

**SUCCESS STORY**

# Decode Health Unlocks Better Patient Outcomes with AI

Decode Health turns to DataRobot AI Cloud for automated machine learning to help predict health outcomes and drive more proactive, less costly care.

## Challenge

Decode Health has always relied on predictive analytics, but in the early days, modeling was a slow, manual task. Analyzing a single dataset could take two to three weeks, with two to three data team members working around the clock.

## Solution

DataRobot AI Cloud streamlines predictive analytics end to end, freeing the team to focus more strategically on data elements and understanding outcomes.

## Result

Decode Health can build hundreds, if not thousands, of models in a matter of a few days. Decode delivers accurate results to clients more quickly and cost-effectively than before. For a COVID-19 request, they turned around actionable insights within a day, supporting public health planning.

### Unlocking Better Healthcare with Data

Decode Health began with an ambitious vision: combine genomic and other health data with machine learning to help anticipate patient needs.

“Our goal is to help healthcare organizations be more proactive. Today, we’re the innovation partner to groups like large diagnostic companies, big pharma, as well as forward-thinking personalized healthcare companies,” said Chase Spurlock, PhD, CEO and Co-Founder.

As a healthcare AI company, Decode Health partners with industry-leading organizations to deliver products, services and data assets that improve patient outcomes, lower costs, and advance precision health and health equity.

In the company’s early days, modeling demanded exhaustive manual effort with considerable time preparing data, waiting on models, recalibrating, and waiting again.

“If we could accelerate that model building process, that would be a huge advantage to us,” said Julia Polk, Co-Founder and Executive Advisor.

### Models in Hours Not Weeks

With DataRobot AI Cloud, the company enhanced its framework with automated machine learning that streamlines predictive analytics end to end. In the past, a comprehensive analysis of a single dataset could take weeks, with multiple data team members working around the clock; now, they complete the same task in a matter of days.



### INDUSTRY

Healthcare

### PRODUCTS

DataRobot AI Cloud, AutoML, Automated Time series

### SUMMARY

Decode Health, a healthcare AI company, is the outsourced innovation team to organizations ranging from diagnostic companies to pharma. Decode helps our partners quickly and cost-effectively unlock discoveries using their data. Current projects include genomic data creation, RNA diagnostics and population health analytics. Our work is predictive, proactive and extensible to the ever-evolving healthcare ecosystem.

Over the course of a decade, the team leading Decode has built a framework leveraging a variety of tools, including advanced machine learning approaches, to deliver accurate results. Our flexible, scalable approach fuels innovation and advances precision medicine. Decode’s data assets, products and services improve outcomes, lower costs and promote health equity.

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As a trial, Decode Health ran a scenario in the AI Cloud platform where it already knew the answer.

“In the space of a couple of days versus a couple of weeks, we produced a deployable model,” Spurlock said.

### Staying Ahead of Chronic Illnesses and COVID-19

The company uses AutoML to predict a variety of health outcomes for chronic illnesses such as autoimmune diseases and more. So far, the company has identified predictive patterns across multiple disease areas, enabling patients and providers to take proactive steps to improve patient outcomes.

When COVID-19 hit, government entities reached out to Decode Health asking for help in understanding the social determinants of health (SDoH) and risk personas in communities. They were tasked with turning around a report in a day.

“In the earliest days, this request would’ve been a week or two endeavor,” Spurlock said. “Fortunately, we were actively investing resources to enhance our platform to make it more scalable, with quicker turnaround times. These efforts paid off, enabling us to produce results to help stakeholders understand the risk persona of those most at risk for COVID hospitalization or death.”

“For us to be able to respond that quickly leveraging the AI Cloud platform was a clear signal that the framework Decode built could really speed time to innovation, not only for a COVID use case, but for other healthcare use cases as well,” he added.

### Predictions at Speed and Scale

The ease of use of the AI Cloud platform has made it accessible to business and IT users alike, aided by DataRobot University. By accelerating the process, the organization can focus more on the data elements needed for powerful predictions.

“It would go from a single model that would take days to build and days to get results, to hundreds of models built in hours,” said Jamieson Gray, Chief of Staff.

For the Decode team, unlocking speed and scalability to deliver AI-driven insights means more opportunities to improve patient outcomes, reduce costs, accelerate R&D for diagnostics and drug discovery, and enhance health equity.

“The future for diagnosing and managing autoimmune diseases, as well as other chronic conditions is very bright,” Spurlock said. “If you can intercept disease risk before it’s too late, you can make a significant difference in the patient’s life. Not only from an outcome standpoint, but also from a cost-savings standpoint, which benefits all of healthcare.”



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**Chase Spurlock, PhD**  
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