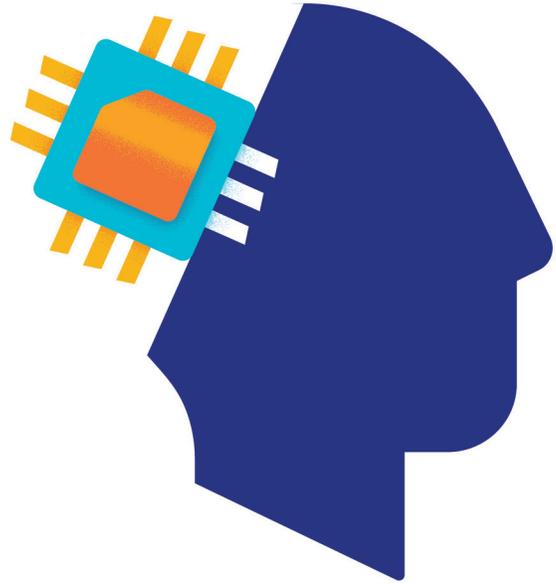




From bytes to insights: How data helps power health care innovation



Data and emerging technologies are fueling more actionable insights to help drive better health outcomes and potentially lower costs.

Craig Kurtzweil has been in the analytics business for more than 20 years, and he's witnessed a significant evolution in the power and prominence of data in the health care industry. As he thinks back to the early days of his career at UnitedHealthcare, the form and function of data and analytics looked nothing like it does today.

"My first couple weeks on the job, I was literally taking printed PDF reports and typing numbers into Excel files to bring the story of data to life in different ways," says Kurtzweil, chief data and analytics officer for UnitedHealthcare Employer & Individual. "Back then, it was a challenge to even access the data, let alone to translate it and visualize it in a way that an employer could understand what it meant and act upon it."

Since then, the ability to access, analyze and use data to shape the future of health care has changed significantly, as has its expanded use.

"Science has outpaced the art of it over the last 5 to 10 years or so," he says. "It's more scalable and efficient."

Today, data is foundational to the health care industry and a cornerstone of its innovation:

- Providers are using real-time data to improve the care delivery experience with members
- Employers are using population data to build employee engagement strategies to help address specific groups with certain health needs
- Members are using tools backed by data to choose providers and make more informed care decisions every day

Data is also driving innovation efforts from payers and other industry stakeholders. In fact, 92% of surveyed employers said they believe that artificial intelligence (AI) holds promise in health care,¹ and 67% said they already have a strategy in place to collect, store and analyze data that measures employee health and well-being.²

Kurtzweil and others at UnitedHealthcare and its parent company, UnitedHealth Group, are putting data to work as part of a broader innovation goal aimed at reducing costs, improving outcomes and creating better member experiences. That innovative approach includes:



Turning insight into action for employers and employees



Leveraging machine learning (ML) and artificial intelligence (AI) responsibly

Turning insight into action for employers and employees

Nearly 30% of U.S. adults wear a device to track their health or fitness – and among those surveyed, 80% said they would be willing to share that data with their medical provider as an additional way to help monitor their health.³ Devices like these provide a clearer line of sight into daily activities, blood pressure, blood-sugar levels and more – and may inspire wearers to become more engaged with their health and make healthier choices.

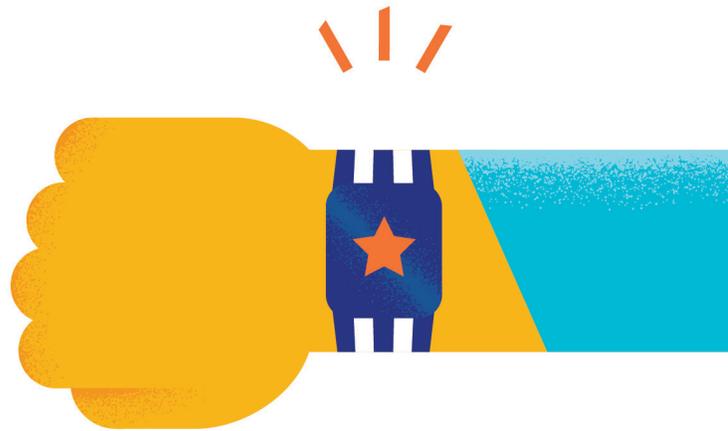
But data collected via digital devices is just one way to coordinate personalized insight. UnitedHealthcare Advocates can also suggest next-best actions based on what they see in their dashboards related to a member’s medical history, preferences and behaviors.

When Kurtzweil and his team meet with employer groups about their health plan performance, the conversation extends well beyond volume-based discussions and top-line results. Employers are looking for data analysts to make specific recommendations they feel can impact costs, outcomes and experiences.

For example, using data and analytics, Kurtzweil and team identified that 42% of a particular employer’s 77K+ member population had a complex cancer, and those members accounted for 57% of its costs. As a result of this analysis, the employer deployed a cancer-specific care management team

to better support those members, resulting in a \$267K+ savings opportunity from closing 105 gaps in care.⁴

“We need to collect that data, integrate that data and apply the algorithms and machine learning to it in order to uncover trends within employer populations and gain actionable insights,” Kurtzweil says. “But at the end of the day, we need to present that data in a clear and concise way, so employers and members understand what actions they need to take.”



AI and ML: Balancing innovation with responsibility

As more data is captured via devices and overall engagement with the health system, the volume is too large for human analysis alone. That’s where artificial intelligence and machine learning can help. In fact, the global health care AI market is predicted to reach \$614B by 2034, up from \$27B in 2024.⁵ Behind the scenes, these technologies are a driving force of innovation at UnitedHealth Group – within Optum and UnitedHealthcare – helping make sense of 2T health transactions annually.⁶

While safety, privacy, transparency and responsible use are at the forefront of using AI and ML, timeliness, simplicity and efficiency are also key drivers. As Jean-François Beaulé, executive vice president of design and innovation for UnitedHealthcare Employer & Individual large employer segment, explains: “Advanced analytical technologies, like AI and ML, have enormous potential to simplify the health care experiences. UnitedHealthcare takes a practical and thoughtful approach, grounded in reality when evaluating new technologies to ensure consistent, transparent and scalable results.”

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Reducing the time it takes to gather intel and turn that into actionable insights is critical. Yet no matter how fast the data is captured, reliable human analysis is critical to making sense of what it means for employers and employees.

“In the past, you had data, but it could take months to get your hands on it.” Kurtzweil says. “Now there is a flood of data – insightful and valuable data – but it’s become increasingly apparent that AI and ML strategies are critical to help translate that ocean of data into real-time, actionable insights.”

While AI and ML may be important tools in health care moving forward, developing and implementing it responsibly – and ensuring the privacy and security of member health data is protected – is essential.

Understanding this, UnitedHealth Group continually assesses the use of emergent technology and advanced data and analytics, focusing on the areas in which its application can help support more informed decisions and improve operational efficiencies. It’s important to note that applications and uses of AI and ML throughout UnitedHealth Group include human review and critical human decision-making.

Even though great progress is being made in many areas of the health care landscape, the industry still has much work to do to create a more connected health care experience for employers, employees, providers and all involved. Making smarter connections between data points and supporting decisions along the way with advanced analytics and actionable insights is a logical place to start.



Learn how UnitedHealthcare is working to transform the future of health care >

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¹ 2025 Employer Health Care Strategy Survey, Business Group on Health, Aug. 20, 2024. Available: <https://www.businessgrouphealth.org/en/resources/2025-employer-health-care-strategy-survey-intro>. Accessed: Jan. 14, 2025.

² Leveraging Workforce Data for Health and Well-being Success: Guidance for Employers. Business Group on Health, April 12, 2024. Available: <https://www.businessgrouphealth.org/resources/leveraging-workforce-data-for-health-and-well-being-success>.

³ Study reveals wearable device trends among U.S. adults. National Heart, Lung, and Blood Institute, June 15, 2023. Available: <https://www.nhlbi.nih.gov/news/2023/study-reveals-wearable-device-trends-among-us-adults>.

⁴ UnitedHealthcare National Accounts ASO client 2022-2024 analysis, Health Plan Performance Review Oct. 2024. This case study is true. Savings calculated on book-of-business case rate savings for these programs. Savings for enrolled members are case specific. Results will vary based on client-specific demographics and plan design. Results will vary depending on the state where the insured policy is issued and the amount of engagement by employees.

⁵ Artificial Intelligence in Healthcare Market Size, Share and Trends 2024 to 2034. Precedence Research, Aug. 9, 2024. Available: <https://www.precedenceresearch.com/artificial-intelligence-in-healthcare-market>. Accessed: Feb 4, 2025.

⁶ UnitedHealth Group internal data collection and reporting, 2024.

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