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Rookie Mistakes in AI Transition for Healthcare

Implementing AI in healthcare must include strategic vision, stakeholder engagement, ROI understanding, regulatory compliance, and scalability planning to fully leverage AI's potential to improve patient care and institutional efficiency.



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key points

- AI offers solutions to healthcare challenges by enhancing diagnostic precision, operational efficiency, and patient care through the merging of human insight and machine accuracy.
- Successful AI implementation requires a clear strategic vision aligned with long-term goals and robust governance frameworks ensuring ethical use, compliance, and alignment with healthcare standards.
- Implementing AI involves a cultural shift impacting all organisational layers, necessitating engagement of stakeholders at all levels to ensure practical, well-received integration into daily operations.
- A comprehensive understanding of AI's economic implications and alignment of AI goals with organisational objectives is crucial for gaining broad support and ensuring successful implementation.
- Pre-implementation evaluation, proper user training, and continuous feedback mechanisms are essential for seamless integration, effective utilisation, and continuous improvement of AI solutions in healthcare.

The healthcare sector, burdened with diminishing reimbursements, a critical shortage of radiologists, increased workloads, and significant burnout among professionals, stands at a crossroads. Simultaneously, the shift towards personalised and preventive medicine places additional demands on our strained systems. AI offers a promising solution to these issues by merging human insight with machine accuracy, enhancing diagnostic precision, operational efficiency, and patient care.

Navigating AI Implementation in Healthcare Needs Insights from Experience

Many talk about innovation and change, but only some put these ideas into practice. Dr Hugues Brat, founder of Re:Source Healthcare and former CMO and CEO of a leading Swiss private medical imaging network, is one of the pioneers to have navigated the complexities of

AI implementation in radiology. Through Re:Source Healthcare, this experience is translated into insights on the common errors to avoid and a comprehensive curriculum to meet all levels of AI familiarity and needs, ensuring a comprehensive understanding of AI in healthcare—from governance to implementation and beyond. Through programmes like Zero to Hero Basics and Advanced and Intensive workshops, Re:Source provides a holistic view of AI's potential within healthcare, supported by case studies that illustrate transformative impacts. The following aims to break down all the typical mistakes encountered when integrating AI into healthcare environments. The goal is not only to avoid implementation pitfalls but also to offer strategic insights to ensure the success of AI initiatives. It's crucial to recognise that AI in radiology isn't intended to replace radiologists but to empower them. Incorporating AI into medical practices signifies more than just a technological shift; it represents a disruptive evolution in enhancing diagnostic accuracy, patient care,

and operational efficiency. Successfully implementing AI is not merely adopting new technology but enhancing the practice.

The Importance of Vision, Governance and Strategic Framework

One of the most fundamental errors is the absence of a clear, strategic vision for AI integration in your organisation. Many healthcare institutions rush to adopt AI technologies without a solid plan that aligns with their long-term goals. The result is a piecemeal adoption that fails to leverage the full potential of AI, leading to underwhelming outcomes and wasted investments. Leaders must develop a comprehensive AI strategy that addresses immediate needs and sets the stage for future scalability and integration.

Actual AI governance is crucial and involves establishing frameworks that oversee all aspects of AI introduction in your institution, including the ethical use of AI, compliance with regulations, and alignment with healthcare standards. With robust governance, institutions can avoid facing clinical, legal, and ethical issues, damaging trust, and hindering the acceptance of AI technologies.

AI is a Cultural Shift That Must Involve All Stakeholders

One of the most critical steps in implementing AI in a healthcare setting is the preparation phase, which often goes overlooked. AI is not just a technological upgrade but a cultural shift that impacts every layer

of an organisation. Another common mistake is the insufficient engagement of stakeholders at all levels—clinicians, IT staff, management, finance personnel, payers, and patients. Radiologists are one of many stakeholders in the healthcare system.

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Every stakeholder has different insights, concerns, and levels of power that can significantly impact the success of AI initiatives. Engaging these stakeholders early and often ensures that the implemented AI solutions are practical, well-received, and seamlessly integrated into daily operations.

Understanding ROI Perspectives and Aligning Stakeholder Expectations

The economic angle of AI implementation is complex and often overlooked. AI tools are not magical plug-and-play gadgets that will automatically deliver savings and efficiencies. They require thoughtful integration and a clear understanding of their return on investment (ROI) from multiple perspectives. One must keep in mind that what excites a hospital CFO won't necessarily thrill your clinicians. The economic implications of AI are often poorly understood. One of the significant challenges in adopting AI in healthcare is justifying the investment due to the ambiguity in return on investment. This ROI significantly varies depending on the stakeholder in play. As a CEO, the focus might be on the bottom line. Still, as a radiologist, the emphasis might be on diagnostic accuracy and patient safety. Understanding and communicating how AI affects these areas differently is crucial for gaining broad support and aligning AI goals with organisational objectives. Costs can be direct, such as software and hardware, or indirect, like training, monitoring, and changes in workflow. The benefits are optional, and decision-makers must thoroughly analyse the expected ROI, considering various perspectives and not only potential financial impacts. Radiologists must also understand how AI will improve their workflow, save time, alleviate work overload, and enable incremental revenue growth that must ultimately be shared among various stakeholders. They must participate in defining KPIs related to the expected ROI and commit to being active players in adapting the transforming work processes.

Pre-Implementation Evaluation for a Seamless Integration

From there, a common oversight would be skipping comprehensive pre-implementation evaluation. AI models may perform well in controlled test environments or other regions but might translate poorly to local demographics or case mixes. Pilot testing a prospective AI application on local data or providing clean case-based specific databases to be tested by the vendor is crucial to sniff out any performance quirks before it goes live. AI tools must also seamlessly integrate with existing healthcare IT systems—EHRs, RIS, PACS, etc. This usually takes longer than expected, as many operating systems have already been tailored to local needs. Poor interoperability can disrupt clinical workflows, reduce the efficiency gains that AI promises, and consequently impair the necessary trust that has been difficult to gain, especially among the more conservative users. To avoid this failure, fully integrating the IT department as a major stakeholder from the start is of utmost importance to fully understand the vision of the project and let them participate in the implementation pace. Barriers will need to fall, and a 360° active collaboration is necessary to deliver milestones in due time.

User Training to Tackle AI Educational Needs

Another stumbling block is the lack of proper training for healthcare providers on using and interacting with AI tools. AI isn't just about technology; it's about people. Without proper education on how

to interact with AI tools, your staff might as well be using expensive paperweights. Training should cover the technical aspects of operating AI systems,

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the possibilities and limitations of AI technology, the interpretation of AI-generated bias, and the importance of maintaining clinical judgment in decision-making processes. Proper education helps mitigate the risk of over- or under-reliance on AI decisions and supports a balanced approach to machine-human collaboration in clinical settings.

Feedback Loops are Needed for Continuous Improvement

Deploying AI solutions without a mechanism for ongoing monitoring and feedback is a recipe

for stagnation. Regular evaluation of technical performance, particularly in case of updates/upgrades and user satisfaction with AI tools, is essential for sustaining effectiveness, adapting to evolving clinical needs, and pinpointing any performance loss of AI apps. Interactive practical feedback loops also allow users to express concerns and suggest improvements, fostering a culture of collaboration and continuous improvement.

Navigating Regulatory Compliance and Scalability Challenges

Mastering the regulatory landscape is yet another crucial but challenging step. AI in healthcare is subject to strict regulations concerning patient privacy, data security, and bias. Some aspects, such as monitoring and lack of regulations, must be anticipated. Ensuring compliance and meticulously addressing ethical considerations are necessary to maintain trust among all stakeholders and protect the institution against legal repercussions. Finally, a common rookie mistake is not planning for the scalability of AI solutions. What works in a pilot project may not be suitable when scaled across larger or more diverse parts of the organisation. Scalability challenges include managing larger datasets, ensuring consistent performance across different settings and providing adequate support and infrastructure. This aspect needs to be integrated right from the beginning of the change management process.

The journey towards AI integration in healthcare is undoubtedly fraught with challenges but also rich with opportunity. Exchanging thoughts and kicking off a

discussion around these most common mistakes is the first step for healthcare leaders to ensure their AI initiatives don't remain a distant dream. Implementing AI today will help decision-makers confront current challenges and lead to tangible improvements in

patient care and institutional efficiency. Time is too precious of a resource to be wasted; action is needed now. All AI enthusiasts, curious seekers, explorers, navigators, or even advanced players can benefit from the discussion opened today by Re:Source

and can help make AI a strategic, practical, and successful reality in their organisation.

Conflict of Interest

None.

references

Bernstein MH, Atalay MK, Dibble EH et al (2023) Can incorrect artificial intelligence (AI) results impact radiologists, and if so, what can we do about it? A multi reader pilot study of lung cancer detection with chest radiography. *Eur Radiol*.

Brady AP, Allen B, Chong J et al. (2024) Developing, Purchasing, Implementing and Monitoring AI Tools in Radiology: Practical Considerations. A Multi-Society Statement From the ACR, CAR, ESR, RANZCR & RSNA. *Can Assoc Radiol J*. 22:8465371231222229.

Daye D, Wiggins WF, Lungren MP et al. (2022) Implementation of Clinical Artificial Intelligence in Radiology: Who Decides and How? *Radiology*. 305(3):555–563.

Directorate-General for Research and Innovation, European Commission (2024). *Living guidelines on the responsible use of generative AI in research*.

European Society of Radiology (ESR), Becker CD, Kotter E et al. (2022) Current practical experience with artificial intelligence in clinical radiology: a survey of the European Society of Radiology. *Insights Imaging*. 13(1):107.

Giddings R, Joseph A, Callender T et al. (2024) Factors influencing clinician and patient interaction with machine learning-based risk prediction models: a systematic review. *Lancet Digit Health*. 2:e131-e144.

Kinney M, Anastasiadou M, Naranjo-Zolotov M, Santos V (2024) Expectation management in AI: A framework for understanding stakeholder trust and acceptance of artificial intelligence systems. *Heliyon*. 10(7):e28562.

Mahmud H, Islam AKMN, Ahmed SI, Smolander K (2022) What influences algorithmic decision-making? A systematic literature review on algorithm aversion. *Technol Forecast Soc Chang*. 175:121390.

Marcus E, Teuwen J. (2024) Artificial intelligence and explanation: How, why, and when to explain black boxes. *Eur J Radiol*. 173:111393.

Pianykh OS, Langs G, Dewey M et al. (2020) Continuous learning AI in radiology: implementation principles and early applications. *Radiology*. 297(1):6–14.

World Health Organization (2021) *Ethics and governance of artificial intelligence for health: WHO guidance*.