

Expertise on call

Humana, a leading health insurance provider, reduced costly pre-service costs and improved the provider experience with conversational AI.

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Business Challenge Transformation Out

One of the largest insurance providers in the US supplements, health insurance, dental insurance coverage to more than 13 million customers across

In order to differentiate themselves in what is a highly competitive and important space, healthcare and insurance companies have had to come up with ways to improve customer service and retention. Companies are providing more accurate answers to their queries wherever and whenever customers need them, and providers are forced to rethink their service offerings to meet these expectations.



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“I’m excited to keep
infinite possibilities
intelligence.”



Sara Hines

Director of Provider Experience and Connectivity
Humana

Challenges with legal

Humana's interactive voice response (IVR) system routes calls to human agents, at tremendous cost to the company and low satisfaction scores. Administrative staff from health plans call in via phone with inquiries about Humana member information. Humana receives over one million provider calls annually, with many opting out of the IVR system to be directed to a human agent. Humana paid by the call. More than 60% of the calls were for specific, pre-service questions with well-defined answers.

To meet ever-growing user expectations, Humana needed to rethink how it addressed customer queries. The Product Service Innovation (PSI) team was charged with finding ways to reduce these costly pre-service calls and improve the provider experience.

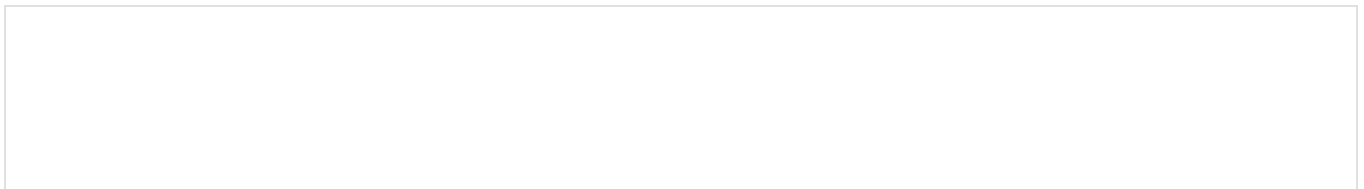
“This is not the type of technology that you set up and walk away. It needs monitoring, training and supervising to harness the true insights that can be brought forth.”

Getting healthcare professionals the information they need, when they need it

Conversational assistants were not as ubiquitous or advanced as they are now when Humana began this journey in 2016, but the company recognized the profound promise of AI in customer care. Humana chose to work with [IBM Watson®](#), the industry leader in enterprise AI, and began a collaboration with IBM® Data and AI Expert Labs & Learning (DAELL). After a three-month proof of concept (POC), Humana and IBM began development of what became the Provider Services Conversational Voice Agent with Watson. The solution combines multiple Watson applications in a single conversational assistant, run on [IBM Cloud®](#), while the watsonx™ Assistant for Voice runs on premises at Humana.

Humana's Voice Agent with Watson provides a faster, friendlier and more consistent way for administrative staff at healthcare providers to access pre-service, medical eligibility, verification, authorization and referral information without the need to speak with a live agent. The solution relies on AI to understand the intent of a provider's call, verify they are permitted to access the system and member information, and then determine how best to provide the information requested.

The Voice Assistant uses significant speech customization with seven language models and two acoustic models, each targeted to a specific type of user input collected by Humana. Through speech customization training, the solution achieves an average of 90%–95% sentence error rate accuracy level on the significant data inputs. The implementation handles several sub-intents within the major groupings of eligibility, benefits, claims, authorization and referrals, enabling Humana to quickly answer questions that were never answerable before. In the previous IVR system, a request for “benefits” could lead to a seven-page fax. Now, the Watson solution is able to respond with a specific “point” benefit, such as, “the co-pay for chiropractic visits is USD 100.”



Discover how Watson Assistant's new features are empowering businesses to provide best-in-class customer service.

[Learn more](#)



“ We did it blindly: We did not tell providers that they were going to be in the new environment, because I wanted to understand their reactions, so we could tweak and continue to evolve Watson and watch.”

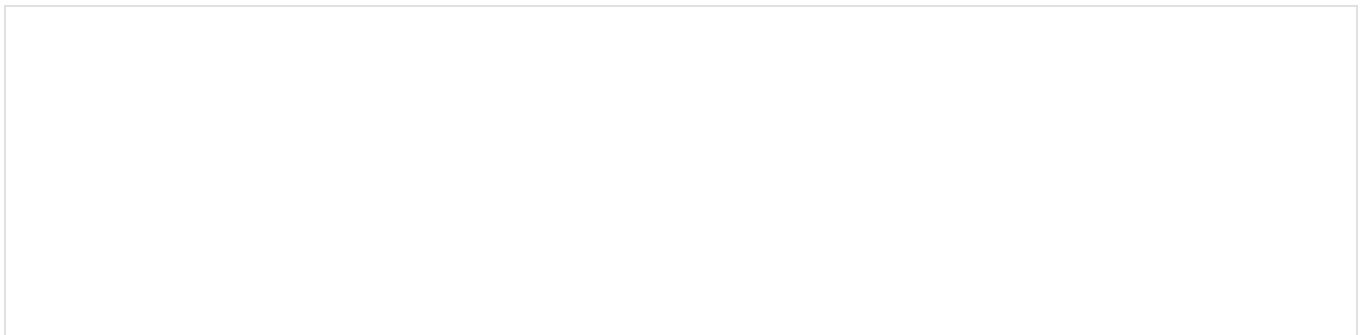
What's next for Watson and Humana

The solution started handling live calls from healthcare providers in April of 2019, with several updates throughout the year to expand functionality and the user base. It has been able to handle inquiries at about a third of the cost of the existing system, and it has also had a higher overall response rate—almost double that of the previous automated IVR system.

Over the course of development, the IBM Watson Expert Services Lab team drove improvements in Watson services with custom training and models better able to understand healthcare terminology in a low-bandwidth call center environment. This has led to several pending patent submissions, and the team has published tools, guides and methods for building, testing and tuning a large Watson Voice Assistant solution. Humana's Voice Assistant solution pattern recently became formalized in the watsonx Assistant for Voice Interaction solution offering.

“Humana's Voice Agent has greatly improved self-service capabilities for Humana healthcare providers, allowing them to quickly and efficiently get information on patient insurance coverage across a variety of data points. Providers can now call into the Watson-based solution and complete an inquiry in about two minutes without waiting to reach a call center representative. “We've got a level of insight that we've never had before in these interactions,” says Sara Hines, Director of Provider Experience and Connectivity at Humana.

The solution receives more than 7,000 voice calls from 120 providers per business day, and feedback from users has been incredibly positive. “Humana's initiative with Watson was three years in development and continues to grow even after implementation,” says Hines. “This is just the beginning of how Humana is enhancing our provider communication, and I'm excited to keep exploring the infinite possibilities of artificial intelligence.”



See why Watson Assistant has been named the leader in Forrester's New Wave report on Conversational Computing.

Solution components [Watson AI for Customer Service](#)



[IBM watsonx Assistant™](#)



[IBM Cloud](#)



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