REPRINT February 2019

hfm
healthcare financial management association hfma.org

a CFO's guide to AI strategy

Artificial intelligence (AI) investments can provide significant ROI for healthcare organizations.

Ever-rising costs, declining payment, razor-thin operating margins, and an uncertain regulatory environment are major issues that confound the healthcare industry and keep hospital CFOs up at night. Sustaining margins becomes increasingly difficult as the industry moves toward value-based payment and its focus on improving efficiency and reducing cost without adversely affecting the quality of care. AI offers opportunities for healthcare executives to achieve their goals by leveraging innovative technology.

Hailed in several quarters as the fourth industrial revolution, AI is no longer just a futuristic technology in health care. It is here, and it is skyrocketing in popularity. An Accenture study notes, "Growth in the AI health market is expected to reach $6.6 billion by 2021—that's a compound annual growth rate of 40 percent."[a] The key for CFOs is to execute a strategy that realizes AI's potential to maximize their organizations' value.

AT A GLANCE

- The healthcare industry has been slow to adopt artificial intelligence (AI) but is now seeing the benefits of this robust and evolving technology.
- Healthcare organizations can realize significant cost benefits from implementing AI.
- As organizations begin to use AI technology, they should make sure to strategize carefully and educate staff.

AI Defined

Since the invention of computers in the mid-20th century, people have pursued a decades-old quest for computers to think and perform tasks like humans. We are still far away from reaching that pinnacle. However, the past decade has been particularly promising for AI development. There has been a phenomenal rise in software's capability to process data and automate processes. AI also is discussed with terms like machine learning, big data, and natural language processing (NLP).

Machine learning is the most promising subfield of AI, and an engine on which AI runs today. The term refers to the ability of a computer, or machine, to smartly process larger sets of data to find patterns without being told explicitly what to find. The more data the machine sees, the more refined and accurate it becomes in finding patterns in a process of constant learning.

a. Collier, M., Fu, R., Yin, L., and Christiansen, P., *Artificial Intelligence (AI): Healthcare's New Nervous System*, Accenture, 2017.

Big data is a phenomenon that drives machine learning. It is the proliferation of data due to modern technology that allows large sets of data to be injected into software for machine learning.

And *NLP* is the function that enables computers to understand and process human languages.

Despite AI's vast capabilities, however, health care has been slow to adapt the technology for various reasons, including the following:

> Limited interoperability, which creates challenges in integrating the new technology into existing workflows
> Information overload affecting the many hospitals that are not equipped to process the large sets of data
> Real concerns about data security, particularly regarding the privacy of patient data
> Little proof of concept, which has made it difficult to identify a business case and ROI opportunities

Today, however, the industry is using AI in unprecedented ways to capitalize on the tremendous volume of electronic data, increased speed of computing, and the rise of cloud computing—all of which make it affordable and scalable for health systems and technology companies to create and deploy AI-enabled applications.

The Impact of AI

Historically, health systems looked to the CFO to ensure the accuracy of hospital financials. Today, with the increase of electronic data, CFOs are looked upon to advise other leaders as they map out the strategic future of the organization. To meet modern expectations, health systems must operate more efficiently and analyze data from across the revenue cycle. Four characteristics of AI enable it to accomplish both objectives.

It is highly efficient and effective. As AI automates manual, repetitive tasks, it frees up valuable time for leaders and staff to concentrate on strategic initiatives. As AI develops, healthcare CFOs and their teams can shift from routine transaction processing to performing critical analyses that help their organizations improve outcomes and sustain growth.

It offers data-driven insights. AI can crunch large data sets and identify statistically correlated patterns and trends at a level that is not possible for humans, helping healthcare leaders tap into previously unavailable degrees of insight.

It enables CFOs to make informed decisions. AI does the data analysis, but the CFO turns those insights into value for the organization.

It helps healthcare leaders monitor performance. When AI is fed data in real time, it is able to find trends and patterns continuously, making it a highly valuable and powerful tool for performance monitoring.

Top 10 AI Strategies for Healthcare Leaders

Healthcare leaders who are developing their AI strategies should consider the following steps.

Test the waters. Organizations that are just starting with AI should start small. They should avoid the trap of blindly trusting any AI tool without due diligence, and not be beguiled by the promise of phenomenal benefits at the risk of wasting massive investments. Small pilots of various AI tools with small-scale, quantifiable payoffs as the goal can offer key lessons to inform a larger implementation. One good starting point might be less-developed areas of the health system that have large sets of data but inadequate access to analytics. Speaking with industry peers who have AI experience also can be helpful.

Upgrade the organization's data sources. AI is only as effective as the data that feeds it. The best way to prepare for AI is to continuously improve the organization's data infrastructure, focusing on three key pillars: quality of data, quantity of data, and real-time data.

Create a robust data management strategy. The effectiveness of AI will be compromised without a good data strategy. Data must be collected in a way that provides for integration and interoperability

with other systems. Health system leaders should follow a connected-platform approach. An ad-hoc approach with a variety of systems will interrupt the data flow, negatively affecting AI's pattern- and trends-identifying ability. By leveraging a platform perspective, health systems will have a strong and scalable foundation for innovation that delivers a far superior hospital performance and patient experience.

Select an AI tool with data-driven decision-making capability. It's important to strategically select AI technologies and tools that offer real-time tracking of the AI project's objectives. These tools should have dashboards and analytics to help the organization visualize things such as the impact on key performance indicators, root cause analysis, as well as reasons and insights behind the data the system is generating and rules that led to particular recommendations. These capabilities will provide a crucial competitive edge to not only survive but thrive in an ever-changing environment of the healthcare industry.

Collaborate wisely. When using an external vendor or expert, a health system leader's strategy and focus should be on knowledge transference. CFOs must plan for the knowledge transfer from the vendor to internal staff to ensure that staff develop skills required to handle the data.

Tackle budget issues. One of the biggest hindrances for AI adoption is the budget. AI will be the driver of innovation and competitive advantage in the modern healthcare industry. In many cases, the insights derived from this robust technology can mean the difference between a health system surviving or being acquired/shut down. Not investing in AI is incredibly risky if a healthcare organization's focus is on cost reduction and a value-based future. However, if the budget is still a sticking point for the health system, making small investments in AI automation tools and machine learning for manual and repetitive tasks is a smart initial strategy. These types of investments tend to show results quickly and can make the case for bigger investments in AI.

Obtain internal buy-in. It's easy to convince people of the benefits of AI. The difficult part is the human element. It is only natural for staff to feel unsure and threatened by AI because it can do part of the work they do. The healthcare leader's strategy should be to educate team members and frame AI to them as an augmentation of their capabilities rather than a replacement, allowing them to pursue more productive work that requires human intellect. It is crucial for C-suite executives to be in unison on AI strategy, especially the CFO and CIO. The good working relationship will go a long way in successfully implementing AI in your health system.

Institutionalize the AI readiness. AI should not be seen just as a tool but also as a revolutionary phenomenon that could transform a health system. To realize greater benefits and value from AI, a shift in mindset is required. Deep change in behaviors and ways of thinking is needed. This can lead to cultural anxiety among employees. Hence, AI expertise must be incorporated into a health system's process, structure, culture, and governance. Such expertise is obtained by developing an AI-smart workforce that will use AI to improve efficiency, quality of treatment, and patient outcomes. Leaders can pursue strategic goals such as building trust, proactively managing related challenges, getting staff excited for the AI change, training new skills like critical thinking, helping staff interpret trends and patterns generated by machine learning, and providing education on the use of AI tools.

Prioritize talent acquisition. Talent acquisition could well be the biggest barrier in their adoption of AI. CFOs and CIOs need to chart out a short-term as well as a long-term strategy for acquiring AI skills. The short-term strategy can include providing ongoing training to existing staff on data science tools and educating the team regarding results of the AI pilots conducted at its respective hospitals, as well as at peer hospitals. Long-term strategies can revolve around continuously leveraging academic communities, AI research papers, and open-source technologies.

Invest in cloud-based AI technology over traditional on-premise AI systems. Cloud technology provides the best way to cost-effectively build, store, and analyze data for AI-based insights. Cloud-based AI technology is modern and built for big data. Hence, it beats on-premise AI technology in storage, scalability, accessibility, flexibility, and cost. AI technologies embedded in cloud applications are at the forefront of delivering benefit through end-to-end to single-platform solutions.

AI ROI

The previously mentioned Accenture study notes, "By 2026, AI can create $150 billion in annual savings for the US healthcare economy." Another study published in *MIT Technology Review* states that "more than half of early stage and mature-stage users of AI say their efforts have resulted in demonstrable ROI."[b] After decades of promise and disappointments, AI has finally started to deliver. But AI in health care can mean multiple technologies and tools, which could cause confusion for leaders waiting to dip their toes in the water.

AI in health care can be broadly classified in two buckets: clinical and operational. Clinical AI (e.g., AI robots, clinical decision support) is much more elaborate and tends to generate greater interest than operational AI (e.g., revenue cycle automation, coding workflow optimization). Clinical AI has huge potential, but it is still in a nascent stage, and a clear recipe for success hasn't emerged. Because of the current uncertainties regarding ROI for clinical AI—both in measuring it and being able to realize it quickly—CFOs should be cautious about investing in it.

On the other hand, there are many success stories with demonstrable ROI associated with operational AI. These tools basically automate manual tasks, eliminate error-prone processes, and remove administrative burden in a revenue cycle. These capabilities represent clearly defined opportunities to quantify value and ROI from improved operational efficiency, payment, and cash flow of the health system. However, the likelihood of success largely depends on the organization's agility in adapting to AI tools and the degree to which the organization's AI vendor partner can provide essential support.

Healthcare leaders should take an adaptive approach with ROI, be clear and vocal about the expected costs, set expectations accordingly, and be prepared for those expectations to be revised significantly as the AI solution scope is further refined. Leaders also should be prepared to shut down experimental AI projects that aren't producing benefits.

The primary aim of an AI strategy will be to integrate this technology in a way that maximizes the capabilities of human expertise with AI tools. Healthcare CFOs need not be software geniuses to make sense of AI. Neither should they have to call for massive investments to apply AI toward transforming their organizations. Now is the time for CFOs to explore this technology and identify ways it might best be initially implemented. CFOs who adopt AI today will be industry leaders tomorrow. ■

b. MIT Technology Review Insights and Google Cloud, "Machine Learning: The New Proving Ground for Competitive Advantage," *MIT Technology Review*, March 16, 2017.

Meet are experts

Leigh Poland
VP of Coding Services - AGS Health

Chris Lally
VP of Sales - AGS Health

Suhas Nair
Director of Product Management - EZDI, an AGS Health Company

EZDI

an agshealth company

CAC, CDI, and Audit in one easy-to-use platform

1015 18th Street NW, Suite 1101, Washington, DC 20036

202-629-4100 | sales@ezdi.com | www.ezdi.com