# A.I & Healthcare – July 2026


Figure 1 – NHS Lanarkshire Logo

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## Contents



## AI & AHP

1. Marley, Joanne, Katy Pedlow, Suzanne Martin, et al. **Allied health professional attitudes toward artificial intelligence in healthcare: A UK cross-sectional survey**. Digital health. 2026.Vol.12 pp20552076261437342. Allied Health Professionals (AHPs) represent the second largest healthcare workforce in the United Kingdom,

yet their perspectives on artificial intelligence (AI) remain underrepresented in the literature. As national policy commits to making the NHS "the most AI-enabled care system in the world", understanding AHP engagement with AI is essential for effective workforce development and implementation. An anonymous cross-sectional survey was conducted among AHPs attending a 2025 regional Research and Innovation Conference in the United Kingdom. The survey explored demographics, AI familiarity and use, perceived benefits and concerns, and views on regulation. Data were analysed using descriptive statistics, Kruskal-Wallis and chi-square tests, and exploratory binary logistic regression, following STROBE and CHERRIES guidelines. Among 162 respondents from nine AHP professions, 54.9% reported personal use of large language models, while only 21.7% used AI professionally, mainly for administrative tasks. Healthcare-specific AI familiarity was low (median = 2/5). In exploratory regression analysis familiarity with healthcare AI emerged as the only significant predictor of comfort with AI-supported clinical decision-making ( = 2.28, 95% CI 1.49-3.47], < .001); age, personal AI use, and discipline were not independent predictors. Radiographers demonstrated greater healthcare AI familiarity than dietitians ( < .001) and occupational therapists ( = .021). Most participants viewed AI as an assistive tool requiring human oversight (93.2% wanted override ability), and fewer than 20% were comfortable with AI making patient-care decisions. Access to education and training was identified as a key enabler by 90.1% of respondents. Workplace integration of AI remains limited despite increasing accessibility of AI technologies. Comfort with clinical AI use was associated with familiarity with healthcare-specific applications and awareness of their potential uses. These findings suggest implementation efforts may benefit from improving foundational understanding of AI and its applications, alongside clear accountability frameworks.

## AI & ambient voice technology

2. Derksen, Christina, Mona Yekezare, Thomas Round, Suzanne E. Scott and Fiona M. Walter. **Use of AI scribes in UK primary care: a survey of general practitioners**. npj Digit.Med. 2026.Vol.9(1), pp596. UK general practice is increasingly adopting ambient voice technology (“AI scribes”) for summarising and documenting medical consultations without clear regulation and implementation guidance. The aim of this study was to examine current use and perceptions of AI scribes among UK GPs, and to identify GP, practice, and population factors associated with their adoption. We conducted a cross-sectional online survey of UK GPs ( n = 598) to examine current use, perceptions, and factors associated with adoption, analysed using logistic regression. AI scribes were used by 40% of GPs, with an additional 23% reporting past use. Use ranged from 5 to 100% of consultations (mean 60%). Adoption was more likely among men (OR = 1.64), GPs working in private practice (OR = 2.88) and 5–6 clinical sessions weekly (OR = 2.17), those with more experience (OR = 1.68), and GP trainers (OR = 3.10). Efficiency and timeliness were widely perceived benefits, while concerns about safety and medicolegal risks were common, particularly among non-users. Use of AI scribes in the UK is relatively high despite regulatory issues and recent official cease communication. Local population characteristics were not associated with use, but use varied significantly depending on GP characteristics.

Selective use within practices and patient perspectives warrant further investigation to ensure equitable use of AI scribes.

3. Dineley, Judith, Noah Stanton, Aadam Aziz, et al. **Technology Matters: Ambient voice technology in mental health and neurodevelopmental settings – considerations for responsible implementation and evidence gaps**. Child and adolescent mental health. 2026.Documentation comprises a large proportion of Child and Adolescent Mental Health Service (CAMHS) clinicians/practitioners' work burden and is often completed outside contracted working hours, either requiring overtime pay and/or contributing to burnout. Ambient voice technology (AVT) combines AI-driven automated transcription and reporting and is a promising tool to mitigate these challenges. Multiple commercial products have been deployed in clinical settings internationally, including mental health services. Guidance on safe and effective use is yet to be established, and specific regulation of AI-based health technology is still in its infancy or does not exist in many countries. Further, to date, evidence on safety, acceptability, system-level efficiency gains, performance and economic value is sparse. As a cross-disciplinary group with direct implementation experience, we provide a broad overview of the clinical, technical, ethical, regulatory and economic aspects of introducing AVT to CAMHS and neurodevelopmental clinical settings to guide decision-makers and highlight evidence gaps.

4. Ohde, Joshua W., Arjun Thompson, Zhenghong Liu, et al. **Barriers and opportunities of scaling ambient AI scribes for clinical documentation across diverse healthcare settings**. npj Digit.Med. 2026.Vol.9(1), pp369. Ambient AI scribes are reshaping clinical documentation and clinician-patient interactions. These tools were initially tested in low-acuity ambulatory settings. However, their deployment in diverse care settings raises new challenges. This perspective examines the clinical, technical, and ethical implications of ambient AI scribes in diverse settings. With thoughtful integration, ambient AI scribes can evolve into valuable assistive tools to clinicians. Responsible use of these tools can improve interactions with patients, enhance safety, reduce clinician burden, and improve care continuity.

5. Titford, Benjamin. **AI scribes, memory, and the future of general practice**. British journal of general practice. 2026.Vol.76(766), pp223. Artificial intelligence (AI) scribes using ambient voice technology (AVT) are rapidly becoming popular tools in primary care consultations. These use AI to transcribe digitally recorded consultations into medical records and documents. Their proponents extol their ability to save administrative time and cognitive effort. The reduction in 'cognitive burden' has been associated with a lower risk of burnout. NHS England and health ministers view AVT as a tool to 'free up more time' to improve efficiency and see more patients.

## AI & bed management

6. Anumolu, Sindhura and Mandar Samant. **Optimizing hospital bed capacity: How lean-AI integration prevents capacity constraints from multiplying demand**. Intelligent Hospital. 2026.Vol.2(1), pp100048. Hospital bed management requires optimizing occupancy levels while maintaining sufficient surge capacity to prevent patient boarding and extended wait times. Industry guidelines target 80–85 %

occupancy, as levels beyond 90 % create patient waits and diversions. Traditional operations-improvement methods have provided incremental gains, while recent data-driven tools and command centers offer new optimization potential. This study synthesizes insights from global case studies and institutional interviews to evaluate how integrated Lean principles and artificial intelligence approaches optimize hospital bed capacity management across diverse healthcare settings. We analyzed implementations using the 4S framework (Statement, Selling Point, Summary, Sources), reviewing Lean methods (Kanban, Andon, push-pull flows) alongside AI-enabled scheduling models (LeanTaaS iQueue, Qventus) and command-center platforms. Analysis covered multiple departments including emergency, inpatient, operating rooms, laboratories, and pediatrics, with empirical outcomes assessed qualitatively and quantitatively. Combined Lean-AI approaches demonstrated substantial improvements in wait times, length of stay, and effective capacity. Command center implementations achieved equivalent capacity gains of 30 + beds without physical expansion. Key enabling factors included real-time data visibility, organizational culture supporting change, and interdepartmental coordination. Implementation challenges centered on data reliability and return-on-investment measurement. Hospitals can address rising demand through three strategic priorities: investing in real-time visibility infrastructure (dashboards, location tracking), adopting flexible workflows (Lean huddles, automated alerts), and deploying advanced forecasting using machine learning. Success requires integrating technological solutions with operational process improvements rather than implementing either approach independently.

## AI & bias

7. Hartley, Alice and James Fisher. **Seeing Is Believing? Exploring Gender Bias in Artificial Intelligence Imagery of Specialty Doctors.** The clinical teacher. 2026.Vol.23(1), ppe70297–n/a. Background In medicine and medical education, women are disproportionately affected by gender bias. Artificial intelligence (AI) is increasingly being employed in medical education. As gender bias exists within AI, there is a risk of reinforcing gender stereotypes if AI is used to generate images of medical professionals. We examined whether the gender distribution of doctors seen in AI-generated images was representative of UK specialty trainee doctors. Methods Free-to-use AI text-to-image generators were used to create 1200 images across 30 specialties. NHS England recruitment data provided figures on gender. Specialties accounting for < 0.25% of overall recruitment were excluded as small numbers precluded meaningful analysis. Each image was independently reviewed by both authors and classified (male/female/not-classifiable). Any disagreement was resolved by discussion. ‘Not-classifiable’ images were removed from analysis. Gender distribution between the AI images and recruitment data was compared (chi-squared test, significance $p < 0.05$). Findings There was a significantly higher proportion of males in the AI-generated images compared to NHS specialty data (82% vs. 47%; $p < 0.0001$). Notably, both AI tools created no images of female general practitioners, orthopaedic surgeons or urologists. Conversely females were overrepresented as dermatologists, obstetricians and gynaecologists and plastic surgeons. Conclusion The finding of representational and presentational gender bias in AI-generated images of doctors is consequential because ‘visual culture’ within

medical school, and beyond, matters. We contend that healthcare educators ought to employ caution when using AI and consider developing guidance on responsible use of AI imagery; otherwise, they risk perpetuating, rather than challenging, harmful gender stereotypes about medical career pathways.

8. Kocak, Burak, Andrea Ponsiglione, Vien Ngoc Dang, Matthias Dietzel, Karim Lekadir and Renato Cuocolo. **Bias and Fairness Across the Healthcare AI Lifecycle: A Clinician-Oriented Review**. Balkan medical journal. 2026.Vol.43(8), pp418–433. Artificial intelligence (AI) is increasingly being investigated and, in selected clinical settings, implemented to support diagnosis, triage, and workflow optimization. Although these systems have the potential to improve access, consistency, and efficiency, they may also reproduce or amplify health inequities when bias is introduced during development, evaluation, implementation, or postdeployment use. This clinician-oriented narrative review adopts a practical lifecycle approach to explain how algorithmic unfairness becomes clinically relevant, how clinicians can recognize it, and how institutions can mitigate its impact. We first outline the ethical, clinical, and mathematical dimensions of fairness. We then examine fairness risks and sources of bias across six stages of the healthcare AI lifecycle: problem formulation, data generation, model development, evaluation, implementation, and postdeployment monitoring and governance. Key mechanisms include biased proxy outcomes, unrepresentative or error-prone data and labels, model shortcut learning, hidden stratification, distribution shift, and human-AI interaction effects (e.g., automation bias and alert fatigue), all of which can create feedback loops and contribute to fairness drift over time. For each stage, we identify clinician-facing red flags and practical mitigation strategies, including defining clinically meaningful outcomes, using representative and well-documented datasets, conducting subgroup-stratified evaluations, performing external and prospective validation, justifying decision thresholds, implementing safeguards for human-AI interactions, and maintaining continuous postdeployment monitoring, including postmarket surveillance for regulated medical devices. Fairness cannot be ensured through a single metric, publication, regulatory clearance, or one-time validation. Instead, equitable healthcare AI requires transparent design, rigorous evaluation, local governance, and ongoing monitoring across diverse populations, clinical sites, devices, workflows, and time. Fairness should therefore be regarded as a continuous clinical and institutional responsibility rather than a downstream technical consideration.

9. Molu, Birsel. **Nursing students' perceptions of gender and race in AI healthcare imagery**. Nurs.Ethics. 2026.Vol.33(3), pp813–830. Background The rapid integration of artificial intelligence (AI) into healthcare has transformed how health professionals learn, communicate, and make clinical decisions. However, AI-generated images and digital outputs often reproduce societal stereotypes, particularly regarding gender and race. Aim This study examined how nursing students' perceptions of gender, race, and professional roles are shaped by AI-generated images of healthcare professionals, and how these perceptions influence their communication styles and ethical awareness in interactions with AI. Design A multimethod, cross-sectional design integrating quantitative and qualitative approaches was used. Quantitative data assessed gender attitudes in the nursing

profession, while qualitative data explored visual interpretations and language patterns in AI interactions. Participant Population The sample included 132 second- and fourth-year nursing students from a health sciences faculty in Türkiye. Ethical Consideration The study was approved by the institutional ethics committee. Findings Results indicated that nursing students largely relied on visual cues particularly clothing and posture when identifying professional roles in AI-generated images. Despite claiming objectivity, students frequently associated doctors with men and nurses with women, reflecting persistent gender schemas. Female participants demonstrated greater sensitivity to both gender and racial imbalances, whereas males perceived AI-generated visuals as more neutral. Language analysis revealed two main communication styles in chatbot interactions: polite and direct. Quantitative findings showed that being female, having lower income, and higher GPA were associated with more egalitarian attitudes. Conclusion Nursing students' perceptions and interactions with AI are influenced by implicit gender and racial stereotypes embedded in visual and linguistic representations. Integrating AI ethics, gender equity, and digital literacy into nursing curricula will foster critical awareness, algorithmic fairness, and equitable professional identity formation among future nurses.

10. Singh, Shruti, Prashant K. Singh, Rajesh Kumar and Riya Vaidyar. **Addressing Bias, Privacy, Security, and Patient Autonomy in Artificial Intelligence (AI)-Driven Healthcare: A Review of Current Guidelines**. Curēus (Palo Alto, CA). 2026.Vol.18(2), ppe103999. Integrating artificial intelligence (AI) in healthcare has revolutionized patient care, diagnostics, and operational efficiency. However, the reliance of AI systems on vast amounts of personal data raises significant concerns regarding data privacy, security, and ethical governance. This narrative review examines global regulations, including the General Data Protection Regulation, the Health Insurance Portability and Accountability Act, and Organization for Economic Co-operation and Development guidelines, and contrasts them with India's evolving data privacy landscape, particularly under the Digital Personal Data Protection Act, 2023. The review explores key ethical challenges, including AI bias, patient consent, data security, and algorithmic transparency, and provides case studies from around the world. The paper concludes with policy recommendations to harmonize international standards, strengthen AI governance in healthcare, and foster ethical AI development.

11. Welch, Mattea L., Benjamin Grant, Christopher Deutschman, et al. **A practical framework for operationalising responsible and equitable artificial intelligence in health care: tackling bias, inequity, and implementation challenges**. The Lancet.Digital health. 2026.Vol.8(3), pp100957. Artificial intelligence (AI) has the potential to transform health care; however, successful integration of AI into health care requires overcoming obstacles, such as biases in data and AI models, and addressing challenges in generating sufficient clinical evidence for deployment. In this Viewpoint, we present a community-based, actionable framework for responsible and ethical development, deployment, and integration of AI-based solutions in health care, emphasising bias mitigation and clinical evidence generation. Our framework is intended for all members of the health-care team who interact with AI-based solutions, including software developers, data scientists,

researchers, clinicians, hospital administrators, and institutional ethics and regulatory teams. We critically discuss the challenges associated with the use of such AI frameworks in health care. The framework, informed by multidisciplinary expertise, consists of four stages: (1) problem identification and study design, (2) model training and development, (3) silent deployment and clinical evaluation, and (4) operational deployment and lifecycle monitoring. This framework aligns with reporting standards such as SPIRIT-AI, CONSORT-AI, and TRIPOD+AI, offering practical steps for addressing biases, ensuring fairness, and validating clinical effectiveness. The framework provides action-oriented guidelines that can be used by institutions to support the ethical and efficient integration of AI into health care and equitable patient outcomes, either directly or by tailoring the guidelines with institution-specific resources.

## AI & cancer

12. Bozorgnia, Arshia, Alireza Ghattan, Mohammad Ali Arj and Abbas Arj. **AI prediction of length of stay after colorectal cancer surgery: a systematic review**. coloproctology. 2026.Vol.48(4), pp284–293. Purpose Postoperative length of stay (LOS) after colorectal cancer (CRC) surgery is an important indicator of recovery, discharge readiness, patient experience, and healthcare utilization. Although LOS is influenced by multiple clinical and organizational factors, accurate prediction may support perioperative planning and resource allocation. This systematic review aimed to identify and critically appraise artificial intelligence (AI)- and machine learning (ML)-based prediction models for postoperative LOS after CRC surgery, with emphasis on outcome definitions, predictor timing, model performance, validation, and clinical applicability. Methods A systematic search of PubMed/Medline, Embase, and Scopus was conducted from database inception to 17 April 2026, with supplementary Google Scholar and reference screening. Peer-reviewed studies reporting AI/ML-based models developed and/or validated to predict postoperative LOS as a continuous outcome, or prolonged/delayed LOS as a categorical outcome, in adults undergoing CRC surgery were included. Risk of bias and applicability were assessed using PROBAST. Owing to substantial heterogeneity in study design, outcome definitions, predictor timing, and reported performance measures, findings were synthesized narratively. Results Six studies met the eligibility criteria. Included studies were heterogeneous in design, setting, cohort size, LOS definitions, predictor timing, modeling methods, and validation strategies. Outcomes were modeled variably as continuous LOS, prolonged LOS, or delayed discharge, with nonstandardized thresholds across studies. Predictors commonly included age, comorbidity burden, American Society of Anesthesiologists (ASA) score, operative approach, stoma creation, operative duration, blood loss, enhanced recovery pathway variables, and postoperative complications or early recovery measures. Internal validation frequently showed moderate-to-high predictive performance, particularly in models incorporating intraoperative or early postoperative information; however, calibration reporting, external validation, and prospective impact evaluation were uncommon. Overall, methodological concerns included inconsistent reporting of missing-data handling, small sample size in some cohorts, and limited evidence of transportability across settings. Conclusion Current evidence suggests that AI/ML models may help estimate postoperative LOS after CRC surgery,

particularly for perioperative or early postoperative risk stratification. However, the evidence base remains limited and methodologically heterogeneous, and the scarcity of external validation and incomplete reporting reduce confidence in routine clinical implementation. Future studies should use standardized outcomes, align predictor timing with intended clinical use, and prioritize transparent reporting, robust validation, and prospective evaluation.

13. Bramley, Rhidian R., Anna C. Sharman, Rebecca Duerden, et al. **Systematic prioritisation of AI-detected chest X-ray abnormalities for optimised lung cancer detection**. BJR artificial intelligence. 2026.Vol.3(1), ppubag007. This paper presents a reproducible, data-driven approach for prioritisation of AI-detected chest X-ray (CXR) findings to support faster lung cancer diagnosis in the NHS. The Annalise Enterprise CXR system was deployed in shadow mode across seven acute trusts in Greater Manchester. Two cohorts were used: a retrospective cancer cohort (n = 1,282) with confirmed lung cancer and visible CXR abnormalities, and a prospective cohort (n = 13,802) comprising consecutively acquired GP-referred CXRs. Prevalence ratios were calculated for 124 AI-detected abnormalities across both cohorts, and three prioritisation strategies were developed. Strategy 3, which combined prevalence analysis with expert clinical review, achieved optimal performance with a sensitivity of 95.87% and estimated specificity of 79.11%, while maintaining a negative predictive value of 99.95%, for identification of lung cancer. Findings most associated with cancer included solitary lung mass, mediastinal mass, and hilar lymphadenopathy. An Excel-based tool was developed to support rapid configuration and evaluation of categorisation. Application of this approach enabled safe deployment of AI using shadow mode to inform configuration prior to live use. This work provides a scalable model for AI implementation in radiology workflows that aligns with the National Optimal Lung Cancer Pathway and addresses real-world challenges of diagnostic capacity, safety, and reproducibility.

14. Dönmez, Elif, Gamze Temiz, Burak Mete, Elif Marangoz and Tülay Ortabağ. **Artificial Intelligence: Readiness, Attitudes, and AI-Related Anxiety Among Oncology Nurses**. Healthcare (Basel). 2026.Vol.14(7), pp848. Objectives: As artificial intelligence (AI) technologies become increasingly integrated into healthcare systems, understanding healthcare professionals' psychological responses—particularly AI-related anxiety—has become increasingly important for the safe and effective implementation of these technologies in clinical practice. This study aimed to examine the relationships between oncology nurses' readiness for artificial intelligence, their attitudes toward artificial intelligence, and their levels of AI-related anxiety. Design: A descriptive, cross-sectional study. Setting: An oncology hospital within a state hospital in Istanbul, Turkey. Participants: A total of 207 oncology nurses working full-time in clinical settings. Methods: Data were collected using an online survey consisting of a demographic information form, the Medical Artificial Intelligence Readiness Scale (MAIRS-MS), the Artificial Intelligence Anxiety Scale (AIAS), and the General Attitudes toward Artificial Intelligence Scale (GAAIS). Spearman correlation analysis, general linear modeling, and conditional mediation analysis were performed using JAMOVI (v2.6.17). A p-value of <0.05 was considered statistically significant. Results: AI-related anxiety was significantly and negatively correlated with both readiness and attitudes toward AI. General linear modeling showed that attitudes toward AI

significantly predicted anxiety (β = −0.327, p < 0.001), whereas readiness did not have a direct significant effect. Conditional mediation analysis demonstrated that attitudes fully mediated the relationship between readiness and AI anxiety. The indirect effect of readiness on anxiety through attitudes was stronger among nurses who had received prior AI-related education. While the indirect effect remained significant among untrained nurses, its magnitude was considerably smaller. The total effect of readiness on anxiety was significant only in the untrained group, suggesting that structured education redirects the impact of readiness primarily through attitudes. Conclusions: Attitudes toward artificial intelligence represent the key psychological mechanism linking readiness to AI-related anxiety among oncology nurses. Prior AI education appears to strengthen this relationship by enhancing the association between readiness and attitudes and by being associated with lower anxiety levels. Educational and implementation strategies that emphasize ethical awareness and the development of positive, informed attitudes—rather than focusing solely on technical competence—are likely to be more effective in reducing anxiety and promoting the safe and ethical integration of AI into oncology nursing practice.

15. Hare, Sam, Graham Robinson, Aniket Tavare, et al. **Scaling AI-enabled imaging-based screening: lessons from reporting for the NHS England Lung Cancer Screening Programme**. Clin.Radiol. 2026.Vol.100 pp107429. Lung cancer is the leading cause of cancer death globally, and low-dose computed tomography (LDCT) screening reduces lung cancer mortality. The NHS England Lung Cancer Screening Programme is the largest national LDCT implementation to date, with over 2.5 million invitations issued, 7,193 cancers diagnosed and 63.1% detected at stage I in its first five-year evaluation. We describe the technical and workforce architecture supporting interpretation at scale and its transferability to other imaging-based screening. Three components have proved central. First, cloud-native, vendor-agnostic imaging information technology has overcome the fragmentation of NHS picture archiving systems, supporting distributed acquisition, centralised expert interpretation and standardised structured reporting. Second, a virtual national specialist network of 180 consultant thoracic radiologists working within a single reporting environment, rather than a transactional teleradiology contract, has enabled subspecialist delivery, embedded peer review, discrepancy logging and named-consultant accountability. Third, vendor-agnostic integration of artificial-intelligence nodule detection/volumetry has supported network-level post-deployment monitoring for algorithm drift and population bias. This has supported over one million studies since 2020, currently exceeding 41,000 scans per month, with >99% returned within 72 hours. Established breast screening already exemplifies these principles: organised double reading, centralised quality assurance and, increasingly, integrated AI. With programme-specific adaptation, the same approach is relevant to screening with prostate MRI, CT colonography, and potentially cardiac CT in the future. Although these pathways differ in evidence base, invitation model and reading requirements and some applications remain investigational.

16. Seripenah, Princella Ntumwine, Prudence Ikechukwu, Georgette Oni, et al. **Applications of Artificial Intelligence (AI) in Breast Cancer Care Delivery and**

**Education: A Scoping Review**. International journal of environmental research and public health. 2026.Vol.23(5), pp545. Artificial intelligence (AI) is increasingly being applied in breast cancer care, yet its use across the post-diagnosis phase remains poorly mapped. This scoping review aimed to identify and categorise AI applications in post-diagnosis breast cancer care, encompassing treatment planning, treatment delivery, follow-up and surveillance, survivorship, and palliative care. Following JBI methodology and PRISMA-ScR reporting guidelines, four databases (MEDLINE, EMBASE, CINAHL, and Web of Science) were searched, identifying 3784 records. After screening and full-text assessment, 54 studies published between 2016 and 2024 were included. Machine learning was the predominant technology (81%), followed by generative AI (7%), conversational agents (6%), traditional natural language processing (4%), and data mining (2%). Follow-up and surveillance were the most represented care stage (48%), driven primarily by recurrence prediction models. Most applications were provider-focused (83%), while patient-facing tools accounted for 17% of studies and relied on either conversational agents or generative AI. No studies addressed palliative care. The evidence base was predominantly retrospective (70%) and concentrated in high-income countries (74%). Future research should prioritise prospective evaluation in clinical workflows, address unsupervised patient use of generative AI, and ensure equitable development across diverse populations and care settings.

## AI & diagnosis

17. Kotsenas AL, Malhotra A, Seidenwurm D. **Can artificial intelligence cure Baumol's cost disease?.** Journal of the American College of Radiology. 2026 Jan 1;23(1):105-7. **ORDER**

18. Rasool A, Ahmad F, Bunterngchit C, Aslam S. **Challenges in translating AI-driven ASD/ADHD diagnosis: A methodological systematic review.** International Journal of Medical Informatics. 2026 Apr 4:106417.

19. Yevle DV, Mann PS, Kumar D. AI **Based Diagnosis of Chronic Obstructive Pulmonary Disease: Acomparative Review.** Archives of Computational Methods in Engineering. 2026 Mar;33(2):2413-50.

## AI & ethics

20. Anand, A. and C. K. Sinha. **Ethical and legal challenges of integrating artificial intelligence into paediatric surgery**. Ann.R.Coll.Surg.Engl. 2026.Artificial intelligence (AI) technologies are increasingly being trialled with applications spanning imaging, robotic assistance and early risk prediction. Children's unique legal status presents distinct ethical and legal concerns. The objective of this review was to outline key ethical and legal challenges from AI integration into paediatric surgery and propose practical strategies for clinicians and policymakers. This article is a narrative review of peer-reviewed and grey literature (2015-2025), and statutory guidance (including the Information Commissioner's Office ICO] Children's Code, Medicines and Healthcare products Regulatory Agency MHRA] Software as a Medical Device Roadmap, General Medical Council guidance), and documentation from paediatric AI

hubs. Ethical analysis was framed using principlism (autonomy, beneficence, non-maleficence, justice), with modifications for paediatric contexts (evolving capacity, best interests). Five core challenges were identified: safeguarding sensitive paediatric data; facilitating informed consent; mitigating algorithmic bias; clarifying liability in adaptive systems; and harmonising regulatory oversight. Recommendations include federated learning networks, transparent model cards, a pooled indemnity fund, AI literacy training and ongoing performance audits. AI holds promise for safer, more equitable paediatric surgery with robust ethical safeguards, updated legal frameworks and sustained regulatory vigilance. What is already known: (i) AI enhances image guidance, robotic precision and risk prediction in surgery; (ii) children's data require special protection under the UK General Data Protection Regulation and ICO Children's Code; and (iii) NHS England funds AI pilots, but paediatric-specific governance remains underdeveloped. This study: (i) maps UK-specific ethical (privacy, consent, bias) and legal (Montgomery, Consumer Protection Act 1987, MHRA) duties in AI-assisted paediatric surgery; (ii) proposes a federated data-sharing consortium and tiered liability model, and offers a practical governance framework for clinicians, regulators, and NHS boards.

21. Goirand, Magali, Elizabeth Austin and Robyn Clay-Williams. **From the what to the how: why the stewardship of ethics implementation in AI healthcare matters**. AI Ethics. 2026.Vol.6(3),The release of Generative AI and its availability to the general population was a game changer. Making Generative AI accessible to members of the public opened up knowledge that was previously guarded by experts. As a result, Generative AI is changing the relationship between AI, patient and clinicians. Ethics guidelines issued by governments lay out what should be considered when implementing AI-enabled healthcare. However, how these guidelines are implemented matters. This perspective reflects on the complexity of the task, and how to go about it. Systems Thinking is a well-suited discipline to the task of implementing AI-enabled healthcare and involves participatory processes. However, given the financial and epistemic power imbalance between the AI technology owners and its users, there is a need for strong stewardship of the process. First Nations of Australia cultural processes offer possible guidance about how to enact this stewardship.

22. Hou, Jiayu, Xuan Cheng, Jiayu Liao, Zhiqiao Zhang and Weihong Wang. **Ethical concerns of AI in healthcare: A systematic review of qualitative studies**. Nurs.Ethics. 2026.Vol.33(2), pp428–449. With the rapid penetration of artificial intelligence (AI) in healthcare, its associated ethical issues have become increasingly prominent. However, existing research often lacks systematic approaches and fails to explore cognitive differences thoroughly among healthcare professionals across regions, professions, and departments. To address this gap, this study systematically retrieved 19 qualitative studies from Embase, PubMed, and Web of Science databases. Quality was assessed using the JBI-QARI tool, and data were analyzed through thematic analysis, encompassing healthcare professionals from diverse backgrounds. Findings reveal that while AI enhances diagnostic accuracy and optimizes resource allocation, it also triggers ethical dilemmas such as algorithmic bias, data privacy breaches, and ambiguous accountability. Furthermore, cultural, resource, and policy disparities across regions significantly influence healthcare

professionals' perceptions, while differing professional roles and departmental responsibilities lead to distinct ethical priorities. Thus, AI applications in healthcare face multidimensional ethical challenges that disrupt practitioners' workflows while profoundly impacting patient rights protection and healthcare system operations. Future efforts must develop systematic solutions across technological R&D, responsibility allocation, data security, and personnel training to balance innovation with ethics and advance sustainable AI-driven healthcare.

23. Jennings, Charlotte, Andrew Broad, Lucy Godson, Emily Clarke, David Westhead and Darren Treanor. **AI in Cancer Prognosis: A Systematic Review of Multimodal Models Combining Pathology Images and High-Throughput Omics**. Cancer informatics. 2026.Vol.25 pp11769351261434523. This study systematically reviews and evaluates published research on machine learning models that integrate histopathology whole slide images and high-throughput -omic data to predict overall survival in cancer. A comprehensive search of PubMed, EMBASE, and Cochrane CENTRAL was conducted through August 12, 2024, with citation screening for additional studies. Eligible studies applied machine learning or deep learning methods to multimodal data combining pathology images and -omics. Data extraction followed the CHARMS checklist, and risk of bias was assessed using the PROBAST + AI tool. Narrative synthesis was conducted in line with PRISMA 2020 guidelines. Forty-eight studies published since 2017 met inclusion criteria, spanning 19 cancer types. All relied on The Cancer Genome Atlas dataset. Modelling approaches included regularised Cox regression (n = 4), classical machine learning (n = 13), and deep learning (n = 31). Reported concordance indices ranged from 0.550 to 0.857, with most multimodal models outperforming unimodal counterparts. However, all studies were assessed as having high or unclear risk of bias—most often due to limited external validation, insufficient reporting, and minimal assessment of clinical utility. This review highlights a rapidly evolving yet methodologically underdeveloped field. While model performance is promising, improvements in data standardisation, reporting practices, and real-world contextualisation are critical for clinical translation.

24. Jensen, Victor Vadmand, Marianne Johansson Jørgensen, Rikke Hagensby Jensen, Jeppe Lange, Jan Wolff and Mette Terp Høybye. **Tailored AI ethics: Enacting geriatric care with AI-based patient monitoring.** Soc.Sci.Med. 2026.Vol.397 pp119135. Artificial intelligence (AI) systems are increasingly integrated into clinical practice, where they demonstrate potential to mitigate adverse events through enhanced patient monitoring and decision support. However, these AI systems also introduce ethical concerns around care standards and surveillance. Literature on ethically acceptable healthcare AI remains broadly theoretical, limiting its practical applicability. Using a theoretical framework of empirical ethics, we present an ethnographic study of an AI-based patient monitoring system, referred to here as O-VID, that is currently deployed in clinical settings. We studied how O-VID is made ethically acceptable in the clinical practice of a geriatric hospital ward, where it is used to prevent and identify falls. Our data includes both observations of O-VID's use and healthcare professionals' reflections on this. We used thematic analysis to identify the empirical ethics of AI-based patient monitoring in this setting. We identified four themes regarding O-VID's ethically acceptable use. Healthcare professionals must (1) choose whether to use O-VID, (2) negotiate consent and

information related to O-VID, (3) make sense of patients with O-VID, and (4) time the use of O-VID. In addition, we identified the dynamics of standardizing, when staff appeal to a general standard practice, and tailoring, when staff tinker with O-VID in a situated fashion. Together, we term this tailored AI ethics. Our results contribute to the understanding of ethical dimensions of AI-based patient monitoring encountered in real-life human-AI collaboration. We showcase the importance of AI ethics' standardizing and tailoring practices, reflecting on how to achieve tailored AI ethics in practice.

25. Lee, NaKyung. **Development of AI ethics guidelines model based on AI life cycle**. AI Ethics. 2026.Vol.6(1),The increasing adoption of artificial intelligence (AI) requires the development of robust ethical frameworks to address emerging ethical challenges. Existing AI ethical guidelines are predominantly abstract and lack actionable requirements for practical implementation. This study addresses this gap by structuring AI ethics guidelines according to the AI life cycle, thereby identifying specific ethical requirements for each stage. AI ethics guidelines from seven leading countries were compared using a refined six-stage AI life cycle model. The analysis demonstrates that all seven countries emphasize the Model Development and Monitor & Evaluate Performance stages, while significant gaps persist in ethical guidance for other stages. Based on these findings, this study proposes a standardized AI ethics framework aligned with the AI life cycle, translating abstract ethical principles into concrete, actionable requirements and establishing a normative basis for ethical accountability.

26. Maia, Haline, Sérgio Nunes, Patrícia Cordeiro, Carolina Vila-Chã and Helena Lima. **Ethical dimensions of AI-supported fact-checking in elderly health care: a qualitative exploratory study**. AI Ethics. 2026.Vol.6(2),This article examines the ethical dimensions of AI-supported fact-checking tools in the context of elderly health care, focusing on how caregivers interpret trust, credibility, and cultural relevance when engaging with AI-mediated information. The study adopts a qualitative, exploratory methodology grounded in Value Sensitive Design and Human–Machine Communication. Empirical data were collected through a co-design workshop, focus group discussions, empathy map exercises, and descriptive questionnaires with elderly caregivers in a rural Portuguese context. Rather than aiming for statistical generalization, the research prioritizes contextual understanding and value articulation. The findings reveal that caregivers evaluate AI-supported fact-checking solutions not only in terms of informational accuracy, but also through ethical considerations such as protection, inclusion, trustworthiness, and perceived legitimacy. Differences between traditional journalistic approaches, automated AI solutions, and visual or animated formats were less salient than participants' interpretations of how these tools aligned with their lived experiences and communicative norms. By foregrounding the perspectives of caregivers in a socioeconomically constrained setting, this study contributes empirically grounded insights to debates in AI ethics and responsible AI design. It highlights the importance of culturally sensitive, user-centered approaches when deploying AI technologies in health communication and misinformation management, particularly for vulnerable populations.

27. Max, Raphael. **Guidelines without guidance: underdetermination in AI ethics**. AI Ethics. 2026.Vol.6(3),AI ethics has become a global industry of principles. Across governments, intergovernmental bodies, research institutes, and firms, guideline documents repeatedly endorse fairness, transparency, accountability, privacy, and human dignity. Yet convergence on labels is often mistaken for convergence on normative content. This paper argues that much of the current discourse remains normatively influential while being insufficiently action-guiding. It develops two claims. First, normative concepts are genuinely useful only when they are determinate enough to support critique: they must specify what would count as satisfying them and what would count as failing them, and they must confront trade-offs rather than implying a moral free lunch in which all values can be maximized simultaneously. Second, even conceptually clear normativity is incomplete if it treats implementation as an afterthought. Normative claims about sociotechnical systems implicitly rely on assumptions about feasibility, institutional incentives, measurement, and human response. When these background assumptions remain unspecified or idealized, ethical guidance becomes aspirational and can even be normatively irresponsible. The paper therefore articulates minimal conditions for AI-ethical discourse that is criticizable and responsibly connected to implementation, without reducing ethics to technocracy or compliance checklists.

28. McCarthy, Michael. **Responsible Decision Making for AI in Healthcare: Exploring the Role of Ethics Consultants at the Intersection of Ethics and AI**. HEC Forum. 2026.Vol.38(2), pp207–221. Healthcare Ethics Consultants (HECs) can serve as a resource for facilitating values-based conversations for responsible integration of AI technologies that benefit patients, providers, and healthcare organizations. First, the paper describes the different types of AI and its uses in healthcare. Second, it considers the role of HECs and why facilitating conversations around the responsible use and implementation of AI better frames the ethical content for AI healthcare. Third, the paper explores the ethical knowledge necessary to think through responsible use of AI. Finally, it identifies how ethics can be embedded into the process of adopting AI in healthcare from its development to its implementation in the organization and in the need for continual research on its use. The skills necessary for HECs can be utilized in a way to better improve values-based decision-making and evaluation for AI in healthcare.

29. Nord-Bronzyk, Alexa, Bryson Ng, Tianxiang Lan, G. O. Schaefer and Shizuko Takahashi. **Guiding Policymakers Toward Better AI Ethics Integration in Healthcare Regulation—Lessons from Singapore**. Journal of clinical medicine. 2026.Vol.15(10), pp3576. In terms of rollout, comprehensiveness, and strategy, Singapore's regulatory landscape governing the ethical use of Artificial Intelligence (AI) in healthcare has generally kept pace with other global leaders in AI advancement. However, establishing a robust and holistic regulatory framework that evolves along with emerging technologies is not easy—especially in healthcare, where the stakes are high and resources may be limited. We conducted a structured scoping analysis of key AI regulatory and professional documents in Singapore, selected using predefined inclusion criteria. Documents were systematically mapped against Savulescu et al.'s nine categories of ethical risk, followed by cross-document comparison to identify integration gaps and inconsistencies, and benchmarking

against international AI governance frameworks. These recommendations are generalizable beyond Singapore for developers, implementers, healthcare professionals and patients and include dealing with bias in AI, enhancing human productivity without deskilling, facilitating more informed decision-making, and cultivating greater knowledge exchange between clinicians and patients, to name a few.

30. O'Neil, Emma, BA, BS, Rodman, Adam,M.D., M.P.H. and Lehmann, Lisa Soleymani,M.D., PhD. **Balancing Innovation and Ethics: Ambient Listening AI in Healthcare.** Mayo Clinic Proceedings.Digital health. 2026. pp100341.

31. Seringa, Joana, João V. Cordeiro, Rui Santana and Teresa Magalhães. **Ethical integration of patient-reported outcomes and digital biomarkers in AI healthcare models: an expert consensus framework.** Frontiers in digital health. 2026.Vol.8 pp1781497. Alongside expected benefits, several ethical concerns arise from Artificial Intelligence (AI) based models. From the design to the implementation and subsequent evaluation, it is crucial to map potential ethical concerns regarding the use of AI models in healthcare. Patient-Reported Outcomes (PROs) and Digital Biomarkers (DBs) are being increasingly collected to improve patient-centered healthcare systems. However, due to the sensitive nature of this data, its processing into AI models may raise ethical concerns that should be considered. While general AI ethics frameworks exist, no expert consensus has specifically addressed the unique ethical challenges of integrating PROs and DBs in AI healthcare models. This study aims to address this gap by establishing expert consensus on ethical, legal, and social considerations for integrating PROs and DBs into AI-driven healthcare models. A mixed-method study was performed. Phase 1 consisted of a narrative review to map the ethical landscape and generate an initial pool of recommendations. Phase 2 involved a two-round modified e-Delphi survey to validate and refine these recommendations among a multidisciplinary panel of experts ( = 27). The panel included experts in AI, bioethics, clinical research, and data protection, primarily from Southern Europe. The findings of the two complementary components of this study (narrative review and modified e-Delphi study) were organized around five core ethical principles: autonomy, beneficence, non-maleficence, justice, and transparency and accountability. The modified e-Delphi study achieved high consensus (≥80%) on 55 specific recommendations across these principles. Key recommendations included implementing dynamic consent models, establishing continuous model validation protocols, conducting regular impact assessments, ensuring diverse stakeholder engagement to mitigate biases, and maintaining human oversight within AI systems. This study provides the first comprehensive expert-validated ethical framework specifically designed for PROs and DBs integration in AI healthcare models, filling a gap in the literature that has primarily focused on general AI ethics rather than the unique challenges posed by patient-generated health data.

## AI & general

32. Patil, Nilangi and Charitini Stavropoulou. **Beyond the pilot phase: exploring the sustainable implementation of artificial intelligence in the English NHS.** Frontiers in digital health. 2026.Vol.8 pp1743376. We explore the experiences of Artificial

Intelligence (AI) innovators who had received funding to pilot their innovation in the English NHS, with the aim of understanding what hinders and supports, from their perspective, the sustainable implementation of their innovation beyond the funding period. We first identified a list of companies that had received funding from two national schemes supporting AI innovations in the NHS, focusing on early rounds of these schemes. We then used personal contacts to identify key individuals from these companies, and used a snowball approach as well as LinkedIn contacts to increase our sample. We interviewed participants individually, using semi-structured interviews and analysed the data thematically. We interviewed 18 individuals from 11 AI companies, who had received funding from two national schemes. Our findings show that the funding offered the companies a unique opportunity to pilot their innovations, show early successes and grow recognition around AI and its potential. Yet, innovators faced several barriers in their effort to implement their AI innovations beyond the pilot phase, including misaligned expectations regarding the programmes' goal, fragmented adoption efforts with little national coordination, and inadequate evaluation mechanisms to generate the evidence needed for wider adoption. The UK has set great ambitions for the adoption of AI in the NHS and has invested significantly in public funding to support its use. Our findings show that public investment alone is not sufficient to achieve this ambitious target. A better understanding of the implementation challenges of using AI innovation in practice is needed.

33. Witt, Alice, Rachel Hulme, Owen Wilkinson, Robyn Norton and Kate Womersley. **An AI-enhanced NHS will rely on clinical guidelines, but what if the evidence is inequitable?**. bmjph. 2026.Vol.4(1), ppe003922. The UK's new 10-Year Health Plan for England sets out an ambitious agenda for an increasingly digitised and data-driven healthcare system, where artificial intelligence (AI) is expected to play a major role in realising long-term aims to deliver personalised medicine for all. A recent study highlighted poor consideration of sex and gender in National Institute for Health and Care Excellence clinical guidelines, which will be used to train AI models used by the NHS. When AI models are trained on inequitable data, they risk amplifying bias, with harmful implications for patient safety.

## AI and healthcare research

34. Henkin, Rafael, Elizabeth Remfry, Duncan J. Reynolds, Megan Clinch and Michael R. Barnes. **"We'll have to see how it works": An interview study to understand collaborative practices in interdisciplinary artificial intelligence and healthcare research**. PloS one. 2026.Vol.21(7), ppe0354358. Developing artificial intelligence (AI) algorithms for healthcare is a collaborative effort, bringing data scientists, clinicians, patients and other stakeholders together. By understanding AI as 'sociotechnical' where the social and the technical nature of the work and the models are inseparable, we explore the AI development workflow and how stakeholders navigate the challenges and tensions of sharing and generating knowledge across disciplines. We conducted an inductive thematic analysis of 13 semi-structured interviews with participants in early stages of AI-in-healthcare research consortia in the UK. Our findings identify that participants needed to adapt both the tools used for sharing and the information communicated according to

their audience, particularly when working with those with a clinical or patient perspective. We identify the novelty of participating in AI research, how AI knowledge is shared, and the inclusion of clinician and patient stakeholder perspectives as key areas within collaborative AI practices in healthcare. These findings highlight that bringing AI into the mix can introduce new obstacles to interdisciplinary work.

## AI & HR/workforce

35. Omar, Faraaz and Tendency Beretu. **Impostor phenomenon in human resource management within the era of artificial intelligence**. SA Journal of Human Resource Management. 2026.Vol.24 ppe1–e10. Orientation: The global adoption of artificial intelligence (AI) is transforming organisations, including in South Africa, where human resource management (HRM) professionals increasingly use AI-enabled systems. While AI offers efficiency, it creates psychological challenges, notably the impostor phenomenon (IP), where professionals doubt their competence and credit success to external factors like AI. Research purpose: This study explored how AI adoption is perceived by HRM practitioners to relate to experiences of the IP and examined the implications of IP for practitioners' perceived professional confidence in AI-driven contexts. Motivation for the study: Despite growing research on AI-in-HRM, its psychological impact remains understudied. Addressing this gap is vital to ensure AI adoption enhances performance without undermining professional confidence. Research approach/design and method: A qualitative design was employed. Semi-structured online interviews were conducted with HR managers in South Africa (n = 15). Data were transcribed verbatim and analysed using thematic analysis to generate key themes. Main findings: Participant accounts suggest that AI adoption heightened feelings of self-doubt among HRM professionals, with many attributing workplace achievements to AI systems, luck or external support. Participants described IP as eroding their confidence, reducing ownership of achievements and affecting work engagement. Practical/managerial implications: HR leaders should embed AI training within human resource development (HRD) programmes, implement performance appraisal systems that recognise both human and AI contributions, and design interventions to strengthen self-efficacy. Contribution/value-add: This study offers interpretive insights into how IP is experienced in AI-driven contexts and offers actionable insights for fostering resilience and adaptability among HRM professionals in South Africa.

36. Preshaw, Philip. **More AI, fewer NHS people?: More AI, fewer NHS people?**. Br.Dent.J. 2026.Vol.240(11), pp711. 10.1038/s41415-026-9930-1

37. Safshekan, Meysam, Ardalan Feili, Ali Shojaeifard and Shahryar Sorooshian. **Artificial intelligence in human resource management: models for recruitment, training, performance, compensation, and retention**. Frontiers in artificial intelligence. 2026.Vol.9 pp1718244. In the era of rapid technological advancement, artificial intelligence (AI) has emerged as a transformative force across various industries, including human resource management (HRM). This study examines the application of AI in HRM systems, with a focus on recruitment, hiring, training, performance management, compensation, and human capital retention. This study adopts a qualitative research approach. Experts in artificial intelligence and human resource

management were identified, and data were collected through qualitative methods. The data were analyzed using thematic analysis. The findings reveal the introduction of AI application models across various HRM systems. These models demonstrate how AI enhances efficiency and effectiveness in key HR functions. The results highlight the transformative potential of AI in HRM by enabling data-driven decision-making and improving workforce planning. This research provides valuable insights for human resource professionals seeking to leverage AI to enhance organizational performance across industries.

38. Scott, Ian, Anton van der Vegt and Peter Douglas. **How can we prevent clinical deskilling when using AI?**. BMJ Qual Saf. 2026. ppbmjqs–020130.

39. Shoaib, Muhammad, Muhammad Ismail Mohmand, Nasir Sayed, Inayat Khan, Salman Jan and It Ee Lee. **AI-Powered Human Resource Management System for Hospitals: Enhancing Workforce Planning, Scheduling, and Performance Evaluation**. Access. 2026.Vol.14 pp96415–96438. Efficient and adaptive workforce management is a critical component of hospital operations, especially in high-demand and dynamic healthcare environments. This research presents the design, development, and evaluation of an AI-powered Human Resource Management System tailored for hospitals. The system integrates multiple artificial intelligence components-including time-series forecasting, heuristic optimization, explainable machine learning, and real-time visualization-to automate and enhance core human resource functions such as staffing prediction, shift scheduling, performance evaluation, and decision support. The forecasting module leverages Long Short-Term Memory networks to predict departmental staffing needs up to seven days in advance using historical inflow, shift patterns, and contextual factors such as public holidays. A genetic algorithm based scheduling engine generates weekly shift plans optimized for staff satisfaction, regulatory compliance, and operational efficiency. Staff performance is assessed using a Random Forest classifier supported by SHapley Additive Explanations to ensure interpretability and transparency in tier-based classification. Furthermore, a context-aware decision support layer enables real-time adaptation to anomalies such as absenteeism or public health emergencies using rule-based logic and anomaly detection. The system was implemented as a cloud-deployed dashboard using Flask and ReactJS, providing human resource managers with interactive tools for schedule editing, forecast review, and performance insight. Experimental evaluations demonstrate high accuracy in forecasting, reduced overtime costs, improved staff satisfaction, and scalability for concurrent users. Experimental results show that the proposed system achieves up to 23% reduction in overtime hours, improves staff satisfaction by approximately 5%, attains forecasting accuracy with an average R2 score of 0.895 over a 7-day horizon, and supports up to 50 concurrent users with acceptable latency. The proposed AI-HRMS sets a foundation for intelligent, responsive, and explainable workforce management in healthcare, offering substantial improvements over traditional HR practices. Future work will focus on live deployment, reinforcement learning integration, and federated collaboration across institutions.

40. Wang, Yan, Pusheng Zheng, Ying Guan and Qiwei Zhang. **Enhancing hospital workforce planning, scheduling, and performance evaluation through an AI-driven**

**human resource management system**. Sci Rep. 2026.Vol.16(1), pp13379. Efficient workforce management is critical for ensuring the quality, safety, and sustainability of hospital operations. Traditional human resource management (HRM) approaches often rely on manual processes that are prone to errors, lack adaptability, and fail to adequately balance staff preferences with patient care requirements. To address these challenges, this research proposes an AI-driven HRM framework for hospitals that integrates forecasting, optimization, and performance evaluation to enhance workforce planning, staff scheduling, and continuous assessment. The framework comprises three core modules: (i) workforce demand forecasting, leveraging machine learning models such as LSTM, XGBoost, and Random Forest to predict patient admissions and staffing needs; (ii) intelligent staff scheduling, employing optimization models under legal, contractual, skill-based, and preference-aware constraints to generate equitable and efficient rosters; and (iii) performance evaluation, combining structured metrics (task completion, attendance, punctuality) with unstructured feedback (patient surveys, peer reviews) analyzed using natural language processing. Extensive experiments were conducted using both synthetic and real hospital datasets. Results show that the proposed approach outperforms conventional methods, with LSTM achieving the highest forecasting accuracy (MAE = 6.1, R2 = 0.91), and the scheduling module reducing conflicts by 41% while improving fairness (Gini coefficient = 0.08). The performance evaluation framework further revealed 74% positive patient feedback and highlighted actionable insights for administrators. Stress tests confirmed scalability, with solver times remaining under 95 s for 1000 staff members. Pilot deployments demonstrated tangible benefits, including an 18% reduction in patient waiting times and a 14% improvement in satisfaction scores. Overall, the framework demonstrates strong potential for advancing hospital workforce management by improving efficiency, fairness, and quality of care.

## AI & learning disabilities

41. El Sarraj, Wasseem, Rachel Holt and Paul Bradley. **Exploring staff perspectives about AI technology in a specialist intellectual disability service**. Advances in mental health and intellectual disabilities. 2026. pp1–10.

## AI & patients

42. Steel, Emma J., Sean F. Duncan, Mark Hall, et al. **Patient and staff acceptability of an artificial intelligence software to prioritize chest X-rays in an NHS setting: a qualitative evaluation**. BMC health services research. 2026.Chest X-rays (CXRs) remain the first-line investigation in the lung cancer (LC) diagnostic pathway; however, the time from the original referral for CXR to computed tomography (CT) and respiratory review can currently take several weeks for outpatients. Qure.ai's 'qXR' software can be utilized to speed up the detection of LC by flagging abnormalities in CXRs for priority reporting, has the potential to enable outpatient CT imaging within 72 h of CXR and reduce the time from referral to reported CT by several weeks. A qualitative evaluation with a longitudinal aspect was designed to provide an in-depth understanding of the acceptability and behavioral impact of the software from the perspectives of both NHS staff and service users. Repeat, semi-structured interviews were conducted with 16 NHS staff (radiologists, radiographers,

and administrators) before and after implementation of the software in a Scottish NHS board. Eight NHS service users participated in focus groups to explore their experiences and attitudes toward the software. The Theoretical Framework of Acceptability informed data collection; however, the data analysis employed an inductive thematic approach. Staff viewed the software as a useful adjunct and believed it could expedite LC pathways; service users perceived the potential for better care through earlier diagnosis and an accelerated pathway to treatment. The radiology staff raised concerns about the software's accuracy and interpretations, as well as the potential for complacency and biased decision-making. Staff perceived that the change in the patient pathway performed better than anticipated, and service users voiced a preference for short-term anxiety with prompt action (AI pathway) to prolonged uncertainty (standard pathway). This study identified key facilitators of and barriers to the acceptability of AI software for prioritizing CXRs. There is support for AI-assisted CXR assessment, provided that it improves patient outcomes and is used in conjunction with clinicians. A hierarchy of confidence in the software's performance significantly impacted the experienced acceptability of the technology. To support stable, long-term adoption, AI software must integrate easily into existing systems, perform accurately, and not disrupt practice or negatively impact patient pathways.

43. Tanner, Judith, Melissa Rochon, Karen Cariaga, et al. **Exploring patient and NHS staff acceptability of artificial intelligence-supported surgical wound monitoring within the WISDOM feasibility study: a multi-centre qualitative interview study**. BMJ open. 2026.Vol.16(7), ppe116323. Artificial intelligence (AI) is beginning to be used within digital surgical wound monitoring to facilitate implementation at scale. AI acceptability is essential to its success. This study aimed to explore patient and staff acceptability of an AI-based digital surgical wound monitoring platform. Qualitative interviews SETTING: Two hospitals performing cardiac surgery in England. 20 patients undergoing cardiac surgery and 10 clinical staff participating in a randomised feasibility trial of surgical wound monitoring with AI. Semi-structured interviews were conducted focusing on participants' experiences or perceptions of AI-based digital surgical wound monitoring. Data were analysed, guided by the theoretical framework of acceptability. Patient and staff acceptability of AI within surgical wound monitoring. Patients and staff were supportive of the use of AI within surgical wound monitoring and felt safety was improved, access was increased and efficiency was improved. AI monitoring was perceived to allow the early detection and treatment of surgical wound complications and facilitate the implementation of monitoring at scale for all patients. Some participants were concerned about data security risks, staff over-reliance on AI and the loss of human interaction. AI-supported digital surgical wound monitoring appeared acceptable to participants within this feasibility study. Further research is needed to evaluate implementation in broader settings.

## AI & patient flow

44. Ortiz-Barrios, Miguel, Sebasti Arias-Fonseca, Helder Jose Celani de Souza, et al. **Optimized explainable AI and digital twin for patient flow improvement in ICU during respiratory epidemics**. BMC Med.Inform.Decis.Mak. 2026.Vol.26(1), pp226.

Background Respiratory epidemics often place substantial pressure on intensive care units (ICU), which are continuously challenged to managing acute and life-threatening conditions under unpredictable workloads. During these periods, ICUs usually exhibit inefficient patient flows, treatment delays, and critical resource shortages. Proactive decision-making and precise interventions are therefore pivotal for patient survival and minimizing long-term sequelae. Methods This paper proposes a robust approach combining Artificial Intelligence (AI), Bayesian Optimization, and Digital Twin (DT) to support ICU patient flow management. An eXtreme Gradient Boosting (XGBoost) algorithm is used to predict the patient transfer probability from the emergency department (ED) to the ICU within the next 24 h. Bayesian optimization is employed for efficient hyperparameter tuning of the XGBoost model. Then, the transfer predictions are inserted into a DT to verify ICU capacity for timely care and design interventions for process mismatches. Results A case study from a European healthcare group validates the proposed approach. The specificity of the prediction XGBoost model was 94.90% (CI 95% 91.72% − 97.11%), whereas the sensitivity was 81.55% (CI 95% 72.70% − 88.51%). Finally, the median ICU bed waiting time decreased to between 66.74 and 69.38 h after implementing a patient transfer policy with a partner hospital having available ICU beds. Conclusions This study demonstrates the effectiveness of AI-DT in predicting the probability of ICU transfers, assessing the operational response of emergency wards and intensive care units, and crafting practical scenarios for enhancing patient flow management.

## AI & pharmacy

45. Al-Taie, Anmar, Ahmed Shaheen Abdullah and Oritsetimeyin Arueyingho. **Integration of artificial intelligence applications in clinical pharmacy services: A scoping review**. Future healthcare journal. 2026.Vol.13(3), pp100547. Artificial intelligence (AI) is increasingly being integrated into healthcare systems, offering new opportunities to enhance the safety, efficiency and effectiveness of clinical pharmacy services. This scoping review aimed to systematically map the current applications of AI in clinical pharmacy practice and to identify the medication-management functions supported by these technologies. A literature search was conducted following PRISMA-ScR guidelines, covering studies published between 2010 and 2025 in databases such as PubMed, Web of Science and Scopus. Included studies focused on the application of AI in clinical pharmacy services within hospital and community settings. Studies were screened at the title, abstract and full-text levels, followed by data extraction and synthesis. Eligible studies were required to be peer-reviewed, written in English, and to include relevant keywords exploring the intersection of artificial intelligence and pharmacy practice. A total of 36 publications were included in the final assessment and analysis. Most studies focused on AI applications for the detection of drug interactions and adverse drug effects (n = 12, 33.3%), followed by studies for medication errors and potentially inappropriate medications (n = 11, 30.6%). Machine learning techniques, including natural language processing and deep learning, were the most commonly used AI technologies. The development of AI-powered applications and tools for clinical pharmacy services is a promising approach. However, significant efforts, in collaboration with relevant stakeholders, are needed to explore how these AI technologies can add value to clinical pharmacy services in both community and hospital settings.

46. Brata, Cecilia, Yosi Irawati Wibowo, Puspa Sari Gusti Ayu Putu Laksmi and Kusuma Yana I Gusti Agung Ari. **Intention to use an interactive Artificial Intelligence (AI) chatbot for learning self-medication consultation among pharmacy students**. Pharmacy education : an international journal for pharmaceutical education. 2026.Vol.26(1), pp31–48. Background: Whilst Artificial Intelligence (AI) holds great potential as a significant component in pharmacy education, research on students' intentions as the relevant key stakeholders is lacking. This study describes Indonesian pharmacy students' intention to use a newly developed AI chatbot for Self-Medication Consultation Learning (SMCL-chatbot), and the determinant factors. Methods: A questionnaire adapted from the Unified Theory of Acceptance and Use of Technology (UTAUT2) model was used to assess the students' intentions. A tryout for SMCL-chatbot was conducted among pharmacy students at the University of Surabaya's 2024 "Responding to Symptom" classes (n = 237). After interacting with the SMCL-chatbot, the students filled out the questionnaire. Results: Of the 237 students, 201 participated from which 90% expressed a positive intention to use the SMCL-chatbot. More than 80% had positive perceptions of the UTAUT2 constructs, including: performance expectancy, effort expectancy, facilitating condition, and hedonistic motivation. Performance expectancy (OR: 16.5, 95% CI: 1.42-192.42, p: 0.025) and hedonistic motivation (OR: 19.4, 95%CI 2.60-144.63, p: 0.004) were significantly related to students' intentions. Conclusion:Students showed positive intentions to use the SMCL-chatbot, indicating their readiness to adopt the technology for learning self-medication consultations. Further research is required to demonstrate the effectiveness of improving students' consultation skills and to perform a cost-benefit analysis.

47. Said, Amira S. A., Mohammad Al-Ahmad, Sawsan Shanableh and Muaed Alomar. **Artificial intelligence in pharmacy practice: pharmacists' perceptions and concerns toward implementation**. Frontiers in digital health. 2026.Vol.8 pp1797213. Integrating artificial intelligence (AI) has the potential to transform healthcare. AI can enhance medication management, patient outcomes, and streamline pharmacy operations. However, addressing AI limitations and pharmacists' concerns is essential to fully grasp its real future potential in healthcare and its impact on the workforce. A cross-sectional study was conducted using a previously developed pilot-tested online questionnaire with demonstrated content validity and reliability among licensed pharmacists in the UAE. The questionnaire assessed participants' demographics, perceived benefits (9 items), and concerns/barriers (18 items) regarding AI implementation in pharmacy practice. Responses were recorded using a 5-point Likert scale. Perception scores were analyzed using descriptive statistics (mean ± standard deviation) to reflect the distribution of responses. Internal consistency was high (Cronbach's : benefits, 0.88; concerns/barriers, 0.90). Associations between participants' demographics and perception scores were analyzed using appropriate statistical tests, with significance set at $< 0.05$. A total of 400 participants were invited to participate in the study, of whom 340 returned completed questionnaires (response rate: 85%). Overall, participants reported positive perceptions of AI, particularly in relation to multitasking and rapid data analysis (4.1 ± 0.9), improved service quality (3.9 ± 1.0), and enhanced patient follow-up (3.8 ± 1.1). However, perceptions of AI's clinical impact were more moderate,

including improved patient outcomes (3.5 ± 1.1), reduced medication errors (3.3 ± 1.2), and reduced healthcare costs (3.1 ± 1.2). Major concerns included cybersecurity risks (4.2 ± 0.8), data privacy issues (4.1 ± 0.9), and potential job displacement (3.9 ± 1.1). In this study, AI was perceived as a promising advancement in pharmacy practice, particularly in enhancing operational efficiency, multitasking, and patient follow-up. However, significant concerns were identified, including data privacy, cybersecurity, job displacement, and the potential loss of the human element in patient care. Addressing these concerns requires ensuring that AI complements, rather than replaces, pharmacists' roles, supported by updated education, targeted training, and clear regulatory frameworks.

48. Trivedi, Ashifa, Chloe Benn, Patrick To, Sadhna Sharma, Chris Paget and Mohammed Abou Daya. **SP2 How good is AI? Comparison of models for paediatric pharmacy clinical questions**. bmjpo. 2026.Vol.10 ppA1–A2. IntroductionThe use of artificial intelligence (AI) in healthcare is growing, yet its role in paediatric pharmacy remains uncertain.1 2 Clinical decision-making in paediatrics often relies on expert interpretation and adaptation, given the lack of robust evidence or licensed medicines in many areas. The Neonatal and Paediatric Pharmacy Group (NPPG) have a message board where members can share information and seek peer input, including advice on complex clinical queries. This study aimed to assess the accuracy of four widely available AI models - ChatGPT-4, Claude, Gemini 2.0 Flash, and Perplexity Deep Research - in responding to these real-world, complex paediatric pharmacy questions.MethodTwenty anonymised clinical queries were selected from the NPPG message board. These were chosen for their complexity and likelihood of requiring input beyond standard reference sources. Responses were obtained from the four AI models using a standardised prompt and were also independently answered by senior paediatric pharmacists. A consensus gold-standard answer for each question was created based on expert responses and best available evidence.Each AI response was assessed using a scoring framework across four domains: accuracy, relevance, comprehensiveness, and practicality. Scores ranged from 0 (no mark) to 3 (high) per domain, with a maximum possible score of 12 per response. Six paediatric pharmacists independently scored the AI responses, with any discrepancies resolved through discussion.ResultsThe four AI models demonstrated varied performance across the twenty clinical scenarios. Four answers were thought to have the potential to cause patient harm (across all models except Claude). ChatGPT-4 consistently achieved the highest scores, particularly for intermediate and complex questions, with structured answers and supporting references.Perplexity performed well on simpler questions and where answers could be readily found online, but was less reliable on more complex or paediatric-specific content. Claude and Gemini frequently often returned generic responses lacking sufficient clinical detail.Across all models, common limitations included outdated or missing references, insufficient consideration of paediatric-specific issues, and a lack of practical detail. While AI tools sometimes aligned with the expert consensus, discrepancies often arose in queries involving off-label use, drug manipulation, or paediatric dosing adjustments.On straightforward questions, such as administration via feeding tubes or dosing for common conditions, all models provided broadly acceptable answers. However, only Perplexity demonstrated a consistent ability to reference current guidance and provide structured responses for more complex

topics.ConclusionAI models show promise in supporting paediatric pharmacy decision-making, particularly for straightforward queries. However, their ability to address more complex or nuanced clinical questions remains limited. ChatGPT-4 was the most consistent performer overall, but all models demonstrated important gaps in accuracy, paediatric applicability, and referencing. Human expertise remains essential, particularly when dealing with high-risk decisions or areas where guidance is lacking. Further work is needed to improve the clinical reliability and paediatric relevance of AI tools before they can be safely embedded into pharmacy practice.

## AI & Primary Care


49. Alamoudi A, Kontopantelis E, Zghebi SS, Brown B. **AI triage in primary care: building safer and more equitable real-world evidence**. Journal of medical Internet research. 2026 Mar 4;28:e88396.

50. Allen LN, Lin J, Segal BM, Ndlovu K, Bilardi D, Pettigrew LM. **Artificial intelligence in primary care: frameworks, challenges, and guardrails**. The Lancet Primary Care. 2026 Mar 1;2(3).

51. Biro J, Jabbarpour Y, Ratwani R. **A new approach to artificial intelligence safety in primary care.** The Lancet Primary Care. 2026 Mar 1;2(3).

52. Brey Z, Gitau S, Miles M, Bitton A**. Equity by design in artificial intelligence for primary care in low-income and middle-income countries.** The Lancet Primary Care. 2026 Mar 1;2(3).

53. Castro VM, McCoy TH, Verhaak P, Ramachandiran A, Perlis RH. **Psychiatric documentation and management in primary care with artificial intelligence scribe use**. JAMA psychiatry. 2026 Mar;83(3):281-6.

54. Laranjo L, Car LT, Payne RE, Neves AL, Kidd M, Miranda JJ**. Artificial intelligence in primary care: innovation at a crossroads**. The Lancet Primary Care. 2026 Mar 1;2(3).

55. Parsa S, Keyes T, Dash D, Char D, Mello MM, Callahan A, Smith MA, Lee S, Wang T, Salisbury H, Goto S. **Designing clinically useful AI: a blueprint for impact**. NEJM AI. 2026 Jan 22;3(2):AIp2500808.


## AI & public health


56. del Rey Puech, Paula, Rebecca Payne, Jasjot Saund and Martin McKee. **Mind the (widening) gap: why public health must engage with AI now**. Public health (London). 2026.Vol.250 pp106047. This commentary aims to highlight the opportunities and challenges that Artificial Intelligence (AI) presents for public health. Narrative commentary and conceptual analysis. The commentary draws on material developed for a forthcoming book by the European Observatory on Health Systems and Policies. Sources were selected to highlight both the potential and the limitations of AI integration at population levels, with a focus on equity, governance,

and implementation. The analysis is informed by established public health principles: prevention, systems thinking, and the social determinants of health. AI applications in public health go beyond process automation and operational efficiency. By integrating and processing diverse, multi-modal data sources, its implementation presents opportunities to understand the wider determinants of health at a more nuanced level and identify populations at risk with greater precision. Additionally, AI has the potential to help understand and support behaviour change in sophisticated ways, enhance disease surveillance and modelling, and enable more targeted and responsive public communication and engagement strategies. However, there are several barriers to realise AI's potential in public health, including system fragmentation, data access limitations, resource constraints, implementation challenges, workforce readiness gaps, and technological limitations such as bias and generative AI “hallucinations”. Without deliberate engagement, AI risks reinforcing existing inequities. Practical steps for action include embedding AI training in public health education, building multidisciplinary teams, investing in data infrastructure, and ensuring participatory approaches. AI will continue to shape public health systems, whether or not public health professionals engage. We argue that the public health community is both uniquely positioned and ethically obligated to engage proactively with AI.

## AI & radiology

57. Stavropoulou, Charitini, Harry Scarbrough, Janette Rawlinson, Menghan Cui, David Baldwin and Nick Woznitza. **Implementing AI innovation in radiology departments in the English NHS: a qualitative study on the experiences of professionals, patient groups and innovators**. Frontiers in digital health. 2026.Vol.8 pp1736911. Digital solutions and Artificial Intelligence (AI) innovations are often presented as the answer to many challenges faced by healthcare systems around the world. The UK government has made significant investments in this area, yet there have been concerns about the challenges faced when these technologies are implemented in practice. The aim of this study was to explore the perceptions and experiences of professionals, patient groups as well as innovators of introducing a new AI innovation used to detect potential abnormalities for lung cancer in radiology departments in the English NHS and to investigate the implementation challenges from their perspectives. Between September 2022 and January 2024, we visited five sites and conducted 34 interviews with radiologists, radiographers and other professionals involved in the implementation of the tool. We also interviewed seven staff from the company who developed and implemented the tool. In addition, three 2-hour focus group workshops, two online and one in person, were conducted in January 2024 with a total of 14 patient and public involvement and engagement (PPIE) participants from diverse regions, backgrounds and lived experience across England. Following initial coding done inductively, the Consolidated Framework for Implementation Research (CFIR) was applied as an organising framework to structure and interpret the emerging themes. Both professional and PPIE groups recognised the potential of AI in the diagnostic pathway, while generally seeing it as a supportive second pair of eyes rather than an autonomous decision-maker, particularly when delivering sensitive news and information. Professionals' acceptance depended on how the tool was integrated into existing workflows and its

perceived value, with triaging functionality seen as effective, but varying in usefulness depending on local workload pressures. Innovators as well healthcare professionals highlighted a number of implementation challenges, particularly around fragmented legal and regulatory frameworks and unclear governance within the NHS. Our findings underscore that successful AI implementation in clinical practice depends not on the technology alone but on its effective integration into existing healthcare contexts and alignment with the beliefs and needs of healthcare professionals, patients and the public.

## AI & stroke

58. Mukherjee, Anurup, Sukhi Shergill and Chee Siang Ang. **A clinician's quick-start guide to implementing digital health innovations in the NHS – with lessons from a UK-deployed AI stroke imaging decision-support software**. Digital health. 2026.Vol.12 pp20552076261437226. The successful implementation of digital health and artificial intelligence (AI) innovations in the National Health Service (NHS) requires more than technical development. Navigating regulation, generating decision-grade evidence, and meeting clinical safety, information-governance, and interoperability standards are critical steps that frequently delay or prevent adoption. This article presents a practical, implementation-focused roadmap designed to help clinicians, innovators, and healthcare leaders translate policy requirements into real-world NHS deployment. Drawing on guidance from the Medicines and Healthcare products Regulatory Agency (MHRA), the National Institute for Health and Care Excellence (NICE), and NHS Digital, we outline an eight-step pathway covering medical-device classification, value-proposition development, intended-purpose definition, regulatory approval, evidence generation, algorithmic fairness and generalisability, interoperability and information governance, and post-market surveillance. Unlike high-level digital health frameworks, the roadmap specifies minimum artefacts, typical ownership and sign-off responsibilities, and decision points aligned with NHS procurement and clinical governance processes. The roadmap is illustrated through a detailed case study of a UK-deployed AI stroke imaging decision-support software. Its progression from academic development to multi-site NHS deployment demonstrates how early regulatory engagement, robust real-world evaluation, and sustained clinical collaboration can support safe scaling and measurable service improvements, including increased access to reperfusion therapies and reduced inter-hospital transfer times. By distilling complex regulatory and evidence requirements into executable steps, this guide offers a clear route from idea to adoption. It emphasises that aligning regulation, evidence generation, bias mitigation, and interoperability from the outset is essential to sustainable digital health integration within the NHS.

## AI & surgery

59. Mak, William W. N., Timothy Budden, Sushil Kaur and Maurice J. Meade. **Human and Artificial Intelligence (AI) Analysis of Patient Experiences of Periodontal Graft Surgery**. Dentistry journal. 2026.Vol.14(2), pp127. Background/Objectives: The prominent role the internet plays in being a source of dental information prompts qualitative evaluation of relevant online content. This study aimed to explore patients' experience regarding periodontal graft surgery communicated through the

social media platform YouTube. Methods: An initial YouTube search using the term “gum surgery experience” retrieved 40 videos. Graft surgery was the most frequently discussed procedure, and 19 relevant videos were included in the qualitative analysis. Video content was analysed using a combined human-centered and artificial intelligence (AI)–assisted approach. AI-supported analysis of viewer comments was conducted using ChatGPT-4 and Gemini-1.5 Pro. Themes generated by human and AI analyses were compared. Results: Nine key themes were identified from the 19 videos that satisfied selection criteria. Most themes were similar between human and AI analyses, with six overlapping and three unique. The most frequently coded theme was post-operative recovery (n = 177), with pain, work absence, eating difficulties, and disrupted oral hygiene commonly reported. Patient-clinician relationships were frequently highlighted, with mixed experiences regarding communication and trust. Positive experiences were reported more frequently than negative. Comment analysis revealed varied audience engagement and sentiments, emphasizing concerns about pain, recovery, and procedural anxiety. Conclusions: Key themes related to patient experiences were identified, notably concerns regarding post-operative recovery and patient-clinician relationships. Challenges in finding information prior to having surgeries motivated patients to provide support and advice on YouTube, emphasizing the need for patient-centered resources and effective patient-clinician communication. Integrating human and AI methods in qualitative analysis was efficient and insightful, with AI supplementing but not substituting human research.

60. Rezvani, Farnaz, Michael R. Kann, Fengyi Gao, et al. **Trustworthy AI models to predict prolonged hospital length-of-stay in orthopedic surgery**. npj Health Syst. 2026.Vol.3(1), pp56. We developed and validated a trustworthy and uncertainty-aware artificial intelligence (AI) and machine learning (ML) framework for predicting prolonged hospital length-of-stay (LOS) in orthopedic inpatient surgery using exclusively preoperative clinical and procedural data from the National Surgical Quality Improvement Program (NSQIP). LOS prediction was formulated as a binary classification task using two clinically relevant thresholds (LOS > 2 days and LOS > 5 days), with primary emphasis on the 5-day cutoff due to its greater clinical interpretability. Random Forest, Multilayer Perceptron, Deep Neural Network, and XGBoost models were trained using CPT-based procedure groupings and evaluated using five-fold stratified cross-validation within the 85% training cohort, with final independent evaluation performed on a completely unseen 15% hold-out test set. Model performance was assessed using accuracy, macro-averaged precision, recall, F1-score, area under the receiver operating characteristic curve (AUC), and area under the precision-recall curve (AUPRC). Across models, the 5-day threshold demonstrated the most stable and clinically meaningful performance, while results under the 2-day threshold confirmed robustness to alternative outcome definitions. The Optuna-optimized XGBoost model achieved the strongest discrimination, favorable calibration, and narrow uncertainty bounds. Algorithmic fairness was evaluated across age, sex, and race using selection rates and true positive rates, with broadly consistent subgroup performance across demographic groups. Model explainability using SHAP and LIME identified case type, CPT category, anesthesia type, and baseline physiologic status (e.g., ASA class and hematocrit) as key drivers of prolonged LOS, while patient-level explanations supported clinical plausibility. This

preoperative-only and trustworthy AI framework enables transparent and equitable risk stratification to support perioperative planning, optimized bed and discharge management, and data-driven utilization management and prior authorization workflows in orthopedic care.

61. Rochon, M., J. Tanner, K. Cariaga, et al. **AI-enabled digital wound monitoring after cardiac surgery: a randomised controlled feasibility, safety, and acceptability trial**. J.Hosp.Infect. 2026.Vol.174 pp428–435. Surgical site infection after cardiac surgery is a common cause of morbidity and unplanned healthcare use, with most infections developing after hospital discharge. Remote wound monitoring using smartphone technology and artificial intelligence (AI) may support earlier identification of complications. To evaluate the feasibility, acceptability, and safety of an AI-enabled digital wound monitoring platform plus usual care (Isla-AI) compared with usual care (UC) alone. This multi-centre, two-arm randomised controlled feasibility trial was conducted at two U.K. hospitals between August 2024 and January 2025. Adults undergoing cardiac surgery were randomised to receive Isla-AI or UC. The study was not powered to assess effectiveness. 120 patients were randomised and participated (Isla-AI N = 62; UC N = 58). Feasibility targets were exceeded: 60% of eligible patients approached consented, 95% of Isla-AI participants submitted at least one image, and 92% completed the study. Ninety-eight percent of images were suitable for clinical assessment. Clinician agreement with AI priority flags was 87%. AI prioritisation performance was slightly better for patients with darker skin tones. More than half of participants required assistance to capture or submit wound images. Patient- and staff-acceptability of AI was largely favourable. Adverse and serious adverse event rates were similar across both groups. The proportion of patients accessing National Health Service (NHS) resources for wound-related problems and antibiotics was lower in the Isla-AI group. These findings support progression to a large, definitive multi-centre effectiveness trial, with further attention to equity, usability, and workflow integration.