

Opportunities in Digital Transformation

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Artificial Intelligence and Healthcare Leadership

The impact of technology and artificial intelligence (AI) on executive leadership in healthcare is a multifaceted and dynamic subject that has garnered significant attention in recent years. In an interview with CNN in April 2023, Elon Musk warned that artificial intelligence could lead to the destruction of civilisation. What does AI mean for healthcare leaders, and do they need to take this warning seriously?

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key points

- The widespread adoption of artificial intelligence have reshaped the business landscape, requiring healthcare executives to navigate a complex and ever-changing environment.
- AI-driven analytics provide a deeper understanding of market trends, customer behaviours, and competitive landscapes, enabling healthcare leaders to formulate agile and adaptive strategies.
- Healthcare leaders have the task of communicating and demonstrating the vision, objectives and strategy, including the use of AI in that process.
- Leveraging AI capabilities to augment human potential rather than replace it will need to be monitored to prevent unintended consequences.

The Healthcare Landscape

Globally, healthcare spending is not keeping up to remain sustainable, and systems also need a larger workforce. According to the World Health Organization, even if 40 million new health-sector jobs could be created by 2030 there is still a projected shortfall of 9.9 million physicians, nurses and midwives globally over the same period (WHO 2016). Healthcare leaders, therefore, need to attract, train and retain more healthcare professionals and ensure their time is used where it adds the most value - caring for patients. The rapid advancement of technology and the widespread adoption of artificial intelligence (AI) have reshaped the business landscape, requiring healthcare executives to navigate a complex and ever-changing environment. As the sector increasingly integrates advanced technologies into operations, executive leaders are faced with both unprecedented opportunities and challenges. So what are the perceived profound effects of technology and AI on executive healthcare leadership, taking account of

key aspects such as decision-making, strategic planning, organisational culture, and the evolving role of leaders in the digital age?

Let's start with a definition of AI. According to the European Parliament, "AI is the capability of a computer programme to perform tasks or reasoning processes that we usually associate with intelligence in a human being" (European Parliament 2016). According to a report drawn up on proprietary research and analyses undertaken by EIT Health and McKinsey & Company, including work by the McKinsey Global Institute (MGI) on the future of work in the era of automation and AI, the following areas of healthcare may be served by AI (Spatharou et al. 2020):

- Self-care/prevention/wellness
- Triage and diagnosis
- Diagnostics
- Clinical decision support
- Care delivery

- Chronic care management

The [main areas of AI](#) applicable to the health sector are purported to be:

- Machine Learning (ML): the use and development of computer systems that are able to learn and adapt without following explicit instructions by using algorithms and statistical models to analyse and draw inferences from patterns in data; and
- Natural Language Processing (NLP): the application of computational techniques to analyse and synthesise natural language and speech.

Current Challenges for Healthcare Leadership

The main challenges for healthcare leadership (non-exhaustive) include:

Enhanced Decision-Making

AI is capable of providing boards and executive leaders with advanced analytics and data processing capabilities, potentially improving the quality and accuracy of decision-making. Real-time insights from machine learning algorithms may support leaders in making informed and strategic choices. However, the

been to visit the emergency department, who has the responsibility? Is it the AI system itself, the developers of the system or the county council? (Peterson et al. 2022). In this respect, laws need to be developed rapidly to ascertain liability and accountability.

Strategic Planning in the Digital Age

Healthcare boards must take into account that strategic change processes are long-term. Executives need to factor in the rapid pace of technological change, digital disruption, and emerging challenges and opportunities in their strategic frameworks. AI-driven analytics may provide a deeper understanding of market trends, customer behaviours, and competitive landscapes, enabling healthcare leaders to formulate agile and adaptive strategies. However, the potential lack of intuition and creativity in AI systems is a concern, particularly in fields that require innovative thinking.

The change process design is a crucial task for strategic leadership, and careful use of AI in the planning phase may provide a more in-depth, real-time and accurate business environment and competitive analysis for the orientation of a visioning process and strategic implementation. However, before any AI soil is tilled and seeds planted, leaders must reach a common understanding of AI itself (AI, machine learning and deep learning) to define an objective for how

Executive and clinical leaders must set, oversee and implement the challenging complexities of balanced human-AI skills when integrating AI into current or innovative workflows

green pastures of analytics and data processing depend, as ever, on the quality of the statistics gathered and the way the data is processed. And we all need to remain aware of a natural bias to find statistics that suit our personal position or argument.

Further, accountability held among individuals, organisations, and AI systems regarding decisions based on support from an AI algorithm is perceived as a risk that needs to be addressed. However, accountability is not addressed if advice turns out to be incorrect. For example, if a patient is given AI-based advice from a county council-operated patient portal for triage-suggested self-care, and the advice instead should have

AI can be applied in the future (Pokorni et al. 2021).

Healthcare leaders also have the task of communicating and demonstrating the vision, objectives and strategy, including the use of AI in that process. Communication strategy must be inclusive to have any chance of success - employees, employee representatives or external stakeholders must be included in the formation of the change process and will be one of the key success factors. Through participation, stakeholder doubts and concerns may be addressed and included during the design process and along the implementation milestones. Stakeholders should understand both the why and how they may participate, and transparent discussions on proposed designs of AI hardware and

software systems are crucial to have any chance of seamless technological integration with partners.

Cultural Integration

Successful integration always involves a shift in the cultural paradigm of thinking, mindset, attitudes, behaviours, and knowledge acquisition. The challenge lies in balancing the implementation of new technologies with the preservation of core organisational values, and the chance of unintended consequences derailing a cultural change is high.

Both for healthcare leaders and stakeholders, new technology is one of the most frightening aspects of strategic change involving, as it does, substantial economic and capital commitments and implementation decisions with far-reaching implications for growth and success. Usually, a very steep, innovative

appropriate, both ethically and substantively.

Leveraging AI capabilities to augment human potential rather than replace it will need to be monitored to prevent unintended consequences. This will involve an extremely sensitive approach to managing talent, organising and encouraging appropriate reskilling to foster change that creates collaborative working environments. In a sector where empathy and emotional intelligence are core to patient care, assessing patients with our human senses, including paying attention to our intuitive thinking and feeling, means taking an extremely careful and balanced approach to supporting or disconfirming technological diagnosis.

The potential loss of human touch in healthcare leadership due to AI is significant, and, in the context of increasing medical litigation, the risk of beginning to over-rely on technology in an attempt to shift accountability and responsibility for human decision-

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and continuous learning curve has to be culturally assimilated, and the cultural expectation that 'this is the way we do things around here' may be fragmented, in some cases, almost beyond recognition. This may lead to heavy resistance and reticence to adopt AI, the severity depending on the organisational culture and success, or lack of success, of communication strategy. In the rather hierarchical, bureaucratic and silo organisational culture prevalent in the healthcare sector, championing a digital mindset and creating an environment conducive to experimentation and learning may be extremely challenging.

Human-AI Collaboration

As decisions are made around the use and implementation of AI technologies in the healthcare sector, executive and clinical leaders must set, oversee and implement the challenging complexities of balanced human-AI skills when integrating AI into current or innovative workflows. Human oversight is critical. The greatest skills involve understanding deeply the limits and potentialities of AI, neither over nor underestimating the power of these new tech tools, while making absolutely certain that data inputs are trustworthy and

making may be tempting.

This means all leaders, whether in healthcare or other sectors, will need agile leadership skills to be resilient, cope with ambiguity and navigate the uncertainty of change. They will need to learn fast and flexibly as the landscape and legislative challenges change rapidly and foster innovation as they guide their teams through digital transformation.

Ethical Considerations

Increased deployment of AI in the healthcare system will give rise to ethical dilemmas that executive and clinical healthcare leaders must address. Issues such as data privacy, bias in algorithms, and the societal impact of AI applications require thoughtful consideration and ethical decision-making. AI, therefore, needs to be established and implemented responsibly: ethical challenges need to be raised and discussed in the strategic planning stages, with the participation of patients and their appropriate representatives. In this way, patient care stays at the heart of healthcare decision-making, allowing ethical challenges and their solutions to be jointly analysed, assessed and addressed.

Both executive and clinical leaders must establish ethical frameworks within their organisations and specialist departments, ensuring that technology aligns with both medical values and society at large. In addition, increased reliance on data collection and analysis means that concerns about privacy and AI need to be addressed in the context of increasing reliance on data collection and analysis.

Impact on Talent Acquisition and Development

Talent acquisition and development initiatives will be hugely impacted by increased uptake in AI. One of the criteria that may slow the adoption of AI into healthcare may be the lack of suitably qualified candidates with the skills, competencies, and drive needed for AI digital transformation. In addition to finding candidates who are experts in relevant AI, the ability to learn and upskill continuously right across the organisation needs to be addressed. Further, the cost of implementing AI in small healthcare practices may be a barrier to entry, which may force greater collaboration and consolidation in the sector. The downside across the sector may be the replacement of highly skilled practitioners, trained at huge cost, rendered obsolete by AI applications, which may cause unintended unemployment, where a more optimal balance of supporting highly-trained practitioners rather than replacing them would have been more appropriate.

Conclusion

In conclusion, the impact of technology and artificial intelligence on executive leadership is expected to be profound.

- To ease the predicted shortfall of practitioners, increased controlled and monitored use of AI in the healthcare sector may play a substantive role in bridging that gap, as long as it is directed towards patient care and not used as a tool to deflect responsibility or accountability;

- The demands of integrating AI for healthcare boards, executive leaders and clinicians are multifaceted, requiring leaders to adapt their decision-making, strategic planning, collaboration, ethics, and talent strategies to thrive in the digital era;
- The traditional hierarchical and bureaucratic organisational culture with a tendency to create silos, may slow down or derail digital projects. The chances of unintended consequences are high, particularly if all relevant internal and external stakeholders are not included in early discussions to streamline compatibility across digital hardware and software;
- The impact of AI may be very costly in terms of talent attrition, costs that will undoubtedly affect the whole of society, requiring very careful consideration and a balanced approach towards the development of AI to complement rather than replace the human skills of diagnosis, treatment and care.

Referring to our original question: should we take Elon Musk's warning that AI could lead to the destruction of civilisation seriously? To avoid this warning becoming anywhere near reality, it seems essential that:

- AI be regulated at a global, country, local and organisational level.
- The aim of AI must remain that of an enhancer rather than a replacement for highly skilled practitioners who have very sophisticated human skills in terms of bringing extremely complex elements together to form a reasoned judgment, including sense, gut feeling and intuition.
- AI efforts must also be developed in low- and middle-income countries, along with high-income countries, to ensure global equity in enhancing and supporting the roles of health professionals to ease the predicted global shortfalls in healthcare practitioners.

Conflict of Interest

None

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