Healthcare Leaders Turn to Analytics and AI for Enhanced Patient Outcomes

Analytics and AI provide the greatest potential for healthcare operating efficiency gains and enhanced patient outcomes.

Top priorities for implementing analytics and AI:

1 Clinical effectiveness and optimization

2 Personalized medicine

3 Clinical operations

58%

Product safety, temperature tracking/cold chain

55%

Telemedicine/telehealth

55%

Asset/inventory management

52%

Device diagnostics, predictive/ prescriptive maintenance

45%

Pharmacy processes

44%

Patient monitoring

Source: IDC Canada IT Advisory Panel (ITAP) 2021

The COVID-19 pandemic has accelerated healthcare analytics and artificial intelligence (AI) adoption as well as advanced the sector's shift to cloud platforms. While the shift to cloud was made because of the need for speed in standing up new infrastructure and capabilities, it has ongoing benefits in providing a base for accelerated improvements in access to data and data usability that will support future healthcare analytics and AI implementations. Healthcare analytics adoption also provides a means of answering pandemic-driven citizen and patient demand for greater transparency and granularity from healthcare authorities and providers.

The sector's overall emphasis on analytics, AI, and AI-related process automation as key priority areas for driving operational efficiency and enhanced patient outcomes is not dependent on big data. Many healthcare analytics, AI, and process automation initiatives utilize operational data in rules-based processes to deliver quality-of-care and efficiency improvements. Adoption of strong data governance and management frameworks to provide the organizational data structure to help identify these opportunities, whether big data– or operational data–based, is crucial. In Canadian research, IDC found that organizations that deploy advanced analytics and AI without first addressing data governance and management encounter problems that impact their ability to leverage the solutions (in the healthcare context, to make informed clinical and operational decisions), resulting in significant delays to data-driven initiatives.

56% found that ensuring data accuracy was too difficult or required too much time in production deployment.

54% reported unanticipated privacy or regulatory issues emerging in production deployment.

52% were unable to ensure the required data flow necessary in production deployment.

44% experienced model inaccuracy or irrelevance to business needs in production deployment.

Implementation of strong data governance and management frameworks would have helped address the problems encountered, and in healthcare also would have provided a foundation for more effective collaboration across the sector. A benefit of Canadian healthcare's pandemic-accelerated adoption of virtual health and digital transformation strategies has been a similar acceleration in the sector's willingness to adopt data governance and management frameworks. Trusted advisors and services partners are playing a key role in assisting healthcare organizations in implementing these frameworks, which provide the structure to map data to patient, clinical, and operational processes, workflows, and decisions.

Essential Guidance

Analytics and AI provide great potential for healthcare operational efficiency gains and enhanced patient outcomes, but only if organizations are able to adopt a data culture and utilize the data they are collecting to make better decisions. Implementing an organizational data framework will help support the critical data performance areas that need to be established as a foundation for effectively using data. These are:

Data acquisition, collection, and input

Cleansing/transformation of data so it is usable and accurate

Timely data flow/sharing/dissemination of data to systems, models, and users

Governance and management

Establishing this foundation allows healthcare organizations to concentrate on the benefits of harnessing the power of the data they collect: identifying what data is useful and helps provide insight, aligning data-based analytics and AI projects with key healthcare decisions, and establishing where data, data tools, automation, and analytics can be used to increase operating efficiency and enhance patient outcomes. Ultimately, this will enable the digital transformation of healthcare, in which:

Data is operationalized across the organization

Organizations are able to build insight ecosystems based on leveraging analytics and AI capabilities

360-degree views of the organization and patients/clients are possible

Operations and patient outcomes can be tracked, monitored, and measured for performance and improvement

There is a data framework foundation for ongoing organizational improvement