

# A.I & Healthcare – Winter 2025-6



Figure 1 – NHS Lanarkshire Logo

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## AI & Cancer Care

1. Cavallucci, Martina, Alice Andalò, Valentina Danesi, et al. [Survey on cancer patients' attitudes towards AI and data protection: A cross-sectional study from an Italian cancer center.](#) International journal of medical informatics (Shannon, Ireland). 2026.Vol.209 pp106237.  
 Background Artificial Intelligence (AI) is increasingly integrated into oncology, offering opportunities to improve diagnostics, treatment planning, and operational efficiency. However, patient perspectives on AI, especially regarding data protection and ethical implications, remain underexplored. Objective The objective of this study is to investigate cancer patients' attitudes toward the use of Artificial Intelligence (AI) in healthcare, focusing on their awareness of data protection, perceived risks and benefits, and the conditions under which AI is considered acceptable. Additionally, the study aims to examine how demographic and educational factors influence patients' views within the context of an Italian comprehensive cancer center. Methods A cross-sectional survey was conducted with 117 cancer patients who completed a 28-item online questionnaire. The survey evaluated levels of AI knowledge, perceptions of data privacy, concerns about AI in medical contexts, and willingness to share health data for research. Results Most participants demonstrated moderate awareness of AI (70.1%) and its medical applications (85.5%), with higher familiarity observed among younger and more educated individuals. While data protection understanding varied, 76.9% were willing to share personal health data for research aimed at improving cancer care. Concerns included reduced physician autonomy (52.1%) and diminished physician-patient interaction (63.3%). However, 82.9% of respondents found AI acceptable when clinical decisions remained under physician control. AI was most favorably viewed for administrative support and care process optimization. Conclusion Cancer patients generally view AI in healthcare positively, especially when it maintains physician oversight and safeguards data privacy. To ensure equitable and informed adoption, targeted educational initiatives and transparent communication strategies should address generational, educational, and digital literacy differences. •70.1% of patients can define AI and 85.5% are aware of its medical applications. •76.9% are willing to share data for research to improve cancer care. •Main concerns: reduced human contact (63.2%) and loss of physician judgment (52.1%). •82.9% support AI if doctors retain decision-making authority. •Findings support AI adoption with safeguards for privacy, education, and transparency.

2. Chua, Bryan Nicholas, Dexter Kai Hao Thng, Tan Boon Toh and Dean Ho. [Artificial intelligence for breast cancer management](#). Commun Med. 2026.Vol.6(1), pp79–17. Artificial intelligence is transforming breast cancer management through various machine learning applications. Artificial intelligence supports precision medicine by enhancing detection, diagnosis, prognosis, and treatment response prediction. It achieves this by analysing data from medical imaging, histopathology, genomics and multi-omics sources to improve patient recovery. This review summarises AI-driven advancements across the entire continuum of breast cancer management, spanning detection, diagnosis, prognosis, treatment and recovery. It evaluates their efficacy and limitations, explores their impact on healthcare costs and clinical practice, and addresses key challenges including generalisability, reproducibility and regulatory barriers. Evidence from recent studies highlights AI's role in improving breast cancer detection, molecular subtyping and prognostic accuracy. It also facilitates more patient-tailored therapeutic strategies and supports quality of life interventions. Nonetheless, the translation of these benefits into clinical practice requires rigorous validation, transparent model development, and equitable implementation. Chua et al., discuss how artificial intelligence is transforming breast cancer care by improving detection, diagnosis, prognosis, treatment planning, and patient recovery through advanced machine learning and deep learning applications. They emphasise that widespread adoption faces challenges such as data diversity, reproducibility, regulatory hurdles, infrastructure limitations, and ethical concerns around transparency and bias.
  
3. Wang, Yimin, Changan Chen, Yiwei Gao, et al. [Beyond conventional images: AI-driven biotechnologies for oral cancer diagnosis – a systematic review](#). European journal of cancer (1990). 2026.Vol.232 pp116118. Oral cancer (OC) represents a significant global health challenge, with traditional imaging techniques often falling short in early diagnosis. Recent advancements combining artificial intelligence (AI) and biotechnology have led to more accurate diagnostic outcomes. We conducted a systematic literature review of peer-reviewed original articles that utilized AI-driven biotechnology for early OC diagnosis. The studies were categorized into four groups: molecular biology, other biomarkers, spectral analysis, and multispectral autofluorescence lifetime imaging (maFLIM). We performed a comprehensive descriptive analysis at the group level and compared their diagnostic performances. Additionally, we employed an adapted Quality Assessment of Diagnostic Accuracy Studies (QUADAS-2) analysis to identify current limitations. A total of 42 studies were analyzed, yielding an overall accuracy of 87.9 % (range: 71.0 %-100.0 %). The molecular biology group exhibited the best performance, achieving an accuracy of 95.9 % (range: 95.0 %-96.7 %); spectroscopy also performed well, while maFLIM showed the poorest performance among the four groups. Quality assessments indicated significant risks in several domains. External validation was absent in 90.5 % of studies, and 20 % lacked a clearly defined model architecture. To validate model superiority, most studies compared against other state-of-the-art models, few studies compared different sample types, while others lacked comparisons. Additionally, there was a moderate to high risk in Patient Selection section due to unclear dataset composition, processing, and partitioning. Furthermore, traditional machine learning methods constituted 69.0 % of the studies, indicating a limited exploration of novel AI architectures. AI-driven biodiagnostic technologies demonstrate strong potential for the early diagnosis of OC. However, compared to other oncology fields, challenges such as limited sample sizes, insufficient validation and under-exploration of AI remain prevalent. Ongoing exploration of advanced deep learning techniques and multimodal approaches also holds promise for enhancing the clinical applicability of these technologies. •AI-driven biodiagnostic technologies for oral cancer show strong potential. •Most studies used traditional machine learning methods. •The molecular biology

group achieved the highest accuracy. •An adapted QUADAS analysis were utilized to explore limitations. •Challenges such as limited sample sizes and insufficient validation remain.

## AI & Cardiology

4. Alexandrou, Michaella, Ippokratis Konstantinidis, Jose Manuel Orenday, et al. [Artificial intelligence in cardiology: a narrative review with focus on patient outcomes](#). Cardiovascular diagnosis and therapy. 2026.Vol.16(1), pp8. 10.21037/cdt-2025-479

## AI & Care of Older Adults

5. Chae, Kacey, Jacqueline Massare, Sato Ashida, et al. [Stakeholders' Perceived Benefits and Concerns Regarding Artificial Intelligence in the Care of Older Adults](#). Journal of the American Geriatrics Society (JAGS). 2026.Vol.74(2), pp355–364. Background Artificial Intelligence (AI) applications in healthcare have significant potential to address the unmet needs of older adults. To successfully adopt and implement AI in the care of older adults, it is critical to understand stakeholders' perspectives. We sought to explore the perceived benefits and concerns among stakeholders about AI applications in caring for older adults. Methods We conducted individual semi-structured interviews with five groups of stakeholders: older adults and caregivers, clinicians, health system and health insurance plan leaders (payers), investors, and technology developers. Interviews asked about the perceived role of AI in the care of older adults, the perceived benefits and concerns regarding AI, and suggestions for mitigating the concerns. Interviews were audio recorded and transcribed verbatim. We used thematic content analysis to code the transcripts. Results Overall, 49 participants completed interviews: older adults/caregivers (n = 15), clinicians (n = 15), payers (n = 8), investors (n = 5), and technology developers (n = 6). We identified three themes. (1). Stakeholders reported multiple benefits of AI and identified several roles for its use in the care of older adults. (2). Stakeholders expressed concerns about AI, including worsening social isolation, high cost, propagating ageism, goal misalignment, and scams/misuse of AI; views on privacy concerns were mixed. (3). Stakeholders suggested potential solutions, such as setting appropriate guardrails, to mitigate concerns about AI. Conclusions Given the complexity and significant unmet needs among older adults, AI's potential benefits and harms are both heightened in this population. Appropriate guardrails are needed to leverage the benefits of AI while mitigating potential harms. Our findings have implications for technology developers to design innovations that align with the stakeholders' perceived roles for AI, for regulatory bodies to incorporate stakeholders' concerns when developing AI regulations, and for health systems and end-users of technology to critically evaluate a product regarding its affordability and impact on social isolation and ageism. Summary Key points oStakeholders (i.e., older adults and caregivers, clinicians, payers, investors, and technology developers) reported multiple perceived benefits regarding the use of AI in the care of older adults and discussed various AI roles, including making tasks more efficient, addressing unmet needs, avoiding adverse health events, and enhancing human capabilities. oStakeholders also identified important concerns about the use of AI in the care of older adults, including social isolation, high cost, ageism, misalignment with patient goals, and scams/potential for misuse and discussed the need to have guardrails to mitigate potential negative consequences of AI. Why does this paper matter? oTo our knowledge, this is the first study to include multiple types of stakeholders' perspectives about the perceived roles and concerns of using AI specific to the care of older adults; inclusion of these perspectives is critical in enhancing the dissemination and adoption of AI innovations in the care of older adults. Our

findings have implications for technology developers, regulatory bodies, health systems, and end-users of technology in the future development, regulation, and evaluation of new AI applications to ensure positive impacts in the care of older adults.

6. Deng, Wei, Li-Ying Zhang, Ji-Rong Yue and Xiao-Li Huang. [The future of multimorbidity management in the older adults: transforming AI-enabled precision medicine](#). *Frontiers in public health*. 2026.Vol.13 pp1691682. With global population aging, the prevalence of multimorbidity among older adults has risen sharply. This growing complexity challenges traditional single-disease-oriented healthcare models, leading to fragmented care, increased polypharmacy risks, and poor clinical outcomes. Precision medicine, integrating genomic, phenotypic, and behavioral data, offers a promising avenue for individualized care in this context. Concurrently, artificial intelligence (AI) has emerged as a powerful enabler of precision medicine by facilitating large-scale data analysis, real-time risk prediction, and multimodal data integration. This review summarizes recent advances in the application of AI-enabled precision medicine for managing geriatric multimorbidity, providing a theoretical and practical framework for integrating AI-enabled care. It highlights the need for interdisciplinary collaboration, regulatory innovation, and equity-focused design to transform multimorbidity management in aging societies.

## AI & Community

7. Ryan, Kerry A., Morgan L. Sielaff, Dalya Saleem, et al. [Community perspectives on health AI: hopes, concerns and implications for health systems and trustworthy AI](#). *AI Ethics*. 2026.Vol.6(2),The increasing use of artificial intelligence (AI) in healthcare has heightened public focus on issues of trust, transparency, and governance. In this study, we conducted five virtual community deliberations with Michigan residents (n = 159) to explore their hopes, concerns, and perspectives on how to promote trustworthiness in health AI. Participants were predominantly female (65%) with a mean age of 46 years, including 35% African American, 33% White, and 21% Middle Eastern/North African residents, with 40% reporting incomes below \$50,000. Participants recognized AI's potential to improve diagnostic accuracy, efficiency, and access to health information, but voiced concerns about privacy, lack of transparency, diminished human interaction, and insufficient oversight. They recommended clear communication about when and how AI tools are used; regulation and oversight that includes patient and community input; and the use of AI to augment, not replace, human judgment and empathy. These findings informed the development of practice and policy recommendations for trustworthy health AI frameworks emphasizing human-centeredness, transparency, oversight, and accountability, underscoring the critical role of public involvement in AI governance. Future research should engage diverse community perspectives when developing health AI tools to support safe, trustworthy implementation in healthcare.

## AI & Consent

8. Al-zubaidy, D. [Patient consent for AI-assisted diagnosis](#). *Br.Dent.J.* 2026.Vol.240(7), pp445.
9. Duffourc, Mindy Nunez and Ronan Cahill. [Informed consent for medical AI](#). *AI & society*. 2026.Artificial intelligence (AI) in medicine raises questions about whether clinical use of AI will negatively impact patients' self-determination and physicians' therapeutic autonomy within the clinical decision-making process. The process of informed consent is regarded as an important

touchstone of the patient–physician relationship, wherein patient and physician autonomy converge to drive treatment decisions. Informed consent has closely related ethical and legal dimensions that impact the type, scope, and means of information provided during informed consent conversations. While medical ethics facilitates informed consent in the clinical sphere, the legal system can impose liability when those rules are violated. To investigate the potential impact of AI on informed consent, we conducted a comparative analysis of 132 legal cases from the United States, United Kingdom, and Germany, alongside clinical case studies illustrating AI applications in diagnosis, treatment planning, and procedural execution. Our findings reveal that current legal principles governing informed consent are broad enough to encompass AI-driven medical technologies. The cases indicate that disclosures surrounding AI will depend on whether AI applications represent material risks, reasonable alternatives, or experimental methods, with informed consent requirements varying based on clinical integration, risk–benefit profiles, and standard of care acceptance. Because legal assessments of informed consent have already considered the challenges posed by medical innovations, inherent uncertainties of human diseases, knowledge disparities, medical information complexity, and dynamic variables that impact individual treatment options, AI integration, while potentially posing some new challenges, should not inherently undermine the protection of autonomy offered by the process of informed consent.

10. Moreira-Sousa, Diana, Ana M. Oliveira, Sara Ferreira, et al. [Improving Informed Consent Models for Endobronchial Ultrasound With Artificial Intelligence](#). Journal of bronchology & interventional pulmonology. 2026.Vol.33(1),Background: Informed consent (IC) ensures patient understanding on proposed medical procedures, including endobronchial ultrasound (EBUS). Artificial intelligence (AI) presents as a potential tool to improve this process. This study explores the potential of AI to improve traditional IC documents and if AI-generated video consents are a feasible alternative. Methods: An AI-generated IC (AI-IC) was created using a generative AI model. In phase I, participants evaluated both AI-IC and traditional IC (H-IC) unidentified texts through a 5-point Likert scale questionnaire and selected their preferred. In phase II, patients answered a questionnaire evaluating the AI-generated IC in text (AI-IC) or video (AIV-IC) format. Results: In phase I, (n=75, 44% health care professionals), AI-IC received higher scores for language clarity (P=0.013), benefits explanation (P<0.001), and addressing complications (P<0.001), but had lower scores for detailing the procedure (P<0.001). Most participants (86.7%) preferred the AI-IC for mentioning alternative procedures. In phase II, patients expressed high satisfaction with both the AI-IC (n=8) and AIV-IC (n=12). AIV-IC was globally accepted for replacing verbal IC. Conclusion: AI-generated materials improve accessibility in the IC for EBUS. While human supervision remains essential, future studies could strengthen the integration of AI-assisted and video-based consent tools in clinical practice.
11. Sahare, Harshal and H. Anupama. [Artificial intelligence-generated informed patient consent in various ophthalmological procedures: A comparative study of correctness, completeness, readability, and real-word application between Deepseek and ChatGPT 4o](#). Indian J.Ophthalmol. 2026.Vol.74(2), pp309–310.

## AI & COPD

12. Yevle, Dhanashree Vipul, Palvinder Singh Mann and Dinesh Kumar. [AI Based Diagnosis of Chronic Obstructive Pulmonary Disease: Acomparative Review](#). Arch Computat Methods Eng.

2026.Vol.33(2), pp2413–2450. Chronic Obstructive Pulmonary Disease (COPD) is a significant worldwide health burden, diagnosed late in life because of dependence on spirometry and clinical judgment. Artificial Intelligence (AI) has revolutionary potential in early COPD diagnosis using computational biomarkers and bioacoustic intelligence. This review discusses AI-based methods using pulmonary function parameters, vital signs, biochemical markers, and respiratory sounds for non-invasive, computer-aided diagnosis. Machine learning and deep learning architectures such as CNNs, LSTMs, and ensemble learning have been highly accurate in detection of disease-specific acoustic and physiological patterns. Despite significant progress, several main challenges remain such as dataset standardization, model generalizability across populations, regulatory barriers, and low clinician confidence in AI-driven decisions. Emerging trends are federated learning for training multi-hospital AI models, AI-powered wearable diagnostics, and explainable AI (XAI) to fuel greater clinical uptake. AI-driven diagnosis of COPD has the potential to improve early detection, enable personalized treatment, and aid scalable healthcare solutions, particularly in resource-constrained settings.

## AI & Critical Care Nursing

13. Amin, Shaimaa Mohamed, Wesam Taher Almagharbeh, Intima Alrimawi, et al. [Exploring the Ethical Dimensions of AI-Driven Patient Monitoring in Critical Care Nursing: A Systematic Review](#). Nurs.Crit.Care. 2026.Vol.31(2), ppe70384–n/a. Background Artificial intelligence (AI) is increasingly applied in intensive care units (ICUs) to enhance monitoring, prediction and decision-making. While these systems may improve patient safety and support nursing practice, their integration raises significant ethical concerns. Aim To explore the ethical dimensions of AI-driven patient monitoring in critical care nursing, focusing on autonomy, privacy, accountability and equity as reported by ICU nurses and patients. Study Design A systematic search of PubMed, CINAHL, PsycINFO, Scopus and ProQuest Central identified empirical studies published between 2010 and 2025 that addressed ethical implications of AI in ICU nursing. Results Six studies were included: three cross-sectional surveys, two qualitative interview studies and one pilot feasibility trial, involving 837 ICU nurses and 22 ICU patients. Four ethical themes were identified. Autonomy: Nurses feared automation bias and erosion of judgement, though trust in AI reduced decision regret. Privacy: Continuous data collection raised strong concerns, with governance and training seen as prerequisites for adoption. Accountability: Lack of algorithmic transparency limited nurses' willingness to act on outputs. Equity: Risks of biased datasets and subgroup disparities threatened fair care delivery. Conclusions AI-driven monitoring can enhance nursing practice but introduces ethical vulnerabilities. Protecting autonomy, safeguarding privacy, ensuring transparency and addressing equity are essential for responsible integration in critical care nursing. Relevance to Clinical Practice Nurses require enhanced AI literacy and ethical training to integrate technology with patient-centred care. Robust governance must clarify accountability and ensure transparency, while research should focus on long-term impacts and develop nursing-specific ethical frameworks. Impact Statement • What Is Known About This Topic ○ Artificial intelligence-enabled monitoring in intensive care units can strengthen early warning and decision support, but ethical concerns persist around nurses' autonomy (automation bias), patient privacy (continuous surveillance) and equity (dataset bias). ○ Nurses' uptake of artificial intelligence outputs depends on transparency and interpretability, supported by clear governance; opaque 'black-box' tools undermine accountability. ○ The empirical evidence base in intensive care unit nursing remains limited and standards often lag real-world deployment. • What This Paper Adds ○ Provides one of the first nursing-focused systematic syntheses of empirical evidence on ethical

issues in artificial intelligence-driven intensive care unit monitoring, summarising six studies across four domains: autonomy, privacy, accountability and equity. ○ Shows that trust matters: in the available quantitative evidence, higher reliance on artificial intelligence-clinical decision support system is linked to lower nurse decision regret when trust is high, underscoring the importance of explainable and trustworthy systems. ○ Offers actionable recommendations for implementation in critical care nursing, including artificial intelligence literacy and ethics training, strengthened consent and data governance, transparency to clarify accountability and routine bias audits to support equity.

## AI & Dentistry

14. Khurshid Z, Osathanon T, Shire MA, Schwendicke F, Samaranayake L. [Artificial Intelligence in Dentistry: A Concise Review of Reporting Checklists and Guidelines](#). International Dental Journal. 2026 Feb 1;76(1):109322.

## AI & Dermatology

15. Frederickson, Katie L., Haiwen Gui, John S. Barbieri and Roxana Daneshjou. [Artificial Intelligence Use in Acne Diagnosis and Management—A Scoping Review](#). Int.J.Dermatol. 2026.Vol.65(3), pp437–443. Artificial intelligence (AI) techniques can allow for early diagnosis and treatment of acne. Bias in AI model training remains, leading to various challenges in achieving health equity in clinical practice. We aim to assess and provide an updated overview of (1) the types of AI-based tools developed for acne, (2) the various applications of AI in acne diagnosis and management, (3) the performance of these tools, and (4) the current data reported on skin diversity in AI model training. Correction added on 27 December 2025, after first online publication: The preceding sentence has been corrected.] We queried PubMed, Cochrane and Scopus databases using the terms: “acne”, “artificial intelligence”, “machine learning”, “deep learning”, “large language model”, and “ChatGPT”. 105 articles were included for analysis. Of the 105 research articles, 96.2% (N = 101) were focused on acne diagnosis only, 9.5% (N = 10) on acne management only, and 5.7% (N = 6) on both. Most manuscripts used image-based models, including deep learning (76.2%, N = 80), classical machine learning (9.5%, N = 10), and ensemble models (11.4%, N = 12). The ensemble models hold the highest mean accuracy (89.7%), followed by deep learning (88.5%), large language models (87.5%), and machine learning models (86.9%). Only 13% (N = 14) of studies reported data on patient skin color, while 4 of the 14 studies included a full spectrum of diverse skin tones. Correction added on 27 December 2025, after first online publication: The preceding sentence has been corrected.] The application of AI algorithms in healthcare is rapidly emerging, providing significant support to providers. With ensemble models demonstrating superior performance, AI algorithm use in acne may offer a convenient method to consistently diagnose and manage patients remotely. Designing systematic guidelines that require a diverse representation of all skin colors may improve social justice in healthcare.

## AI & Diabetes

16. Dubský, Michal, Michaela Liegertová, Robert Bém, Dominika Sojáková, Vladimíra Fejfarová and Edward B. Jude. [Artificial Intelligence in Diabetes Care](#). Diabetes Obes.Metab. 2026.Diabetes care requires frequent and high-stakes decisions that must be made in the setting of substantial day-to-day physiologic variability. The growing availability of continuous glucose monitoring, connected insulin delivery devices and longitudinal electronic health record data has created an opportunity for algorithm-enabled tools that can synthesise high-frequency data, reduce cognitive

burden for patients and clinicians, and support safer and more consistent decision-making. In this review, artificial intelligence (AI) is used broadly to describe computational systems that generate predictions, recommendations or automation from clinical data. We distinguish between algorithmic automation and control methods that underpin many currently deployed automated insulin delivery (AID) systems and machine learning-based models, including deep learning and large language models (LLMs), that are increasingly used for pattern recognition, risk prediction and natural language applications. This distinction is clinically relevant because evidence standards, safety risks and governance needs vary substantially across these categories. This narrative review summarises current and emerging applications of AI in diabetes care with an emphasis on clinical readiness, strength of evidence and implementation considerations. We highlight established applications in AID, emerging approaches that seek greater autonomy and interoperability and newer tools such as LLMs, wearables and digital twin frameworks, focusing on where evidence is strongest, where risks are highest and what safeguards are required for responsible clinical use.

17. Masood, Saleha, Mousa Al-Bashrawi, Muhammad Attique Khan and Yogesh K. Dwivedi. [From data to diagnosis: a systematic review on AI-driven approaches to diabetes prediction.](#) *Artif.Intell.Rev.* 2026.Vol.59(3), pp103. Diabetes mellitus is one of the most pressing global health challenges, and early prediction is critical to reducing complications, mortality, and healthcare costs. Conventional diagnostic tools remain limited, as they often rely on a small set of biomarkers and fail to capture lifestyle, genetic, or environmental risk factors. This review systematically evaluates how artificial intelligence (AI), including machine learning (ML) and deep learning (DL), enhances diabetes prediction by integrating multimodal data and improving clinical interpretability. Following PRISMA 2020 guidelines, a systematic search was conducted across PubMed, Scopus, IEEE Xplore, Web of Science, and ACM Digital Library for studies published between 2010 and 2024. Inclusion criteria required AI-based diabetes prediction models with reported performance metrics. From 2134 records, 155 studies met the criteria and were synthesized. AI models consistently outperformed conventional approaches (60–75% accuracy), Ensemble methods such as Random Forests and XGBoost achieved accuracy of 85–90% and AUC-ROC values > 0.90. Emerging methods such as federated learning enable privacy-preserving cross-institutional collaboration with comparable accuracy (~ 88%), while explainable AI techniques (e.g., SHAP, LIME, attention mechanisms) enhance transparency and clinical trust. Real-world case studies demonstrate improvements in early detection, reduced hospitalizations, and increased patient engagement when AI models are integrated into EHRs or mobile health apps. This review contributes a novel synthesis by combining methodological insights with clinical applications. The central takeaway is that AI-driven diabetes prediction offers significant advantages over traditional methods, but challenges in data quality, generalizability, fairness, and regulatory compliance remain. Addressing these will be essential to ensure safe, equitable, and clinically meaningful adoption in healthcare practice.
18. Remedios, Lucas W., Chloe Cho, Trent M. Schwartz, et al. [Lifespan Pancreas Morphology for Control Versus Type 2 Diabetes Using AI on Largescale Clinical Imaging.](#) *Clin.Anat.* 2026. Understanding how pancreas size and shape change with normal aging is critical for establishing a baseline to detect deviations in type 2 diabetes and other pancreatic disease. We measure pancreas size and shape using morphological measurements from early development through aging (ages 0–90). Our goals are to (1) identify reliable clinical imaging modalities for artificial intelligence (AI) based pancreas measurement, (2) establish normative morphological

aging trends, and (3) detect potential deviations in type 2 diabetes. We analyzed a clinically acquired dataset of 2533 patients imaged with abdominal computed tomography (CT) or magnetic resonance imaging (MRI). The patients did not have cancer, pancreas pathology, sepsis, or trauma. We resampled the scans to 3 mm isotropic resolution, segmented the pancreas using automated methods, and extracted 13 morphological pancreas features across the lifespan. First, we assessed pancreas volume trajectories in 1858 control patients across contrast CT, non-contrast CT, and MRI to determine which modalities provide consistent lifespan trends. Second, we characterized distributions of normative morphological patterns stratified by age group and sex. Third, we used covariate-adjusted generative additive models for location, scale, and shape (GAMLSS) regression to model pancreas morphology trends in 1350 patients matched for age, sex, and type 2 diabetes status to identify any deviations from normative aging associated with type 2 diabetes. We selected CT for the main analyses of this study, since the MRI appeared to yield different pancreas measurements than CT using our AI-based method on this dataset of clinically acquired scans. When adjusting for confounders, the aging trends for 10 of 13 morphological features were significantly different between patients with type 2 diabetes and non-diabetic controls ( $p < 0.05$  after multiple comparisons corrections). Additionally, we characterized normative morphological aging trends of the pancreas across 13 morphological measurements. We provide lifespan trends demonstrating that the size and shape of the pancreas are altered in type 2 diabetes using 675 control patients and 675 diabetes patients. Moreover, our findings reinforce that the pancreas is smaller in type 2 diabetes. Additionally, we contribute a reference of lifespan pancreas morphology from a large cohort of non-diabetic control patients in a clinical setting.

19. Shao, Mandy M., Agatha F. Scheideman, David Kerr, et al. [Integrating trust into artificial intelligence for medicine: using diabetes as the exemplar disease.](#) J Transl Med. 2026.Vol.24(1), pp450. Artificial Intelligence (AI) has the potential to impact healthcare across multiple domains. In diabetes, a complex chronic disease affecting 600 million people globally, AI is already being used from primary care to tertiary specialist care to reduce patient and clinician burden. However, for medical AI to be widely implemented and applied specifically to diabetes, such stakeholders as patients, clinicians, healthcare administrators, regulators, and AI developers will need to establish trust in this technology. Building trust is a balancing act depending on individual priorities of stakeholders which may not necessarily align. Both probabilistic outputs and “top-choice only” outputs are used in medical AI. To achieve trust in AI for diabetes care, it will be necessary to move beyond expecting only single, deterministic outputs and to establish clear standards for medical AI provenance and performance. This article presents priorities for each of the various stakeholders if they are to develop trust in medical AI and their responsibilities for contributing to the establishment of trust in medical AI. For a medical AI system to be trustworthy, six key attributes must be incorporated including accuracy, reproducibility, privacy/security, transparency, human oversight, and fairness. We present practical methods to achieve each of these six attributes of trustworthy medical AI prioritizing diabetes that are important for all stakeholders.
20. Wu, Yucen, Jun Pang, Shaoyong Xu, Lalantha Leelarathna and Aaron M. Lett. [Artificial Intelligence in Type 1 Diabetes Management: A Scoping Review of Randomised Controlled Trials.](#) Diabetes Obes.Metab. 2026.Artificial intelligence is emerging in healthcare systems. In type 1 diabetes, AI-enabled tools are increasingly used to support nutrition assessment and insulin decision-making, yet their clinical utility and safety remain unclear. The study aims to identify and map the evidence on the clinical utility of AI-based diabetes management tools in people with

type 1 diabetes. We conducted a scoping review following PRISMA-ScR guidelines, searching PubMed, CINAHL and Web of Science up to January 2026 for eligible randomised controlled trials. Our findings indicate that the evidence base is small and concentrated in high-income settings, with most trials assessing clinical utility using CGM outcomes and showing mixed improvements across interventions. No serious safety events were reported, but small sample sizes, short follow-up and inconsistent safety reporting limit confidence. Future research should prioritise larger, longer-term real-world evaluations that use standardised safety endpoints and patient-centred outcomes, including in low- and middle-income countries to support equitable implementation.

## AI and Diagnosis

21. Al-zubaidy, D. [Patient consent for AI-assisted diagnosis: Artificial intelligence](#). Br.Dent.J. 2026.Vol.240(7), pp445.
22. Lassmann, Timo. **AI succeeds in diagnosing rare diseases**. Nature. 2026.Vol.651(8106), pp597–598. An artificial-intelligence system uses clinical data, genetic information and literature searches to suggest diagnoses and provides the underlying reasoning. An artificial-intelligence system uses clinical data, genetic information and literature searches to suggest diagnoses and provides the underlying reasoning. (Order)

## AI & Decision Support

23. Phelps, Nicholas, Patrick Vossler, Avni Kothari, et al. [Patient perspectives about deployment of artificial intelligence decision support tools in a safety-net healthcare system](#). JAMIA open. 2026.Vol.9(2), ppooag029. Abstract Objectives To assess patient awareness, trust, perceived benefits, and risks of artificial intelligence (AI) in clinical care within an urban safety-net health system. Materials and Methods We surveyed 313 patients from November 2024 to January 2025 regarding AI awareness, trust in AI-assisted decision-making, and preferences for transparency and oversight. Quantitative analyses assessed associations between AI awareness and perceived benefit; qualitative analysis identified themes influencing trust. Results While 84% were familiar with commercial AI, fewer than half recognized the use of AI in medical decision support. Greater AI awareness was associated with higher perceived benefit (all  $P < .001$ ). Participants emphasized transparency (92%), clinician oversight (82%), and validation as critical to trust. Discussion This study provides one of the first assessments of patient perspectives on AI within a safety-net healthcare setting. Patients view clinical AI favorably but demand transparency and clinician involvement. Conclusions Patient education and engagement are essential for equitable, trustworthy AI deployment. Lay Summary What We Wanted to Find Out: We wanted to learn what patients at a city hospital for people with lower incomes think about artificial intelligence (AI) in their healthcare. We looked at what they knew about AI, if they trusted it, and what good or bad things they thought it might bring. How We Did It: We asked 313 patients between November 2024 and January 2025 to fill out a survey. We asked them about their knowledge of AI, if they would trust AI to help doctors make decisions, and if they wanted things to be clear and supervised. We used numbers to see if knowing more about AI made them think it was more helpful. We also read their written comments to understand what built their trust. What We Found: Most patients (84%) knew about AI from everyday things like phones or smart speakers. But less than half knew about AI being used in healthcare to help doctors. Patients who knew more about AI also thought it was more helpful. Most patients said they needed AI to be clear (92%), doctors to check it (82%), and for it to be proven safe and effective to trust it. What This Means: This study is among the first to examine how patients at a safety-net hospital feel about AI

in healthcare. Patients generally like the idea of AI helping doctors, but they really want it to be clear how AI is used and for doctors to still be in charge. Our Main Point: To make sure AI in healthcare is fair and trustworthy for everyone, it's very important to teach patients about it and involve them in how it's used.

## AI & Education

24. Giordano, Julia and Elizabeth Jones. [AI Scribe Use in Residency Training: A Call for Specialty Society Guidance in Graduate Medical Education](#). Advances in medical education and practice. 2026.Vol.17 pp1–4. Artificial intelligence (AI) is increasingly used for documentation purposes in clinical practice, yet guidance for resident use is limited. Given the substantial documentation burden on medical trainees, AI-powered scribing tools may offer benefits, but their integration into residency training raises educational, supervisory, and patient safety considerations. This study aimed to assess the availability of resident-specific guidance on AI scribe use from major medical and specialty organizations and to summarize current evidence on AI scribes in residency. We reviewed five major medical and specialty society websites (AAD, AMA, ACGME, AAMC, ABMS) via website searches and direct emails and conducted a PubMed search for residency-focused studies. No organization provided resident-specific guidelines; the AMA noted the need for safe, accurate, and non-discriminatory AI use, and the AAMC issued general principles for the use of AI in medical education, none of which specifically address resident documentation. Literature review identified two studies evaluating AI-assisted documentation in the residency context. The studies suggest reduced documentation burden and cognitive load, with documentation quality comparable to resident physicians. These findings highlight the need for residency-specific AI scribe consensus guidelines that address resident review, note sign-off, accountability, patient consent, and scope of use to ensure safe and effective integration into training.
25. Khomych O, Umryk M, Strutynska O, Zlobynets A, Shevchenko T, Marushko Y. [The Role of Artificial Intelligence in Transforming Medical Education: Horizons, Innovations and Challenges](#). InDigital Technologies in Education II: Selected Cases 2026 Jan 2 (pp. 189-205). Cham: Springer Nature Switzerland.

## AI & Employment

26. Bangura S, Lourens ME. [A Scoping Review of the Future of Work: Effects of Artificial Intelligence Automation and Remote Work on Employment Patterns, Skill Demands, and Organizational Dynamics](#). Int. J. Management and Data Analytics. 2026;6(1):4
27. Jha A, Sharma Y. [Artificial intelligence-driven job enlargement in healthcare: enhancing diagnostic efficiency and employee engagement](#). InData-Driven Diagnostics and Disease Prediction with AI Optimization 2026 Jan 1 (pp. 241-260). Academic Press.
28. Karmali Y. [The Role of Artificial Intelligence in Workforce Adaptation and Skill Development](#). InArtificial Intelligence in Healthcare and Biomedical Visualization 2026 Jan 2 (pp. 171-186). Cham: Springer Nature Switzerland. [\(Order\)](#)

## AI & Ethics

29. Adegunle, Farrah, Karanjot Chhatwal, Sammy Arab, et al. [Bias and Oversight in Clinical AI: A Review of Decision Support Tools and Equity Frameworks](#). Journal of general internal medicine :

JGIM. 2026. Artificial intelligence (AI) decision support tools (DSTs) are increasingly used across clinical settings to improve efficiency and support decision-making. However, these tools risk perpetuating existing healthcare disparities if not designed and implemented with transparency, equity, and cultural sensitivity. This review explores how racial and ethnic biases manifest within AI-driven DSTs and evaluates the role of governance frameworks in mitigating such harms. It examines the implications of biased algorithms, presents case examples highlighting disparities in tool performance, and critically assesses the adequacy of current national and international regulatory guidance. The review reports that bias can stem from unrepresentative training datasets, exclusion of equity auditing in design, and the absence of mandated transparency in reporting. Although several frameworks exist to guide development and reporting, few are mandatory, and most do not include equity as a core criterion. The current UK and US regulatory models are decentralized and lack mechanisms to systematically detect or prevent bias. To prevent biased tools from entering practice, equity must be structurally embedded across the AI lifecycle. Embedding equity into AI tools requires standardized subgroup performance reporting, mandating fairness assessments, and establishing national and global governance standards to ensure AI tools serve all populations equitably.

30. Allen JW, Wilkinson D, Savulescu J. [When Is It Safe to Introduce an AI System Into Healthcare? A Practical Decision Algorithm for the Ethical Implementation of Black-Box AI in Medicine.](#) *Bioethics*. 2026 Jan;40(1):61-72.
31. Daus, Zachary, Mark Howard, Sandra Reeder, et al. [Stakeholder attitudes toward the ethical impact of use of artificial intelligence in clinical practice: a scoping review.](#) *Health Technol*. 2026. Vol.16(3), pp647–657. Purpose The application of artificial intelligence (AI) in clinical practice presents numerous ethical concerns. However, the attitudes of stakeholders toward its ethical impact have yet to be reviewed. We aimed to review the attitudes of stakeholders toward the ethical impact of applying AI in clinical practice. Methods We undertook a literature search of Ovid Medline and Scopus. We included empirical studies of clinicians, patients, and caregivers that investigated their attitudes toward applying AI in clinical practice. We developed a methodology based on the four principles of bioethics—beneficence, non-maleficence, autonomy, and justice—plus explainability to determine if a study investigated ethical impact. Results 103 studies were included. Themes related to beneficence included improved efficiency, improved decision-making and health outcomes, and more patient-centered care. Themes related to non-maleficence included inefficiency, diminished decision-making and worse health outcomes, less patient-centered care, de-skilling, and data insecurity. Themes related to autonomy included patient consent, sharing AI-generated information, and respecting patient preferences. Themes related to justice included bias, healthcare access, and responsibility. Themes related to explainability included improved decision-making and better health outcomes as well as de-skilling. Conclusions While all of the included studies queried at least one theme related to ethics, very few had the explicit objective of studying ethical attitudes. Moreover, few studies queried attitudes toward explainability. Further research is needed to address these gaps. Studies often reported conflicting attitudes, with stakeholders reporting that AI could harbor both ethical advantages and disadvantages for clinical practice. Further research is needed to address these ethical trade-offs.
32. Demir M, Aydoğdu F, Alabay MB, Yaşar HK, Bozkurt A. [More than an algorithm: mental health professionals confront the promise and ethical perils of artificial intelligence.](#) *Universal Access in the Information Society*. 2026 Mar;25(1):24.

33. Harms, Rebekah J., Rachel A. Ankeny, Lucy Carter, Aditi Mankad and Jackie Leach Scully. [Problems with a one-size-fits-all approach: a systematic literature review on solutions to AI bias in healthcare and implications for engineering biology](#). *AI Ethics*. 2026.Vol.6(3), Much of the current literature on artificial intelligence bias in healthcare presents a one-size-fits-all approach to bias mitigation. Such approaches, however, are unlikely to offer actionable guidance to those developers (and their institutions) who are looking for strategies to minimise potential bias. This paper presents findings from a systematic literature review exploring how AI developers can mitigate bias in the field of engineering biology. A systematic search was conducted on the Scopus and Web of Science databases for relevant articles published between 2015 and 2024. The findings from 51 reviewed articles show that recommendations for bias mitigation within healthcare tend to be grouped around seven key themes, namely diversity in teams, training and education, awareness and responsibility, diversity of data, collaboration with end users and beneficiaries, monitoring and evaluation, and transparency. While these recommendations provide useful suggestions for reducing bias, they generally fail to provide actionable guidance or empirical evidence about how these strategies can be operationalised in a real-world setting. More research is needed to test the effectiveness and practicality of these recommendations across different scientific and clinical contexts as well as among different types of development teams.
34. Hartley, Alice and James Fisher. [Seeing Is Believing? Exploring Gender Bias in Artificial Intelligence Imagery of Specialty Doctors](#). *The clinical teacher*. 2026.Vol.23(1), ppe70297–n/a. Background In medicine and medical education, women are disproportionately affected by gender bias. Artificial intelligence (AI) is increasingly being employed in medical education. As gender bias exists within AI, there is a risk of reinforcing gender stereotypes if AI is used to generate images of medical professionals. We examined whether the gender distribution of doctors seen in AI-generated images was representative of UK specialty trainee doctors. Methods Free-to-use AI text-to-image generators were used to create 1200 images across 30 specialties. NHS England recruitment data provided figures on gender. Specialties accounting for < 0.25% of overall recruitment were excluded as small numbers precluded meaningful analysis. Each image was independently reviewed by both authors and classified (male/female/not-classifiable). Any disagreement was resolved by discussion. ‘Not-classifiable’ images were removed from analysis. Gender distribution between the AI images and recruitment data was compared (chi-squared test, significance  $p < 0.05$ ). Findings There was a significantly higher proportion of males in the AI-generated images compared to NHS specialty data (82% vs. 47%;  $p < 0.0001$ ). Notably, both AI tools created no images of female general practitioners, orthopaedic surgeons or urologists. Conversely females were overrepresented as dermatologists, obstetricians and gynaecologists and plastic surgeons. Conclusion The finding of representational and presentational gender bias in AI-generated images of doctors is consequential because ‘visual culture’ within medical school, and beyond, matters. We contend that healthcare educators ought to employ caution when using AI and consider developing guidance on responsible use of AI imagery; otherwise, they risk perpetuating, rather than challenging, harmful gender stereotypes about medical career pathways.
35. Jensen, Victor Vadmand, Marianne Johansson Jørgensen, Rikke Hagensby Jensen, Jeppe Lange, Jan Wolff and Mette Terp Høybye. [Tailored AI ethics: Enacting geriatric care with AI-based patient monitoring](#). *Soc.Sci.Med*. 2026.Vol.397 pp119135. Artificial intelligence (AI) systems are

increasingly integrated into clinical practice, where they demonstrate potential to mitigate adverse events through enhanced patient monitoring and decision support. However, these AI systems also introduce ethical concerns around care standards and surveillance. Literature on ethically acceptable healthcare AI remains broadly theoretical, limiting its practical applicability. Using a theoretical framework of empirical ethics, we present an ethnographic study of an AI-based patient monitoring system, referred to here as O-VID, that is currently deployed in clinical settings. We studied how O-VID is made ethically acceptable in the clinical practice of a geriatric hospital ward, where it is used to prevent and identify falls. Our data includes both observations of O-VID's use and healthcare professionals' reflections on this. We used thematic analysis to identify the empirical ethics of AI-based patient monitoring in this setting. We identified four themes regarding O-VID's ethically acceptable use. Healthcare professionals must (1) choose whether to use O-VID, (2) negotiate consent and information related to O-VID, (3) make sense of patients with O-VID, and (4) time the use of O-VID. In addition, we identified the dynamics of standardizing, when staff appeal to a general standard practice, and tailoring, when staff tinker with O-VID in a situated fashion. Together, we term this tailored AI ethics. Our results contribute to the understanding of ethical dimensions of AI-based patient monitoring encountered in real-life human-AI collaboration. We showcase the importance of AI ethics' standardizing and tailoring practices, reflecting on how to achieve tailored AI ethics in practice. •Artificial intelligence (AI) for patient monitoring poses ethical concerns. •Empirical ethics and human-AI collaboration for managing ethical concerns practically. •Identification of four dimensions of ethically acceptable AI-based patient monitoring. •Formulating tailored AI ethics for ethically acceptable AI-based patient monitoring.

36. Lim, James Edgar, Owen Schaefer and Julian Savulescu. [Critical Engagement: The Value of Transparency of AI in Healthcare](#). Philos.Technol. 2026.Vol.39(1), pp1. Why is transparency important for the use of AI in healthcare? Responses to this question typically claim that transparency is something owed to the patient – because it is a condition for informed consent, legitimacy, accountability to the patient, etc. In this paper, we draw attention to why transparency can be valuable for medical practitioners. We claim that transparent AI models facilitate critical engagement by medical practitioners with AI models that they use. That is, they enable practitioners to assess why AI models make the recommendations they do, think about how those reasons affect their own beliefs and judgments, and make reasoned decisions about whether to maintain or change their own judgments. Via this process, AI models can help medical practitioners to improve their practice in a distinctly valuable way. In turn, this benefits both medical practitioners and their patients. This conclusion has important implications for AI design in healthcare: if AI models are to be used in healthcare, they should be designed in ways which allow medical practitioners to understand how the models arrive at their recommendations, and engage with them critically.
37. Lim EC, Lim CE. **Responsible use of AI in healthcare: an Australian perspective on promise, perils, and professional duties**. AI and Ethics. 2026 Feb;6(1):10. [Order](#)
38. Lim E, Thirunavukarasu A, He YV, Monkhouse H, Fu DJ, de Pennington N, Higham A, Tham YC, Jia Y, Habli I. [Building a code of conduct for AI-driven clinical consultations](#). Nature Medicine. 2026 Jan 6:1-4.

39. Matesa, Blanka and Izet Masic. [The Liability for Damage Caused by the Use of Artificial Intelligence \(AI\) in Medicine](#). Med.Arh. 2026.Vol.80(1), pp74–81. Background: Artificial intelligence (AI) is applied in numerous areas of society and has also led to significant changes in the field of medicine. Medicine is a branch of science of exceptional importance, and it is therefore necessary to ensure a high level of patient protection. The quality of healthcare has significantly improved through the use of artificial intelligence in various stages of the medical process, from the analysis of medical data and diagnostics, through therapy planning, to patient monitoring and the management of healthcare systems. Objective: The aim of this paper is to analyze the civil law aspects of artificial intelligence in medicine, with a particular focus on questions of liability for damage resulting from the use of such systems. Methods: The paper will first present the basic characteristics and areas of application of artificial intelligence in medicine, and then examine potential sources of damage and the legal basis for the liability of various stakeholders, including AI system manufacturers, software developers and data providers, healthcare institutions, and healthcare professionals. Special attention will be given to the challenges of proving causation and allocating liability in situations where decisions are made or supported by autonomous algorithmic systems. Results and Discussion: However, at the same time, numerous legal issues arise, particularly in the field of civil liability in cases where the application of artificial intelligence results in harm to a patient. Given the great importance of medicine and the need to ensure a high level of patient protection, the application of artificial intelligence must be accompanied by appropriate legal protection. The paper gives answers to a number of questions, with particular emphasis on the question of who may be held liable for damage caused by the use of artificial intelligence in medicine, as well as under which regulations and in what manner such liability is determined. Conclusion: Artificial intelligence has the potential to significantly enhance medical practice, its application must be accompanied by appropriate legal mechanisms that ensure patient protection and clearly define the responsibility of all participants in the system. Future legal development in this area will likely focus on further adapting existing civil law institutions to the specificities of artificial intelligence, while simultaneously strengthening preventive risk management mechanisms and transparency of AI systems in medicine.
40. Mostafapour, Mehrnaz, Jacqueline Fortier, Karen Pacheco, Heather Murray and Gary Garber. [Legal and Ethical Challenges in Integrating AI Into Clinical Practice: Qualitative Study of Physicians' Real-World Experiences](#). JMIR AI. 2026.Vol.5 ppe82351. The adoption of artificial intelligence (AI) in health care has accelerated; however, physicians continue to face substantial legal, ethical, and regulatory uncertainties when considering AI integration into clinical practice. Although the literature on AI in health care is expanding, there is limited insight into the real-world concerns voiced by clinicians navigating these uncharted territories. This study aimed to explore the legal and ethical uncertainties raised by Canadian physicians in relation to AI use in clinical care, using actual medicolegal advice requests as a window into their practical concerns. We conducted a comprehensive thematic analysis of 46 medicolegal advice cases made by physicians to a national medicolegal advisory service between March 2023 and February 2025. The cases were analyzed to identify key themes and patterns in physicians' questions and perceived risks regarding AI tools in clinical contexts. Eight key themes emerged, including the use of AI scribes, data privacy and security, patient consent, data ownership, regulatory uncertainty, medicolegal liability, vendor agreements, and concerns about accuracy and bias. Many of the inquiries focused on administrative and documentation-related AI applications rather than on diagnostic tools, reflecting the current stage of AI integration in everyday clinical workflows. Physicians expressed

uncertainty regarding legal responsibility, alignment with privacy laws, and appropriate communication with patients about AI use. This study offers unique insight into frontline physicians' real-time concerns about AI, highlighting the need for clearer regulatory guidance, clinical standards, and legal frameworks to support safe and ethical AI adoption in health care.

41. Seyhan AA, Carini C. **Ethics in Artificial Intelligence and Precision Medicine: A Perspective.** In *Business Ethics in the Healthcare Industry 2026* Jan 2 (pp. 677-703). Cham: Springer Nature Switzerland. [ORDER](#)
42. Singh, Shruti, Prashant K. Singh, Rajesh Kumar and Riya Vaidyar. [Addressing Bias, Privacy, Security, and Patient Autonomy in Artificial Intelligence \(AI\)-Driven Healthcare: A Review of Current Guidelines.](#) Curēus (Palo Alto, CA). 2026.Vol.18(2), ppe103999. Integrating artificial intelligence (AI) in healthcare has revolutionized patient care, diagnostics, and operational efficiency. However, the reliance of AI systems on vast amounts of personal data raises significant concerns regarding data privacy, security, and ethical governance. This narrative review examines global regulations, including the General Data Protection Regulation, the Health Insurance Portability and Accountability Act, and Organization for Economic Co-operation and Development guidelines, and contrasts them with India's evolving data privacy landscape, particularly under the Digital Personal Data Protection Act, 2023. The review explores key ethical challenges, including AI bias, patient consent, data security, and algorithmic transparency, and provides case studies from around the world. The paper concludes with policy recommendations to harmonize international standards, strengthen AI governance in healthcare, and foster ethical AI development.
43. Sirago, Gianmarco, Francesco Calò, Annachiara Vinci, et al. [Clinical Use of Non-Certified Generative AI in Healthcare: Governing the Regulatory Grey Zone from Convenience to Legal Accountability.](#) J.Med.Syst. 2026.Vol.50(1), pp37.
44. Wang, Chenxu, Zhuang Miao and Haoran Zeng. [Evaluating sentiment analysis models in healthcare: addressing bias and enhancing interpretability.](#) Frontiers in public health. 2026.Vol.13 pp1663871. Advancing trustworthy AI applications in healthcare necessitates systems that are not only high-performing but also capable of explaining decisions and addressing biases, particularly in critical tasks like sentiment analysis on clinical narratives and patient feedback. Conventional sentiment analysis methods, while effective in general applications, struggle with domain shift, linguistic variability, and ambiguous labeling in healthcare, limiting their interpretability and fairness in clinical contexts. To overcome these limitations, a novel sentiment analysis framework is proposed to improve both accuracy and interpretability. This framework employs a formal probabilistic modeling approach that incorporates fine-grained sentiment granularity and domain-aware priors. Central to the framework is the Sentiment Modulated Encoding Network (SMEN), a transformer-based architecture featuring a gating mechanism that dynamically enhances sentiment-relevant features across network layers, enabling rich sentiment representation learning without external resources. Additionally, the Context Polarity Decoupling Scheme (CPDS) disentangles sentiment from domain-specific artifacts through a multi-stage adversarial and contrastive training process, accompanied by a polarity explanation module that provides token-level interpretability. Together, SMEN and CPDS form a robust system capable of producing domain-invariant and explainable sentiment predictions. Experimental results on multiple healthcare datasets demonstrate superior generalization and more transparent model attributions compared to existing approaches. This research contributes to the development of explainable

and bias-resistant AI tools for healthcare and highlights potential avenues for interdisciplinary exploration at the interface of affective computing and clinical informatics.

45. Wubineh, Betelhem Zewdu, Fitsum Gizachew Deriba and Fikadu Wayesa Gemedu. [Ethical concerns and strategies for implementing artificial intelligence in healthcare: a review of empirical studies](#). BMC Med.Ethics. 2026.Vol.27(1), pp53. Artificial intelligence (AI) is profoundly transforming the healthcare landscape, presenting unprecedented opportunities to enhance patient care and clinical outcomes. However, the rapid integration of AI technologies has raised significant ethical concerns, requiring rigorous scrutiny to ensure their responsible and equitable use. This study aimed to explore the ethical considerations and strategies related to the implementation of AI in healthcare through a systematic review. A systematic search identified 243 publications published between 2019 and 2025 that were initially identified. After applying inclusion and exclusion criteria, 22 papers were selected for final synthesis to assess ethical concerns and strategies related to AI in healthcare. The analysis identified key ethical concerns, categorizing them into six distinct groups: (1) Transparency and Trust, (2) Bias and Fairness, (3) Privacy and Data Security, (4) Accountability and Responsibility, (5) Ethical and Moral, (6) Regulatory and Legal. Additionally, several ethical strategies were identified in the implementation of AI systems, including adherence to ethical principles, standards, and frameworks; transparency and bias mitigation; monitoring and auditing of AI systems; and stakeholder involvement and governance in decision-making processes. This review emphasizes the importance of addressing these ethical concerns to ensure the successful implementation of AI technologies in healthcare. The findings provide valuable insights and recommendations for stakeholders, including developers, healthcare professionals, and policymakers, to guide the ethical deployment of AI decision support systems in healthcare.

## AI General

46. Scott, Ian, Kathrin Cresswell, Robin Williams and Anton van der Vegt. [How can we promote greater adoption of AI in healthcare?](#). BMJ Qual Saf. 2026.Vol.35(4), pp288–292.
47. Swain KP, Nayak SR, Swain SK. [Artificial intelligence and healthcare: a critical review of the current state and future directions](#). Data-Driven Diagnostics and Disease Prediction with AI Optimization. 2026 Jan 1:11-32.

## AI & General Practice

48. Burgers, Jako S. and Angelina Müller. [The future is now: Towards intelligent use of Generative AI in general practice](#). The European journal of general practice. 2026.Vol.32(1), pp2602356. 10.1080/13814788.2025.2602356
49. Hunik, Liesbeth, Annemarie A. Uijen, Jacqueline K. Kueper, et al. [The role and utility of artificial intelligence and machine learning for diagnostic prediction in general practice](#). The European journal of general practice. 2026.Vol.32(1), pp2620908. Diagnostic prediction models are commonly used in general practice to support clinical decision-making. Traditionally, these models have been developed using statistical methods such as logistic regression. While these approaches have proven useful, they often produce average risk estimates that may not fully account for the complexity of individual patients. In recent years, the use of machine learning (ML), a subfield of artificial intelligence (AI), has grown in healthcare. We examine the similarities and differences between traditional statistical methods and AI/ML approaches for diagnostic

prediction in general practice. Using examples from daily practice, we explore how ML techniques can add value, particularly in handling large, complex datasets such as those derived from electronic health records. We also discuss key challenges that hinder the adoption of AI/ML in general practice, including interpretability, data quality, external validation, clinical relevance, implementation and legal issues, and practical usability. We provide recommendations to overcome these challenges. The potential of AI/ML can only be realised if tools are developed collaboratively with GPs, focused on real-world clinical problems, and rigorously validated in practice settings. GP associations, GPs, patients, and primary care scientists should take an active role in the development, validation, and implementation of AI/ML-based diagnostic prediction tools for general practice. 10.1080/13814788.2026.2620908

50. Neighbour, Roger. [Two's company, three's a crowd: AI in the consultation](#). British journal of general practice. 2026.Vol.76(764), pp120–122. 10.3399/bjgp26X744357
51. Nuffield Trust [How are GPs using AI? Insights from the front line](#)
52. Wewetzer, Larisa, Katja Goetz, Soenke Freischmidt and Jost Steinhauser. [Trust in AI-Supported Screening in General Practice Among Urban and Rural Citizens: Cross-Sectional Study](#). JMIR medical informatics. 2026.Vol.14 ppe69777. The early detection of diseases is one of the tasks of general practice. Artificial intelligence (AI)-based technologies could be useful for identifying diseases at an early stage in general practices. As approximately 90% of the population regularly consults a general practitioner during one year, this could increase the percentage of citizens who take part in meaningful screening measures. This study aimed to evaluate the level of trust among citizens in rural and urban areas in AI-supported early detection measures in general practice. This cross-sectional study was conducted in the federal state of Schleswig-Holstein, Germany, from November 2023 to December 2023, on the topic of early detection measures with AI in general practice care, among other things. For this purpose, 5000 adult residents of rural areas (Ostholstein, Pinneberg, and Nordfriesland) and urban areas (the city of Kiel) were invited to take part in the survey. Data analysis was carried out using descriptive statistics, subgroup analysis, and linear and stepwise regression analysis to identify the factors that influenced trust in AI-based diagnoses. Most respondents (787/1790, 44.0%) considered the introduction of an AI-based screening measure to be a sign of modern medicine. Moreover, 21.7% (n=388) of respondents feared that the introduction of such services could lead to a deterioration in the physician-patient relationship. The role of AI in future care was rated as very important by 35.4% (n=634) of respondents. The stepwise regression analysis showed that a positive attitude toward AI in medicine was the strongest predictor ( $\beta=0.420$ ) of trust in AI-based diagnoses. In contrast, trust in physician diagnoses was associated with lower age ( $\beta=-0.111$ ) and shorter waiting times for test results ( $\beta=0.077$ ). Trust in general practitioner-based diagnoses was approximately 6 times greater than trust in AI applications. Despite concerns about their impact on the physician-patient relationship, approximately one-third of participants believed that the role of AI in health care will grow.

## AI & Haematology

53. Nasiri, Abdelrahman M., Nebras A. Als Salman, Fai A. Aljandabi and Sarah A. Alsomali. [AI in hematology: A new frontier for nursing practice and patient care](#). Journal of family medicine and primary care. 2026.Vol.15(1), pp45–50. Artificial intelligence (AI) is reshaping hematology by enabling faster, more accurate diagnostics and risk prediction. However, the success of AI

integration depends not only on technological capability but also on the role of nurses—who act as frontline caregivers, interpreters of data, and patient advocates. Hematology nurses are uniquely positioned to bridge the gap between AI tools and patient-centered care, especially in high-stakes scenarios such as leukemia management and stem cell transplantation. To examine the current and potential roles of hematology nurses in implementing AI technologies, identify benefits and challenges of AI in nursing workflows, and propose practical strategies for ethically and effectively integrating AI into hematology nursing practice. We conducted a systematic scoping review guided by the PRISMA-ScR framework. Databases searched included PubMed and relevant grey literature using terms related to “artificial intelligence,” “hematology,” and “nursing.” Studies were mapped across four domains: diagnostics, monitoring and prediction, treatment support, and patient engagement. The socio-technical framework and ethical lens were used to analyze implications for nursing roles, workflows, and patient safety. Regional insights from the Gulf and Saudi Arabia were incorporated. The review identified significant advances in AI applications across hematology nursing domains: • Diagnostics: AI tools like Morphogo improve cell classification accuracy (~99%), enabling earlier leukemia detection. • Prediction: Machine learning models integrated into EHRs predict sepsis or neutropenia before clinical onset, allowing proactive nursing intervention. • Treatment Planning: AI-enabled decision support tools assist in chemotherapy adjustments and workflow optimization, with nurses mediating their real-world use. • Patient Engagement: AI chatbots and monitoring apps enhance patient self-care and remote symptom tracking, with nurses guiding safe and contextual use. Nurses serve as translators, gatekeepers, and co-designers of AI systems, balancing alerts with clinical judgment while safeguarding patient privacy and ethical use. Regional variability in infrastructure and cultural attitudes toward AI affect adoption. AI has the potential to enhance, not replace, hematology nursing. Nurses must be empowered through training, involvement in AI system design, and ethical governance. As advocates for patient-centered care, nurses should lead AI integration efforts to ensure these technologies improve outcomes while upholding trust, empathy, and equity. Future AI innovation in hematology must be shaped by nursing insight to remain clinically meaningful and ethically grounded.

## AI & Health Literacy

54. Çapuk H, Yiğit MF, Uçar M. [Exploring the relationship between health professionals' artificial intelligence literacy and their attitudes toward artificial intelligence](#). *Informatics for Health and Social Care*. 2026 Jan 9:1-2.
55. Alrazeeni, Daifallah M., Maryam Alharrasi, Moustaq Karim Khan Rony, et al. [Perceptions and attitudes of healthcare providers toward artificial intelligence: a systematic review](#). *Discov Public Health*. 2026.Vol.23(1), pp553. Background The rapid integration of artificial intelligence (AI) in healthcare presents transformative potential, enhancing diagnostic accuracy, decision-making, and operational efficiency. However, the successful adoption of AI depends significantly on healthcare providers' perceptions and attitudes, which influence its acceptance and implementation in clinical settings. Aim This review aimed to systematically examine existing literature to explore healthcare providers' perceptions and attitudes regarding AI, highlighting key factors that shape trust, acceptance, and resistance. Methods Guided by PRISMA 2020, a comprehensive literature search was conducted across six databases, including PubMed, Scopus, and Web of Science, targeting studies published between January 2015 and March 2025. Eligible studies included qualitative, quantitative, and mixed-methods research focused on practicing healthcare providers. Data were synthesized using thematic analysis to extract and interpret key

findings. Results Five core themes emerged: (1) General awareness and understanding of AI, highlighting a gap between recognition and operational knowledge; (2) Perceived benefits and opportunities, emphasizing diagnostic accuracy and workflow efficiency; (3) Concerns and perceived risks, including fear of job displacement, ethical ambiguity, and algorithmic bias; (4) Trust and acceptance, where direct experience and participatory design increased confidence in AI tools; and (5) Contextual influences, showing that age, role, and institutional environment shape perceptions. Conclusion Healthcare providers' attitudes toward AI are complex and shaped by technical, ethical, and contextual factors. To ensure successful and equitable integration, AI deployment must prioritize trust-building, participatory design, clear regulation, and tailored training. Human-centered approaches are essential to align AI innovations with the needs and values of clinical practice. Highlights Healthcare providers recognized AI's potential to enhance diagnostic accuracy, streamline workflows, and support patient-centered care. Significant concerns persisted about job security, clinical autonomy, ethical issues, and algorithmic bias affecting equitable healthcare delivery. Trust and acceptance of AI were strongly influenced by hands-on experience, participatory design, and transparent algorithmic explainability.

10.1186/s12982-026-01928-9

56. Zand J, Suvakov M, Overgaard SM, Kozikowski CG, Jimison RC, Nelson KB, Silvano CJ, Meiners LM, Fan JW, Schultz KE, Carter RE. [Building artificial intelligence and data literacy across the health care research workforce in the Mayo Clinic Center for Clinical and Translational Science: why it matters and what we are doing about it](#). In Mayo Clinic Proceedings 2026 Jan 1 (Vol. 101, No. 1, pp. 17-25).

## AI & Infectious Diseases

57. Hanna JJ, Medford RJ. [The Infectious Diseases Orchestrator: Embracing AI Literacy in the Agentic Era](#). In Open Forum Infectious Diseases 2026 Jan (Vol. 13, No. 1, p. ofaf794). US: Oxford University Press.
58. Milic, Jovana, Antonia Pugliese, Michela Belli, et al. [A multidisciplinary, AI-supported quality improvement intervention to manage polypharmacy in aging people with HIV](#). HIV medicine. 2026. Aging people with HIV are increasingly affected by multimorbidity and polypharmacy, which heighten the risk of drug-drug interactions (DDIs) and potentially inappropriate medications (PIMs). This study evaluated a multidisciplinary, AI-supported quality improvement intervention designed to optimize polypharmacy management in older people with HIV. People with HIV aged  $\geq 50$  years attending the Modena HIV Metabolic Clinic (MHMC) were invited to submit photos of their medications via WhatsApp. Images were processed by AI for optical character recognition and automatically reconciled with the electronic patient chart (EPC). AI recognition accuracy was 94% when validated against manual review. Pharmacists reviewed AI-generated reports from the NavFarma<sup>®</sup> decision support system, generated alerts for PIM, defined according to Beers and the STOPP/START criteria, DDIs, anticholinergic burden (ACB), and risks of QTc prolongation and nephrotoxicity. Primary outcome was agreement between patient-reported and EPC-recorded medications. Secondary outcomes included pill burden, total prescribed drugs and actionable alerts. Of 181 participants (median age 63 years; 72% male), 111 (61.3%) showed complete agreement between EPC and patient lists, while 70 (38.7%) had discrepancies. Pharmacist evaluation identified major DDIs in 70.4% of cases, ACB in 26.5%, QTc-prolonging drugs in 81.6% and nephrotoxic agents in 95.9%. Participants with  $\geq 10$  total prescribed drugs had higher frailty, pill burden and PIM. AI-assisted medication reconciliation combined with pharmacist review

improved the identification of PIM and medication-related risks, supporting safer prescribing in people with HIV. This model aligns with international calls to improve prescribing safety and offers a scalable framework for integrating digital tools into multidisciplinary HIV care.

59. Mori, Masahiko, Shinji Yoshinaga, Tadayoshi Moriyama and Takafumi Maekawa. [Infectious disease diagnosis by artificial intelligence \(AI\): Differences in patient backgrounds and symptoms between antigen test positives and novel AI-powered pharyngeal endoscopy test positives](#). PLOS digital health. 2026.Vol.5(2), ppe0001233. This study aimed to identify differences in patient background and symptoms between individuals who tested positive using conventional rapid antigen (Ag) tests and those who tested positive using a novel artificial intelligence (AI)-powered pharyngeal endoscopy system. A total of 813 patients underwent both influenza/COVID-19 Ag testing and AI-powered endoscopic testing. We analyzed differences in patient characteristics and symptoms between the two test-positive groups. AI testing showed an overall percent agreement of 62% (95% confidence interval CI] 58–66%) (442/713), a positive percent agreement of 47% (95% CI 40–53%) (125/269), and a negative percent agreement of 71% (95% CI 67–76%) (317/444) compared with Ag testing. Compared with Ag-positive cases, AI-positive cases exhibited a shorter interval from symptom onset to testing; median 18 hours (Interquartile range IQR] 10–27) for AI+ and Ag-, 24 hours (IQR 18–41) for AI+ and Ag + , and 27 hours (IQR 17–47) for AI- and Ag+ ( $p < 0.001$ ). In analyses comparing the AI+ and Ag- vs. AI- and Ag + , AI+ and Ag- were more frequently paediatric (<15 years old) (odds ratio OR] 3.4 (95% CI 1.6-7.2),  $p = 0.001$ ), tested earlier after symptom onset (<24 hours) (OR 2.6 (95% CI 1.3-4.9),  $p = 0.005$ ), had contact with infected individuals (OR 4.6 (95% CI 2.2-9.3),  $p < 0.001$ ), cough (OR 11 (95% CI 4.7-27),  $p < 0.001$ ), and fever ( $\geq 38.0^{\circ}\text{C}$ ) (OR 5.6 (95% CI 2.8-11),  $p < 0.001$ ), but showed lower frequencies of gastrointestinal symptoms (OR 0.2 (95% CI 0.05-0.9),  $p = 0.04$ ). Notably, the AI system misdiagnosed 23% (23/99) of COVID-19-positive patients as influenza-positive, likely due to follicular lesions on the pharyngeal wall—a key feature used by the AI system for diagnosing influenza. These findings demonstrate the impact of differences in diagnostic methodologies between conventional Ag testing (which detects pathogen viral load) and novel AI testing (which assesses host immune response to viral infection) on the clinical characteristics of test-positive patients.

## AI & Neurosurgery

60. Feng, Rui, Florian Richter, Elizabeth Mari, et al. [Artificial Intelligence Monitoring of Neurological Status From Patient Videos in the Neuroscience Intensive Care Unit](#). Neurosurgery. 2026.The neurological examination is pivotal in assessing patients with neurological conditions but has severe limitations: It can vary between examiners, may not discern subtle or subacute changes, and being intermittent can delay recognition of new deficits. Most intensive care units/hospitals lack subspecialized neurocritical care services, exacerbating these problems. We hypothesized that artificial intelligence (AI) pose estimation, a machine learning approach to track patient position, could provide a continuous and relevant method of neurological monitoring. We retrospectively collected video segments from patients in the neuroscience intensive care unit (NSICU) who underwent video-electroencephalography at a large, urban hospital between July, 2024 and January, 2025. We externally validated 2 leading AI pose estimation models, ViTPose and Meta Sapiens. We then developed a robust movement index and evaluated its correlation with 2 measures of consciousness obtained through hourly physical examinations, the Glasgow Coma Scale (GCS), and Richmond Agitation Sedation Scale (RASS). We collected 998 520 video minutes from 119 patients. ViTPose demonstrated superior performance to Sapiens across multiple metrics, so we used ViTPose to calculate a computer vision movement index ( $\lambda\text{MI}$ ). We observed

higher movement with increasing GCS (GCS 3-8  $\lambda$ MI = 0.52, GCS 9-13  $\lambda$ MI = 0.70, GCS 14  $\lambda$ MI = 3.52, and GCS 15  $\lambda$ MI = 10.99,  $P = .01$ ), a 21-fold increase from the lowest to highest tranche. We also observed 10-fold higher movement in awake/agitated patients (RASS  $>-1$   $\lambda$ MI = 6.59) compared with those who were asleep/sedated (RASS  $\leq -1$   $\lambda$ MI = 0.67,  $P = .005$ ). Taken together, we developed a novel computer vision movement index and demonstrated expected correlations with GCS and RASS scores in NSICU patients. We show that AI pose estimation can provide minimally invasive, continuous, and clinically relevant neuromonitoring in critically ill patients. Neurological conditions account for the highest global disease burden and AI pose estimation may be a low-cost, explainable, and scalable AI solution to address this pressing need for neuro-telemetry.

## AI & Ophthalmology

61. McCarthy, Angela, Loah Eltemsah, Allison Cui, et al. [Patient perceptions of artificial intelligence in ophthalmology: a cross-sectional survey study](#). Br.J.Ophthalmol. 2026. ppbjo-328498. Background/Aims Patients have largely been excluded from discussions on the use of their health data in developing medical artificial intelligence (AI), despite being directly affected by its integration into care. This study assessed ophthalmology patients' perspectives on AI to inform patient-aligned development and implementation. Methods We conducted a cross-sectional survey across ophthalmology clinics in a large academic hospital system in New York City. Consecutive patients were approached in waiting rooms by a research coordinator to maximise sociodemographic diversity and minimise bias from digital literacy or access. The survey, developed by experts in AI, ethics, ophthalmology and survey methodology, was administered via paper and Qualtrics. It addressed attitudes towards AI in clinical scenarios, willingness to share various types of personal data for AI model development and understanding of AI in ophthalmology. Results Among 403 respondents, 67% reported a low or no understanding of AI, and 71% expressed interest in learning more. Patients prioritised physician involvement and transparency. Comfort decreased with task complexity: highest for screening, lower for diagnosis and lowest for treatment/surgery. For model development, patients were more comfortable sharing de-identified optical coherence technology or lab data than facial images or genetic data. 90% felt consent was always necessary when using personal data to train AI models. Conclusions These findings highlight the need for patient education and robust data consent protocols. Implementing an opt-out system for retrospective data use may enhance trust while supporting innovation. Integrating patient perspectives into AI governance can foster trust and transparency in ophthalmology and beyond.

## AI & Neurodivergence

62. Zhao, Cuijie, Ruixing Li, Lei Hua, Huawei Li, Meng Zhang and Bocai Wang. [Towards precision medicine in Tourette syndrome: a perspective on AI-driven predictive modelling and personalised care](#). Frontiers in computational neuroscience. 2026. Vol.20 pp1772244. Tourette Syndrome (TS) is a complex neurodevelopmental disorder characterised by motor and vocal tics that significantly impair quality of life. Conventional diagnostic and therapeutic methods face challenges due to subjectivity, lack of personalisation, and difficulties in prognostic prediction. Artificial Intelligence (AI) offers novel solutions, advancing TS management towards precision medicine. This article presents a conceptual framework for AI-driven technologies in TS, advocating for a paradigm shift from empirical treatment to precision medicine. We discuss key components including predictive model construction, personalised diagnosis, treatment strategies, and intelligent monitoring. Research indicates that the core value of AI in TS precision medicine

lies in its predictiveness, individualisation, and intelligence. Predictive models using multimodal data enable early identification and prognostic assessment. Furthermore, personalised approaches tailor diagnosis and treatment to individual patient characteristics, thereby improving outcomes. Intelligent systems enable automated monitoring and real-time adjustments, optimising clinical workflows. Substantial clinical evidence demonstrates that AI-driven precision medicine improves diagnostic accuracy, optimises treatments, and enhances patient prognosis. Despite this potential, challenges remain in data quality, algorithm interpretability, and clinical translation. Future efforts should focus on enhancing interdisciplinary collaboration, promoting standardisation, and facilitating clinical adoption to deliver more precise, effective, and accessible care for TS patients.

## AI & Nursing

63. Cary MP, Lytle KS, Wolfe ID. [Driving the future of nurse-led artificial intelligence: A roadmap for leadership, governance, partnerships, equity, and workforce transformation](#). *Nursing Outlook*. 2026 Jan 1;74(1).
64. Fernandes, Filipe, Lucy Shinnars, Mauro Mota, Paulo Santos and Luís Sá. [Contributions of Artificial Intelligence to Decision Making in Nursing: A Scoping Review](#). *Nurs.Health Sci*. 2026.Vol.28(1), ppe70308–n/a. Recognizing the complexity of decision-making is essential in nursing practice, where Artificial Intelligence (AI) can serve as a valuable tool to support nurses in the process of decision-making. This scoping review aims to map and systematize evidence regarding AI's contributions to nursing decision-making, following the Joanna Briggs Institute (JBI) methodological approach. Databases consulted: CINAHL Complete; MEDLINE Complete; Nursing & Allied Health Collection: Comprehensive; Cochrane Databases; MedicLatina; SciELO; Scopus; LILACS; JBI Database of Systematic Reviews and RCAAP. Thirteen studies in English, Portuguese, and Spanish were included. AI can support the nursing decision-making process by improving diagnostic accuracy and workflows. However, interpretability remains a limiting factor that affects the adoption of AI. Although critical healthcare units represent the primary areas of application, meeting the ethical, legal, and technical requirements necessary for effective integration into practice continues to be a challenge. AI offers meaningful contributions to nursing decision-making, particularly through explainable and clinically aligned systems. However, successful integration demands transparency, ethics, and usability, with further studies to ensure safe adoption. Key Points Artificial Intelligence can leverage decision-making, enhancing nurses' skills. Nevertheless, the diverse array of risks posed by AI-driven technologies needs comprehensive regulation. Regulating liability and ensuring equitable access to AI-driven healthcare solutions are essential for building trust and inclusivity.

## AI & Oral Care

65. Guo, Runzhi, Ning Ma, Tianlei Shi, et al. [Fully automatic AI diagnosis of alveolar bone defect in anterior teeth on CBCT images](#). *Clin Oral Invest*. 2026.Vol.30(1), pp60. Objective To develop a fully automatic artificial intelligence (AI) system for diagnosing alveolar bone defects (ABDs) in anterior teeth on cone-beam computed tomography (CBCT) images. Materials and methods This fully automatic AI system consists of two stages: (1) 2D image construction (sagittal and coronal slices) of anterior teeth root/bone morphology using a recognition algorithm, and (2) multi-perspective alveolar bone defect classification (normal, mild dehiscence, moderate dehiscence, severe dehiscence, and fenestration) based on the Hierarchical Multi-Scale Feature Fusion Network (HiFuse). In total, 300 CBCT images with 3600 anterior teeth from two clinical centers were used to train the model. Results The system achieved automatic and accurate construction

of sagittal and coronal slices for 12 anterior teeth, with a high structural similarity index measure (SSIM) index of 0.803. The HiFuse model significantly outperformed ConvNeXt and Swin Transformer counterparts ( $P < 0.05$ ), achieving an accuracy of 0.936 (95% CI: 0.906–0.959), F1-score of 0.932 (95% CI: 0.895–0.955), recall of 0.936 (95% CI: 0.906–0.959), and precision of 0.928 (95% CI: 0.896–0.952). HiFuse also effectively distinguished between ABD types and accurately located alveolar bone defects. **Conclusions** Our proposed AI system demonstrated great performance in ABDs diagnosis of anterior teeth using original 3D CBCT images and has potential for assisting with orthodontic diagnosis and decision-making. **Clinical relevance** Accurate diagnosis of ABDs in anterior teeth is essential when selecting appropriate orthodontic treatment strategies and performing bone augmentation surgery. This AI system could preliminarily achieve diagnosis of ABDs in anterior teeth, reducing manual intervention and improving the overall diagnostic workflow.

## AI & Patient Views

66. Baldus, Sophie G., Martin Wiesmann, Ute Habel, et al. [Patients' views on the use of artificial intelligence in healthcare: Artificial Intelligence Survey Aachen \(AISA\)—a prospective survey.](#) Insights Imaging. 2026.Vol.17(1), pp6–8. **Objectives** The use of AI is gaining relevance in healthcare. There is limited information regarding the views of patients on AI in healthcare. The aim of our study was to assess the views of patients on the use of AI in healthcare with an on-site questionnaire. **Materials and methods** Patients in our tertiary hospital with a diagnostic imaging appointment were invited to complete a paper-based questionnaire between December 2022 and October 2023. We asked about socio-demographic data, experience, knowledge, and their opinion on the use of AI in healthcare, focusing on the fields (1) diagnostics, (2) therapy, and (3) triage. **Results** Out of a total of 198 patients (mean age  $49.41 \pm 17.6$  years, 99 female), 91.5% stated that they expected benefits from the implementation of AI in healthcare, although 73.4% rated their knowledge of AI as moderate to none. The majority of patients were in favour of using AI in diagnostics (87.2%) and therapy (73.1%), while only 28.2% approved its use in patient triage. 84.0% wanted to be informed about the use of AI in at least one of the mentioned areas. **Participants** with higher education, higher self-assessed knowledge of AI and personal experience with AI showed greater approval for AI in healthcare. **Conclusion** Our interviewed patients have a rather open attitude towards AI in healthcare, with differentiated views depending on the topic; patients are in favour of the use of AI, especially in diagnostics and to a lesser extent also for therapy support, but they reject its use for triage. **Critical relevance statement** Overall, the results emphasise the need for widespread efforts to address patient concerns about AI in healthcare, including enhancing understanding and acceptance while protecting marginalised groups. This will help clinical radiology to adopt AI more effectively. **Key Points** There is limited information on patients' views of AI in healthcare, often focused on specific groups, limiting generalizability. Patients are open to AI in healthcare, supporting its use in diagnostics and therapy, but rejecting its use for triage. Overall, patients want to be informed about AI usage and participants with higher education and AI experience showed more approval. Graphical Abstract.

## AI & Pharmacy

67. Aronson, Jeffrey K. [When I use a word . . . Artificial intelligence—predicting and detecting adverse drug reactions.](#) BMJ.British medical journal (Clinical research ed.). 2026.Vol.392 pps154. The Law of Mass action predicts that all adverse drug reactions are related to the concentration of the drug at the site of action, and therefore to the administered dose. In other words, there is no such thing as a non-dose-related adverse drug reaction. That being so, there are three types of

adverse drug reactions in relation to the dose or concentration of the drug with which the reaction is associated, determined by the relation between the concentration of the drug at the site of action, determining the adverse reaction, and the range of concentrations expected to be associated with therapeutic benefit: those three types are hypersusceptibility reactions (at concentrations below therapeutic), collateral reactions (at concentrations in the therapeutic range), and toxic reactions (at concentrations above therapeutic). Different types of reactions also imply different degrees of predictability. Artificial intelligence (AI) is generally of no value in predicting adverse drug reactions of the different types in an individual, but it may be used in studies of the susceptibility factors that are likely to be associated with risks of harms. AI may also be useful in analysing large databases, such as Vigibase, Eudravigilance, and the US FDA Adverse Event Reporting System (FAERS). There is also as yet unrealised scope for using AI to analyse data in pharmaceutical companies' clinical study reports and in clinical datasets, such as claims and complaints databases, electronic health records from hospitals and general practice records, and information from poisons centres.

68. Abuzour, Aseel S., Samantha A. Wilson, Alan A. Woodall, et al. [Developing an AI-Assisted Tool That Identifies Patients With Multimorbidity and Complex Polypharmacy to Improve the Process of Medication Reviews: Qualitative Interview and Focus Group Study](#). Journal of medical Internet research. 2026.Vol.28(8), ppe74304. Structured medication reviews (SMRs) are an essential component of medication optimization, especially for patients with multimorbidity and polypharmacy. However, the process remains challenging due to the complexities of patient data, time constraints, and the need for coordination among health care professionals (HCPs). This study explores HCPs' perspectives on the integration of artificial intelligence (AI)-assisted tools to enhance the SMR process, with a focus on the potential benefits of and barriers to adoption. This study aims to identify the key user requirements for AI-assisted tools to improve the efficiency and effectiveness of SMRs, specifically for patients with multimorbidity, complex polypharmacy, and frailty. A qualitative study was conducted involving focus groups and semistructured interviews with HCPs and patients in the United Kingdom. Participants included physicians, pharmacists, clinical pharmacologists, psychiatrists from primary and secondary care, a policy maker, and patients with multimorbidity. Data were analyzed using a hybrid inductive and deductive thematic analysis approach to identify themes related to AI-assisted tool functionality, workflow integration, user-interface visualization, and usability in the SMR process. Four major themes emerged from the analysis: innovative AI potential, optimizing electronic patient record visualization, functionality of the AI tool for SMRs, and facilitators of and barriers to AI tool implementation. HCPs identified the potential of AI to support patient identification and prioritizing those at risk of medication-related harm. AI-assisted tools were viewed as essential in detecting prescribing gaps, drug interactions, and patient risk trajectories over time. Participants emphasized the importance of presenting patient data in an intuitive format, with a patient interface for shared decision-making. Suggestions included color-coding blood results, highlighting critical medication reviews, and providing timelines of patient medical histories. HCPs stressed the need for AI tools to integrate seamlessly with existing electronic patient record systems and provide actionable insights without overwhelming users with excessive notifications or "pop-up" alerts. Factors influencing the uptake of AI-assisted tools included the need for user-friendly design, evidence of tool effectiveness (though some were skeptical about the predictive accuracy of AI models), and addressing concerns around digital exclusion. The findings highlight the potential for AI-assisted tools to streamline and optimize the SMR process, particularly for patients with multimorbidity and complex polypharmacy. However, successful implementation depends on

addressing concerns related to workflow integration, user acceptance, and evidence of effectiveness. User-centered design is crucial to ensure that AI-assisted tools support HCPs in delivering high-quality, patient-centered care while minimizing cognitive overload and alert fatigue.

69. Karampatea, Apostolia, Konstantinos Kassandros, Theodoros Constantinides and Christos Kontogiorgis. [Systematic review of AI-based models in pharmacoepidemiology for adverse drug event prediction and detection](#). *Frontiers in Drug Safety and Regulation*. 2026.Vol.6 pp1773186. Artificial intelligence (AI) has increasingly been applied in pharmacoepidemiology, yet the methodological landscape of adverse drug event (ADE) prediction remains heterogeneous and insufficiently mapped. This systematic review aimed to characterize contemporary AI-based approaches used to detect or predict ADEs in real-world clinical data. Following PRISMA 2020 guidelines and a registered protocol (PROSPERO: CRD420251159394), 281 records were screened and 15 studies met the inclusion criteria. All included studies relied primarily on structured electronic health records (EHRs) or administrative claims, while only a minority incorporated natural language processing (NLP) components, and none used spontaneous reporting systems as the primary analytic datasets. Tree-based ensemble models (e.g., Random Forests, XGBoost) and regularized regression were the most commonly adopted algorithms, whereas deep learning architectures appeared less frequently and typically required temporal or representation-based inputs. Through studies, external or temporal validation was rarely performed and explainability methods were inconsistently applied, limiting generalizability. No standardized benchmarks were identified, and reporting practices varied substantially. Future work should emphasize rigorous validation, transparent model reporting, and the careful integration of NLP and explainability frameworks to support clinically reliable and scalable pharmacoepidemiological applications.

## AI & Psychiatry

70. Chung, Van-Han-Alex, Pénélope Bernier and Alexandre Hudon. [Mass Media Narratives of Psychiatric Adverse Events Associated With Generative AI Chatbots: Rapid Scoping Review](#). *JMIR mental health*. 2026.Vol.13 ppe93040. Generative artificial intelligence (AI) chatbots have rapidly entered public use, including in contexts involving emotional support and mental health-related interactions. Although these systems are increasingly accessible, concerns have emerged regarding potential adverse psychiatric outcomes reported in public discourse, including psychosis, suicidal ideation, self-harm, and suicide. However, these reports largely originate from journalistic accounts rather than systematically verified clinical data. This rapid scoping review aimed to systematically map and characterize mass media narratives describing alleged adverse psychiatric outcomes temporally associated with generative AI chatbot interactions. A rapid scoping review methodology was applied to publicly accessible news articles identified primarily through Google News searches. Articles published from November 2022 onward were screened for eligibility if they described a specific case in which psychiatric deterioration or crisis was temporally linked to generative AI use. Data were extracted using a structured coding template capturing article characteristics, demographic information, AI platform features, interaction intensity, outcome type and severity, type of evidence reported, and causal attribution language. Descriptive statistics and cross-tabulations were performed. A total of 71 news articles representing 36 unique cases were included. Suicide death was the most frequently reported outcome (35/61, 57.4% cases with complete severity coding), followed by psychiatric hospitalization (12/61, 19.7%). Fatal outcomes were disproportionately represented among minors (19/21, 90.5%) compared with adults (17/35, 48.6%). ChatGPT was the most frequently cited platform (51/71, 71.8%), followed by Character AI

(10/71, 14.1%). Causal attribution most commonly referenced AI system behavior (45/61, 73.8%), and the term "alleged" was the predominant causal descriptor (33/61, 54.1%). Evidence sources were primarily chat logs or screenshots (34/61, 55.7%), while police or medical documentation was rare (1/61, 1.6%). Regulatory calls were present in 51 of 60 (85%) articles with nonmissing data. Mass media reporting of generative AI-related psychiatric harms is concentrated around severe outcomes, particularly suicide deaths among youth, and is frequently framed within regulatory and corporate accountability narratives. While causality cannot be established from media reports, consistent patterns of high-intensity interactions, user vulnerability, and limited safeguard reporting highlight the need for structured safety surveillance, transparent AI risk auditing, and clearer governance frameworks. As generative AI becomes increasingly integrated into everyday psychosocial contexts, systematic research and formal safety monitoring will be necessary to determine whether media-reported harms correspond to verifiable clinical risk patterns.

## AI & Pathology

71. de Araújo, Eduarda, Gomes Onofre, Livian Isabel de Medeiros Carvalho, Breno de Souza Estevam Silva, et al. [Virtual assistants based on artificial intelligence for oral diagnosis: help for clinicians AI oral diagnosis helper](#). Diagnostic pathology. 2026.

## AI & Patient Care

72. Schoening, Mary Beth and Dustin Cotliar. [Patients and Caregivers Leveraging AI to Improve Their Health Care Journey: Case Study and Lessons Learned](#). Journal of participatory medicine. 2026. Vol.18 ppe69790. Artificial intelligence (AI) is increasingly integrated into everyday life. Yet in health care, patients and families are challenged to understand how AI may be helpful. As a result, real-world patient stories remain scarce. Generative AI can serve as a learning partner to help patients interpret complex medical information, prepare for appointments, and navigate care decisions. A case study is presented from the perspective of a caregiver and a clinician colleague, describing how one family used generative AI (ChatGPT; OpenAI) to better understand test results, possible diagnoses and treatments, prepare for visits, and summarize and share information with an extended care team. This paper also shares tips and lessons learned with others navigating similar health care challenges. A first-hand account of family interactions with ChatGPT is described during a period between diagnostic imaging and surgical consultation. Real-world use of AI by a caregiver is showcased, including strategies used to understand and summarize health record data, querying AI using medical documents, and resulting actions taken by the family. Using the case study as a springboard, the authors provide a separate section to share lessons learned for patients and caregivers in their use of AI. The family reported benefits of AI, including the ability to comprehend health information by translating medical records into patient-friendly language; to emotionally process and prepare for visits; to research diagnoses and treatments; to streamline communication with care teams by using concise patient summaries; and to feel more empowered to take timely, informed action. Generative AI can serve as a valuable companion tool for patients and caregivers navigating complex medical information. By translating results, providing education about diagnoses and treatment options, and helping prepare for visits, AI may reduce care delivery delays and raise family confidence in decision-making. However, limitations exist, and patients and caregivers need to validate AI output to ensure accuracy and privacy. 10.2196/69790

73. Ugar, Edmund Terem. [Promoting Responsible Use of AI in African Healthcare: Strengthening Patients' Moral Agency](#). ABR. 2026.Vol.18(1), pp157–176. Machine learning technologies deployed in several sub-Saharan African countries to assist medical practitioners have shown how such technologies can significantly extend the reach of limited medical personnel and equipment resources. However, while I praise the efficiency of these technologies in carrying out medical diagnosis and treatment recommendations, I raise some critical concerns about the normative shift that may occur in their usage in the region. An uncritical use or overreliance on these technologies may threaten shared decision-making between patients and doctors. While shared decision-making is an integral component of patient-centred care in contemporary medicine that must be respected, from a phenomenological perspective, the stakes are higher for sub-Saharan Africans. For Africans, the threat to shared decision-making may negatively impact a significant aspect of the community–interpersonal relationships. I contend that over-relying on these systems for clinical diagnosis and recommendations may diminish the value of interpersonal relationships between patients and doctors. I show how the practice of interpersonal relationships is integral in making a moral agent (to becoming a member of the moral community) within the sub-Saharan African value systems. Finally, this paper seeks to make novel contributions to value-sensitive healthcare/healthcare technology policies, guidelines and regulations within sub-Saharan Africa and countries in the global South that share similar ethical/cultural worldviews.

## AI & Radiology

74. Stavropoulou, Charitini, Harry Scarbrough, Janette Rawlinson, Menghan Cui, David Baldwin and Nick Woznitza. [Implementing AI innovation in radiology departments in the English NHS: a qualitative study on the experiences of professionals, patient groups and innovators](#). Frontiers in digital health. 2026.Vol.8 pp1736911. Digital solutions and Artificial Intelligence (AI) innovations are often presented as the answer to many challenges faced by healthcare systems around the world. The UK government has made significant investments in this area, yet there have been concerns about the challenges faced when these technologies are implemented in practice. The aim of this study was to explore the perceptions and experiences of professionals, patient groups as well as innovators of introducing a new AI innovation used to detect potential abnormalities for lung cancer in radiology departments in the English NHS and to investigate the implementation challenges from their perspectives. Between September 2022 and January 2024, we visited five sites and conducted 34 interviews with radiologists, radiographers and other professionals involved in the implementation of the tool. We also interviewed seven staff from the company who developed and implemented the tool. In addition, three 2-hour focus group workshops, two online and one in person, were conducted in January 2024 with a total of 14 patient and public involvement and engagement (PPIE) participants from diverse regions, backgrounds and lived experience across England. Following initial coding done inductively, the Consolidated Framework for Implementation Research (CFIR) was applied as an organising framework to structure and interpret the emerging themes. Both professional and PPIE groups recognised the potential of AI in the diagnostic pathway, while generally seeing it as a supportive second pair of eyes rather than an autonomous decision-maker, particularly when delivering sensitive news and information. Professionals' acceptance depended on how the tool was integrated into existing workflows and its perceived value, with triaging functionality seen as effective, but varying in usefulness depending on local workload pressures. Innovators as well healthcare professionals highlighted a number of implementation challenges, particularly around fragmented legal and regulatory frameworks and unclear governance within the NHS. Our findings underscore that successful AI implementation in clinical practice depends not on the technology alone but on its effective

integration into existing healthcare contexts and alignment with the beliefs and needs of healthcare professionals, patients and the public.

## AI & Scribes

75. Almeida, Victor F. A., Manoela Dantas, Diwakar Phuyal and Fanru Shen. [Enhancing Perioperative Documentation With Artificial Intelligence Scribes in Anesthesiology](#). *Anesth.Analg.* 2026.Vol.142(2), ppe31–e33.
76. Armstrong, Stephen. [AI scribes: NHS approves 19 notetaking tools, but concerns raised about regulatory gaps](#). *BMJ.* 2026.Vol.392 pps122. 10.1136/bmj.s122
77. Ballantyne, Angela, Rochelle Style, Maria Stubbe, Samantha Murton and Tony Dowell. [Using AI scribes in New Zealand primary care consultations: an exploratory survey](#). *Journal of primary health care.* 2026.Vol.18(1), pp75–81. AI scribes have had a rapid uptake in primary care across New Zealand (NZ). The benefits of this new technology must be weighed against the potential risks they may pose. This study provides a snapshot of AI scribes use in primary care to generate clinical notes. We aimed to understand emerging provider experiences, identify perceived clinical benefits and concerns, and flag potential ethical and legal issues as a basis for future research and policy development. GPs and health providers working in primary care across NZ were invited to participate in an anonymous survey about their experience with AI scribes (February-March 2024). One hundred and ninety-seven respondents completed the survey, 88% (n = 164) of whom were GPs. Of these, 40% (n = 70) had experience with AI scribes. Reported benefits included: reduced multitasking (n = 46), saved time (n = 43), and improved rapport with patients (n = 43). Key concerns included: compliance with NZ legal and ethical frameworks (n = 108), data security (n = 98), errors or omissions (n = 93), and data leaving New Zealand (n = 91). Only 66% (n = 41) had read the terms and conditions of the AI scribe tool, and 59% (n = 35) reported seeking patient consent. Most (80%, n = 50) found AI scribes helpful or very helpful, and 56% (n = 35) said the tool changed consultation dynamics. While there is strong uptake and enthusiasm for AI scribes in primary care in NZ, critical issues remain around legal and ethical oversight, patient consent, data security, and the broader impact on clinician-patient interactions. Health providers need clearer guidance and regulatory support for safe, ethical, and legal use of AI tools.
78. Brosnahan, Hugh. [Totalitarian technics: the hidden cost of AI scribes in healthcare](#). *Med Health Care and Philos.* 2026.Vol.29(1), pp155–166. Artificial intelligence (AI) scribes—systems that record and summarise patient–clinician interactions—are promoted as solutions to administrative overload. This paper argues that their significance lies not in efficiency gains but in how they reshape medical attention itself. Offering a conceptual analysis, it situates AI scribes within a broader philosophical lineage concerned with the externalisation of human thought and skill. Drawing on Iain McGilchrist’s hemisphere theory and Lewis Mumford’s philosophy of technics, the paper examines how technology embodies and amplifies a particular mode of attention. AI scribes, it contends, exemplify the dominance of a left-hemispheric, calculative mindset that privileges the measurable and procedural over the intuitive and relational. As this mode of attention becomes further embedded in medical practice, it risks narrowing the field of care, eroding clinical expertise, and reducing physicians to operators within an increasingly mechanised system.

79. Devereux, Catherine, Conor Murphy, Nickola Pallin, et al. [AI Digital Scribe Template Enhancement for Non-Specific Symptom Documentation in Irish General Practice: A Mixed-Methods Feasibility Protocol](#). HRB open research. 2026.Vol.9 pp11. Background Non-specific symptoms (NSS) such as unexplained fatigue, weight loss, or abdominal discomfort are common in general practice and may herald serious disease, including cancer. These symptoms are less consistently recorded than "alarm" symptoms, partly because time-pressured consultations limit comprehensive documentation. AI-enabled digital scribes are increasingly used in routine consultations and can be configured with templates to surface specified symptom groups, but their acceptability and practical value for NSS documentation in primary care are unknown. Aim To assess the acceptability and feasibility of an AI digital scribe template, enhanced for NSS documentation in Irish general practice, and to describe patterns of NSS documentation in template-generated consultation notes. Design and Setting Mixed-methods feasibility study in general practices within the ARQ Practice-Based Research Network in Ireland, all of which routinely use the Heidi™ AI medical scribe. Method In Phase 1 we will iteratively develop an NSS-focused template (covering eight target symptoms) and test it on publicly available primary care consultation data. In Phase 2, five purposively sampled GPs (n=5) will deploy the template during routine consultations over four weeks. In Phase 3, all GPs in the network using Heidi™ (n=30) will be invited to complete an online acceptability survey, with semi-structured interviews for pilot participants (n=5). In Phase 4, a pseudonymised chart review of clinical notes will describe template utilisation, GP editing behaviour, and NSS documentation prevalence. Quantitative data will be analysed descriptively; qualitative data will be analysed using the Framework Method and integrated using convergence coding matrices. Expected Outcomes Primary feasibility outcomes are: recruitment and retention of GPs; template use during routine consultations; template acceptability; and completeness of routine data extraction. Findings will inform refinement of the NSS template and the design of subsequent evaluative studies examining clinical impact. Study materials will be available via the Open Science Framework.
80. Eikenhorst, Aurbrey and Meghan Allred. [Listening Between the Lines: AI Scribe Technology Advancing NP Care](#). Journal for nurse practitioners. 2026.Vol.22(1), pp105613. Ambient listening artificial intelligence (AI) scribe technology has expanded exponentially in just a few short years and is now a part of everyday practice for many NPs. AI scribe technology has the potential to reduce documentation burden, improve patient-provider engagement, and decrease burnout. Understanding its history is key to understanding the significance and evolution of the AI scribe, laying the groundwork for examining its challenges, opportunities, and future recommendations. NPs should strategically harness evolving technology to strengthen the profession and drive meaningful change in health care. •Artificial intelligence is rapidly transforming the health care landscape. •Ambient listening artificial intelligence (AI) scribe technology is affordable. •AI scribes may reduce documentation burden, improve engagement, and decrease burnout. •AI scribes provide both challenges and opportunities for enhancing NP practice. •NPs should embrace technologic innovation to advance the profession.
81. Foo, Darran, Janice Tan, Sean Stevens, Amandeep Hansra and Helen Wilcox. [A comparative analysis of AI scribes versus human documentation in simulated general practice consultations](#). Australian journal of general practice. 2026.Vol.55(4), pp226–232. Artificial intelligence (AI) scribes are emerging as transformative tools in healthcare to automatically generate clinical documentation from patient-clinician encounters. The aim of this study was to compare documentation quality between AI scribes and human-generated notes in simulated general

practice consultations. This was a cross-sectional study using The Royal Australian College of General Practitioners' clinical exam cases with four professional patient actors, two experienced general practitioners (GPs) and three blinded GP raters. Documentation quality was assessed using a modified Physician Documentation Quality Instrument (PDQI-9). AI scribes demonstrated comparable or superior performance to human documentation using the modified PDQI-9, although the difference was not statistically significant ( $P = 0.071$ ). Significant differences were found in the domains of accuracy ( $P = 0.022$ ), thoroughness ( $P < 0.001$ ), succinctness ( $P < 0.001$ ) and freedom from hallucination ( $P = 0.025$ ). Commercially available AI scribes can potentially produce clinical documentation of comparable or superior quality to human documentation in simulated settings, particularly regarding accuracy, thoroughness and succinctness. The finding that both AI and human documentation contain 'hallucinations' challenges the assumption that human-generated documentation represents the gold standard of clinical documentation quality. Further research is needed to evaluate performance in real-world settings.

82. Irons, Jessica L., Andreas Duenser, Tracy Pickett, Georgina Haysom and Melanie J. McGrath. [AI in medical practice: doctors' perspective on the benefits, challenges and facilitators of artificial intelligence scribe use.](#) Health Technol. 2026.Vol.16(3), pp401–410. Purpose As artificial intelligence (AI) scribes become more common in clinical settings, understanding the human factors influencing their uptake is critical. This study investigates doctors' perceptions of AI scribes, focusing on their benefits, challenges (risks or barriers) and facilitators of scribe use in medical practice. Methods We conducted focus groups with thirty-three medical practitioners (21 general practitioners and 12 medical specialists). Separate groups were conducted for AI scribe users and non-users. Benefits, challenges, and facilitators of AI scribe use were identified through researcher-coded qualitative analysis and synthesised into overarching themes. Results AI users had positive perceptions of scribes, reporting improvements to efficiency, quality of notes and doctor-patient interactions. The major challenge themes emerging across AI users and non-users were (1) insufficient knowledge about AI technology and data management, (2) errors produced by scribes, (3) medico-legal risks and responsibilities, (4) privacy concerns, (5) overreliance and de-skilling and (6) doctors losing control over decisions. Perceived facilitators to overcome these challenges included guidance on AI scribe best practice, regulation of AI technology, peer learning and the development of new skills and workflows for using AI. Conclusions Doctors in this study saw promise in AI scribes reducing their administrative burden and streamlining clinical documentation. However, AI errors, limited knowledge of the technology and data management, and fears about how AI might change clinical work are significant barriers for some doctors. Clear policy and guidance from leading medical bodies, as well as ongoing research on real-world implementation, will play an important role in supporting responsible adoption in medical practice.
83. Littrell, Austin. [Take Note: The AI scribe era is here.](#) Med.Econ. 2026.Vol.103(2), pp7–12.
84. Memon, Salim, Adam Brand, Bianca Taylor, Adelaide Michael and Rachael Smithson. [Performance, acceptability, and impact of ambient listening scribe technology in an outpatient context: a mixed methods trial evaluation.](#) BMC Health Serv.Res. 2026.Vol.26(1), pp182–9. Background In 2024, Gold Coast Hospital and Health Service outpatient division initiated a 16-week trial of artificial intelligence (AI)-enabled ambient listening scribe technology. The objective of this pilot study was to evaluate scribe technology performance (according to dimensions of quality, utility and reliability) and its impact on the experience of outpatient

clinicians and patients receiving care. Methods A mixed method research design combined analysis of data from patient and staff surveys, staff interviews, scribe outputs and electronic medical records across a breadth of outpatient specialties. Results By and large, ambient listening technology was associated with positive patient and staff experience. On average, 58% of scribe outputs were accepted without modification into the electronic outpatient note. There was limited evidence of bias in outputs, however there was some evidence of hallucination or incorrect outputs. Conclusions Qualitative and quantitative data were internally consistent and demonstrated that ambient listening technology can (1) produce an accurate summary of outpatient appointments, (2) enhance clinical note quality and (3) improve both clinician and patient experience. Clinical trial number Not applicable. What is already known on this topic Ambient listening scribe technology is being adopted at pace by health services in the hope that it will alleviate clinical documentation burden. What this study adds This study contributes evidence of ambient listening scribe technology performance in a real-world outpatient department application. How this study might affect research, practice, or policy This study aims to inform practice in the implementation and use of ambient listening scribe technology in other health services considering adoption.

85. Wang, Amy and Victor F. A. Almeida. [A new era of efficiency: artificial intelligence scribes and the future of ophthalmology](#). Eye. 2026.Vol.40(6), pp749–750.

## AI & Surgery

86. Lin, Eugenia A. and Kevin J. Renfree. [AI-Enabled Remote Patient Monitoring Systems in Hand Surgery](#). Hand Clin. 2026.Vol.42(1), pp75–83. Artificial intelligence-enabled remote patient monitoring is transforming hand surgery by using advanced technologies like machine learning and computer vision to track patient recovery in real-time. Wearable devices and sensors collect objective data, enabling early detection of complications and personalized rehabilitation protocols. Accelerated by the COVID-19 pandemic, these technologies can potentially replace in-person visits, offering tailored-treatment options through data-driven insights.

## AI & Workforce

87. Ranjan B, Sivanesan I, Bernie SB. [Artificial intelligence and anxiety: The human price of adapting to a smarter workplace](#). Inspire Intelligence. 2026;1(1):52-67.
88. Rakover, Jeffrey, Marina Lynne Renton, Pierre Barker and Gareth Kantor. [Advancing AI in healthcare: three strategic roles for quality and safety leaders](#). BMJ Qual Saf. 2026.Vol.35(3), pp213–218. 10.1136/bmjqs-2025-019050
89. Sharma P, Hussain SS, Gwal R. [Harmonizing Intelligence: AI Integration, Workforce Development, and Ethical Governance for Future of Work](#).2026 Human 2.0: Reimagining HR in the Age of Transhumanism, Jaspreet Kaur
90. Singletary V, Auerbach JM, Ross DA, Baker EL. [Artificial Intelligence and the Public Health Workforce—Preparing for Our Future](#). Journal of Public Health Management and Practice. 2026 Jan 1;32(1):152-4.
91. Wubineh, Betelhem Zewdu, Fitsum Gizachew Deriba and Fikadu Wayesa Gameda. [Ethical concerns and strategies for implementing artificial intelligence in healthcare: a review of](#)

[empirical studies](#). BMC Med.Ethics. 2026.Vol.27(1), pp53. Artificial intelligence (AI) is profoundly transforming the healthcare landscape, presenting unprecedented opportunities to enhance patient care and clinical outcomes. However, the rapid integration of AI technologies has raised significant ethical concerns, requiring rigorous scrutiny to ensure their responsible and equitable use. This study aimed to explore the ethical considerations and strategies related to the implementation of AI in healthcare through a systematic review. A systematic search identified 243 publications published between 2019 and 2025 that were initially identified. After applying inclusion and exclusion criteria, 22 papers were selected for final synthesis to assess ethical concerns and strategies related to AI in healthcare. The analysis identified key ethical concerns, categorizing them into six distinct groups: (1) Transparency and Trust, (2) Bias and Fairness, (3) Privacy and Data Security, (4) Accountability and Responsibility, (5) Ethical and Moral, (6) Regulatory and Legal. Additionally, several ethical strategies were identified in the implementation of AI systems, including adherence to ethical principles, standards, and frameworks; transparency and bias mitigation; monitoring and auditing of AI systems; and stakeholder involvement and governance in decision-making processes. This review emphasizes the importance of addressing these ethical concerns to ensure the successful implementation of AI technologies in healthcare. The findings provide valuable insights and recommendations for stakeholders, including developers, healthcare professionals, and policymakers, to guide the ethical deployment of AI decision support systems in healthcare.

92. Yabana Kiremit B, Şener İ, Tabak KC. [Artificial intelligence anxiety and AI general attitudes among future healthcare workers: a cross-sectional study](#). Psychology, Health & Medicine. 2026 Jan 4:1-8.