A.I & Healthcare – October 2026



Figure 1 – NHS Lanarkshire Logo

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Agentic AI

1. Alotaibi NM. **Agentic AI in Healthcare: Current Applications, Challenges, and Future Directions**. IEEE Access. 2026 Aug 20.

2. Mogili VB. **Designing Trustworthy AI in Healthcare: Experiences with Copilot Agents, Agentic Models, and RAG Integration**. IPHO-Journal of Advance Research in Science And Engineering. 2026 Mar 3;4(2):19-25.

3. Muqoddam M, Setitit FK, Obinaru II, Sultra MA, Permana RA, Indrasari FA, Andrian A, Rahayu ID, Isthi'anah AL, Ramandei Y, Rianto AS**. Governing Agentic AI in Healthcare: A Systematic Review of Autonomous Decision-Making, Clinical Safety, and Public Accountability**. F1000Research. 2026 Oct 5;15:1653.

4. Waisberg, Ethan and Joseph W. Guarnieri. **AI agents in clinical medicine: delegation, supervision, and the problem of correlated failure**. Ir.J.Med.Sci. 2026.Clinical artificial intelligence has to date generated outputs upon which a clinician then acted. Agentic systems execute the task itself, completing a sequence of steps and returning finished work. Adoption has proceeded rapidly across other sectors while clinical uptake has remained confined largely to pilots, an interval that affords medicine an a opportunity to govern the technology deliberately rather than retrospectively. The governing question is thereby transformed from whether a prediction is accurate to whether a task may be entrusted, a question medicine has addressed throughout its history of training juniors under supervision. We argue that the appropriate frame for agentic systems is consequently delegation rather than prediction, and that the entrustment frameworks developed within postgraduate education furnish a serviceable structure of graded autonomy, task-level scope, and named supervisory responsibility. We then identify the point at which the correspondence ceases to hold. Supervision of human colleagues presupposes that errors are independent and idiosyncratic, such that mistakes arise individually and are detected individually. A single agent deployed across an institution generates one error process reproduced at scale. The consequence is that agentic systems cannot be adequately supervised through case-level review, and require instead the population-level surveillance characteristic of quality improvement.

Ambient Scribes

5. Luo, Sophia, Katlyn McKay, Tatiana Zabaleta, Jeffrey S. Upperman and Jamie R. Robinson. **Ambient AI Scribe Technology and Perceived Documentation Efficiency Among Surgeons: Cross-Sectional Study**. JMIR medical informatics. 2026.Vol.14 ppe89329. Clinical documentation demands a significant share of surgeons' time and can contribute to documentation-related burden and burnout. While electronic health records (EHRs) offer accessibility and completeness, they also impose a

substantial documentation burden. Ambient AI scribe solutions aim to reduce this burden by capturing patient-clinician dialogue in real time to automate clinical documentation. However, their specific impact on surgical practice remains under-studied. We aimed to evaluate surgeons' perceptions of documentation efficiency, documentation timeliness, and burnout following implementation of an ambient AI documentation tool within the EHR during outpatient clinical encounters. We conducted a single-center cross-sectional survey of all surgical faculty members at a tertiary care academic institution 3 months after institutional implementation of the ambient AI-powered clinical documentation tool Dragon Ambient Experience (DAX) Copilot. A total of 368 faculty surgeons representing 12 surgical subspecialties were invited to participate. Participants were asked to retrospectively assess their baseline perceptions of documentation burden and subsequently report perceived changes following DAX Copilot implementation using standardized Likert-scale survey items. Descriptive analyses were performed among active DAX Copilot users. Open-ended responses were analyzed using practical thematic analysis. The survey was completed by 28.5% (105/368) of the invited surgeons, with 38.1% (40/105) of participants reporting active DAX Copilot use. Overall, 77.5% (31/40) of users reported some or significant improvement in perceived documentation efficiency. Of those who reported a negative or neutral baseline perception of documentation time, 75.8% (25/33) reported an improved perception of efficiency following implementation of the ambient AI tool, whereas 85.7% (6/7) of surgeons with positive baseline perceptions of documentation time also reported further improvement. Improvements in perceived documentation timeliness were reported by 70.4% (19/27) of surgeons who previously reported negative or neutral baseline perceptions of timeliness and 76.9% (10/13) of surgeons with positive baseline perceptions. Additionally, 72.5% (29/40) of respondents reported enhanced documentation accuracy, detail, and consistency after DAX Copilot implementation. Improvements in self-reported burnout levels were reported less frequently, with 59.0% (23/39) of respondents reporting some or significant improvement, including 63.0% (17/27) with negative or neutral baseline perceptions of burnout.

6. O´Kane, Ruairí, Daniel Stonehouse-Smith, Melody Shirazi, Rachel Hutchinson, Jadbinder Seehra and Martyn T. Cobourne. **For the record: a narrative review of ambient voice technology in clinical documentation for dentistry and wider healthcare**. Br.Dent.J. 2026.Vol.241(6), pp385–393. Aims We synthesise current evidence on ambient voice technologies (AVT) and generative artificial intelligence (AI) in dentistry and wider healthcare. Methods Databases were searched across AI and AI-enabled clinical documentation, large language models and summarisation, and documentation outputs. Included studies evaluated AI-generation of clinical documentation with outcome measures including accuracy, documentation time, and the clinician/patient experience. Results Evidence within dentistry is limited, with only one current study evaluating AVT speech-to-text accuracy. Performance varied between systems, with reduced accuracy for dental terminology and clinically significant errors and hallucinations observed. No dental studies evaluated AI-generation of clinical records or letters. Studies across wider healthcare reported variable performance, including errors with the potential to cause harm. Implementation studies suggest reductions in documentation time and burden with

AVT; however, the magnitude of effect was inconsistent, with uptake varying between clinicians and note-length increased. Patient attitudes were favourable although conditional on the accuracy and privacy of using these tools. Conclusions Ambient AI may reduce documentation time, but clinicians remain responsible for the final record produced by these systems. Ongoing research into safety and efficiency, alongside improved AI-literacy is required to ensure that the benefits of this technology are realised without compromising record accuracy or patient trust. Key points Digital technology in dentistry has improved conventional workflows; ambient voice technology (AVT) may automate documentation, but dental evidence remains limited. AVT has the capacity to reduce documentation time and time spent on clinical administration, but it can be associated with clinically significant errors. Clinicians remain responsible for the final clinical record. Patients may self-censor during recording of sensitive discussions. Notification that AVT is in use, with a meaningful opportunity to decline, is essential

7. Shafazand, Shirin, Umar Bowers and Sudha Jayaraman. **The Promise of Ambient AI Technology in Medical Education: Opportunities and Guardrails**. JMIR medical informatics. 2026.Vol.14 ppe88725. Ambient AI technologies, commonly known as AI scribes, are transforming clinical practice by autonomously capturing patient-provider conversations and structuring them into clinical notes. Short-term studies suggest that ambient AI can significantly reduce documentation time and improve job satisfaction. However, as health care systems accelerate the adoption of these tools, the medical education community must seek to answer unresolved questions regarding their full impact on learners. The inevitable integration of ambient AI in teaching hospitals presents both transformative opportunities and significant challenges for medical education. This viewpoint discusses the potential benefits and risks of ambient AI in both undergraduate and graduate medical education and considers its impact on learning and clinical skills acquisition. Robust research studies are urgently needed to navigate this new frontier and ensure that the integration of ambient AI in the clinical learning environment ultimately enriches, rather than diminishes, the practice of medicine.

8. Stanton, Noah, Aadam Aziz, Solomon Wong, Salim Jakhra and Sirous Golchinheydari. **Evaluating AI Ambient Voice Technology as a Documentation Assistant in Psychiatry – a Proof of Concept Study**. BJPsych open. 2025.Vol.11 ppS6–S7. Aims: Artificial Intelligence Ambient Voice Technology (AI AVT) which uses a large language model to summarise clinical dialogue into electronic notes and GP letters has emerged. Although effective in general practice and medical settings, its potential in psychiatry is unknown. In this proof of concept study, we sought to apply AI AVT into clinical practice for a limited duration. The specific aims were to: Assess the functionality and suitability of AI AVT in a child and adolescent mental health service (CAMHS) outpatient clinic for the selected use cases. Identify whether AI AVT reduces documentation burden during and after clinical consultations, and improves clinician work satisfaction. Identify whether AI AVT is acceptable to patients. Identify potential challenges and issues from a clinician, organisational and patient perspective and to make recommendations for refinements. Methods: We conducted a mixed-methods pre-post (manual versus AVT-assisted documentation)

service development pilot with 10 clinician participants in a CAMHS outpatient clinic. Use cases were attention deficit hyperactivity disorder medication reviews, general medical reviews and developmental history assessments. The primary outcome was time taken to complete administrative tasks per patient. Secondary outcomes included qualitative clinician experience and patient/carer perception and acceptability of AVT. Measures including questionnaires, time sheets and focus groups were conducted at baseline and intervention. Data analysis included descriptive statistics and mixed linear regression. Focus groups were audio-recorded before being transcribed and thematically analysed. Results: AVT was used in 351 clinical encounters. Administration time for 251 encounters was recorded (AVT n=171). The median time per encounter reduced from 27 minutes (manual) to 10 minutes (AVT) ($p<0.001$). On average, AVT-assisted documentation took 45% of the time of manual documentation ($p<0.001$). Clinician-rated accuracy, quality and efficiency of AVT-assisted documentation was statistically significant in its favour. Patient acceptance was high: only 3 preferred for AVT not to be used (0.85%). 97% felt clinicians were not distracted by taking notes. Thematic analysis from focus groups identified positive effects from AVT (improved productivity and mental wellbeing) balanced by barriers (technological limitations).

Bias

9. Blixt, Filippa Fredlund and Anna Bjällmark. **Evaluating sex bias in artificial intelligence-based echocardiographic analysis: a retrospective study on individuals with normal cardiac function and patients with systolic and diastolic dysfunction**. Cardiovasc Ultrasound. 2026.Vol.24(1), pp18. Background Artificial intelligence (AI) has the potential to improve echocardiography. However, AI systems may exhibit sex bias, reproducing societal stereotypes and performing worse for certain groups, potentially leading to unequal healthcare outcomes. Therefore, the aim of this study was to investigate whether there are sex-related differences in the agreement between a fully automated AI-based analysis and routine echocardiographic report generated by the interpreting cardiologist in patients undergoing transthoracic echocardiography. Methods This retrospective study evaluated seven echocardiographic parameters in 95 women and 88 men by comparing AI-generated values with clinical assessments. Participants included individuals with normal cardiac function (34 women, 31 men) and patients with systolic (30 women, 29 men) or diastolic dysfunction (31 women, 28 men). Parameters included ejection fraction, left ventricular volume, left atrial volume, é velocities (septal and lateral), tricuspid valve regurgitation, and E/é ratio. Potential sex-based differences were assessed by comparing agreement between clinical and AI-generated values in women and men using correlations, absolute errors, Bland–Altman analyses and AUC values. Results Correlation coefficients in women ranged from 0.67 to 0.93 and in men from 0.32 to 0.93. Absolute errors did not differ significantly between sexes for five of the seven evaluated parameters. However, men showed a higher absolute error for TR velocity (0.15 vs. 0.07, $p = 0.001$), whereas women showed a higher absolute error for the E/é ratio (0.76 vs. 0.39, $p < 0.001$). Bland-Altman analysis showed larger mean differences in men for five of seven parameters. The magnitude of the differences in AUC values between women and men was small, ranging from 0.017 (TR velocity) to 0.048 (left ventricular ejection fraction). Conclusions This study did not demonstrate systematic sex-related differences in AI performance, but the findings require

confirmation in larger cohorts. Continued monitoring for bias remains important as AI integration in echocardiography expands.

10. Dietrich, Andrea, Karolina Czok and Karina Ilskens. **Teaching AI, teaching bias: addressing gender inequality in public health education**. Frontiers in public health. 2026.Vol.14 pp1952627. Artificial intelligence increasingly shapes healthcare, public health and health professions education. However, predictive and generative systems can reproduce or amplify longstanding inequalities embedded in data, institutions and established knowledge structures. Public health education therefore needs to connect technical approaches to identifying and mitigating algorithmic bias with their broader social, population health and institutional contexts. This conceptual article presents the sociotechnical Bias literacy for public health education framework (SBL-PHE), developed through a theory-informed conceptual synthesis drawing on conceptual framework analysis. A focused supplementary literature search in PubMed/MEDLINE, Scopus, ERIC and the ACM digital library was conducted to examine and refine its theoretical foundations. An evidence-informed composite case of AI-supported cardiovascular risk assessment traces algorithmic gender bias from knowledge production and data representation through modeling and implementation to monitoring. The framework comprises five interconnected competency dimensions concerned with recognizing, explaining, evaluating, addressing and reflecting on algorithmic bias.

11. Ghadban, Nour, Jonathan Cooper and Julien Le Kernec. **Trustworthy AI for radar vital signs: detecting and mitigating gender bias in healthcare**. Complex Intell.Syst. 2026.Vol.12(7), pp178. Artificial intelligence (AI) has emerged as a fundamental component in modern healthcare, particularly in noninvasive monitoring of vital signs using radar-based systems. However, algorithmic fairness concerns, such as gender bias, can undermine trust in these systems. This study investigates the impact of gender representation in training data on the accuracy and fairness of radar-based vital sign estimation. We trained machine-learning models on 60 dataset configurations–male-only, female-only, balanced, male-dominant and female-dominant–each containing 640 radar-derived samples (3200 total). Models trained on female-dominant data achieved the highest classification accuracy (94.5%) and lowest regression error (RMSE = 0.70), whereas male-only datasets performed worst (accuracy = 78.2%, RMSE = 1.80). Disparate impact analysis revealed up to a 16.5% performance advantage for female-skewed training data, and multiple fairness metrics, including disparate impact ratio and statistical parity difference, were employed to quantify bias across subgroups. To address these disparities, we implemented a multilevel mitigation framework integrating TimeGAN-based data augmentation, fairness-aware learning constraints, and threshold adjustment. This approach reduced the bias score from 0.0261 to 0.00005 (p 0.98). Our results underscore the necessity of balanced and diverse datasets and demonstrate that incorporating fairness-aware strategies can yield equitable and trustworthy AI systems for clinical vital sign monitoring.

12. 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.

13. Jain, Bindiya and Ravikant Gupta. **Advancing gender equity and inclusive digital futures through responsible agentic artificial intelligence governance.** Discov glob soc. 2026.Vol.4(1), pp281. The shift to agentic AI represents a major paradigm change in the field of intelligent systems research and development, as these systems are capable of establishing sub-goals, planning for a goal, and executing plans with only minimal human oversight. This capability offers a unique chance to promote gender equality, inclusive digital engagement, and sustainable growth via evolving, accessible and fair AI-based methods throughout industries. Meanwhile, the increased autonomy of agentic AI systems presents unique challenges such as the potential for algorithmic bias to be amplified, decision-making disparities, and a lack of governance, each of which requires responsible AI, transparent governance, and clear ethical frameworks. This paper presents a systematic literature review and bibliometric analysis of a 41 paper corpus from Scopus. The review follows PRISMA 2020 guidelines and summarizes the evidence regarding agentic and generative AI architectures, typologies of bias, and sectoral applications in healthcare, education, and gender equity. The paper presents a human-centred conceptual framework for responsible governance of agentic AI, building on lifecycle-governance and equity-by-design approaches, which merges bias mitigation, gender-inclusive design, and sustainability transition. The network of co-authorship is highly fragmented (density = 0.021; number of components = 37 from 88 authors), suggesting that there is no coordinated research agenda and giving empirical support to the integrative framework proposed here. This fragmentation further indicates that the vision and capabilities of agentic AI to contribute to gender equality and education are still not fully explored in the context of governance and sustainability, highlighting the relevance of the framework introduced in this paper. This is a collection of AI topics, derived from the title, that are examined from a gender

equality perspective.This is a list of AI keywords that have been explored through the lens of gender equity, based on the title.

14. Khan, Samah and Michael Paasche-Orlow. **Sex-based diagnostic bias in AI symptom checkers: a structured, exploratory audit of three platforms**. Frontiers in digital health. 2026.Vol.8 pp1950777. Artificial intelligence symptom checkers are used by hundreds of millions of people annually as first-line triage tools, and their outputs may influence whether and how quickly a person seeks emergency care. We conducted a structured, exploratory audit of three widely used platforms, Ada Health, Isabel Healthcare, and Docus AI, across four standardized clinical vignettes acute coronary syndrome (ACS) with chest pressure, ACS without chest pressure, pulmonary embolism, and panic attack], entering each vignette for matched male and female synthetic patient profiles with sex as the sole variable altered. We observed sex-based divergence in outputs from all three platforms, appearing as differences in differential diagnosis rank, differences in assigned probability, and differences in generated explanatory or advisory text. The direction of this divergence was not uniform: some findings were unfavorable to the female profile and others were favorable to it. Isabel Healthcare ranked Heart Attack first for the male profile but third for the female profile on the ACS with chest pressure vignette, and ranked Heart Attack seventh rather than fifth for the female profile on the panic attack vignette; on the ACS without chest pressure vignette, the same platform ranked Heart Attack first for the female profile, ahead of the male profile. Docus AI assigned a lower ACS probability to the female profile on the ACS without chest pressure vignette while its own text described this presentation as common in women, and applied a mirrored justification, common in males, to support a higher probability for the male profile given identical symptoms; the platform's closing advisory text also described immediate medical attention as crucial for the male profile and prompt evaluation as merely important for the female profile. Ada Health's explanatory text for the female profile stated that heart attacks are slightly more common in men than women, presented alongside a demoted cardiac ranking.

15. 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.

16. Mateedulsatit, Ruj and Chetneti Srisa-An. **Detecting and Mitigating AI Bias in Health Care: Development and Validation of a Unified Multistage Framework.** JMIR AI. 2026.Vol.5 ppe102146. AI-driven clinical systems can improve diagnosis, prognosis, and resource allocation, but they may reproduce disparities encoded in historical health care data. Existing mitigation methods typically target a single source of bias, while clinical datasets often contain interacting representation, proxy, integrity, and temporal biases. This study aims to develop and systematically evaluate a prespecified multistage workflow for detecting representation, missingness, proxy, integrity, and temporal biases and model performance limitations in structured health care datasets; apply prespecified mitigation actions when audit criteria are met; and determine whether these actions improve predictive discrimination and demographic fairness compared with a conventional random forest baseline. We performed a fresh, deterministic reconstruction from the raw public data, using a patient-level 80/20 split for Diabetes 130-US Hospitals. M2 was a conventional random forest with median or mode imputation and training-only categorical encoding. M3 added explicit missingness features and poststratification weights clipped at the 95th percentile. Race was excluded from prediction and used for auditing and weighting. CMS SynPUF was modeled separately for a compatible claims-based readmission task; the National Health and Nutrition Examination Survey was limited to stage-level representation, proxy, missingness, and bounded-laboratory audits. Five hundred stratified bootstrap replicates were used for overall metrics, and 300 were used for subgroup metrics. The Diabetes test set contained 20,203 encounters from 14,304 patients, including 2254 (11.16%) positive outcomes. M3 improved the macro F1 from 0.514 to 0.546, reduced the Brier score from 0.231 to 0.213, and reduced the demographic parity difference from 0.206 to 0.124, but the area under the receiver operating characteristic curve (AUC) decreased from 0.648 to 0.640, and the equalized odds ratio decreased from 0.444 to 0.291. In CMS SynPUF (12,801 test episodes; 1232 positives), the AUC was similar (0.798 vs 0.796) and the Brier score improved slightly (0.187 vs 0.183), whereas the demographic parity difference increased from 0.693 to 0.730. The exploratory rule-gated mixture of experts did not improve fairness, the Brier score, or the macro F1 relative to M3.

Detailed subgroup performance, calibration, missingness analyses, and bootstrap CIs were comprehensively evaluated in this study.

17. Owens, Kellie, Maggie Ramatowski and Saul B. Blecker. **Promoting Fairness in AI Implementation**. Journal of general internal medicine : JGIM. 2026.Efforts to mitigate bias in artificial intelligence (AI) in healthcare have focused heavily on technical solutions such as diversifying training datasets, improving interpretability, and auditing models for fairness. While essential, these approaches overlook a critical dimension: the ways AI systems are implemented and used in practice. Even the most technically fair algorithms can produce inequitable outcomes if clinicians adopt, interpret, or apply them in patterned ways shaped by institutional norms, professional hierarchies, and patient characteristics. Drawing on social science research and our own experiences implementing AI models in healthcare settings, we argue that implementation is an important driver of bias in healthcare AI. We suggest that clinicians' discretionary use of AI could reproduce or even amplify inequities and that "human-in-the-loop" oversight may offer only limited safeguards against these risks. To ensure equitable outcomes, governance strategies must move beyond individual vigilance and adopt a sociotechnical perspective that accounts for the broader systems in which AI tools are embedded. We call for system-level monitoring, institutional accountability, and new frameworks for studying fairness in AI implementation

18. Rebocho, Ana Teresa, Sara Silva Marques, João Pedro Santos and Cátia Sousa Pinto. **Operationalizing fair AI in healthcare: a scoping review of bias mitigation, monitoring, auditing, and governance strategies**. Frontiers in digital health. 2026.Vol.8 pp1888744. ObjectivesThis study explores the challenges of deploying fair artificial intelligence (AI) solutions for health applications, identifying bias detection and mitigation strategies, along with the policies, governance, and monitoring mechanisms necessary for operationalizing fair AI in healthcare.MethodsA scoping review of scientific and grey/regulatory literature was conducted following PRISMA-ScR guidelines. Searches were performed across academic databases and other relevant sources from January 2022 to January 2026. Eligible studies reported AI fairness challenges, bias mitigation strategies, and perspectives on AI governance, auditing and continuous monitoring.ResultsThe 66 documents included address the challenges in operationalizing fairness throughout the AI lifecycle, including examples of fairness monitoring methodologies considering the regulatory landscape. Barriers and gaps were identified to explore how bias mitigation strategies could be harmonized. The discussion provides an in-depth analysis of fairness-aware measures identified in the healthcare AI literature, while also evaluating the importance of continuous monitoring, AI auditing and governance structures. This resulted in a set of recommendations towards fairness to implement throughout the AI lifecycle for healthcare solutions.ConclusionThis study provides a set of recommendations for enabling AI fairness in healthcare. These include improved data representativeness, fairness-aware measures, auditing and governance frameworks. Their successful implementation will require interdisciplinary collaboration among multidisciplinary stakeholders and

coordination between governance bodies to address the fairness concerns that the rapid advancements of AI bring and to ensure its trustworthiness.

Cancer

19. Mohamed, Ahmed Nashaat, Yosuke Minoda, Ryohei Maruoka, et al. **Benefit of Linked-Color Imaging in Artificial Intelligence-Assisted Diagnosis of Early Gastric Cancer: A Pilot Study With Propensity Score Adjustment.** DEN open. 2027.Vol.7(1), ppe70381. Artificial intelligence (AI)-assisted endoscopy represents a promising approach for lesion detection, yet frequent false-positive detections impair clinical utility by disrupting examinations and diminishing physician confidence. Linked-color imaging (LCI), an image-enhanced endoscopy technique that amplifies mucosal and vascular contrast, may address this limitation. This investigation evaluated whether LCI reduces false-positive AI detections compared with white-light imaging (WLI). This retrospective study analyzed consecutive AI-assisted upper endoscopies performed between March 2024 and June 2025. WLI and LCI were performed sequentially within the same endoscopic session in each patient. False-positive AI detections were compared between modalities using two computer-aided detection (CAD) versions. Propensity score adjustment was used as a sensitivity analysis for baseline differences between CAD Versions I and II. Of 66 initially screened cases, 63 remained after excluding patients with prior gastric surgery. LCI reduced false-positive AI detections compared with WLI (median 2 vs. 5; < 0.001). In CAD version-stratified sensitivity analyses, LCI reduced false-positive AI detections in both Version I (5 to 2; = 0.01) and Version II (2 to 0; = 0.03).

Cardiovascular Disease

20. Guzman-Revuelta, J., M. I. Portillo-Villares, J. A. Lopez-Ruiz, R. Blanco-Mata, B. I. Martinez-Eguia and E. I. Gainza-Jauregui. **Closing the cardiovascular gender gap via AI: the EMABASK breast screening model, Basque Country.** Eur.J.Public Health. 2026.Vol.36Background Cardiovascular disease is the leading female mortality cause but remains underdiagnosed due to gender bias in risk algorithms. With >80% participation, the Basque Breast Cancer Screening Programme offers a high-reach platform to detect subclinical atherosclerosis via Breast Arterial Calcifications (BAC), a sex-specific biomarker present in 10–12% of mammograms but systematically overlooked. Objectives To design and evaluate EMABASK, an AI-assisted BAC detection model aiming to close the cardiovascular gender gap via population-level risk stratification at zero patient burden, facilitating its future incorporation into routine clinical practice. Methods Pilot implementation study combining: (1) semi-quantitative BAC visual scoring in the Basque screening cohort; (2) multidisciplinary referral circuit design (Radiology–Primary Care–Cardiology) with high-specificity AI thresholds; (3) Health Technology Assessment (HTA) framework to evaluate cost-effectiveness using NRI indices and Basque demographic data. Results Analysis shows 65.35% of detected BAC cases occur in women aged 60–69 (overall cohort prevalence: 6.4%). Among participants, 2.18% present a high-risk profile (high BAC burden plus low mammographic density), the priority cohort for proactive follow-up. Projections indicate 11,000–18,000 women identified annually (~3,000 high-risk). HTA modelling confirms near-zero marginal detection cost per patient, supporting

scalability. Conclusions EMABASK provides a scalable, gender-responsive AI framework for cardiovascular screening. High adherence (>80%) and the standardised Basque mammographic network (320,000 women) enable population-wide quantification. Synergising with CARAMEL (Horizon Europe), this model offers an internationally replicable blueprint for evidence-based HTA, closing the gender gap via digital screening transformation. Key messages • EMABASK identifies ~3,000 high-risk women per year currently invisible to cardiovascular systems — using only their routine mammogram. Zero extra cost, zero extra appointments, zero gender bias. • Cost-neutrality requires 22 MACE/yr at AI scale. Using strict dual criteria (high-grade BAC + low density), our conservative pilot alone projects 300+ events annually—fifteen times above threshold.

21. Marchandot B, Trimaille A, Morel O. **Should Cardiologists be Concerned About Large Language Model–Based Chatbots From a Patient-Complaint Perspective?**. Journal of the American Heart Association. 2026 Oct 6;15(19):e049661.

Chat Bots

22. Basharat I, Shahid S**. AI-enabled chatbots healthcare systems: an ethical perspective on trust and reliability**. Journal of Health Organization and Management. 2026 Sep 2;40(6):1028-41.

23. Feng S, Li X, Wake AN**. Engaging Artificial Intelligence (AI)-based chatbots in digital health: A systematic review**. PLOS digital health. 2026 Feb 12;5(2):e0001201.

Clinical Support

24. Al-Horani, Rami and Amanuel F. Tadesse. **Continuous assurance for AI-driven clinical decision support systems**. Frontiers in artificial intelligence. 2026.Vol.9 pp1870819. Healthcare systems are rapidly embedding adaptive and generative AI into core clinical processes. The integration of Artificial Intelligence into Clinical Decision Support Systems (AI-CDSS) highlights a fundamental transformation within healthcare delivery. This transformation enables advanced predictive analytics, multimodal data integration, and real-time augmentation of clinical decisions. However, AI introduces systemic, ethical, operational, and governance risks that challenge traditional healthcare audit and assurance frameworks. In fact, assurance methodologies designed for static software are becoming insufficient for patient safety and regulatory compliance. This review discusses the evolving landscape of AI-CDSS audit, highlighting its transition from a technically focused lifecycle validation to an integrated paradigm centered on socio-technical resilience. Early audit approaches adapted conventional medical device and software validation models to machine learning–enabled clinical tools. While these models established baseline safety oversight, they were not designed to address adaptive algorithms functioning in complex, evolving clinical environments. Modern governance frameworks emphasize continuous performance monitoring, lifecycle surveillance, and structured human oversight. However, a persistent implementation gap remains. Many audit models poorly capture the interactions among algorithmic behavior, clinical workflows, organizational culture, and shifting patient populations. In fact, three major paradigm shifts are reforming the AI-CDSS audit. First, the audit scope is

expanding from model-centric evaluation to ecosystem-level assurance that incorporates workflow integration, human-machine collaboration quality, and organizational learning capacity. Second, the field is moving from post-hoc explainability toward reasoning traceability and synergistic clinical sense-making. Third, audit philosophy is shifting from static compliance verification toward resilience-oriented monitoring that focuses on adaptive capacity, graceful degradation, and safe performance evolution.

Clinical trials

25. Armoundas, Antonis A., Constantine Tarabanis and Joseph Loscalzo. **Artificial intelligence in clinical trials—state of the evidence, gaps, and next steps**. EClinicalMedicine. 2026.Vol.100 pp104196. Artificial intelligence (AI) affects clinical trials in two distinct but overlapping ways: as the intervention under evaluation and as infrastructure supporting trial design, recruitment, monitoring, endpoint assessment, analysis, and reporting. In this manuscript, we define AI-as-intervention as AI whose output is itself part of the assigned clinical intervention being evaluated for its effect on participant care or outcomes, and AI-for-trial-operations as AI used to support trial design, conduct, or analysis without itself constituting the treatment under study. This is an important distinction because AI-as-intervention generally requires prospective clinical evaluation with prespecified estimands, prospectively governed model behaviour, and protocol-level oversight, whereas AI-for-trial-operations is often judged by workflow accuracy, impact of the decision, transportability, and safety under real-world constraints, although some uses, such as endpoint support or inferential modelling, may also require similarly explicit change control and oversight. Using this distinction as an analytical framework rather than as a division into separate parts, we examine how AI can improve each phase of the clinical-trial lifecycle, what evidence currently supports these applications, what limitations constrain their validity and transportability, and what methodological and governance safeguards are required. We synthesise evidence across safety, efficacy, operational risk prediction, network medicine, digital health technologies, retrieval-augmented generation, and agentic workflows, while aligning the discussion to ICH E6(R3), ICH E9(R1), and emerging structured-protocol standards.

26. Nichol, Ariadne A., Alaa Youssef, David B. Larson, et al. **Ethics of Autonomous AI Clinical Trials: Delphi Study**. Journal of medical Internet research. 2026.Vol.28(5), ppe91472. Safe implementation of autonomous AI in medicine requires rigorous evaluation through clinical trials. The 7 guiding principles for ethical clinical research endorsed by the National Institutes of Health (NIH) provide an established framework for promoting scientific rigor and protecting the safety of human participants. However, clinical trials of autonomous AI raise novel ethical issues that require adaptation of these principles to account for effects that can vary across stakeholders and implementation contexts, including model performance across clinical settings. Incorporating expert perspectives on such challenges is critical to developing effective and ethically robust guidelines for autonomous AI clinical trials. This Delphi study aimed to generate expert consensus on how the National Institutes of Health's 7 principles of ethical clinical research should be applied to clinical trials

of autonomous AI. We conducted 2 rounds of surveys followed by a final virtual meeting using a modified Delphi approach with a multidisciplinary expert panel. Participants were purposively identified through PubMed literature searches and selected for expertise in AI, data science, ophthalmology, public policy, law, bioethics, and patient advocacy. Round 1 used open-ended survey questions based on a vignette describing an autonomous AI tool. Round 1 survey responses were analyzed qualitatively using thematic coding, and were used to generate representative statements for Round 2. In round 2, panelists rated statements on a 5-point Likert scale. In accordance with Delphi methodology, statements of consensus within the surveys (at least 80% rating agreement) and moderate agreement (60%-80% rating agreement) were identified for further discussion and iteration. Findings from a final virtual meeting were then analyzed thematically and synthesized into actionable recommendations. Fourteen expert panelists participated in the Delphi study over a 6-month period. Participation was 12 (85.7%) of 14 experts in round 1, 10 (71.4%) of 14 experts in round 2, and 13 (92.9%) of 14 experts in the final virtual meeting. Round 2 survey results yielded 9 strong agreement statements, 2 moderate agreement statements, and 4 divisive statements for participants to explore further in developing recommendations

27. Nikitha, E., K. L. Supriya, K. Rakesh, Beena Devi Maddi and M. V. N. Bhushanam. **Revolutionising Clinical Trials with Artificial Intelligence: A Paradigm Shift in Drug Development**. Journal of pharmaceutical research. 2026.Vol.25(3), pp146–155. AI is revolutionising clinical trials by improving efficiency, accuracy, and decision-making throughout the study process. Traditional clinical trials are frequently time-consuming, expensive, and constrained by factors such as patient recruiting delays, protocol complexity, data management concerns, and high dropout rates. To solve these limitations, AI technologies such as machine learning, natural language processing, predictive analytics, and deep learning are increasingly being integrated into clinical trials. AI-powered solutions offer quick patient identification and recruitment by analysing electronic health records, real-world data, and genomic databases. Predictive modelling enhances trial design by identifying the best outcomes, stratifying patient populations, and projecting potential dangers. During trial execution, AI improves real-time data monitoring, anomaly detection, and adverse event prediction, resulting in improved patient safety and regulatory compliance. Furthermore, decentralised and virtual trials benefit from AI-powered wearable devices and remote monitoring systems, which provide continuous data collection and increased participant involvement. It will be necessary to fully grasp the advantages of AI in clinical research. Despite its benefits, AI deployment in clinical trials poses problems such as data privacy concerns, algorithmic bias, regulatory uncertainties, and the necessity for uniform validation methods. Ethical issues and openness in AI models are essential for preserving confidence and achieving equitable healthcare results. Overall, AI has the potential to significantly accelerate medication development, cut costs, and improve clinical trial success rates. Continued collaboration between researchers, regulatory agencies, technology developers, and healthcare institutions will be required to fully exploit the benefits of AI in clinical research.

28. Villa, Andrea, Ashley L. Eadie, David Synnott, et al. **AI-based augmentation of oncology clinical trials.** Nat Rev Clin Oncol. 2026.Vol.23(11), pp831–848. Oncology clinical trials are often characterized by slow accrual, high failure rates and limited generalizability, reflecting both biological complexity and operational inefficiencies. Advances in artificial intelligence (AI) — enabled by large-scale electronic health record datasets and machine learning methods — offer new opportunities to address these challenges across the clinical trial lifecycle. In this Review, we discuss applications of AI across pre-trial design, trial conduct, and post-trial inference and generalization, highlighting how these tools can improve trial feasibility, support patient engagement and extend the relevance of trial findings. We also address cross-cutting challenges related to equity, data quality and drift, transparency, and regulatory oversight. The most immediate and evidence-supported role of AI in oncology trials lies in augmenting operational workflows under human oversight, particularly in the identification of candidate patients for enrollment, eligibility assessment, data extraction and trial monitoring (including remote patient and/or safety monitoring as well as monitoring of AI model performance and real-time trial data extraction) — applications that are now being implemented at select cancer centres. By contrast, AI applications designed to replace clinical evidence generation, such as synthetic control arms, outcome-prediction simulations and digital twins, remain at earlier stages of development, with limited prospective validation and unresolved methodological and regulatory challenges. Ultimately, we argue that achieving the potential of AI in oncology clinical trials will require rigorous prospective validation, harmonized regulatory standards, and coordination among clinicians, trialists, regulators, industry and patients. Oncology clinical trials are characterized by high failure rates — reflecting both the biological complexity of cancer and operational inefficiencies — and the generalizability of their results is often limited. In this Review, the authors discuss opportunities to address these limitations via application of artificial intelligence tools across the lifecycle of clinical trials as well as key challenges that must be overcome for routine clinical deployment of these tools.

Complaints

29. Mahase, Elisabeth. **AI patient complaints: GPs and hospitals get advice after wave of algorithm generated letters**. BMJ.British medical journal (Clinical research ed.). 2026.Vol.394 ppe100923. **ORDER**

30. Stagnell, S., L. Butler and B. Gil. **Generative AI and patient complaints.** Br.Dent.J. 2026.Vol.240(3), pp131–132.

31. Zhao, Longxuan and Cong Lin. **Stupid AI around? Understanding users' everyday AI complaints.** Big data & society. 2026.Vol.13(3),Grounded in the user-coined label "人工智障" ("artificial stupidity") that has circulated on the Chinese internet in recent years, this study examines how ordinary users articulate negative experiences and understandings of artificial intelligence (AI) systems in everyday human-AI interactions. Drawing on the literature on algorithmic imaginary and complaint behavior, we develop a framework of "AI complaint" to conceptualize everyday, contextualized, user-generated negative evaluations of AI systems as a behavior-

oriented discursive practice. Using thematic analysis of social media posts related to the hashtag “artificial stupidity,” we identify four user roles and pathways through which people complain about AI: judges grounded in evidence-based facts, appraisers based on subjective preferences, guardians of cultural representation, and sustainers of a contextualized repertoire. Based on empirical data, we argue that AI complaints constitute meaningful affective and social practice, serving functions including intrapsychic balance, social solidarity, and emotional regulation. We further note that not all AI complaints are necessarily reasonable, as some reflect unrealistic expectations or inappropriate uses of AI, highlighting the importance of addressing AI-related issues by considering both algorithmic accountability and human responsibility.

Dentistry

32. Douris, Panagiotis and George Kodovazenitis. **AI-Driven Dentistry and Public Health Surveillance: Opportunities and Challenges**. Public health challenges. 2026.Vol.5(3), ppe70278–n/a. The integration of artificial intelligence (AI) into dentistry is reshaping clinical workflows, opening new possibilities for population-level public health monitoring. Machine learning approaches, such as convolutional neural networks and other deep learning architectures, are becoming more and more capable to exhibit diagnostic performances, which are close to those of expert human readers. Beyond single-clinic decision support, aggregated outputs that have been collected from AI diagnostic systems could be used as real-time signals for population surveillance: When combined with geospatial and socioeconomic datasets, they may help reveal structural barriers to care. This review presents opportunities and constraints at the intersection of diagnostic AI and dental public health surveillance and outlines a five-stage framework (data ingestion, spatiotemporal aggregation, socioeconomic enrichment, predictive modeling, and dashboard deployment) for turning de-identified AI outputs into actionable, equity-focused public health intelligence. This article also examines methodological, privacy, and governance challenges—including bias, interpretability, and accountability—as well as ethical issues and proposes safeguards to support equitable deployment. Artificial intelligence (AI) in dentistry is presented as a population-level surveillance tool by transforming anonymized diagnostic outputs into actionable public health intelligence. A five-stage framework integrating AI diagnostics with geospatial and socioeconomic data enables prediction of oral health disparities, supports targeted interventions, and promotes equitable resource allocation while emphasizing privacy, transparency, and ethical governance.

33. D´Cruz, L. **AI and LLMs: an unlikely champion of patient equality in dentistry: Artificial intelligence**. Br.Dent.J. 2026.Vol.241(3), pp152–153. 10.1038/s41415-026-0096-7

34. Turky, Mohammed and Paul M. H. Dummer. **AI Fairness Auditing in Dentistry: Addressing Hidden Bias in Generative Artificial Intelligence**. Int.Dent.J. 2026.Vol.76(6), pp111239.

Diagnosis

35. Alluhaibi, Reyadh. **Algorithmic Bias in AI-Based Diagnostic Models: A Systematic Review and Lifecycle Framework for Fairness Auditing and Governance in Healthcare.** Healthcare (Basel). 2026.Vol.14(19), pp3293. Background: Artificial-intelligence-based diagnostic systems increasingly influence healthcare delivery, yet strong aggregate performance can coexist with clinically meaningful disparities across demographic subgroups. Such disparities raise not only model-development concerns but also health-equity, implementation, and governance challenges for healthcare organizations. Methods: We conducted a systematic review reported in accordance with PRISMA 2020 of literature published from January 2019 through August 2026. The search identified 1842 records; 87 records were retained in the overall evidence corpus and 46 underwent structured quantitative extraction. The corpus included primary empirical/model-evaluation evidence together with secondary or adjacent methodological evidence used for qualitative contextualization. We also developed FRCS-10, a ten-item descriptive reporting-completeness index derived from established reporting and governance guidance, and applied it to the full corpus. Results: Peer-reviewed primary sources reported baseline true-positive-rate gaps of 0.062–0.281 across sex, age, and race on CheXpert and MIMIC-CXR, while a contextual dermatology meta-analysis reported AUROC values of 0.89 for Fitzpatrick I–III and 0.82 for Fitzpatrick IV–VI. These values were synthesized as source-reported estimands and were not independently re-analysed from patient-level data. Data representation was the most frequently coded bias source (38%), followed by algorithmic design (21%) and label or annotation bias (19%). The descriptive FRCS-10 mean was 4.6/10; only 7 of 87 records described post-deployment fairness monitoring. Five primary empirical studies with sufficiently explicit estimands were assessed for compatibility; their disparity definitions were not commensurable, so no pooled effect size was computed. Conclusions: We propose the Equity-Aware Bias Detection and Mitigation Framework (EA-BDMF), a literature-derived, implementation-oriented lifecycle specification for healthcare AI.

36. Ayre, Julie, Claire Hudson, Momo Hudson Barton, et al. **Symptom checker formats to improve symptom management knowledge and trust in AI-enhanced advice: Qualitative insights**. Patient Educ.Couns. 2027.Vol.154 pp109874. Research consistently shows online symptom checkers could better meet the needs of diverse users. This study explored users' experiences of a symptom checker that had artificial intelligence (AI)-enhanced features. We recruited participants from an online trial that evaluated varied symptom checker formats for healthdirect's online symptom checker. The symptom checker formats included the standard version (existing tool), and AI-enhanced versions, which provided a rationale for the advice, more tailored, plain language symptom management advice, and links to relevant sources. Participants were invited to take part in cognitive interviews to provide further qualitative feedback. We used Framework analysis to generate themes. Twenty-two people completed interviews. The first theme explored how people relied on cues such as links, government logos, and statements about clinical oversight, to make decisions about trusting the AI advice. The second theme described how people were more trusting of advice that matched their expectations.

For unexpected or more urgent advice, participants emphasised the importance of clear explanations and links to further reading. The third theme described participants' preferences for clear and concrete steps for managing symptoms, whilst also needing to keep triage advice prominent to encourage appropriate care-seeking. This study suggests using AI to improve online symptom checker content may help address barriers to their uptake and acceptability. More research is needed to ensure that symptom checkers keep pace with popular general-purpose AI tools, including evaluation of a range of designs using higher-fidelity prototypes. Symptom checker developers must carefully develop AI-enhanced designs that maintain trust, provide users with ways to verify information, and support appropriate action.

Discharge

37. Goel, Rajat. **Readability and clinical accuracy of AI-generated hospital discharge instructions: an audit of three large language models**. International journal for quality in health care. 2026.Vol.38(3).

Education

38. Elizabeth Loades, Maria and Deborah Christie. **When Writing is No Longer Thinking: Safeguarding Clinical Scholarship in the Age of Generative Artificial Intelligence: The rise of the Machines**. Clinical child psychology and psychiatry. 2026.Vol.31(4), pp1327–1332. The rapid emergence of generative artificial intelligence (AI) has prompted growing debate about its role in academic writing and the implications for scholarly integrity. This editorial arose from an increasing number of manuscript submissions to the journal that appeared unusually polished, leading editors and reviewers to question whether AI-assisted writing had been used and, if so, whether this should influence editorial decisions. While AI has the potential to enhance clarity, accessibility, and efficiency, concerns remain about transparency, authorship, accountability, and the authenticity of scholarly contribution. To explore these issues, we conducted an experiment in which one section of this editorial was written entirely by a human co-author, while the second was developed using outputs from multiple generative AI tools that were subsequently substantially edited by the other human co-author, who retained responsibility for the final text. By juxtaposing these pieces, we invite readers to consider whether AI-assisted scholarship is distinguishable from human-authored writing, whether such distinctions matter, and how AI use might be disclosed. We argue that transparent reporting of AI assistance, rather than its prohibition, is essential to maintaining trust, accountability, and integrity in academic publishing.

39. Flanagin, Annette, Roy H. Perlis and Kirsten Bibbins-Domingo. **Updated Guidance for Author Use of AI in Medical Publication**. JAMA : the journal of the American Medical Association. 2026.Vol.336(11), pp926–928. Flanagin et al outline updated JAMA Network guidance on the responsible use of artificial intelligence in scientific publishing. While AI can improve efficiency in research, writing, translation, and data visualization, the journals emphasize that authors remain fully responsible for the accuracy and integrity of their work. AI use in research and manuscript preparation is permitted when properly disclosed, while grammar and spelling checks generally

require no disclosure. Authors are advised not to use AI to generate or manage references because of frequent fabricated or inaccurate citations. AI is also prohibited for drafting Opinion articles, Letters to the Editor, online Comments, peer reviews, and author responses. AI-generated or manipulated clinical images, illustrations, video, and audio are generally prohibited unless they are part of formal research and fully disclosed. The guidance requires authors to identify the AI tool, version, manufacturer, dates of use, and how it contributed. JAMA says the policies aim to preserve transparency, accuracy, and trust in scientific publishing.

Emergency Care

40. Porto BM, Fogliatto FS, Wolf JM, Pille A, Schmitz PS. **Improving patient triage classification in the emergency department using natural language processing and machine learning algorithms: a retrospective cohort study**. BMC Health Services Research. 2026 Oct 25.

Endoscopy

41. Miyazono, Satoshi, Junji Umeno, Tomohiro Nagasue, et al. **Improved Efficiency and Lesion Detection in Small Bowel Capsule Endoscopy Using the Open-Source Artificial Intelligence Model SEE-AI**. DEN open. 2027.Vol.7(1), ppe70346. Small bowel capsule endoscopy (CE) produces lengthy videos that are time-consuming to review and susceptible to missed lesions. We evaluated whether an open-source, pretrained artificial intelligence (AI) model (SEE-AI) could improve diagnostic performance and interpretation efficiency compared with conventional reading. We retrospectively analyzed 249 PillCam SB3 examinations performed between 2007 and 2022 at six hospitals, using a two-reader crossover design. SEE-AI (confidence threshold 0.1) generated annotated videos with bounding boxes for eight lesion categories. The primary endpoints were sensitivity for lesion detection on a per-lesion and per-patient basis. Secondary endpoints included specificity, predictive values, overall accuracy, and reading time. A prespecified subgroup analysis evaluated cases of suspected small-bowel bleeding (SSBB), focusing on Saurin P1+P2 hemorrhagic lesions. Across 1550 adjudicated lesions, AI-assisted reading demonstrated higher sensitivity than conventional reading (per-lesion: 98.8% 1532/1550] vs. 86.4% 1339/1550]; per-patient: 99.1% 464/468] vs. 80.3% 376/468]; both < 0.0001). The mean reading time decreased from 17.9 to 13.7 min (< 0.0001). In SSBB cases (= 131), sensitivity for P1+P2 lesions improved on both a per-lesion basis (98.2% 439/447] vs. 82.8% 370/447]) and per-patient basis (98.6% 145/147] vs. 73.5% 108/147]), with a shorter reading time (14.1 vs. 18.0 min; all < 0.0001). In this multicenter evaluation, SEE-AI significantly improved lesion detection and reduced reading time for CE interpretation, including SSBB cases, while maintaining openness and reproducibility. AI-assisted reading may reduce clinicians' workload and support the adoption of SEE-AI as a practical tool - and a potential future standard of care - for small bowel CE.

Epidemiology

42. Joshi, Umang and Cristina Lanzas. **Exploring opportunities to improve health equity with machine learning and artificial intelligence in healthcare epidemiology**.

Antimicrobial stewardship & healthcare epidemiology : ASHE. 2026.Vol.6(1), ppe166. Artificial intelligence (AI) and machine learning (ML) have the potential to improve diagnostic accuracy, infection control protocols, and health outcomes at the population level. AI/ML also has the potential to exacerbate existing health disparities, underscoring the necessity of developing, testing, and evaluating models with equity-centered frameworks. In this review, we highlight current work and future directions in implementing AI/ML to improve health equity in healthcare epidemiology. AI/ML models can improve the quality of data collected in electronic health records, especially with regard to race and ethnicity, aid in identifying vulnerable populations via classification modeling, and help guide equitable intervention protocols by identifying disparities through predictive modeling. However, data-, algorithm-, and deployment-centric biases must be considered at every step of model synthesis, utilizing fairness metrics to assess the presence of bias and employing ideal mitigation strategies to create equitable AI/ML models for healthcare epidemiology.

Ethics

43. Prigg, Andrew R., Henry Robinson, Munzer Alkhalil and James Gough. **AI is already in the theatre of war just not on the side of the patient: clinical chatbots, telemedicine, and an agenda for "AI for medical humanity".** Frontiers in digital health. 2026.Vol.8 pp1955671. Artificial intelligence (AI) is already embedded in modern warfare, mainly through surveillance, targeting, and military decision-making. However, its potential to support clinicians and patients in conflict settings remains underdeveloped. Frontline medical teams must make time-critical, high-stakes decisions with scarce diagnostics, disrupted referrals, insecure communications, changing injury patterns, and irregular access to specialist expertise. Humanitarian medicine needs a proactive clinician-facing AI agenda that strengthens clinical judgment, not replaces it. We propose a two-stage model: a bounded, protocol-anchored chatbot as the "first mile" of point-of-care support, and telemedicine as the "second mile" for specialist oversight and accountability. The chatbot would structure assessments, guide protocol-based actions, identify missing information and areas of uncertainty, generate standard handovers, and trigger escalations. Remote specialists would provide context and retain responsibility for clinical decisions. Safe deployment requires transparent protocols, constrained scope, hard refusals, awareness of uncertainty, data minimisation, offline-first functionality, adversarial threat modelling, and safeguards against coercive or dual-use applications. Evaluation should use locally informed simulation, silent deployment, prospective monitoring of deviations and harms, predefined safety thresholds, and independent humanitarian oversight before wider clinical use. AI will increasingly shape conflict medicine, with or without humanitarian engagement. The priority is to ensure design, governance, and evaluation are guided by patient safety, medical neutrality, local involvement, and clinical accountability, placing AI on the side of the patient, not the machinery of war.

Medical Gas

44. Epelde, Francisco. **Hyperbaric oxygen in the artificial intelligence era: integration and innovation**. Medical gas research. 2027.Vol.17(1), pp301–305. Hyperbaric oxygen therapy is established for decompression illness, carbon monoxide poisoning, radiation-induced tissue injury, and diabetic foot ulcers. Interest in neurological and inflammatory indications is growing, yet outcomes are constrained by heterogeneous protocols, limited patient selection tools, and the absence of real-time physiological guidance. Artificial intelligence, including machine learning, explainable artificial intelligence, and digital twins, has transformed other clinical domains and could enable precision hyperbaric oxygen therapy. We searched PubMed, Scopus, Web of Science, and Google Scholar (January 2000-March 2025). Terms included "hyperbaric oxygen therapy" and ("artificial intelligence" OR "machine learning" OR "deep learning" OR "digital twin" OR "biosensor*"). English-language, peer-reviewed clinical, preclinical, or computational studies explicitly linking hyperbaric oxygen therapy with artificial intelligence or enabling technologies were eligible. Editorials without primary data, abstracts without full text, and non-peer-reviewed sources were excluded. A Preferred Reporting Items for Systematic Reviews and Meta-Analyses-style flow-guided screening and selection. Fifty-three eligible studies (≥30% from 2022-2025) illustrate four convergent application areas: (1) protocol optimization using multicenter data, (2) biomarker-driven patient selection via multi-omics and imaging, (3) real-time adaptive control using biosensors, and (4) predictive safety analytics for oxygen toxicity and barotrauma. Exemplars from radiology, critical care, and cardiology demonstrate the feasibility of decision support, federated learning, and digital-twin simulations adaptable to hyperbaric oxygen therapy. Integrating artificial intelligence with hyperbaric oxygen therapy can shift practice from empirical protocols to patient-tailored, data-informed therapy.

Medical Informatics

45. Gillani, Syeda Anshrah and Mirza Samad Ahmed Baig. **Whose doctor does the AI recommend? An algorithm audit of reputation and name-based demographic signals in large language model–assisted physician choice**. International journal of medical informatics (Shannon, Ireland). 2027.Vol.223 pp106764. Patients increasingly ask large language model (LLM) assistants which doctor to see. Existing audits observe real, correlated physician profiles, so they cannot isolate what drives these recommendations. To estimate how reputation signals, fees, list position, and names signaling gender and ethnicity affect LLM physician recommendations in a controlled task. Prespecified randomized choice-based conjoint audit. Seven LLMs (six small open-weight models and GPT-4o-mini) each chose one of five synthetic family-medicine physician cards with independently randomized attributes (3024 choice sets; three personas; nine prompts; eight secondary arms). Gender and ethnicity were signaled only by names. Average marginal component effects were estimated with choice-set–clustered linear probability models, per model and pooled. Across 40,068 responses, a 3.9→4.7 rating raised choice probability by 31.4 percentage points (pp; 95% CI 30.5–32.3) and a $90→$190 fee lowered it by 20.0 pp (19.1–21.0). Pooled, female-signaled names were chosen 2.5 pp (1.8–3.2) more

often than male-signaled names, and Hispanic- and South-Asian–signaled names were chosen 2.8–2.9 pp more often than White-signaled names; these held with names as the units of inference, whereas a Black-signaled estimate (1.3 pp) did not. Specific names within categories differed (placebo P<.001), and name-cue effects varied significantly between models (female-signaled: −0.5 to +7.4 pp; gpt-4o-mini +0.8, CI −0.3 to 1.8). The last-listed card lost 6.2 pp. Gender or ethnicity appeared in ≤0.03% of stated reasons. In this panel, recommendations ran mainly on ratings and fees but also responded, in model-specific ways, to name cues and list position that the models' explanations did not mention. These controlled-task differences are not estimates of real-world access; they call for behavioral audits of each model version.

Neurodevelopmental

46. Akemoğlu, Yusuf, Zhaohui Li, Qingxiao Zheng, Emily Brooke Roberts, Samar Pratap Singh and Jinjun Xiong. **Parent's AI Coach (PaiCoach): A Single-Case Experimental Study of an AI-Supported Parent Coaching System for Autistic Children**. J.Autism Dev.Disord. 2026.Artificial intelligence (AI) may enhance the scalability and immediacy of parent coaching by providing automated, performance-based feedback within naturalistic routines. In this study, we examined the effects of Parent's AI Coach (PaiCoach), an AI-supported parent coaching system, on parent implementation of evidence-based practices in improving autistic children's communicative responsiveness during shared book reading. Participants included four mother-child dyads with minimally verbal autistic children between 45 and 56 months of age. A concurrent multiple-baseline across participants single-case experimental design was used. Primary dependent variables included parent implementation fidelity and child communicative responsiveness. Visual analysis and Tau-U effect sizes were used to examine functional relations between the introduction of PaiCoach and changes in parent and child outcomes. Visual analysis showed functional relations between the introduction of PaiCoach and increases in parent implementation fidelity with corresponding improvements in children's responsiveness. Through human validation, we show that PaiCoach adopts 68.6% of AI-generated analyses without modification, whereas 31.4% required some expert editing. Social validity and usability findings indicate high parent satisfaction with PaiCoach and its good usability.

47. Ben Ammar, Boulbaba and Walid Karamti. **Label leakage unmasked: a trustworthy-AI audit of autism screening models using the CLEAR-RD framework**. Frontiers in public health. 2026.Vol.14 pp1881829. Trustworthy pediatric screening AI needs more than accuracy: label validity, calibration, subgroup robustness, and clinical-scope limits. We propose Clear-Rd ( ), a five-stage framework-Configure, Lift, Evaluate, Audit, Report-and apply it to two public autism-screening datasets-Q-CHAT-10 toddler (= 1054) and AQ-10 child/adolescent/adult (= 6075)-merged into a unified cohort (= 7129); prior studies report accuracies above 95%. Three configurations- (full, with score), (items, no score), and (demographics only)-separate label leakage from demographic signal. A leakage audit confirms the Q-CHAT-10 label is exactly determined by score>3, the AQ-10 label approximately by score≥6. Sixteen models from three families (classical, deep-tabular, and prompt-structure simulators) are evaluated under 5-fold stratified cross-validation. On the

leakage-free , Gradient Boosting attains ROC-AUC 0.766 ± 0.005 and all families converge within 0.04 ROC-AUC, indicating the binding constraint is the feature set, not model capacity. Calibration, subgroup-parity, and cost-sensitive analyses complete the audit. The results expose a gap between reported and clinically interpretable performance; Clear-Rd is a reusable template for rule-derived medical labels. No such model should be interpreted as predicting clinical autism diagnosis without external validation against gold-standard outcomes.

48. Bryant, Eleanor F., David Hallett, Emily Nielsen, et al. **An Evidence-Based AI Virtual Assistant for Young People With Attention Deficit Hyperactivity Disorder: Co-Design and Prototype Development**. JMIR formative research. 2026.Vol.10 ppe85013. Though attention deficit hyperactivity disorder (ADHD) is thought to be the most prevalent neurodevelopmental disorder in young people worldwide, there are inequalities in access to psychoeducation and health care support. One way to improve access, potentially increase engagement, reduce health care inequalities, and enhance care is by co-developing digital responsive interventions. These have the potential to support long-term condition management and to act as an adjunct to usual care. Virtual assistants that use large language models can provide information in response to questions and learn to tailor communication to suit an individual user's needs. This can be especially valuable for people with ADHD who often struggle to regulate attention and can experience communication challenges. Involving people with lived experience in the co-design process is crucial for the development of effective digital interventions. Therefore, this article explores the views and preferences of young people with ADHD and their supporters from the United Kingdom who collaborated with researchers to co-design a prototype chatbot. This study aimed to co-develop an evidence-based chatbot prototype, intended to help young people with ADHD thrive through improved access to health care information, psychoeducation, and self-management strategies. An interdisciplinary team was established, including researchers, software developers, clinicians, and lived experience collaborators. Research advisory and working groups were set up in ways that facilitated flexible involvement. Following the person-based approach, guiding principles were established, and workshops were held with young people with ADHD and supporters of young people with ADHD to co-develop an early prototype. Feedback was sought via think-aloud interviews with lived experience collaborators. In total, 9 experts by lived experience and 3 health care professionals chose to engage in workshops, and this feedback informed the development of a SmartADHD chatbot prototype.

49. Sibley, Margaret H., Leonard Bickman, David Atkins, et al. **Improving Community-Based Care for Adolescents with ADHD: a Randomized Controlled Trial of Artificial Intelligence-Assisted Fidelity Supports.** Prev Sci. 2026.Vol.27(7), pp1099–1110. Cognitive-behavioral treatments (CBTs) for adolescents with ADHD demonstrate promise of long-term effects on outcome. However, their implementation in routine care community clinics faces barriers that impact quantity, efficiency, and quality of delivery, as well as client outcomes. This study is a randomized controlled trial designed to evaluate the impact of an AI-assisted service delivery model on therapist implementation of Supporting Teens' Autonomy Daily (STAND), a CBT blended with

Motivational Interviewing (MI) for adolescents with ADHD. Adolescents with ADHD (N = 51), who were clients at three community mental health agencies, received treatment from 23 therapists. There was randomization of adolescents and therapists to AI-assisted or standard implementation supports. In addition to standard supports (i.e., training, standard facilitation resources, technical assistance, case supervision), AI-assisted support package included digitized facilitation resources housed in a clinical dashboard (Care4), feedback on content fidelity, and AI-generated feedback on MI implementation quality. The AI-assisted group was associated with more efficient treatment delivery and lower number of appointments attended by the adolescent. There was also a significant decrement in MI quality over time in the AI-assisted group compared to the standard support group.

Nursing

50. Alsararatee, Hasan. **Effect of artificial intelligence on nursing documentation and patient safety**. Nursing standard. 2026.Vol.41(8), pp43–49. Nursing documentation is a fundamental component of safe clinical practice, supporting effective communication, continuity of care and patient safety. However, the increasing demands associated with electronic health records have contributed to a growing administrative workload for nurses. In response, artificial intelligence (AI) technologies are being explored as tools to support clinical documentation and improve the management of healthcare information. This narrative overview examines emerging evidence on the impact of AI on nursing documentation and patient safety, with particular focus on acute hospital care. The author reviews the literature on key AI technologies, including natural language processing, machine learning, generative AI and ambient AI, and their potential applications in nurses' record-keeping.

51. Cleofas, Jerome Visperas. **Nursing Professional Organisations as Human Rights Intermediaries: Towards an Integrated Framework of Stakeholdership for Healthcare AI Governance**. J.Clin.Nurs. 2026.Vol.35(10), pp4460–4472. This paper introduces an integrative framework for nursing professional organisations to systematically engage in the global discourse on artificial intelligence governance. The discussion names three axes where stakeholdership of nursing professional organisations can be mapped within artificial intelligence governance ecosystems: domains, modalities, and human rights considerations. It elevates conversations regarding artificial intelligence in nursing beyond practical application to a rights-based, ethical imperative.

52. Ibrahim, Fatma M. and Ghada Shahrour. **Generative AI in professional nursing education: Implications for learning, assessment, clinical preparation, and AI literacy**. Journal of professional nursing. 2026.Vol.67 pp242–248. To synthesize current evidence and guidance about text-generating large language models (LLMs) in baccalaureate and graduate nursing education and identify implications for learning, assessment, clinical preparation, educator work, and AI literacy. An integrative review with thematic synthesis, guided by Whittemore and Knafl's five-stage framework, was conducted. MEDLINE, CINAHL, ERIC, Scopus, and Web of

Science were searched through February 2026, supplemented by hand searching and professional guidance. Twenty-eight sources were included in the synthesis: 25 scholarly sources and three professional or policy guidance documents. Search, data evaluation, and synthesis procedures were reported with review-level SANRA alignment. Five practice domains were synthesized. LLMs are used for explanation, drafting, feedback support, language assistance, and simulation preparation. Potential benefits for formative support and access are tempered by error, fabricated citations, over-reliance, and misplaced confidence. Take-home writing may provide weaker evidence of independent competence unless assessment makes reasoning, process, and verification visible. Clinical learning uses require supervision, evidence checking, and confidentiality safeguards.

53. Liu, Yu, Shaohua Chen, Shanwen Chen and Pingping Qiu. **How narrative nursing pedagogy and GenAI-assisted learning work together: A qualitative process evaluation of a grounding–expansion mechanism**. Nurse Educ.Today. 2027.Vol.168 pp107446. Integrating humanistic care with emerging technologies is a pressing challenge in nursing education. Narrative nursing pedagogy and generative artificial intelligence (GenAI)-assisted learning represent two potentially complementary approaches, yet their integration mechanism in clinical nursing education remains unexplored. To examine how narrative nursing pedagogy and GenAI-assisted learning can be integrated in an obstetrics and gynecology nursing course, and to understand the mechanisms through which this integration generates educational value from the perspective of undergraduate students. We embedded a qualitative process evaluation within a larger complex educational intervention. Six focus group interviews were conducted with 60 purposively sampled undergraduate nursing students who participated in a four-step integrated teaching model. Data were analysed using inductive, semantic-level reflexive thematic analysis, informed by Kolb's Experiential Learning Cycle. One overarching theme — “Mutually Grounding, Mutually Expanding” — and four interrelated themes were identified. Narrative nursing pedagogy grounded GenAI-assisted inquiry in patients' contexts, constraining unfocused information retrieval and providing evaluative standards, while GenAI expanded students' understanding of patient narratives by supporting knowledge construction and clinical reasoning. Their reciprocal interaction generated synergistic learning, enabling students to move between contextualised experience and abstract knowledge, supporting critical evaluation and helping students recognise the risks of over-reliance on GenAI. Remaining challenges included insufficient narrative skills, GenAI's inherent limitations in affective and domain-specific nursing contexts, and tendencies toward imbalanced method use. The integration functions as a grounding–expansion mechanism within the experiential learning cycle, where narrative contextualises GenAI use and GenAI-assisted learning extends narrative interpretation.

54. Tawhari, Sarah Hassan, Regie Buenafe Tumala and Yahya Hassan Tawhari. **Artificial Intelligence Readiness in Nursing: A Scoping Review of Knowledge, Attitudes, Practice, and Emerging Evidence on Patient Safety Culture**. Nursing reports (Pavia, Italy). 2026.Vol.16(10), pp370. Background: Artificial intelligence (AI) is increasingly integrated into nursing practice, yet nurses often demonstrate low to moderate AI

knowledge, mixed attitudes, and inconsistent practice behaviors. Although individual studies have examined these domains, no review has comprehensively examined AI-related knowledge, attitudes, and practice (KAP) together with the emerging evidence on patient safety culture among nurses. This gap is significant because safe AI adoption in nursing depends on both technical competence and a strong safety culture across diverse clinical settings. Objective: To systematically map international evidence on nurses', nursing students', and other included participants' AI-related KAP, and to examine how these factors may relate to patient safety culture. Because several eligible studies included multidisciplinary samples in which nurse-specific quantitative data were not reported separately (China, Bangladesh, Pakistan, and three studies from the Kingdom of Saudi Arabia KSA]), only studies with extractable nurse-specific results were used to inform nurse-focused conclusions, and multidisciplinary findings were not attributed solely to nurses. Methods: This scoping review followed Arksey and O'Malley's framework and adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines. Searches of PubMed, CINAHL, Scopus, Web of Science, and ScienceDirect (2021–2026) identified studies examining AI-related perceptions among nurses and other healthcare participants when nurse-specific data were reported separately or extractable. Data extraction and narrative synthesis were conducted using Joanna Briggs Institute guidance. Results: Ten studies met the inclusion criteria and were included in the final review. Studies from China, Bangladesh, Pakistan, the KSA, Turkey, and the United Arab Emirates showed variable AI knowledge but predominantly positive attitudes. Ethical concerns—privacy, job displacement, and reduced empathy—were common. Younger age, higher education, and prior AI exposure were associated with more favorable perceptions. Nurses across regions emphasized the need for structured AI training. Only one study examined patient safety culture, and it reported that AI knowledge and attitudes significantly predicted patient safety culture, with attitude showing the stronger effect. However, because this evidence comes from a single cross-sectional study conducted in a multidisciplinary sample without nurse-specific results, it is insufficient to establish causal conclusions, and its findings cannot be generalized specifically to nurses.

Ophthalmology

55. Langguth, Anne and Brenda Bohnsack. **189 Reducing documentation burden in pediatric ophthalmology: impact of ambient artificial intelligence (AI) scribe technology**. Journal of AAPOS. 2026.Vol.30(4), pp105102.

Patient Care

56. Durneva, Polina and Hedieh Ghorbanie. **Toward a Framework for Assessing Patient-Facing Gen AI Tools in Mental Healthcare**. International journal of medical informatics (Shannon, Ireland). 2027.Vol.223 pp106741. •Reviewed studies assessing Gen AI tools in mental healthcare.•Identified technical, clinical, expert, and user assessment domains.•Developed a multilayered framework spanning different risk levels. Generative artificial intelligence (Gen AI) is becoming increasingly used in mental healthcare. While these systems offer scalable, human-like interactions,

concerns persist regarding safety, clinical validity, and the absence of systematic assessment frameworks. This study systematically reviews existing research on Gen-AI mental-health applications to synthesize current evaluation practices and identify key methodological steps needed for pre-deployment assessment. A systematic search was conducted across major databases (PubMed, IEEE Xplore, and PsycINFO) following PRISMA guidelines. Studies published between 2017 and 2024 examining Gen-AI tools for mental healthcare were included. The final sample of 72 studies was explored to identify assessment domains. Four domains of assessment emerged: technical performance, which focuses on model accuracy and reliability on mental-health tasks; clinical validity, which examines alignment with evidence-based guidelines and clinician judgments; expert perceptions, which assess perceived quality and safety of AI-generated outputs; and user perceptions, which capture how end-users experience, interpret, and trust these responses. Findings highlight the need for unified, multilayered frameworks to guide the safe and responsible deployment of patient-facing Gen-AI mental-health tools. The review proposes a high-level pre-deployment assessment framework to support researchers, developers, clinicians, and regulators.

57. Kalogeropoulos, Dimitrios, Paul Barach, Andrea Downing, Stefaan Verhulst and Maryam Lustberg. **Advancing Patient-Centred AI With Adaptive Machine Learning.** Cancer medicine (Malden, MA). 2026.Vol.15(10), ppe72371–n/a. Healthcare services and data ecosystems remain fragmented, inequitable and misaligned with patient, clinician and public health needs. Three pathways to patient-centred Artificial Intelligence (AI) have emerged to address this: data collaboration, Whole System Approaches and digital inclusion. Each has advanced the field. However, none delivers the continuous, participatory and outcome-grounded learning that equitable AI demands. The populations whose data drives AI learning must also be the populations who benefit from it. This principle has not been structurally embedded in any existing pathway. This narrative review defines a framework for operationalising Adaptive Machine Learning (AML) as a fourth, integrative pathway to patient-centred AI. AML is defined as continuous learning from real-world individual-level data to generate personalised, population-level insights returning direct benefit to the communities who produce them. A narrative review of PubMed and Google Scholar (2018–2025) was conducted across five thematic domains: AI and machine learning in healthcare; real-world data and evidence; patient-centred care and digital health; data governance and AI regulation; and adaptive clinical trial design. Search terms covered healthcare AI applications and adaptive, continuously learning systems, emphasising prediction-oriented rather than static diagnostic approaches. Eligibility was determined through iterative thematic analysis. Eight systemic barriers to patient-centred AI are identified and the three existing pathways critically examined for limitations in addressing bias, validation and equitable implementation. AML is proposed as the mechanism that closes this gap, connecting systems medicine, personalised medicine and precision medicine through continuous, outcome-based learning, identifying three original conceptual contributions as enablers: Integrative Data Governance (IDG), Adaptive Clinical Trial (ACT) designs and Evidence Sandbox Facilities (ESFs). Progress requires globally standardised Healthcare Data Recycling frameworks, adaptive evaluation

methodologies and ESFs enabling multi-stakeholder validation. Future research should address federated AML validation, collective consent mechanisms and alignment of regulatory frameworks with international AI governance standards.

58. Kathiramalai, Sam, Theodore Davis and Gavin Schaller. **Patient Attitudes Towards Ambient Artificial Intelligence in Clinical Consultations**. Curēus (Palo Alto, CA). 2026.Vol.18(9), ppe115822. Background Ambient Artificial Intelligence (AI) technologies are increasingly being integrated into clinical practice to support documentation. These systems employ speech recognition, talk-to-text technology, generative intelligence and large language models (LLMs) to automatically transcribe and summarise clinician-patient consultations into structured clinical notes. While it may reduce documentation burden and enable patient-focused interactions, there remains limited evidence regarding patients' perspectives, experiences and the acceptability of ambient AI use in healthcare settings. Objective Our study aims to explore patients' awareness, attitudes, consent preferences and perceived comfort factors regarding the use of ambient AI during consultations. Methods A cross-sectional anonymous questionnaire survey was conducted among 55 adult patients attending an orthopaedic fracture clinic. The questionnaire included demographic items, Likert-scale questions (Q9-Q21; scored 1-5) assessing attitudes towards ambient AI use, closed-ended preference questions and open-ended free-text responses. Quantitative data were analysed using descriptive statistics, while qualitative free-text responses were analysed using thematic analysis to identify recurring themes and perspectives. Findings General awareness of AI in healthcare was high (72.7%), but detailed knowledge of ambient AI remained limited, with only 10.9% reporting a strong understanding. Participants showed moderate acceptance and trust in clinicians, while expressing concerns about transparency, privacy, consent, openness, accuracy and preservation of patient-clinician relationships during AI use.

59. Lagström, Ronja M. B., Marianne Krogsgaard, Astrid Kindt, Bahara Besmalahi and Mustafa Bulut. **Patients' experiences and attitudes toward the use of real-time artificial intelligence-assisted colonoscopy**. Colorectal disease. 2026.Vol.28(8), ppe70574–n/a. Background There is limited knowledge about how patients experience artificial intelligence (AI) in healthcare. Concerns regarding safety and quality could be a barrier between patients and the healthcare system when implementing AI. It is crucial to understand patients' attitudes, and how they may react to AI being implemented when aiming to preserve their trust. We investigated patients' attitudes toward AI-assisted colonoscopy to gain insights that can be used when introducing this new technology to future patients. Method This is a qualitative study based on semi-structured focus group interviews. Habile, Danish-speaking adults who had received an AI-assisted colonoscopy were invited. We conducted six focus group interviews, with 20 participants in total. All interviews were recorded and transcribed. Data were analysed using thematic analysis. Results Patients described a sense of vulnerability in relation to undergoing a colonoscopy. Three main themes were identified. The first theme is ‘Empathy and professionalism—trust in AI-assistance in colonoscopy depends on human factors’. The second and the third themes are ‘Information about AI should be proportional

to the consequences', and 'Trying to make sense of AI during colonoscopy—balancing curiosity, irrelevance, and vulnerability'. Conclusion Trust in AI-assistance is dependent on trust in the clinicians. While AI has many strengths, it cannot provide empathy, which is essential for patients in distressing moments, such as during a colonoscopy. AI should be considered a supportive tool, while the endoscopist remains responsible for clinical decisions and patient outcomes. If written information about AI is provided, it should be informative but concise, avoiding details that generate more confusion than clarity.

Psychology

60. Hlynsson, Jón Ingi, Kristofer Vernmark, Catharina Lutovsky, Gerhard Andersson and Per Carlbring. **Patient experience and psychologists' attitudes toward AI in psychological treatment: A topic-modeling study.** Internet interventions : the application of information technology in mental and behavioural health. 2026.Vol.46 pp100999. Generative artificial intelligence (AI) is entering psychological treatment, yet research remains dominated by symptom outcome trials, leaving two questions under-researched: how patients experience AI therapy tools, and how psychologists regard the AI applications they may be asked to adopt. We applied topic modeling (Latent Dirichlet Allocation) to two Swedish-language corpora to contrast lived use with anticipated use. The first corpus comprised interview data from 11 patients who had engaged with a conversational AI assistant in the treatment of social anxiety disorder. The second comprised 1551 open-ended survey responses from 808 psychologists (licensed psychologists, psychologists in clinical internship, and psychology master's students) with analyzable text for at least one of two scenarios: 1) a psychologist's "Digital Twin" (between-session avatar), and 2) AI "Virtual Patients" for clinical training. Text was lemmatized, and a four-topic solution was selected for each corpus based on interpretability and lexical distinctness. Patients described using the AI to analyze social situations and to work through difficult feelings. They valued its privacy and constant availability, said it let them avoid the stigma of seeking help, and compared it throughout with a human therapist. Psychologists expressed enthusiasm about the use of Virtual Patients as a training tool, whereas the Digital Twin scenario raised questions about authorship and responsibility. Concerns about relational loss and the balance between utility and risk were expressed across both scenarios, and both patients and psychologists noted that AI could not replace a human relationship.

61. Kusci, İsmail and Vedat Bakır. **From algorithms to empathy: a bibliometric analysis of the AI revolution in psychology and related fields (2015–2025).** Curr Psychol. 2026.Vol.45(18), pp1510. This study aims to bibliometrically map scientific output at the intersection of artificial intelligence, psychology, and related fields during the period 2015–2025. 961 publications obtained from the Web of Science Core Collection database were analyzed using the VOSviewer software with keyword co-occurrence networks, thematic clustering, and time-weighted overlay mapping techniques. Rogers' (2003) Diffusion of Innovations model was adopted as the conceptual framework for interpreting the findings. The findings revealed that the literature has acquired an interdisciplinary structure at the intersection of disciplines such as psychology, computer science, psychiatry, and engineering. Thematic

analyses showed that deep learning, classification, and algorithmic approaches were dominant in the early period; however, after 2023, human-centered themes such as large language models, digital empathy, therapeutic alliance, and personalization have become prominent. Within Rogers' model, this thematic shift reflects the field's transition from the "innovators" and "early adopters" stage to the "early majority" stage. In terms of geographical distribution, publication output was concentrated in China and the United States, followed by the United Kingdom, Germany, and Australia.

62. Pye, Sam, Cassie M. Hazell, Kimberley J. Smith and Aislinn Bergin. **Identity Threat as a Barrier to NHS Psychology Professionals' Adoption of Generative AI: A Technology Acceptance Model Study**. Behavioral sciences. 2026.Vol.16(10), pp1827. Introduction. The development and adoption of generative artificial intelligence (GenAI) technologies is rapidly expanding, but its integration into psychological services depends on clinician acceptance. Little empirical work has examined how identity-related threat shapes psychology professionals' adoption intentions of GenAI. The present research tested an extended technology acceptance model (TAM), with the addition of personal and professional identity threats, to explain psychology professionals' adoption intentions of GenAI technologies for clinically relevant usage. Methods. A total of 201 UK psychology professionals completed a cross-sectional online survey. Three sequential structural equation models were tested, incorporating perceived usefulness, perceived ease of use, and social influence as core predictors, with threats to professional capabilities and self-threat added as extensions. Two open-ended qualitative questions were analysed using content analysis to provide broader contextual insight into current use and barriers to adoption. Results. All models demonstrated acceptable fit (CFI = 0.936–0.938; RMSEA = 0.071–0.072). Perceived usefulness emerged as the strongest correlate of adoption intention across all models (β = 0.67–0.69). Threats to professional capabilities and self-threat were each reliably negatively associated with adoption intention when entered separately, above and beyond core TAM predictors (β = −0.20 and β = −0.16 respectively). Social influence exerted a reliable indirect effect on behavioural intention through perceived usefulness across all models, as did perceived ease of use in the two models incorporating identity threat.

63. Zhong, Shujin and Jack D. Simons. **Artificial intelligence learning environments and educational psychology (2016–2025): a systematic bibliometric synthesis and review**. Frontiers in psychology. 2026.Vol.17 pp1831006. The rapid integration of Generative Artificial Intelligence (GenAI) and Large Language Models (LLMs) into educational environments has fundamentally transformed instructional design building upon earlier AI research in educational psychology. However, there is growing concern that computational innovation is outstripping pedagogical and psychological coherence. To evaluate the intersection of AI learning environments and educational psychology, this study provides a systematic bibliometric synthesis of peer-reviewed scholarship published between 2016 and 2025. Following PRISMA 2020 guidelines, we employed a dualpronged approach, applying multiple descriptive and analytical modeling techniques to analyze a synthetic corpus of 34 systematic review papers and an empirical corpus of 1,376 original research articles.

Longitudinal results reveal an unprecedented “generative turn” and a shift in methodological maturity, moving from exploratory computational modeling to rigorous experimental and quantitative validation. Despite these advancements, our analysis identifies a persistent “theoretical gap.” While the synthetic literature advocates for deep psychological grounding, empirical studies remain overwhelmingly anchored in surface-level motivational outcomes, failing to adequately operationalize complex constructs such as metacognition, epistemic beliefs, and self-regulated learning (SRL), just to name a few.

Public Health

64. Albahli S. **An equity-aware generative AI copilot for digital public health surveillance. Frontiers in Public Health.** 2026 Jun 19;14:1827709.

65. EUPHA Digital Health & AI section, Concordia University (Canada), Leibniz ScienceCampus Digital Public Health Bremen (Germany), Italian Society for AI in Medicine,(Italy), Laura Maaß and Simon Bacon. **M.8. Skills building seminar: Building skills in using AI tools to support evidence reviews for effective public health strategies**. Eur.J.Public Health. 2026.Vol.36High-quality literature reviews underpin public health policy and practice. However, traditional review methods are increasingly strained by the exponential growth of scientific publications and the need for timely decision-making. Artificial intelligence (AI) tools are rapidly being adopted to support evidence synthesis, yet their appropriate use requires clearer guidance and a critical understanding of their limitations. Recent evidence further showed that AI systems can reproduce and propagate incorrect or fabricated scientific information, highlighting challenges in distinguishing valid from invalid evidence in review workflows. Improving the efficiency and transparency of evidence synthesis is critical for timely and equitable public health decision-making, particularly in rapidly evolving policy contexts, where biased or unreliable evidence can directly affect population health outcomes. This workshop is designed for early- to mid-career public health researchers and professionals involved in evidence synthesis, with basic familiarity with systematic reviews. It aims to build practical skills for the responsible use of AI in systematic and rapid reviews, focusing on two key steps: reference screening and data extraction. The workshop includes four activities: First, two experts will discuss the benefits and limitations of AI-supported approaches in these steps (10 min). Second, the audience will receive a short demonstration of selected open-access AI tools as suitable tools for reference screening and data extraction (10 min). Third, participants will engage in facilitated small-group exercises using a recently conducted systematic review without AI support as a reference standard (30 min). They will apply the introduced AI tools to screening and data extraction tasks and compare their outputs with the reference standard. This comparison will serve as the basis for a structured discussion on performance, transparency, bias, and required levels of human oversight (10 min). Together with the speakers, participants will discuss ethical considerations of AI use and its implications for research quality. This approach combines hands-on skill building with critical reflection on algorithmic bias, transparency, and methodological rigor. It supports informed decision-making on the responsible use of AI in public health reviews, emphasising the continued need for human expertise

and oversight. By the end of the workshop, participants will be able to: (1) apply AI tools to support screening and data extraction within a structured review workflow; (2) compare AI-assisted outputs with manually generated results and identify discrepancies; and (3) critically assess risks, limitations, and appropriate use of AI in evidence synthesis.

66. Kearney, E. T., G. Martin and L. Hendrick. **Public Health, Private Algorithms: AI Use and Governance in Ireland's Public Health workforce**. Eur.J.Public Health. 2026.Vol.36The rapid advancement of artificial intelligence (AI) technologies presents both significant opportunities and complex challenges for public health practice, from enhancing disease surveillance to questions about accountability and algorithmic bias. Little is known about the nature and extent of its use within Ireland's Health Service Executive Public Health (HSE PH) workforce, or the views of its leaders on AI's role in future service delivery. A mixed-methods study was conducted comprising an online workforce survey and key informant interviews (KIIs). The survey was circulated to an estimated 490 HSE PH staff in September 2025. Nine semi-structured interviews were conducted with senior HSE PH and eHealth leaders, exploring opportunities, risks and policy direction. Survey data were analysed descriptively; interview data used a hybrid deductive–inductive thematic approach. The survey received 188 complete responses (estimated response rate 38%). Two-thirds (66.8%) reported using AI in their public health role, with over one-fifth using it daily. Over 85% expressed concerns regarding data privacy, unclear protocols, lack of training and algorithmic bias; 92.5% agreed that clear guidelines are needed. KII participants identified potential applications in population health analytics, surveillance, evidence synthesis and public communication. Concerns mirrored survey findings, with additional emphasis on cognitive offloading, bias and public trust. All participants highlighted inadequate organisational guidance and called for governance frameworks, workforce training and improved data infrastructure. This study shows that AI tools are widely embedded in HSE PH professional practice. Transitioning from informal tolerance to explicit policy, embedding AI literacy as a core competency, and developing PH -specific governance standards are needed to ensure AI augments rather than substitutes professional judgement, while safeguarding equity, transparency and public trust.

67. Maaß, L., J. Schmidt, M. M. Kuhrn, et al. **A Delphi Study on the Integration of Digital Public Health and AI in Public Health Education**. Eur.J.Public Health. 2026.Vol.36Background Digital transformation (DT) reshapes public health practice, governance, and education. Realising the potential of digital tools for surveillance, communication, and population health interventions depends on a workforce equipped with appropriate digital competencies. Existing public health education frameworks only partially address the skills needed to design, implement, and critically assess digital public health (DiPH) approaches, risking slower adoption and persistent structural weaknesses. The study developed a DiPH competency framework to inform public health education and continuing professional development in Europe. Methods We conducted a three-round online Delphi study followed by a validation workshop. Experts were recruited based on DiPH expertise and involvement in European public health education. Participants rated the

relevance of proposed competencies on a 9-point Likert scale and suggested additional ones; consensus was defined as mean ratings of 1–3 (exclusion) or 7–9 (inclusion). Results 33 experts participated in the study. Building on ASPHER's Public Health Core Competence Framework, we developed an initial set of 19 DiPH competencies across multiple public health domains, which were iteratively refined across rounds. The agreed 44 competencies covered content related to digital (health) literacy; health data collection, analysis, management, and governance; ethics and regulation of the digital transformation of health systems; and the spread of information in digital networks.

68. Vizard, Michelle Lorraine. **Role of the digital specialist community public health nurse: reimagining community nursing in the AI-enabled public health landscape**. Primary health care. 2026.Why you should read this article: To recognise the benefits and challenges associated with the increasing use of digital technology in healthcare services To learn about the aspects of a proposed digital specialist community public health nurse (digital SCPHN) role framework To consider practical ways in which front-line nurses, team leads and system commissioners can strengthen digital capability in community and public health nursing Digital transformation and artificial intelligence are redefining how people access and navigate community healthcare. Concurrently, community nursing services are facing a sustained workforce decline. While digital nurse leadership has matured in many acute organisations, community nurses are increasingly expected to deliver technology-enabled care without equivalent leadership structures, support or career pathways. In this article, the author details a proposal for a digital specialist community public health nurse (digital SCPHN) role framework.

Radiology

69. Adesuyi, Adesina, Sid Singh and Mukherjee Ankur. **From validation trials to clinical reality: implementing AI-supported prostate MRI pathways in the NHS**. BJON. 2026.Vol.35(18), ppS14–S17. Prostate cancer remains the most common cancer diagnosed in men in the UK. The adoption of pre-biopsy multiparametric MRI (mpMRI) has improved diagnostic stratification, although it has concurrently increased the burden on radiology services. Artificial intelligence (AI) systems for analysing prostate MRIs have demonstrated significant potential in validation tests. Integrating these systems into the NHS will be exceedingly challenging because of concerns around governance, safety, and workflow. This article provides a perspective on AI-assisted prostate MRI and draws on practical experience from pathway design and early implementation planning in a local general hospital. The emphasis is on governance-centric deployment, human-in-the-loop safety, and pathway-level integration rather than the algorithm's performance. AI may support prostate MRI interpretation and improve efficiency within diagnostic pathways; nevertheless, its clinical efficacy is contingent on the quality of its application, rather than only on its validation. Governance-driven pathway design centred on individuals is crucial for ensuring that AI technologies enhance healthcare practices while maintaining safety, equity, and professional autonomy.

70. Beste, Nedim Christoph and Thomas Dratsch. **Can AI save radiologists from burnout—Or make it worse?.** Eur.Radiol. 2026.Vol.36(8), pp6837–6838.

Regulation

71. Athni, Tejas S. **The United Kingdom's New Blueprint for Regulating AI in Health Care.** Journal of medical Internet research. 2026.Vol.28 ppe112992. Current medical device regulation is insufficient for addressing the unique features and evolving nature of AI technology, leaving gaps that regulators across the world are working to close. In this News and Perspectives article, JMIR Correspondent Tejas S Athni reports on a recently released report outlining 44 recommendations that, if implemented, could provide a more comprehensive, life cycle–based regulatory framework for health care AI in the United Kingdom.

Shadow AI

72. Congdon, Jenna. **The Rise of Shadow AI in Health Care: What It Means for Patient Care.** Journal of medical Internet research. 2026.Vol.28 ppe110893. In response to unrelenting burden, many health care professionals have been turning to mainstream AI tools that haven't been approved by their institutions. In this News and Perspectives article, JMIR Correspondent Jenna Congdon reports on this "shadow AI" use in health care.

73. Furey, Pippa. **Shadow artificial intelligence**. JPAR. 2026.Vol.18(8), pp315.

74. Petersson, Lena, Luís Irgang, Ingela Mauritzon and Magnus Holmén. **Shadow AI in Swedish Health Care: Qualitative Analysis of Physicians' Free-Text Answers**. Journal of medical Internet research. 2026.Vol.28(1), ppe93484. The rapid emergence of artificial intelligence (AI) has outpaced its formal adoption in health care organizations, contributing to the emergence of Shadow AI, defined here as the use of unauthorized AI tools by medical professionals. Under the European Union Medical Device Regulation, AI tools used for clinical purposes must undergo conformity assessment before use; general-purpose tools such as ChatGPT have not done so, rendering their clinical application unauthorized at the regulatory level. While Shadow AI offers potential efficiency gains and higher performance, it poses significant risks to data privacy, clinical safety, and regulatory compliance. Despite its growing prevalence, empirical research on the purposes for which physicians use Shadow AI remains scarce. This study explores the purposes for which physicians describe using Shadow AI in their work. We conducted a cross-sectional survey of physicians employed in Swedish health care organizations (N=357; response rate~64%). Data were collected between December 2023 and January 2024 via a verified online panel. We conducted a qualitative content analysis of free-text responses on the use of unauthorized AI tools.

Surgery

75. Güngör, Songül, Kezban Koraş Sözen and Gülseren Maraş Baydoğan. **Perceptions, Attitudes, and Expectations of Surgical Patients Toward Artificial Intelligence–Supported Nursing Care: A Mixed Methods Study**. Journal of transcultural nursing.

2026.Vol.37(5), pp798–807. Introduction: Artificial intelligence (AI) is increasingly influencing nursing and surgical care. Although AI-supported systems may improve efficiency, they also raise ethical and humanistic concerns, highlighting the importance of patient perspectives. Methods: An explanatory sequential mixed methods design was used. Quantitative data were collected from 312 postoperative surgical patients to assess knowledge and attitudes toward AI-supported care. Based on these results, 15 participants were selected for in-depth qualitative interviews using purposive sampling. Descriptive qualitative content analysis was applied, and the findings were integrated. Results: Patients' attitudes toward AI were generally moderate and cautious. Most participants reported limited knowledge and perceived AI as a media-driven and abstract concept. Major concerns included loss of human touch, system errors, data security, and trust. AI was viewed as a supportive tool rather than a replacement for nursing care. Discussion: Acceptance of AI-supported nursing care is shaped by cultural values, trust, human-centered expectations, requiring empathy and professional oversight.