence (AI)**

Nuffield Council on Bioethics

<https://www.nuffieldbioethics.org/topics/data-and-technology/ai>

# A selection of papers from Medline (Sept 2023 – March 2024) most recent first

1. How AI Assistants Could Help Answer Patients' Messages-and Potentially Improve Their Outcomes
**Item Type:**Journal Article

**Authors:** Abbasi, Jennifer and Hswen, Yulin

**Publication Date:**2024

**Journal:**Jama 331(2), pp. 95-97

**Access or request full text:**<https://libkey.io/10.1001/jama.2023.22555>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38091007&custid=ns023446>

2. Open AI meets open notes: surveillance capitalism, patient privacy and online record access
**Item Type:**Journal Article

**Authors:** Blease, Charlotte

**Publication Date:**2024

**Journal:**Journal of Medical Ethics 50(2), pp. 84-89

**Abstract:**Patient online record access (ORA) is spreading worldwide, and in some countries, including Sweden, and the USA, access is advanced with patients obtaining rapid access to their full records. In the UK context, from 31 October 2023 as part of the new NHS England general practitioner (GP) contract it will be mandatory for GPs to offer ORA to patients aged 16 and older. Patients report many benefits from reading their clinical records including feeling more empowered, better understanding and remembering their treatment plan, and greater awareness about medications including possible adverse effects. However, a variety of indirect evidence suggests these benefits are unlikely to accrue without supplementation from internet-based resources. Using such routes to augment interpretation of the data and notes housed in electronic health records, however, comes with trade-offs in terms of exposing sensitive patient information to internet corporations. Furthermore, increased work burdens on clinicians, including the unique demands of ORA, combined with the easy availability and capability of a new generation of large language model (LLM)-powered chatbots, create a perfect collision course for exposing sensitive patient information to private tech companies. This paper surveys how ORA intersects with internet associated privacy risks and offers a variety of multilevel suggestions for how these risks might be better mitigated.; Competing Interests: Competing interests: None declared. (© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY. Published by BMJ.)

**Access or request full text:**<https://libkey.io/10.1136/jme-2023-109574>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38050159&custid=ns023446>

3. Bridging the equity gap towards inclusive artificial intelligence in healthcare diagnostics
**Item Type:**Journal Article

**Authors:** Chan, See Chai Carol;Neves, Ana Luisa;Majeed, Azeem and Faisal, Aldo

**Publication Date:**2024

**Journal:**BMJ (Clinical Research Ed.) 384, pp. q490

**Abstract:**Competing Interests: Competing interests: none declared.

**Access or request full text:**<https://libkey.io/10.1136/bmj.q490>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38423556&custid=ns023446>

4. Transforming healthcare documentation: harnessing the potential of AI to generate discharge summaries
**Item Type:**Journal Article

**Authors:** Clough, Reece Alexander James;Sparkes, William Anthony;Clough, Oliver Thomas;Sykes, Joshua Thomas;Steventon, Alexander Thomas and King, Kate

**Publication Date:**2024

**Journal:**BJGP Open
**Abstract: Background:** Hospital discharge summaries play an essential role in informing GPs of recent admissions to ensure excellent continuity of care and prevent adverse events; however, they are notoriously poorly written, time-consuming, and can result in delayed discharge.; **Aim:** To evaluate the potential of artificial intelligence (AI) to produce high-quality discharge summaries equivalent to the level of a doctor who has completed the UK Foundation Programme.; **Design & Setting:** Feasibility study using 25 mock patient vignettes.; **Method:** Twenty-five mock patient vignettes were written by the authors. Five junior doctors wrote discharge summaries from the case vignettes (five each). The same case vignettes were input into ChatGPT. In total, 50 discharge summaries were generated; 25 by Al and 25 by junior doctors. Quality and suitability were determined through both independent GP evaluators and adherence to a minimum dataset.; Results: Of the 25 AI-written discharge summaries 100% were deemed by GPs to be of an acceptable quality compared with 92% of the junior doctor summaries. They both showed a mean compliance of 97% with the minimum dataset. In addition, the ability of GPs to determine if the summary was written by ChatGPT was poor, with only a 60% accuracy of detection. Similarly, when run through an AI-detection tool all were recognised as being very unlikely to be written by AI.; **Conclusion:** AI has proven to produce discharge summaries of equivalent quality to a junior doctor who has completed the UK Foundation Programme; however, larger studies with real-world patient data with NHS-approved AI tools will need to be conducted. (Copyright © 2024, The Authors.)

**Access or request full text:**<https://libkey.io/10.3399/BJGPO.2023.0116>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37699649&custid=ns023446>

5. AI-driven decision support systems and epistemic reliance: a qualitative study on obstetricians' and midwives' perspectives on integrating AI-driven CTG into clinical decision making
**Item Type:**Journal Article

**Authors:** Dlugatch, Rachel;Georgieva, Antoniya and Kerasidou, Angeliki

**Publication Date:**2024

**Journal:**BMC Medical Ethics 25(1), pp. 6

**Abstract: Background:** Given that AI-driven decision support systems (AI-DSS) are intended to assist in medical decision making, it is essential that clinicians are willing to incorporate AI-DSS into their practice. This study takes as a case study the use of AI-driven cardiotography (CTG), a type of AI-DSS, in the context of intrapartum care. Focusing on the perspectives of obstetricians and midwives regarding the ethical and trust-related issues of incorporating AI-driven tools in their practice, this paper explores the conditions that AI-driven CTG must fulfill for clinicians to feel justified in incorporating this assistive technology into their decision-making processes regarding interventions in labor.; **Methods:** This study is based on semi-structured interviews conducted online with eight obstetricians and five midwives based in England. Participants were asked about their current decision-making processes about when to intervene in labor, how AI-driven CTG might enhance or disrupt this process, and what it would take for them to trust this kind of technology. Interviews were transcribed verbatim and analyzed with thematic analysis. NVivo software was used to organize thematic codes that recurred in interviews to identify the issues that mattered most to participants. Topics and themes that were repeated across interviews were identified to form the basis of the analysis and conclusions of this paper.; **Results:** There were four major themes that emerged from our interviews with obstetricians and midwives regarding the conditions that AI-driven CTG must fulfill: (1) the importance of accurate and efficient risk assessments; (2) the capacity for personalization and individualized medicine; (3) the lack of significance regarding the type of institution that develops technology; and (4) the need for transparency in the development process.; **Conclusions:** Accuracy, efficiency, personalization abilities, transparency, and clear evidence that it can improve outcomes are conditions that clinicians deem necessary for AI-DSS to meet in order to be considered reliable and therefore worthy of being incorporated into the decision-making process. Importantly, healthcare professionals considered themselves as the epistemic authorities in the clinical context and the bearers of responsibility for delivering appropriate care. Therefore, what mattered to them was being able to evaluate the reliability of AI-DSS on their own terms, and have confidence in implementing them in their practice. (© 2024. The Author(s).)

**Access or request full text:**<https://libkey.io/10.1186/s12910-023-00990-1>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38184595&custid=ns023446>

6. Factors influencing clinician and patient interaction with machine learning-based risk prediction models: a systematic review
**Item Type:**Journal Article

**Authors:** Giddings, Rebecca;Joseph, Anabel;Callender, Thomas;Janes, Sam M.;van der Schaar, Mihaela;Sheringham, Jessica and Navani, Neal

**Publication Date:**2024

**Journal:**The Lancet.Digital Health 6(2), pp. e131-e144

**Abstract:**Machine learning (ML)-based risk prediction models hold the potential to support the health-care setting in several ways; however, use of such models is scarce. We aimed to review health-care professional (HCP) and patient perceptions of ML risk prediction models in published literature, to inform future risk prediction model development. Following database and citation searches, we identified 41 articles suitable for inclusion. Article quality varied with qualitative studies performing strongest. Overall, perceptions of ML risk prediction models were positive. HCPs and patients considered that models have the potential to add benefit in the health-care setting. However, reservations remain; for example, concerns regarding data quality for model development and fears of unintended consequences following ML model use. We identified that public views regarding these models might be more negative than HCPs and that concerns (eg, extra demands on workload) were not always borne out in practice. Conclusions are tempered by the low number of patient and public studies, the absence of participant ethnic diversity, and variation in article quality. We identified gaps in knowledge (particularly views from under-represented groups) and optimum methods for model explanation and alerts, which require future research.; Competing Interests: Declaration of interests RG is funded by the National Institute for Health and Care Research (NIHR) for this study (NIHR302604). TC is a co-founder of and owns stock in Mortimer Health and is supported by the Wellcome Trust via a Wellcome Clinical PhD Training Fellowship (REF 22890/Z/21/Z). SMJ is supported by Cancer Research UK (CRUK; EDDCPGM\100002) and Medical Research Council (MRC; MR/W025051/1) programme grants; received fees for advisory board membership in the last three years from Bard1 Lifescience; received grant income from Owlstone and GRAIL; is an unpaid member of a GRAIL advisory board; has received lecture fees for academic meetings from Cheisi and AstraZeneca; and receives support from the CRUK Lung Cancer Centre and the CRUK City of London Centre, the Rosetrees Trust, the Roy Castle Lung Cancer foundation, the Longfonds BREATH Consortia, MRC UKRMP2 Consortia, the Garfield Weston Trust, and University College London (UCL) Hospitals Charitable Foundation where this work was partly undertaken and who also received a proportion of funding from the Department of Health's NIHR Biomedical Research Centre's funding scheme. SMJ's wife works for AstraZeneca. MvdS is a Director at the Cambridge Centre for AI in Medicine, which receives funding from AstraZeneca and GSK. JS is funded by NIHR Applied Research Collaboration North Thames, NIHR (policy research programme, programme grant, health service and delivery grant, and capacity building funding), and the UK Prevention Research Partnership. NN is supported by an MRC Clinical Academic Research Partnership (MR/T02481X/1); received a grant from the CRUK early diagnosis grant for the Real-time cancer analytics (REACT) study (EICEDAAP\100012); reports honoraria for non-promotional educational talks or advisory boards from Amgen, AstraZeneca, Boehringer ingelheim, Bristol Myers Squibb, EQRx, Fujifilm, Guardant Health, Intuitive, Janssen, Lilly, MSD, Olympus, OncLive, PeerVoice, Pfizer, Roche, and Takeda outside of the current work; holds positions as the Director of UK Lung cancer coalition, member of the Steering Committee of British Thoracic Oncology Group, and Clinical Director of National Lung Cancer Audit; and reports stock and stock options in OneWelbeck, The Physicians’ Clinic (HCA), and Pharmacierge. AJ declares no competing interests. The views expressed in this publication are those of the authors and not necessarily those of the NIHR, National Health Service, or the UK Department of Health and Social Care. (Copyright © 2024 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY 4.0 license. Published by Elsevier Ltd.. All rights reserved.)

**Access or request full text:**[https://libkey.io/10.1016/S2589-7500(23)00241-8](https://libkey.io/10.1016/S2589-7500%2823%2900241-8)

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38278615&custid=ns023446>

7. The ChatGPT effect and transforming nursing education with generative AI: Discussion paper
**Item Type:**Journal Article

**Authors:** Gosak, Lucija;Pruinelli, Lisiane;Topaz, Maxim and Štiglic, Gregor

**Publication Date:**2024

**Journal:**Nurse Education in Practice 75, pp. 103888

**Abstract: Aim:** The aim of this study is to present the possibilities of nurse education in the use of the Chat Generative Pre-training Transformer (ChatGPT) tool to support the documentation process.; **Background:** The success of the nursing process is based on the accuracy of nursing diagnoses, which also determine nursing interventions and nursing outcomes. Educating nurses in the use of artificial intelligence in the nursing process can significantly reduce the time nurses spend on documentation.; **Design:** Discussion paper.; Methods: We used a case study from Train4Health in the field of preventive care to demonstrate the potential of using Generative Pre-training Transformer (ChatGPT) to educate nurses in documenting the nursing process using generative artificial intelligence. Based on the case study, we entered a description of the patient's condition into Generative Pre-training Transformer (ChatGPT) and asked questions about nursing diagnoses, nursing interventions and nursing outcomes. We further synthesized these results.; **Results:** In the process of educating nurses about the nursing process and nursing diagnosis, Generative Pre-training Transformer (ChatGPT) can present potential patient problems to nurses and guide them through the process from taking a medical history, setting nursing diagnoses and planning goals and interventions. Generative Pre-training Transformer (ChatGPT) returned appropriate nursing diagnoses, but these were not in line with the North American Nursing Diagnosis Association - International (NANDA-I) classification as requested. Of all the nursing diagnoses provided, only one was consistent with the most recent version of the North American Nursing Diagnosis Association - International (NANDA-I). Generative Pre-training Transformer (ChatGPT) is still not specific enough for nursing diagnoses, resulting in incorrect answers in several cases.; **Conclusions:** Using Generative Pre-training Transformer (ChatGPT) to educate nurses and support the documentation process is time-efficient, but it still requires a certain level of human critical-thinking and fact-checking.; Competing Interests: Declaration of Competing Interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. (Copyright © 2024 Elsevier Ltd. All rights reserved.)

**Access or request full text:**<https://libkey.io/10.1016/j.nepr.2024.103888>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38219503&custid=ns023446>

8. Three Epochs of Artificial Intelligence in Health Care
**Item Type:**Journal Article

**Authors:** Howell, Michael D.;Corrado, Greg S. and DeSalvo, Karen B.

**Publication Date:**2024

**Journal:**Jama 331(3), pp. 242-244

**Abstract: Importance**: Interest in artificial intelligence (AI) has reached an all-time high, and health care leaders across the ecosystem are faced with questions about where, when, and how to deploy AI and how to understand its risks, problems, and possibilities.; **Observations:** While AI as a concept has existed since the 1950s, all AI is not the same. Capabilities and risks of various kinds of AI differ markedly, and on examination 3 epochs of AI emerge. AI 1.0 includes symbolic AI, which attempts to encode human knowledge into computational rules, as well as probabilistic models. The era of AI 2.0 began with deep learning, in which models learn from examples labeled with ground truth. This era brought about many advances both in people's daily lives and in health care. Deep learning models are task-specific, meaning they do one thing at a time, and they primarily focus on classification and prediction. AI 3.0 is the era of foundation models and generative AI. Models in AI 3.0 have fundamentally new (and potentially transformative) capabilities, as well as new kinds of risks, such as hallucinations. These models can do many different kinds of tasks without being retrained on a new dataset. For example, a simple text instruction will change the model's behavior. Prompts such as "Write this note for a specialist consultant" and "Write this note for the patient's mother" will produce markedly different content.; **Conclusions and Relevance:** Foundation models and generative AI represent a major revolution in AI's capabilities, ffering tremendous potential to improve care. Health care leaders are making decisions about AI today. While any heuristic omits details and loses nuance, the framework of AI 1.0, 2.0, and 3.0 may be helpful to decision-makers because each epoch has fundamentally different capabilities and risks.

**Access or request full text:**<https://libkey.io/10.1001/jama.2023.25057>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38227029&custid=ns023446>

9. Use of generative artificial intelligence in medical research
**Item Type:**Journal Article

**Authors:** Islam, Nazrul and van der Schaar, Mihaela

**Publication Date:**2024

**Journal:**BMJ (Clinical Research Ed.) 384, pp. q119

**Abstract:**Competing Interests: Competing interests: The BMJ has judged that there are no disqualifying financial ties to commercial companies. The authors declare the following other interests: NI is a research editor at The BMJ. Further details of The BMJ policy on financial interests is here: <https://www.bmj.com/sites/default/files/attachments/resources/2016/03/16-current-bmj-education-coi-form.pdf.>"

**Access or request full text:**<https://libkey.io/10.1136/bmj.q119>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38296355&custid=ns023446>

10. Generative artificial intelligence can have a role in combating vaccine hesitancy
**Item Type:**Journal Article

**Authors:** Larson, Heidi J. and Lin, Leesa

**Publication Date:**2024

**Journal:**BMJ (Clinical Research Ed.) 384, pp. q69

**Abstract:**Competing interests: HL and LL are part of the research group from the Vaccine Confidence Project at LSHTM, which received research grants from GlaxoSmithKline (GSK) and Merck Investigator Initiated Studies not associated with the project.

**Access or request full text:**<https://libkey.io/10.1136/bmj.q69>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38228351&custid=ns023446>

11. Generative artificial intelligence in medical education: way to solve the problems

**Item Type:**Journal Article

**Authors:** Li, Yanxing and Li, Jianjun

**Publication Date:**2024

**Journal:**Postgraduate Medical Journal 100(1181), pp. 203-204

**Access or request full text:**<https://libkey.io/10.1093/postmj/qgad116>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38061077&custid=ns023446>

12. Predicting early-onset COPD risk in adults aged 20-50 using electronic health records and machine learning
**Item Type:**Journal Article

**Authors:** Liu, Guanglei;Hu, Jiani;Yang, Jianzhe and Song, Jie

**Publication Date:**2024

**Journal:**PeerJ 12, pp. e16950

**Abstract:**Chronic obstructive pulmonary disease (COPD) is a major public health concern, affecting estimated 164 million people worldwide. Early detection and intervention strategies are essential to reduce the burden of COPD, but current screening approaches are limited in their ability to accurately predict risk. Machine learning (ML) models offer promise for improved accuracy of COPD risk prediction by combining genetic and electronic medical record data. In this study, we developed and evaluated eight ML models for primary screening of COPD utilizing routine screening data, polygenic risk scores (PRS), additional clinical data, or a combination of all three. To assess our models, we conducted a retrospective analysis of approximately 329,396 patients in the UK Biobank database. Incorporating personal information and blood biochemical test results significantly improved the model's accuracy for predicting COPD risk, achieving a best performance of 0.8505 AUC, a specificity of 0.8539 and a sensitivity of 0.7584. These results indicate that ML models can be effectively utilized for accurate prediction of COPD risk in individuals aged 20 to 50 years, providing a valuable tool for early detection and intervention.; Competing Interests: Jiani Hu, Jianzhe Yang, and Jie Song are currently employed by Ailurus Biotechnology Ltd. and have contributed to the research and development of the materials and methods described in this article. Therefore, they may have a financial interest in the outcome of this study. However, this does not alter our adherence to the journal’s policies on data sharing and integrity. (© 2024 Liu et al.)

**Access or request full text:**<https://libkey.io/10.7717/peerj.16950>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38410800&custid=ns023446>

13. Artificial intelligence-based decision support software to improve the efficacy of acute stroke pathway in the NHS: an observational study
**Item Type:**Journal Article

**Authors:** Nagaratnam, Kiruba;Neuhaus, Ain;Briggs, James H.;Ford, Gary A.;Woodhead, Zoe V. J.;Maharjan, Dibyaa and Harston, George

**Publication Date:**2024

**Journal:**Frontiers in Neurology 14, pp. 1329643

**Abstract: Introduction**: In a drip-and-ship model for endovascular thrombectomy (EVT), early identification of large vessel occlusion (LVO) and timely referral to a comprehensive center (CSC) are crucial when patients are admitted to an acute stroke center (ASC). Several artificial intelligence (AI) decision-aid tools are increasingly being used to facilitate the rapid identification of LVO. This retrospective cohort study aimed to evaluate the impact of deploying e-Stroke AI decision support software in the hyperacute stroke pathway on process metrics and patient outcomes at an ASC in the United Kingdom.; **Methods:** Except for the deployment of e-Stroke on 01 March 2020, there were no significant changes made to the stroke pathway at the ASC. The data were obtained from a prospective stroke registry between 01 January 2019 and 31 March 2021. The outcomes were compared between the 14 months before and 12 months after the deployment of AI (pre-e-Stroke cohort vs. post-e-Stroke cohort) on 01 March 2020. Time window analyses were performed using Welch's t-test. Cochran-Mantel-Haenszel test was used to compare changes in disability at 3 months assessed by modified Rankin Score (mRS) ordinal shift analysis, and Fisher's exact test was used for dichotomised mRS analysis.; **Results:** In the pre-e-Stroke cohort, 19 of 22 patients referred received EVT. In the post-e-Stroke cohort, 21 of the 25 patients referred were treated. The mean door-in-door-out (DIDO) and door-to-referral times in pre-e-Stroke vs. post-e-Stroke cohorts were 141 vs. 79 min (difference 62 min, 95% CI 96.9-26.8 min, p  < 0.001) and 71 vs. 44 min (difference 27 min, 95% CI 47.4-5.4 min, p  = 0.01), respectively. The adjusted odds ratio (age and NIHSS) for mRS ordinal shift analysis at 3 months was 3.14 (95% CI 0.99-10.51, p  = 0.06) and the dichotomized mRS 0-2 at 3 months was 16% vs. 48% ( p  = 0.04) in the pre- vs. post-e-Stroke cohorts, respectively.; **Conclusion:** In this single-center study in the United Kingdom, the DIDO time significantly decreased since the introduction of e-Stroke decision support software into an ASC hyperacute stroke pathway. The reduction in door-in to referral time indicates faster image interpretation and referral for EVT. There was an indication of an increased proportion of patients regaining independent function after EVT. However, this should be interpreted with caution given the small sample size. Larger, prospective studies and further systematic real-world evaluation are needed to demonstrate the widespread generalisability of these findings.; Competing Interests: JB, ZW, and GH were employed by Brainomix Limited. KN received honoraria for lectures from Brainomix Limited. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. (Copyright © 2024 Nagaratnam, Neuhaus, Briggs, Ford, Woodhead, Maharjan and Harston.)

**Access or request full text:**<https://libkey.io/10.3389/fneur.2023.1329643>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38304325&custid=ns023446>

14. How to Navigate the Pitfalls of AI Hype in Health Care

**Item Type:**Journal Article

**Authors:** Suran, Melissa and Hswen, Yulin

**Publication Date:**2024

**Journal:**Jama 331(4), pp. 273-276

**Access or request full text:**<https://libkey.io/10.1001/jama.2023.23330>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38170492&custid=ns023446>

15. Deep learning predicts prevalent and incident Parkinson's disease from UK Biobank fundus imaging
**Item Type:**Journal Article

**Authors:** Tran, Charlie;Shen, Kai;Liu, Kang;Ashok, Akshay;Ramirez-Zamora, Adolfo;Chen, Jinghua;Li, Yulin and Fang, Ruogu

**Publication Date:**2024

**Journal:**Scientific Reports 14(1), pp. 3637

**Abstract:**Parkinson's disease is the world's fastest-growing neurological disorder. Research to elucidate the mechanisms of Parkinson's disease and automate diagnostics would greatly improve the treatment of patients with Parkinson's disease. Current diagnostic methods are expensive and have limited availability. Considering the insidious and preclinical onset and progression of the disease, a desirable screening should be diagnostically accurate even before the onset of symptoms to allow medical interventions. We highlight retinal fundus imaging, often termed a window to the brain, as a diagnostic screening modality for Parkinson's disease. We conducted a systematic evaluation of conventional machine learning and deep learning techniques to classify Parkinson's disease from UK Biobank fundus imaging. Our results suggest Parkinson's disease individuals can be differentiated from age and gender-matched healthy subjects with 68% accuracy. This accuracy is maintained when predicting either prevalent or incident Parkinson's disease. Explainability and trustworthiness are enhanced by visual attribution maps of localized biomarkers and quantified metrics of model robustness to data perturbations. (© 2024. The Author(s).)

**Access or request full text:**<https://libkey.io/10.1038/s41598-024-54251-1>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38351326&custid=ns023446>

16. AI-generated Patient Information Leaflets: a comparison of PIL contents to BAD standards
**Item Type:**Journal Article

**Authors:** Verran, Callum

**Publication Date:**2024

**Journal:**Clinical and Experimental Dermatology
**Abstract: Background:** PILs are a tool that can supplement a clinical consultation and provide additional information for a patient to read in their own time. A wide range of PILs are available for distribution by the BAD and undergo rigorous review ahead of publication. 7.1 million UK adults are estimated to have the reading age of a 9-year-old and 43% are unable to comprehend written health information.; **Objectives:** To determine whether AI can produce PILs that include a similar degree of content to current BAD PILs.; **Methods:** Using the AI tool ChatGPT, 10 PILs were generated, and their contents compared to that of existing BAD PILs using an author-generated list of commonly included themes. Omissions were noted and a repeat series of PILs generated using targeted request phrasing. Readability of AI-generated PILs was also analysed.; Results: AI-generated PILs were found to include similar factual content to BAD PILs but excluded information that was felt to be more pertinent to patient concerns such as curability and heritability. Targeted request phrasing saw AI generate PILs including this content. Readability of AI-generated PILs was noted to be much higher than that of UK adults.; **Conclusions:** Where a condition-specific PIL is not readily available an AI-generated PIL can provide relevant information to a lesser quality than existing BAD PILs that may be inaccessible to some patients. Specific caution is advised regarding AI-generated medication-specific PILs. (© The Author(s) 2024. Published by Oxford University Press on behalf of British Association of Dermatologists. All rights reserved. For permissions, please e-mail: [journals.permissions@oup.com](https://refworks.proquest.com/journals.permissions%40oup.com).)

**Access or request full text:**<https://libkey.io/10.1093/ced/llad461>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38169318&custid=ns023446>

17. Will Generative Artificial Intelligence Deliver on Its Promise in Health Care?
**Item Type:**Journal Article

**Authors:** Wachter, Robert M. and Brynjolfsson, Erik

**Publication Date:**2024

**Journal:**Jama 331(1), pp. 65-69

**Abstract: Importance:** Since the introduction of ChatGPT in late 2022, generative artificial intelligence (genAI) has elicited enormous enthusiasm and serious concerns.; Observations: History has shown that general purpose technologies often fail to deliver their promised benefits for many years ("the productivity paradox of information technology"). Health care has several attributes that make the successful deployment of new technologies even more difficult than in other industries; these have challenged prior efforts to implement AI and electronic health records. However, genAI has unique properties that may shorten the usual lag between implementation and productivity and/or quality gains in health care. Moreover, the health care ecosystem has evolved to make it more receptive to genAI, and many health care organizations are poised to implement the complementary innovations in culture, leadership, workforce, and workflow often needed for digital innovations to flourish.; Conclusions and Relevance: The ability of genAI to rapidly improve and the capacity of organizations to implement complementary innovations that allow IT tools to reach their potential are more advanced than in the past; thus, genAI is capable of delivering meaningful improvements in health care more rapidly than was the case with previous technologies.

**Access or request full text:**<https://libkey.io/10.1001/jama.2023.25054>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38032660&custid=ns023446>

18. AI app that can diagnose acute otitis media may cut antibiotic use, say researchers
**Item Type:**Journal Article

**Authors:** Wilkinson, Emma

**Publication Date:**2024

**Journal:**BMJ (Clinical Research Ed.) 384, pp. q572

**Access or request full text:**<https://libkey.io/10.1136/bmj.q572>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38448084&custid=ns023446>

19. Generative Artificial Intelligence to Transform Inpatient Discharge Summaries to Patient-Friendly Language and Format
**Item Type:**Journal Article

**Authors:** Zaretsky, Jonah;Kim, Jeong Min;Baskharoun, Samuel;Zhao, Yunan;Austrian, Jonathan;Aphinyanaphongs, Yindalon;Gupta, Ravi;Blecker, Saul B. and Feldman, Jonah

**Publication Date:**2024

**Journal:**JAMA Network Open 7(3), pp. e240357

**Abstract: Importance:** By law, patients have immediate access to discharge notes in their medical records. Technical language and abbreviations make notes difficult to read and understand for a typical patient. Large language models (LLMs eg, GPT-4]) have the potential to transform these notes into patient-friendly language and format.; **Objective:** To determine whether an LLM can transform discharge summaries into a format that is more readable and understandable.; **Design, Setting, and Participants:** This cross-sectional study evaluated a sample of the discharge summaries of adult patients discharged from the General Internal Medicine service at NYU (New York University) Langone Health from June 1 to 30, 2023. Patients discharged as deceased were excluded. All discharge summaries were processed by the LLM between July 26 and August 5, 2023.; **Interventions:** A secure Health Insurance Portability and Accountability Act-compliant platform, Microsoft Azure OpenAI, was used to transform these discharge summaries into a patient-friendly format between July 26 and August 5, 2023.; **Main Outcomes and Measures:** Outcomes included readability as measured by Flesch-Kincaid Grade Level and understandability using Patient Education Materials Assessment Tool (PEMAT) scores. Readability and understandability of the original discharge summaries were compared with the transformed, patient-friendly discharge summaries created through the LLM. As balancing metrics, accuracy and completeness of the patient-friendly version were measured.; **Results:** Discharge summaries of 50 patients (31 female 62.0%] and 19 male 38.0%]) were included. The median patient age was 65.5 (IQR, 59.0-77.5) years. Mean (SD) Flesch-Kincaid Grade Level was significantly lower in the patient-friendly discharge summaries (6.2 0.5] vs 11.0 1.5]; P < .001). PEMAT understandability scores were significantly higher for patient-friendly discharge summaries (81% vs 13%; P < .001). Two physicians reviewed each patient-friendly discharge summary for accuracy on a 6-point scale, with 54 of 100 reviews (54.0%) giving the best possible rating of 6. Summaries were rated entirely complete in 56 reviews (56.0%). Eighteen reviews noted safety concerns, mostly involving omissions, but also several inaccurate statements (termed hallucinations).; **Conclusions and Relevance:** The findings of this cross-sectional study of 50 discharge summaries suggest that LLMs can be used to translate discharge summaries into patient-friendly language and formats that are significantly more readable and understandable than discharge summaries as they appear in electronic health records. However, implementation will require improvements in accuracy, completeness, and safety. Given the safety concerns, initial implementation will require physician review.

**Access or request full text:**<https://libkey.io/10.1001/jamanetworkopen.2024.0357>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38466307&custid=ns023446>

20. The challenges imposed by artificial intelligence: are we ready in medical education?
**Item Type:**Journal Article

**Authors:** Azer, Samy A. and Guerrero, Anthony P. S.

**Publication Date:**2023

**Journal:**BMC Medical Education 23(1), pp. 680

**Abstract:**Artificial intelligence (AI) is the science and engineering of making intelligent machines. In medical education, the usefulness of AI and its applications is being explored in training, learning, simulation, curriculum, and developing new assessment tools. This editorial encourages authors to submit their research on AI concerning medical education to enrich our knowledge. (© 2023. BioMed Central Ltd., part of Springer Nature.)

**Access or request full text:**<https://libkey.io/10.1186/s12909-023-04660-z>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37726741&custid=ns023446>

21. Using Artificial Intelligence to Stratify Normal versus Abnormal Chest X-rays: External Validation of a Deep Learning Algorithm at East Kent Hospitals University NHS Foundation Trust
**Item Type:**Journal Article

**Authors:** Blake, Sarah R.;Das, Neelanjan;Tadepalli, Manoj;Reddy, Bhargava;Singh, Anshul;Agrawal, Rohitashva;Chattoraj, Subhankar;Shah, Dhruv and Putha, Preetham

**Publication Date:**2023

**Journal:**Diagnostics (Basel, Switzerland) 13(22)
**Abstract: Background:** The chest radiograph (CXR) is the most frequently performed radiological examination worldwide. The increasing volume of CXRs performed in hospitals causes reporting backlogs and increased waiting times for patients, potentially compromising timely clinical intervention and patient safety. Implementing computer-aided detection (CAD) artificial intelligence (AI) algorithms capable of accurate and rapid CXR reporting could help address such limitations. A novel use for AI reporting is the classification of CXRs as 'abnormal' or 'normal'. This classification could help optimize resource allocation and aid radiologists in managing their time efficiently. **Methods:** qXR is a CE-marked computer-aided detection (CAD) software trained on over 4.4 million CXRs. In this retrospective cross-sectional pre-deployment study, we evaluated the performance of qXR in stratifying normal and abnormal CXRs. We analyzed 1040 CXRs from various referral sources, including general practices (GP), Accident and Emergency (A&E) departments, and inpatient (IP) and outpatient (OP) settings at East Kent Hospitals University NHS Foundation Trust. The ground truth for the CXRs was established by assessing the agreement between two senior radiologists. **Results:** The CAD software had a sensitivity of 99.7% and a specificity of 67.4%. The sub-group analysis showed no statistically significant difference in performance across healthcare settings, age, gender, and X-ray manufacturer. **Conclusions:** The study showed that qXR can accurately stratify CXRs as normal versus abnormal, potentially reducing reporting backlogs and resulting in early patient intervention, which may result in better patient outcomes.

**Access or request full text:**<https://libkey.io/10.3390/diagnostics13223408>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37998543&custid=ns023446>

22. Artificial intelligence takes center stage: exploring the capabilities and implications of ChatGPT and other AI-assisted technologies in scientific research and education
**Item Type:**Journal Article

**Authors:** Borger, Jessica G.;Ng, Ashley P.;Anderton, Holly;Ashdown, George W.;Auld, Megan;Blewitt, Marnie E.;Brown, Daniel V.;Call, Melissa J.;Collins, Peter;Freytag, Saskia;Harrison, Leonard C.;Hesping, Eva;Hoysted, Jaci;Johnston, Anna;McInneny, Andrew;Tang, Phil;Whitehead, Lachlan;Jex, Aaron and Naik, Shalin H.

**Publication Date:**2023

**Journal:**Immunology and Cell Biology 101(10), pp. 923-935

**Abstract:**The emergence of large language models (LLMs) and assisted artificial intelligence (AI) technologies have revolutionized the way in which we interact with technology. A recent symposium at the Walter and Eliza Hall Institute explored the current practical applications of LLMs in medical research and canvassed the emerging ethical, legal and social implications for the use of AI-assisted technologies in the sciences. This paper provides an overview of the symposium's key themes and discussions delivered by diverse speakers, including early career researchers, group leaders, educators and policy-makers highlighting the opportunities and challenges that lie ahead for scientific researchers and educators as we continue to explore the potential of this cutting-edge and emerging technology. (© 2023 the Australian and New Zealand Society for Immunology, Inc.)

**Access or request full text:**<https://libkey.io/10.1111/imcb.12689>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37721869&custid=ns023446>

23. Profiles of tobacco smokers and ex-smokers in a large-scale random sample survey across Wales: an unsupervised machine-learning cluster analysis
**Item Type:**Journal Article

**Authors:** Evans, Annette;Hughes, Rhian;Nolan, Louisa;Little, Kirsty;Newbury-Davies, Liz and Davies, Alisha R.

**Publication Date:**2023

**Journal:**Lancet (London, England) 402 Suppl 1, pp. S7

**Abstract: Background:** The Welsh government recently set a target to be smoke-free by 2030, which means reducing the prevalence of tobacco smoking in adults to 5% by then. The goal is to improve health and population life expectancy. To support this strategy, we identified profile groups with different sets of socioeconomic and demographic characteristics within the population of smokers. We compared these profiles to those identified in the ex-smoker population to provide a broader understanding of smokers and inform targeting of interventions and policy.; **Methods:** We did a cross-sectional study using data from the National Survey for Wales. This survey is a random sample telephone survey of individuals aged 16 years and older across Wales carried out from Sept 1, 2021 to Jan 31, 2022, weighted to be representative of the Welsh population. For the smoking subgroup, we did a weighted hierarchical cluster analysis with multiple imputation to impute missing data and repeated it for ex-smokers. In total, 63 survey variables were used in the analysis. These variables included smoking history, e-cigarette use, sociodemographics, lifestyle factors, individual-level deprivation, general health and long-term conditions, mental health, and wellbeing.; **Findings:** Among the 6407 respondents (weighted proportions: 49% male, 51% female; 28% aged 16-34 years, 46% aged 35-44 years, 26% aged ≥65 years; 95% white, 5% other ethnicity), 841 (13%) smoked and 2136 (33%) were ex-smokers. Four distinctive profiles of smokers were identified, the groups were of relatively comparable size and characterised by similarities described as (1) high-risk alcohol drinkers and without children; (2) single, mostly in social housing, and poor health and mental health; (3) mostly single, younger, tried e-cigarettes, and poor mental health; (4) older couples and poor health; when comparing the groups with each other. Cluster quality and validation statistics were considered fair: silhouette coefficient=0·09, Dunn index (Dunn2)=1·06. Generally, ex-smoker clusters differed from smoking clusters because of themes related to increased sickness, better affluence, employment, and older age (≥75 years).; **Interpretation:** This study suggests that not all smokers are the same, and they do not fall into one coherent group. Smoking cessation interventions to improve the health of ageing populations might need a different approach to consider a wider context or motivations to inform targeted quitting. It is acknowledged that smoking might be underreported because of perceived social unacceptability.; Funding: Public Health Wales. (Copyright © 2023 Elsevier Ltd. All rights reserved.)

**Access or request full text:**[https://libkey.io/10.1016/S0140-6736(23)02070-6](https://libkey.io/10.1016/S0140-6736%2823%2902070-6)

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37997114&custid=ns023446>

24. Experiences of using artificial intelligence in healthcare: a qualitative study of UK clinician and key stakeholder perspectives
**Item Type:**Journal Article

**Authors:** Fazakarley, C. A.;Breen, Maria;Leeson, Paul;Thompson, Ben and Williamson, Victoria

**Publication Date:**2023

**Journal:**BMJ Open 13(12), pp. e076950

**Abstract: Objectives:** Artificial intelligence (AI) is a rapidly developing field in healthcare, with tools being developed across various specialties to support healthcare professionals and reduce workloads. It is important to understand the experiences of professionals working in healthcare to ensure that future AI tools are acceptable and effectively implemented. The aim of this study was to gain an in-depth understanding of the experiences and perceptions of UK healthcare workers and other key stakeholders about the use of AI in the National Health Service (NHS).; **Design:** A qualitative study using semistructured interviews conducted remotely via MS Teams. Thematic analysis was carried out.; **Setting:** NHS and UK higher education institutes.; Participants: Thirteen participants were recruited, including clinical and non-clinical participants working for the NHS and researchers working to develop AI tools for healthcare settings.; **Results:** Four core themes were identified: positive perceptions of AI; potential barriers to using AI in healthcare; concerns regarding AI use and steps needed to ensure the acceptability of future AI tools. Overall, we found that those working in healthcare were generally open to the use of AI and expected it to have many benefits for patients and facilitate access to care. However, concerns were raised regarding the security of patient data, the potential for misdiagnosis and that AI could increase the burden on already strained healthcare staff.; **Conclusion:** This study found that healthcare staff are willing to engage with AI research and incorporate AI tools into care pathways. Going forward, the NHS and AI developers will need to collaborate closely to ensure that future tools are suitable for their intended use and do not negatively impact workloads or patient trust. Future AI studies should continue to incorporate the views of key stakeholders to improve tool acceptability.; Trial Registration Number: NCT05028179; ISRCTN15113915; IRAS ref: 293515.; **Competing Interests:** Competing interests: PL is a founder and shareholder of Ultromics Ltd and is an inventor on patents in the field of AI and healthcare. Ultromics Ltd uses Artificial Intelligence to build solutions that help meet the unmet needs of cardiovascular medicine, including EchoGo Pro, the Medical Device used in PROTEUS, the clinical trial associated with this qualitative research project. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.)

**Access or request full text:**<https://libkey.io/10.1136/bmjopen-2023-076950>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38081671&custid=ns023446>

25. Exploring the experiences and views of doctors working with Artificial Intelligence in English healthcare; a qualitative study
**Item Type:**Journal Article

**Authors:** Ganapathi, Shaswath and Duggal, Sandhya

**Publication Date:**2023

**Journal:**PloS One 18(3), pp. e0282415

**Abstract: Background:** The National Health Service (NHS) aspires to be a world leader of Artificial Intelligence (AI) in healthcare, however, there are several barriers facing translation and implementation. A key enabler of AI within the NHS is the education and engagement of doctors, however evidence suggests that there is an overall lack of awareness of and engagement with AI.; **Research Aim:** This qualitative study explores the experiences and views of doctor developers working with AI within the NHS exploring; their role within medical AI discourse, their views on the implementation of AI more widely and how they consider the engagement of doctors with AI technologies may increase in the future.; **Methods:** This study involved eleven semi-structured, one-to-one interviews conducted with doctors working with AI in English healthcare. Data was subjected to thematic analysis.; **Results:** The findings demonstrate that there is an unstructured pathway for doctors to enter the field of AI. The doctors described the various challenges they had experienced during their career, with many arising from the differing demands of operating in a commercial and technological environment. The perceived awareness and engagement among frontline doctors was low, with two prominent barriers being the hype surrounding AI and a lack of protected time. The engagement of doctors is vital for both the development and adoption of AI.; **Conclusions:** AI offers big potential within the medical field but is still in its infancy. For the NHS to leverage the benefits of AI, it must educate and empower current and future doctors. This can be achieved through; informative education within the medical undergraduate curriculum, protecting time for current doctors to develop understanding and providing flexible opportunities for NHS doctors to explore this field.; **Competing Interests:** The authors have declared that no competing interests exist. (Copyright: © 2023 Ganapathi, Duggal. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.)

**Access or request full text:**<https://libkey.io/10.1371/journal.pone.0282415>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36862694&custid=ns023446>

26. Trial: AI-Supported Mammography Screening Is Safe, Time-Saving
**Item Type:**Journal Article

**Authors:** Harris, Emily

**Publication Date:**2023

**Journal:**Jama 330(9), pp. 798

**Access or request full text:**<https://libkey.io/10.1001/jama.2023.13941>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37585182&custid=ns023446>

27. Cancer care at the time of the fourth industrial revolution: an insight to healthcare professionals' perspectives on cancer care and artificial intelligence
**Item Type:**Journal Article

**Authors:** Hesso, Iman;Kayyali, Reem;Dolton, Debbie-Rose;Joo, Kwanyoung;Zacharias, Lithin;Charalambous, Andreas;Lavdaniti, Maria;Stalika, Evangelia;Ajami, Tarek;Acampa, Wanda;Boban, Jasmina and Nabhani-Gebara, Shereen

**Publication Date:**2023

**Journal:**Radiation Oncology (London, England) 18(1), pp. 167

**Abstract: Background:** The integration of Artificial Intelligence (AI) technology in cancer care has gained unprecedented global attention over the past few decades. This has impacted the way that cancer care is practiced and delivered across settings. The purpose of this study was to explore the perspectives and experiences of healthcare professionals (HCPs) on cancer treatment and the need for AI. This study is a part of the INCISIVE European Union H2020 project's development of user requirements, which aims to fully explore the potential of AI-based cancer imaging technologies.; **Methods:** A mixed-methods research design was employed. HCPs participating in cancer care in the UK, Greece, Italy, Spain, Cyprus, and Serbia were first surveyed anonymously online. Twenty-seven HCPs then participated in semi-structured interviews. Appropriate statistical method was adopted to report the survey results by using SPSS. The interviews were audio recorded, verbatim transcribed, and then thematically analysed supported by NVIVO.; **Results**: The survey drew responses from 95 HCPs. The occurrence of diagnostic delay was reported by 56% (n = 28/50) for breast cancer, 64% (n = 27/42) for lung cancer, 76% (n = 34/45) for colorectal cancer and 42% (n = 16/38) for prostate cancer. A proportion of participants reported the occurrence of false positives in the accuracy of the current imaging techniques used: 64% (n = 32/50) reported this for breast cancer, 60% (n = 25/42) for lung cancer, 51% (n = 23/45) for colorectal cancer and 45% (n = 17/38) for prostate cancer. All participants agreed that the use of technology would enhance the care pathway for cancer patients. Despite the positive perspectives toward AI, certain limitations were also recorded. The majority (73%) of respondents (n = 69/95) reported they had never utilised technology in the care pathway which necessitates the need for education and training in the qualitative finding; compared to 27% (n = 26/95) who had and were still using it. Most, 89% of respondents (n = 85/95) said they would be opened to providing AI-based services in the future to improve medical imaging for cancer care. Interviews with HCPs revealed lack of widespread preparedness for AI in oncology, several barriers to introducing AI, and a need for education and training. Provision of AI training, increasing public awareness of AI, using evidence-based technology, and developing AI based interventions that will not replace HCPs were some of the recommendations.; **Conclusion:** HCPs reported favourable opinions of AI-based cancer imaging technologies and noted a number of care pathway concerns where AI can be useful. For the future design and execution of the INCISIVE project and other comparable AI-based projects, the characteristics and recommendations offered in the current research can serve as a reference. (© 2023. BioMed Central Ltd., part of Springer Nature.)

**Access or request full text:**<https://libkey.io/10.1186/s13014-023-02351-z>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37814325&custid=ns023446>

28. AI Will-and Should-Change Medical School, Says Harvard's Dean for Medical Education
**Item Type:**Journal Article

**Authors:** Hswen, Yulin and Abbasi, Jennifer

**Publication Date:**2023

**Journal:**Jama 330(19), pp. 1820-1823

**Access or request full text:**<https://libkey.io/10.1001/jama.2023.19295>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37878288&custid=ns023446>

29. Clinical service evaluation of the feasibility and reproducibility of novel artificial intelligence based-echocardiographic quantification of global longitudinal strain and left ventricular ejection fraction in trastuzumab-treated patients
**Item Type:**Journal Article

**Authors:** Jiang, J.;Liu, B.;Li, Y. W. and Hothi, S. S.

**Publication Date:**2023

**Journal:**Frontiers in Cardiovascular Medicine 10, pp. 1250311

**Abstract: Introduction:** Cardiotoxicity is a potential prognostically important complication of certain chemotherapeutic agents that may result in preclinical or overt clinical heart failure. In some cases, chemotherapy must be withheld when left ventricular (LV) systolic function becomes significantly impaired, to protect cardiac function at the expense of a change in the oncological treatment plan, leading to associated changes in oncological prognosis. Accordingly, patients receiving potentially cardiotoxic chemotherapy undergo routine surveillance before, during and following completion of therapy, usually with transthoracic echocardiography (TTE). Recent advancements in AI-based cardiac imaging reveal areas of promise but key challenges remain. There are ongoing questions as to whether the ability of AI to detect subtle changes in individual patients is at a level equivalent to manual analysis. This raises the question as to whether AI-based left ventricular strain analysis could provide a potential solution to left ventricular systolic function analysis in a manner equivocal to or superior to conventional assessment, in a real-world clinical service. AI based automated analyses may represent a potential solution for addressing the pressure of increasing echocardiographic demands within limited service-capacity healthcare systems, in addition to facilitating more accurate diagnoses.; **Methods:** This clinical service evaluation aims to establish whether AI-automated analysis compared to conventional methods (1) is a feasible method for assessing LV-GLS and LVEF, (2) yields moderate to good correlation between the two approaches, and (3) would lead to different clinical recommendations with serial surveillance in a real-world clinical population.; **Results and Discussion:** We observed a moderate correlation ( r  = 0.541) in GLS between AI automated assessment compared to conventional methods. The LVEF quantification between methods demonstrated a strong correlation ( r  = 0.895). AI-generated GLS and LVEF values compared reasonably well with conventional methods, demonstrating a similar temporal pattern throughout echocardiographic surveillance. The apical-three chamber view demonstrated the lowest correlation ( r  = 0.423) and revealed to be least successful for acquisition of GLS and LVEF. Compared to conventional methodology, AI-automated analysis has a significantly lower feasibility rate, demonstrating a success rate of 14% (GLS) and 51% (LVEF).; **Competing Interests:** The Royal Wolverhampton NHS Trust received an NHSx phase 4 award for the use of Ultromics artificial intelligence stress echo analysis software in my trust (Royal Wolverhampton NHS Trust). This comprised cost towards IT set up, clinical implementation, and cost-free provision of the novel Ultromics Echo Core Pro software for a one-year period. SSH has research agreements with Ligence Heart and Ventripoint Medical System. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. (© 2023 Jiang, Liu, Li and Hothi.)

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**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38045908&custid=ns023446>

30. Patient perspectives of artificial intelligence as a medical device in a skin cancer pathway
**Item Type:**Journal Article

**Authors:** Kawsar, Anusuya;Hussain, Khawar;Kalsi, Dilraj;Kemos, Polychronis;Marsden, Helen and Thomas, Lucy

**Publication Date:**2023

**Journal:**Frontiers in Medicine 10, pp. 1259595

**Abstract:**The use of artificial intelligence as a medical device (AIaMD) in healthcare systems is increasing rapidly. In dermatology, this has been accelerated in response to increasing skin cancer referral rates, workforce shortages and backlog generated by the COVID-19 pandemic. Evidence regarding patient perspectives of AIaMD is currently lacking in the literature. Patient acceptability is fundamental if this novel technology is to be effectively integrated into care pathways and patients must be confident that it is implemented safely, legally, and ethically. A prospective, single-center, single-arm, masked, non-inferiority, adaptive, group sequential design trial, recruited patients referred to a teledermatology cancer pathway. AIaMD assessment of dermoscopic images were compared with clinical or histological diagnosis, to assess performance (NCT04123678). Participants completed an online questionnaire to evaluate their views regarding use of AIaMD in the skin cancer pathway. Two hundred and sixty eight responses were received between February 2020 and August 2021. The majority of respondents were female (57.5%), ranged in age between 18 and 93 years old, Fitzpatrick type I-II skin (81.3%) and all 6 skin types were represented. Overall, there was a positive sentiment regarding potential use of AIaMD in skin cancer pathways. The majority of respondents felt confident in computers being used to help doctors diagnose and formulate management plans (median = 70; interquartile range (IQR) = 50-95) and as a support tool for general practitioners when assessing skin lesions (median = 85; IQR = 65-100). Respondents were comfortable having their photographs taken with a mobile phone device (median = 95; IQR = 70-100), which is similar to other studies assessing patient acceptability of teledermatology services. To the best of our knowledge, this is the first comprehensive study evaluating patient perspectives of AIaMD in skin cancer pathways in the UK. Patient involvement is essential for the development and implementation of new technologies. Continued end-user feedback will allow refinement of services to ensure patient acceptability. This study demonstrates patient acceptability of the use of AIaMD in both primary and secondary care settings.; Competing Interests: LT is a clinical advisor to Skin Analytics Ltd., has received Skin Analytics shares or share options; has received research funding support from Skin Analytics (salaries and equipment) and AIaMD deployment programme; has received reimbursement of conference fees, travel and accommodation costs from Skin Analytics to present research results; LT has received financial remuneration for separate programme of work as a consultant by Skin Analytics; has received grant funding from NHSX and CW+; has received paid honoraria to lecture for Almirall; was supported to attend a conference by Abbvie and Janssen; and holds multiple unpaid leadership roles. HM is an employee of Skin Analytics Ltd., and has received Skin Analytics shares or share options. DK is an employee of Skin Analytics Ltd., and has received Skin Analytics shares or share options. PK was previously a contractor with Skin Analytics Ltd. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. Skin Analytics, London, UK sponsored and funded this study, as part of an Innovate UK BioMedical Catalyst project, and was involved with the study design, data collection, statistical analysis and interpretation of the data. (Copyright © 2023 Kawsar, Hussain, Kalsi, Kemos, Marsden and Thomas.)

**Access or request full text:**<https://libkey.io/10.3389/fmed.2023.1259595>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38046409&custid=ns023446>

31. Machine learning models, trusted research environments and UK health data: ensuring a safe and beneficial future for AI development in healthcare
**Item Type:**Journal Article

**Authors:** Kerasidou, Charalampia Xaroula;Malone, Maeve;Daly, Angela and Tava, Francesco

**Publication Date:**2023

**Journal:**Journal of Medical Ethics 49(12), pp. 838-843

**Abstract:**Digitalisation of health and the use of health data in artificial intelligence, and machine learning (ML), including for applications that will then in turn be used in healthcare are major themes permeating current UK and other countries' healthcare systems and policies. Obtaining rich and representative data is key for robust ML development, and UK health data sets are particularly attractive sources for this. However, ensuring that such research and development is in the public interest, produces public benefit and preserves privacy are key challenges. Trusted research environments (TREs) are positioned as a way of balancing the diverging interests in healthcare data research with privacy and public benefit. Using TRE data to train ML models presents various challenges to the balance previously struck between these societal interests, which have hitherto not been discussed in the literature. These challenges include the possibility of personal data being disclosed in ML models, the dynamic nature of ML models and how public benefit may be (re)conceived in this context. For ML research to be facilitated using UK health data, TREs and others involved in the UK health data policy ecosystem need to be aware of these issues and work to address them in order to continue to ensure a 'safe' health and care data environment that truly serves the public.; Competing Interests: Competing interests: None declared. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY. Published by BMJ.)

**Access or request full text:**<https://libkey.io/10.1136/jme-2022-108696>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36997310&custid=ns023446>

32. Development and Evaluation of Machine Learning in Whole-Body Magnetic Resonance Imaging for Detecting Metastases in Patients With Lung or Colon Cancer: A Diagnostic Test Accuracy Study
**Item Type:**Journal Article

**Authors:** Rockall, Andrea G.;Li, Xingfeng;Johnson, Nicholas;Lavdas, Ioannis;Santhakumaran, Shalini;Prevost, A. T.;Punwani, Shonit;Goh, Vicky;Barwick, Tara D.;Bharwani, Nishat;Sandhu, Amandeep;Sidhu, Harbir;Plumb, Andrew;Burn, James;Fagan, Aisling;Wengert, Georg J.;Koh, Dow-Mu;Reczko, Krystyna;Dou, Qi;Warwick, Jane, et al

**Publication Date:**2023

**Journal:**Investigative Radiology 58(12), pp. 823-831

**Abstract: Objectives:** Whole-body magnetic resonance imaging (WB-MRI) has been demonstrated to be efficient and cost-effective for cancer staging. The study aim was to develop a machine learning (ML) algorithm to improve radiologists' sensitivity and specificity for metastasis detection and reduce reading times.; **Materials and Methods:** A retrospective analysis of 438 prospectively collected WB-MRI scans from multicenter Streamline studies (February 2013-September 2016) was undertaken. Disease sites were manually labeled using Streamline reference standard. Whole-body MRI scans were randomly allocated to training and testing sets. A model for malignant lesion detection was developed based on convolutional neural networks and a 2-stage training strategy. The final algorithm generated lesion probability heat maps. Using a concurrent reader paradigm, 25 radiologists (18 experienced, 7 inexperienced in WB-/MRI) were randomly allocated WB-MRI scans with or without ML support to detect malignant lesions over 2 or 3 reading rounds. Reads were undertaken in the setting of a diagnostic radiology reading room between November 2019 and March 2020. Reading times were recorded by a scribe. Prespecified analysis included sensitivity, specificity, interobserver agreement, and reading time of radiology readers to detect metastases with or without ML support. Reader performance for detection of the primary tumor was also evaluated.; **Results:** Four hundred thirty-three evaluable WB-MRI scans were allocated to algorithm training (245) or radiology testing (50 patients with metastases, from primary 117 colon n = 117] or lung n = 71] cancer). Among a total 562 reads by experienced radiologists over 2 reading rounds, per-patient specificity was 86.2% (ML) and 87.7% (non-ML) (-1.5% difference; 95% confidence interval CI], -6.4%, 3.5%; P = 0.39). Sensitivity was 66.0% (ML) and 70.0% (non-ML) (-4.0% difference; 95% CI, -13.5%, 5.5%; P = 0.344). Among 161 reads by inexperienced readers, per-patient specificity in both groups was 76.3% (0% difference; 95% CI, -15.0%, 15.0%; P = 0.613), with sensitivity of 73.3% (ML) and 60.0% (non-ML) (13.3% difference; 95% CI, -7.9%, 34.5%; P = 0.313). Per-site specificity was high (>90%) for all metastatic sites and experience levels. There was high sensitivity for the detection of primary tumors (lung cancer detection rate of 98.6% with and without ML 0.0% difference; 95% CI, -2.0%, 2.0%; P = 1.00], colon cancer detection rate of 89.0% with and 90.6% without ML -1.7% difference; 95% CI, -5.6%, 2.2%; P = 0.65]). When combining all reads from rounds 1 and 2, reading times fell by 6.2% (95% CI, -22.8%, 10.0%) when using ML. Round 2 read-times fell by 32% (95% CI, 20.8%, 42.8%) compared with round 1. Within round 2, there was a significant decrease in read-time when using ML support, estimated as 286 seconds (or 11%) quicker ( P = 0.0281), using regression analysis to account for reader experience, read round, and tumor type. Interobserver variance suggests moderate agreement, Cohen κ = 0.64; 95% CI, 0.47, 0.81 (with ML), and Cohen κ = 0.66; 95% CI, 0.47, 0.81 (without ML).; **Conclusions**: There was no evidence of a significant difference in per-patient sensitivity and specificity for detecting metastases or the primary tumor using concurrent ML compared with standard WB-MRI. Radiology read-times with or without ML support fell for round 2 reads compared with round 1, suggesting that readers familiarized themselves with the study reading method. During the second reading round, there was a significant reduction in reading time when using ML support.; **Competing Interests:** Conflicts of interest and sources of funding: A.G.R. is part of the advisory board of RoClub. This study was funded by the National Institute of Health Research Efficacy and Mechanism Evaluation Programme (trial registration: ISRCTN 23068310). The project is supported by the Imperial College London National Institute for Health Research Biomedical Research Centre, CRUK Imperial Centre, National Institute for Health Research University College London Hospitals Biomedical Research Centre, NIHR Biomedical Research Centre, and the NIHR Clinical Research Facilities and the Royal Marsden Hospital and Institute of Cancer Research. S.T. is an NIHR senior investigator. This research has been conducted using the UK Biobank Resource. (Copyright © 2023 The Author(s). Published by Wolters Kluwer Health, Inc.)

**Access or request full text:**<https://libkey.io/10.1097/RLI.0000000000000996>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37358356&custid=ns023446>

33. Black box no more: a scoping review of AI governance frameworks to guide procurement and adoption of AI in medical imaging and radiotherapy in the UK
**Item Type:**Journal Article

**Authors:** Stogiannos, Nikolaos;Malik, Rizwan;Kumar, Amrita;Barnes, Anna;Pogose, Michael;Harvey, Hugh;McEntee, Mark F. and Malamateniou, Christina

**Publication Date:**2023

**Journal:**The British Journal of Radiology 96(1152), pp. 20221157

**Abstract:**Technological advancements in computer science have started to bring artificial intelligence (AI) from the bench closer to the bedside. While there is still lots to do and improve, AI models in medical imaging and radiotherapy are rapidly being developed and increasingly deployed in clinical practice. At the same time, AI governance frameworks are still under development. Clinical practitioners involved with procuring, deploying, and adopting AI tools in the UK should be well-informed about these AI governance frameworks. This scoping review aimed to map out available literature on AI governance in the UK, focusing on medical imaging and radiotherapy. Searches were performed on Google Scholar, Pubmed, and the Cochrane Library, between June and July 2022. Of 4225 initially identified sources, 35 were finally included in this review. A comprehensive conceptual AI governance framework was proposed, guided by the need for rigorous AI validation and evaluation procedures, the accreditation rules and standards, and the fundamental ethical principles of AI. Fairness, transparency, trustworthiness, and explainability should be drivers of all AI models deployed in clinical practice. Appropriate staff education is also mandatory to ensure AI's safe and responsible use. Multidisciplinary teams under robust leadership will facilitate AI adoption, and it is crucial to involve patients, the public, and practitioners in decision-making. Collaborative research should be encouraged to enhance and promote innovation, while caution should be paid to the ongoing auditing of AI tools to ensure safety and clinical effectiveness.

**Access or request full text:**<https://libkey.io/10.1259/bjr.20221157>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37747285&custid=ns023446>

34. Nursing education in the age of artificial intelligence powered Chatbots (AI-Chatbots): Are we ready yet?
**Item Type:**Journal Article

**Authors:** Tam, Wilson;Huynh, Tom;Tang, Arthur;Luong, Stanley;Khatri, Yunus and Zhou, Wentao

**Publication Date:**2023

**Journal:**Nurse Education Today 129, pp. 105917

**Abstract:**This article discusses the challenges and implications of artificial intelligence powered chatbot (AI-Chatbots) in nursing education. Chat Generative Pre-trained Transformer (ChatGPT) is an AI-Chatbot that can engage in detailed dialog and pass qualification tests in various fields. It can be applied for drafting course materials and administrative paperwork. Students can use it for personalized self-paced learning. AI-Chatbot technology can be applied in problem-based learning for hands-on practice experiences. There are concerns about over-reliance on the technology, including issues with plagiarism and limiting critical thinking skills. Educators must provide clear guidelines on appropriate use and emphasize the importance of critical thinking and proper citation. Educators must proactively adjust their curricula and pedagogy. AI-Chatbot technology could transform the nursing profession by aiding and streamlining administrative tasks, allowing nurses to focus on patient care. The use of AI-Chatbots to socially assist patients and for therapeutic purposes in mental health shows promise in improving well-being of patients, and potentially easing shortage and burnout for healthcare workers. AI-Chatbots can help nursing students and researchers to overcome technical barriers in nursing informatics, increasing accessibility for individuals without technical background. AI-Chatbot technology has potential in easing tasks for nurses, improving patient care, and enhancing nursing education.; Competing Interests: Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. (Copyright © 2023 The Authors. Published by Elsevier Ltd.. All rights reserved.)

**Access or request full text:**<https://libkey.io/10.1016/j.nedt.2023.105917>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37506622&custid=ns023446>

35. Medical practitioner perspectives on AI in emergency triage
**Item Type:**Journal Article

**Authors:** Townsend, Beverley A.;Plant, Katherine L.;Hodge, Victoria J.;Ashaolu, Ol'Tunde and Calinescu, Radu

**Publication Date:**2023

**Journal:**Frontiers in Digital Health 5, pp. 1297073

**Abstract: Introduction:** A proposed Diagnostic AI System for Robot-Assisted Triage ("DAISY") is under development to support Emergency Department ("ED") triage following increasing reports of overcrowding and shortage of staff in ED care experienced within National Health Service, England ("NHS") but also globally. DAISY aims to reduce ED patient wait times and medical practitioner overload. The objective of this study was to explore NHS health practitioners' perspectives and attitudes towards the future use of AI-supported technologies in ED triage.; **Methods:** Between July and August 2022 a qualitative-exploratory research study was conducted to collect and capture the perceptions and attitudes of nine NHS healthcare practitioners to better understand the challenges and benefits of a DAISY deployment. The study was based on a thematic analysis of semi-structured interviews. The study involved qualitative data analysis of the interviewees' responses. Audio-recordings were transcribed verbatim, and notes included into data documents. The transcripts were coded line-by-line, and data were organised into themes and sub-themes. Both inductive and deductive approaches to thematic analysis were used to analyse such data.; **Results:** Based on a qualitative analysis of coded interviews with the practitioners, responses were categorised into broad main thematic-types, namely: trust; current practice; social, legal, ethical, and cultural concerns; and empathetic practice. Sub-themes were identified for each main theme. Further quantitative analyses explored the vocabulary and sentiments of the participants when talking generally about NHS ED practices compared to discussing DAISY. Limitations include a small sample size and the requirement that research participants imagine a prototype AI-supported system still under development. The expectation is that such a system would work alongside the practitioner. Findings can be generalisable to other healthcare AI-supported systems and to other domains.; **Discussion:** This study highlights the benefits and challenges for an AI-supported triage healthcare solution. The study shows that most NHS ED practitioners interviewed were positive about such adoption. Benefits cited were a reduction in patient wait times in the ED, assistance in the streamlining of the triage process, support in calling for appropriate diagnostics and for further patient examination, and identification of those very unwell and requiring more immediate and urgent attention. Words used to describe the system were that DAISY is a "good idea", "help", helpful, "easier", "value", and "accurate". Our study demonstrates that trust in the system is a significant driver of use and a potential barrier to adoption. Participants emphasised social, legal, ethical, and cultural considerations and barriers to DAISY adoption and the importance of empathy and non-verbal cues in patient interactions. Findings demonstrate how DAISY might support and augment human medical performance in ED care, and provide an understanding of attitudinal barriers and considerations for the development and implementation of future triage AI-supported systems.; **Competing Interests:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. (© 2023 Townsend, Plant, Hodge, Ashaolu and Calinescu.)

**Access or request full text:**<https://libkey.io/10.3389/fdgth.2023.1297073>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=38125759&custid=ns023446>

36. Can Predictive AI Improve Early Detection of Sepsis and Other Conditions?

**Item Type:**Journal Article

**Authors:** Voelker, Rebecca and Hswen, Yulin

**Publication Date:**2023a

**Journal:**Jama 330(20), pp. 1939-1942

**Access or request full text:**<https://libkey.io/10.1001/jama.2023.19296>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37910113&custid=ns023446>

37. Clinical AI Tools Must Be Fed the Right Data, Stanford Health Care's Chief Data Scientist Says
**Item Type:**Journal Article

**Authors:** Voelker, Rebecca and Hswen, Yulin

**Publication Date:**2023b

**Journal:**Jama 330(22), pp. 2137-2139

**Access or request full text:**<https://libkey.io/10.1001/jama.2023.19297>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37966811&custid=ns023446>

38. What are the perceptions and concerns of people living with diabetes and National Health Service staff around the potential implementation of AI-assisted screening for diabetic eye disease? Development and validation of a survey for use in a secondary care screening setting
**Item Type:**Journal Article

**Authors:** Willis, Kathryn;Chaudhry, Umar A. R.;Chandrasekaran, Lakshmi;Wahlich, Charlotte;Olvera-Barrios, Abraham;Chambers, Ryan;Bolter, Louis;Anderson, John;Barman, S. A.;Fajtl, Jiri;Welikala, Roshan;Egan, Catherine;Tufail, Adnan;Owen, Christopher G. and Rudnicka, Alicja

**Publication Date:**2023

**Journal:**BMJ Open 13(11), pp. e075558

**Abstract: Introduction:** The English National Health Service (NHS) Diabetic Eye Screening Programme (DESP) performs around 2.3 million eye screening appointments annually, generating approximately 13 million retinal images that are graded by humans for the presence or severity of diabetic retinopathy. Previous research has shown that automated retinal image analysis systems, including artificial intelligence (AI), can identify images with no disease from those with diabetic retinopathy as safely and effectively as human graders, and could significantly reduce the workload for human graders. Some algorithms can also determine the level of severity of the retinopathy with similar performance to humans. There is a need to examine perceptions and concerns surrounding AI-assisted eye-screening among people living with diabetes and NHS staff, if AI was to be introduced into the DESP, to identify factors that may influence acceptance of this technology.; **Methods and Analysis:** People living with diabetes and staff from the North East London (NEL) NHS DESP were invited to participate in two respective focus groups to codesign two online surveys exploring their perceptions and concerns around the potential introduction of AI-assisted screening. Focus group participants were representative of the local population in terms of ages and ethnicity. Participants' feedback was taken into consideration to update surveys which were circulated for further feedback. Surveys will be piloted at the NEL DESP and followed by semistructured interviews to assess accessibility, usability and to validate the surveys.Validated surveys will be distributed by other NHS DESP sites, and also via patient groups on social media, relevant charities and the British Association of Retinal Screeners. Post-survey evaluative interviews will be undertaken among those who consent to participate in further research.; **Ethics and Dissemination:** Ethical approval has been obtained by the NHS Research Ethics Committee (IRAS ID: 316631). Survey results will be shared and discussed with focus groups to facilitate preparation of findings for publication and to inform codesign of outreach activities to address concerns and perceptions identified.; **Competing Interests:** Competing interests: None declared. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY. Published by BMJ.)

**Access or request full text:**<https://libkey.io/10.1136/bmjopen-2023-075558>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37968006&custid=ns023446>

39. Hearing the patient's voice in AI-enhanced healthcare
**Item Type:**Journal Article

**Authors:** Womersley, Kate;Fulford, Kwm Bill;Peile, Ed;Koralus, Philipp and Handa, Ashok

**Publication Date:**2023

**Journal:**BMJ (Clinical Research Ed.) 383, pp. 2758

**Abstract:** Competing interests: KW receives research funding from the Wellcome Trust; KWMF is fellow of St Catherine’s College and member of the Philosophy Faculty, University of Oxford; emeritus professor of Philosophy and Mental Health, University of Warwick; founder director of the Collaborating Centre for Values-based Practice in Health and Social Care, St Catherine’s College, Oxford; and founder editor, Philosophy, Psychiatry, and Psychology. PK is a fellow of St. Catherine’s College, Oxford. AH is the clinical tutor in surgery, University of Oxford: a fellow of St Catherine’s College, Oxford.

**Access or request full text:**<https://libkey.io/10.1136/bmj.p2758>

**URL:**<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37989502&custid=ns023446>

40. Heterogeneity and predictors of the effects of AI assistance on radiologists | Nature Medicine
**Item Type:**Journal Article
**Heterogeneity and predictors of the effects of AI assistance on radiologists | Nature Medicine**
**Publication Date:**
**URL:**<https://www.nature.com/articles/s41591-024-02850-w>

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