Optimizing precision care delivery with machine learning

Optum, part of UnitedHealth Group, recently invested $16 million in Health at Scale, a California-based startup using machine learning to help risk-bearing entities determine the highest-quality provider and hospital at the lowest cost.

Health at Scale offers a suite of services, including building preferred-provider networks of physicians and facilities optimized for the predicted needs of individual members within large and complex populations. It also designs broad and narrow networks for populations and member groups. The company serves payers, health systems and self-insured employers.

As providers take on more downside risk in value-based care arrangements, being able to accurately predict the needs of individual members in populations takes on added importance. Likewise, being able to demonstrate top-tier performance on quality and cost for patients at risk of advanced care needs will be key considerations as payers continue to build out their networks and program offerings.
Zeeshan Syed, Health at Scale’s CEO, recently told TechCrunch that his firm matches patients to the right treatments by the right providers at the right time.

While not disclosing its data sources or which health systems and payers it’s working with, Health at Scale says it has patient-specific and condition-specific data and information on physicians who treat these conditions. The company believes that by looking at an individual’s treatment needs and medical history, it can match that person to the best doctor and hospital for the service. Health at Scale says its service will benefit patients, payers and providers because the information will lead to fewer postoperative complications and trips to an emergency department or skilled nursing facility.

For all the attention that machine learning and artificial intelligence generate in health care, predictive-analysis tools are also starting to raise important questions about how some of this information might be used. Writing recently in Forbes, Jayshree Pandya, CEO of Risk Group, a strategic, security-risk research and reporting organization, wonders whether insurers might deny consumers coverage based on what models predict.

**WANT TO INNOVATE? PLAN TO DISRUPT**

Advancement in any health care organization is rarely linear. And innovation doesn’t happen without a mindset shift and significant change. This may seem intuitive, but it’s a leap many executives never quite make, opting instead for safer, incremental progress. That won’t cut it if you’re intent on innovating.

“There is no innovation without disruption,” says Linda Bernardi, a former IBM chief innovation officer and Watson co-lead who will be a keynote presenter at the AHA Leadership Summit July 25-27 in San Diego.

Bernardi, a strong believer in the positive impact disruptive technologies can have on health care, argues that health care executives should embrace this as an era of opportunity. Making this mindset shift is the first and most critical step toward enabling any health care organization to create new services or radically improve processes.

“We need to embrace change and allow agile experimentation of connecting with, delivering services to and keeping patients happy,” Bernardi says. “Let’s realize that tech orientation is now far beyond portal capacity or running a mobile app. [Focus on] patient expectations, be risk-tolerant and realize that tomorrow a patient would like to issue voice commands and have magic happen. Health care needs to embrace Alexa-like technologies and connectivity, as we have all accepted [these devices] into our homes!”
Bernardi says the greatest opportunity and form of disruption will emerge from widespread digitization of all services, the most visible of which is the doctor-patient interaction. Organizations that recognize this and focus on the patient experience vs. services will be the big winners, she adds.

**DIGITAL INNOVATION WILL BE EASY AND AFFORDABLE [SAID NO ONE]**

Digital innovation may be a necessity for health care organizations, but it's coming at a steep price.

Modern Healthcare’s most recent Power Panel survey of top CEOs found that more than a third of the 26 responding CEOs said their organizations spent between $5 million and $19.9 million on digital innovation last year. About 30% spent up to $4.9 million on these projects and two spent $100 million.

It is important to note that electronic health records, the foundation for many digital systems these organizations are adopting, already had a significant impact on spending. Scripps Health’s CEO, Chris Van Gorder, one of the respondents, noted that his organization spent nearly $500 million on its EHR platform to build the foundation for its digital technologies of the future.

Respondents also believe the federal government can continue to play a valuable role in encouraging digital innovation by creating greater financial incentives to develop and adopt digital solutions (cited by more than half of respondents) or by using payment to force widespread adoption of standards. The respondents also emphasized that these technology costs must be treated as an investment that ultimately will help lower costs and lead to better outcomes. Catherine Jacobson, Froedert Health’s CEO, said the more support there is for value-based reimbursement, the more the field will be driven toward digital technologies to improve efficiency.

We want to hear from you! Please send your feedback to Bob Kehoe at rkehoe@aha.org.