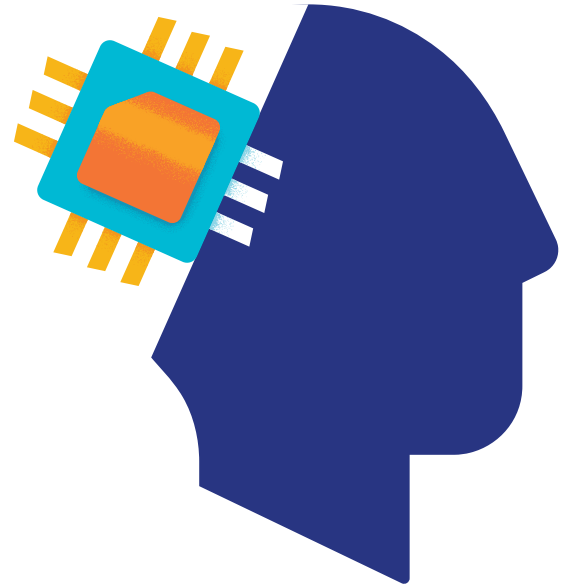




From bytes to insights: How data helps power health care innovation



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 healthcare industry. As he thinks back to the early days of his career, 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 spreadsheets 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.

The true power of data, when combined with advanced technology and analytic capabilities like **artificial intelligence (AI)**, lies in its immense potential to fundamentally transform the way health care is delivered, purchased and consumed. By meticulously sifting through vast, complex datasets, these technologies and analytic capabilities can uncover hidden trends, predict health trajectories and personalize interventions on an unprecedented scale. This paves the way for a health system that is not only more efficient and cost-effective but also profoundly more responsive to individual patient needs and capable of achieving superior health outcomes for all.

“AI has the potential to help solve some of the persisting challenges faced by the healthcare industry, specifically the complexity of navigating the system.”

Jean-François Beaulé

Executive Vice President of Design and Innovation
UnitedHealthcare Employer & Individual

UnitedHealth Group and its businesses, UnitedHealthcare and Optum, are committed to using AI responsibly

This includes ensuring that AI solutions are designed, developed and maintained in a way that prioritizes accuracy, human review, privacy, security, ethics and transparency. AI models do not store or replicate member data, do not make coverage decisions and do not replace clinical decision-making.

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Driving more proactive and intelligent insights

AI and data analytics are fundamentally changing how health care providers diagnose, treat and prevent illness, leading to demonstrably better patient outcomes. By processing and analyzing vast datasets – including electronic health records, genomic information, imaging scans and more – AI algorithms can identify subtle patterns and make predictions to support clinical decision-making, without replacing it.¹

For instance, AI-powered diagnostic tools can assist radiologists in detecting anomalies in medical images earlier and more precisely than the human eye alone, leading to earlier interventions for conditions like **cancer**.² Carriers can also use predictive analytics to identify members at high risk of developing chronic diseases or experiencing adverse events, allowing for more proactive, personalized care plans.

This shift from reactive to preventive and personalized medicine is a cornerstone of improving health outcomes, ensuring that interventions are timely, targeted and effective for each individual.

For employers, brokers and consultants, the continued sophistication of data analysis in health care can generate insights to help optimize benefits strategies and improve plan performance. Speeding up the time it takes to run reports and analyze data can lead to more timely and informed plan adjustments or employee interventions. For instance, if an employer is seeing an increase in emergency room (ER) claims, they may want to explore alternate plan designs that help employees and their family members make more appropriate site of care choices, or work with their broker, consultant or carrier to brainstorm strategies to prevent unnecessary ER visits.

In some cases, these insights can even spark ideas for new products, solutions or offerings. If data indicates an emerging trend – either broadly or within certain populations – carriers may look at opportunities to enhance or expand their portfolio to ensure they have offerings that meet the current and future needs.



Enabling greater efficiency and optimization

Advancements in data and technology are also proving instrumental in optimizing operational efficiencies across the entire health care ecosystem, from administrative functions to resource allocation. This includes identifying areas of wasteful or unnecessary spending and streamlining processes traditionally hindered by manual analysis and review.



Examples include:



Operational efficiency

AI can streamline administrative tasks, such as appointment scheduling, claims processing and medical coding, reducing the need for manual intervention and minimizing errors. This not only lowers administrative overhead but also frees up health care professionals to focus on patient care.



Benefits management

AI is also working to make it easier for brokers, consultants and employers to enroll members, compare plans, pull reports and seek support when issues arise. This enables them to focus less time on administrative tasks and more time supporting clients and employees.



Resource optimization

Predictive models can forecast patient demand, allowing hospitals to optimize staffing levels, manage bed availability and allocate resources more effectively. This reduces bottlenecks, improves patient flow and minimizes costly delays.



Fraud detection

Advanced analytics can identify fraudulent claims and billing errors with greater accuracy than traditional methods, saving employers billions of dollars annually.



Supply chain management

Data-driven insights can optimize inventory management for pharmaceuticals and medical supplies, reducing waste and ensuring that critical resources are available when needed.

“ Making health care more affordable can start by removing inefficiencies. Working towards a transformational experience requires simplifying and speeding up the time it takes members to get answers about accessing care and managing their benefits.”

Jean-François Beaulé

Executive Vice President
Design and Innovation
UnitedHealthcare Employer & Individual

Developing and deploying data-powered technologies into existing workflows and experiences has the potential to cut down on the time, money and resources spent navigating and interacting with the health system. And with 25% of health care spending having been identified as wasteful or unnecessary due to failures in care delivery or care coordination, over treatment or low-value care, pricing failures, administrative complexity or fraud and abuse,³ the potential to drive greater efficiencies and reduce costs is significant.

Enhancing experiences

The impact of AI and data extends beyond clinical and financial metrics and is foundational to many of the experience enhancements being made to make health care simpler, more personal and supported.

This is taking shape through AI-powered chat capabilities, AI-prioritized search results, AI-assisted call routing and more. The use of predictive models can also help anticipate care gaps and enable more timely interventions between providers and their patients, customer service advocates and members, or with members directly via digital prompts and trigger-based communications.

From identifying potential issues to initiating post-treatment follow-ups, data analytics can optimize care pathways, reduce friction points and create a more seamless, less stressful experience.



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¹ Artificial intelligence in healthcare and medicine: clinical applications, therapeutic advances, and future perspectives. *European Journal of Medical Research*, Sept. 23, 2025. Available: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12455834/>.

² AI in diagnostic imaging: Revolutionising accuracy and efficiency. *ScienceDirect*, 2024. Available: <https://www.sciencedirect.com/science/article/pii/S2666990024000132>.

³ Shrank, W. et al. Waste in the U.S. Health Care System: Estimated Costs and Potential Savings. *JAMA Network*, Oct. 7, 2019. Available: <https://jamanetwork.com/journals/jama/article-abstract/2752664>. Accessed: Dec. 1, 2025.

Employee benefits including group health plan benefits may be taxable benefits unless they fit into specific exception categories. Please consult with your tax specialist to determine taxability of these offerings.

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