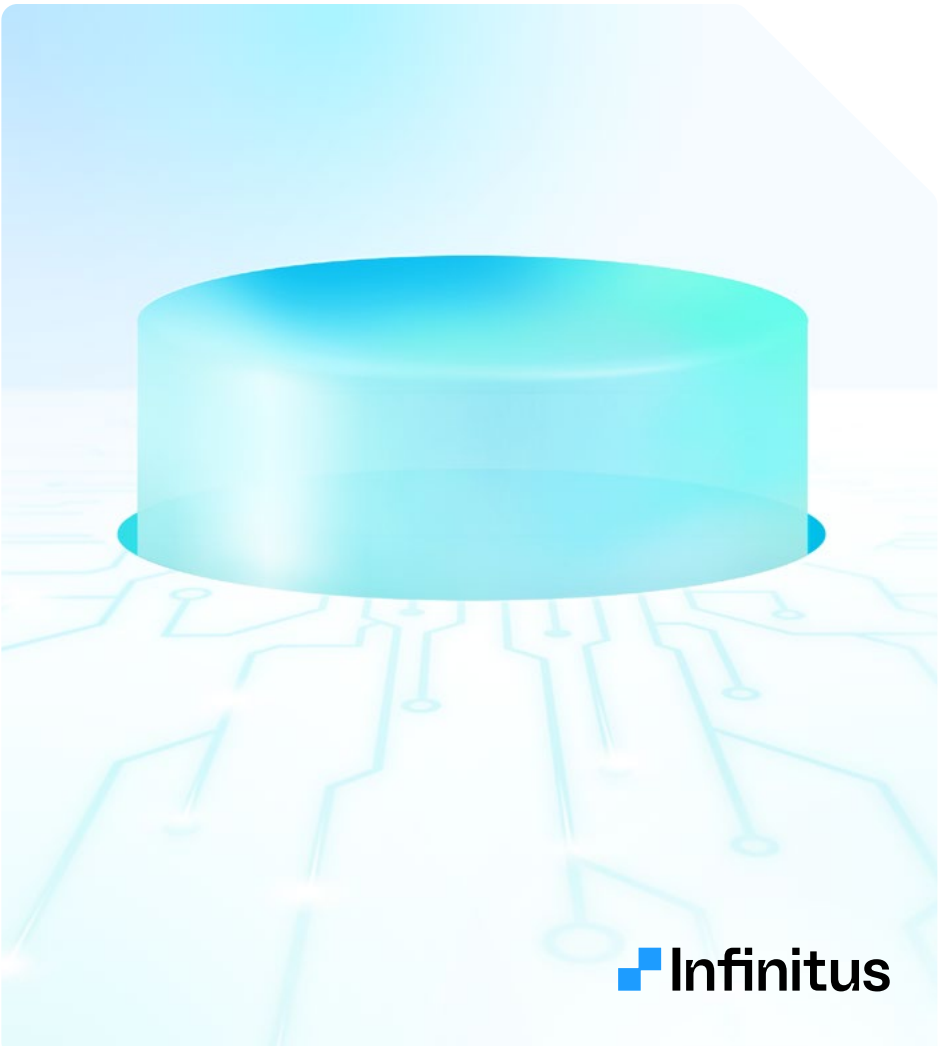
The agentic AI workforce is coming to healthcare

What voice AI is, how it works,
and how to make it work for you



Infinitus

What's inside

01

Welcome to the era of agentic AI

It's early Saturday morning, and Donna stands at her kitchen window, looking out at her garden, the place she loves most. She had been looking forward to getting a head start on the day, but hesitation creeps in. A week ago, she was diagnosed with osteoporosis and prescribed a specialty medication, and her doctor warned her about new risks. Gardening involves kneeling, reaching, and crouching … could that put her in danger? Should she wait?

Then she remembers: The specialty pharmacy gave her a phone number to call to reach her personal AI agent. Within moments, the AI agent provides the answer she needs.

Before, Donna would have had to wait to receive an answer – most likely until Monday when business hours resumed, possibly even longer. But today, she pulls on her gardening gloves and gets right to work.

Just a few years ago,Donna's story would have been pure fiction, but today it is possible because we have entered AI's third wave: the era of AI agents. This period marks a significant shift from passive, task-specific systems to agentic AI systems that actively engage with their environment, make autonomous decisions, and interact with other systems or humans in dynamic, goal-oriented ways. And for healthcare, this third wave of AI has arrived in the nick of time.

In the US, we're battling twin challenges: We've never been unhealthier as a nation[1], while at the same time, we are plagued by a significant shortage of healthcare workers that is predicted to get worse[2]. AI agents have the skills necessary to make up for areas in which workforce shortages or employee turnover threaten to delay treatment access for patients. AI agents have the ability to perform aspects of healthcare jobs that are necessary but cannot scale or that lead to low employee morale, causing half of healthcare workers to contemplate leaving the field[3]. They have the ability to provide instant help to patients like Donna.

But understanding how the agentic AI workforce can work for – and with – human healthcare teams is a learned skill. We're here to help. In the pages that follow, we'll explore exactly what voice AI agents can do for pharma brands and specialty pharmacies, how to identify the skill sets necessary for AI agents to complement your human workers, and what you need to know to get started.

1. https://pmc.ncbi.nlm.nih.gov/articles/PMC6221922/
2. https://www.who.int/health-topics/health-workforce#tab=tab_1
3. https://www.definitivehc.com/sites/default/files/resources/pdfs/Addressing-the-healthcare-staffing-shortage.pdf

02

What, exactly, is a voice AI agent?

Voice AI agents vs. chatbots

Let's start out with a common misconception: voice AI agents ≠ chatbots. While chatbots and AI agents are both generative AI in the sense they generate text or speech, there are a number of key differences in the medium in which they are used, how they are developed, and what they're capable of.

AI agents are capable of handling complex interactions beyond simple question-and-answer exchanges. In healthcare, they often function as "voice AI agents," communicating with humans through spoken language over the phone. They can answer questions, provide guidance, and even respond appropriately to humor, as they "understand" what the human is saying. This allows them to be available to patients around the clock, providing support at any time, such as late at night when patients might be anxious.

AI agents offer 24/7 availability, which is particularly important for patients who are stressed after receiving a diagnosis. They can proactively engage with patients, providers, and payors, personalizing the experience by remembering case-specific details. Additionally, AI agents can connect patients and providers with staff by documenting conversations. If a patient reaches out in the middle of the night, staff can review the conversation and pick up where the AI agent left off, ensuring seamless support.

Leveraging advanced speech recognition, natural language processing, conversational AI technologies, and often LLMs, these AI agents can help perform tasks that are critical to healthcare, yet cannot scale with human workers. Some examples include:

- Making phone calls to patients, making sure they're adhering to their prescribed medication and answering any questions they may have
- Calling payors on behalf of providers to complete benefit investigations for patients prescribed specialty medications
- Completing patient health risk assessments on behalf of payors

Compare those tasks to a chatbot, which typically provides answers to yes/no or multiple choice questions, but that's about it; the chatbot can't make decisions, can't handle complex requests, and likely ends up eventually directing you to wait for or call a live human. By contrast, an AI agent can take on tasks autonomously once directed by a human.

	AI agent	Chatbot
Medium	Audio or phone calls	Text or messaging
Speed	Must understand and respond in milliseconds, or the interaction will fail (one party will hang up)	Must understand and respond in seconds or minutes (insert bubbles)
Task complexity	Freeform conversation: Must accurately predict the next right action (e.g., answer, clarify, redirect)	Predefined list of options: e.g., "What can I help you with today?" "Choose from one of the following"; option sends user to a "contact us" form.
Interaction length	Minutes to hours	Seconds to minutes
AI tech most commonly used	Natural language processing (NLP) AI solutions, including but not limited to: • Automatic speech recognition (ASR) or Speech to Text (STT) • Text to Speech (TTS) • Multimodal (Audio + Text) • Shallow models • Large language models (LLMs) • Foundational models (eg. OpenAI GPT, Meta Llama)	Natural language processing (NLP) AI solutions, including but not limited to: Decision trees or flow charts of steps, Foundational models (eg. OpenAI GPT, Meta Llama)
User expectation	Sounds like a human, so therefore it should have a higher level of accuracy	Acts like a robot, so therefore it isn't expected to have a higher level of accuracy

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Here’s what voice AI agents can do today

In the future, we imagine a workforce where AI and humans can work seamlessly to complete not only individual tasks, but end-to-end processes. Even further, voice AI agents will be able to operate autonomously and communicate with other voice AI agents to share information, coordinate actions, and make decisions. The agents work in lock step with their human healthcare counterparts, and together create an experience for patients that is far more streamlined than anything we’ve experienced before. Well-defined networks of voice AI agents have the potential to reinvent underlying manual processes and communication in our healthcare system, helping solve healthcare’s workforce challenges while providing patients with the personalized experiences they desire.

This future is not far away. Today's voice AI agents can automate interactions across the patient, payor, and provider experience, helping healthcare organizations of all kinds save human time for more creative tasks and fulfilling patient interactions. Voice AI agents can automate routine tasks – whether those tasks are simple (e.g., calling a provider to confirm their address) or more complex (e.g., answering a question about a medication's side effects).

To understand these agents and their capabilities, it can be beneficial to think of voice AI agents for healthcare as falling into one of three buckets:

Patient-facing AI agents

We know two things: Patients want calls from their healthcare providers, and phone calls made by humans don't scale. AI agents can help solve for this gap, by taking on some routine but necessary calls made to patients.

Some examples of patient-facing calls voice AI agents can make today include:

Patient navigator

Calls made by patient support programs to individuals beginning treatment. On these calls, AI agents can answer questions and set expectations, helping to personalize the patient experience.

Medication adherence

Data shows that adherence rates increase when nurses call patients to check in. AI agents can handle such calls, proactively checking in to ensure patients are taking medication as prescribed, and can escalate reported side effects or any blockers to clinicians and/or case workers.

Health risk assessments

AI agents can help ensure patients get the most out of their insurance plans by performing routine health assessments.

Payor-facing AI agents

It's widely understood that administrative overwhelm leads to healthcare worker burnout. In fact, in a study we conducted of 250 healthcare workers, we found that the insurance/authorization process was the most frequently cited cause of burnout. Payor-facing AI agents can take on this phone-based work, enabling healthcare workers to reallocate their time to spend on higher-value, patient-facing work.

Some examples of calls to payors that AI agents make today include:

Benefit verification

AI agents can navigate payor and pharmacy benefit manager interactive voice response (IVR) systems, wait on hold, and collect detailed benefits data from human representatives.

Prior authorization

Like with benefits calls outlined above, AI agents can capture data including prior auth requirements and check for status updates.

Claims and appeals

Today's AI agents can perform claim status, appeals, and over-the-phone claim submissions, navigating IVR and hold and performing these tasks by conversing with a human representative on the other end of the line.

Provider-facing AI agents

As with patients, phone calls to providers are necessary but do not scale. AI agents can be helpful here, to both create new touchpoints and automate existing ones, helping ensure healthcare providers are able to get information they need (or share important information) at the right time.

Some examples of calls to healthcare providers that AI agents are making today include:

Directory confirmation

AI agents can call providers to verify their information (location, specialty, insurance network status, etc.) so they can be discovered by patients in online directories and more.

Provider navigator

AI agents can call providers supporting patients on specialty medications by answering their questions, setting expectations, and helping them improve the patient experience so they can operate at the top of their licenses.

Missing information

AI agents can call providers to collect missing information when documentation is submitted – for example, a provider's address may be missing. By automating these touchpoints, delays in patient access, as well as challenges with adherence or affordability of therapy can be avoided.

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Will humans really talk to voice AI agents?

You may be wondering: While voice AI agents' capabilities sound great, will humans really talk to AI? The answer is yes – and they already do.

Many (if not most) people talk to AI every day, whether it's asking Siri to set a timer, directing Alexa or Google Home to play their favorite playlist, or even prompting ChatGPT to research a topic for them. AI is already seamlessly integrated into millions of people's days, and that doesn't include the healthcare phone conversations that Infinitus has been automating with AI since 2019.

In healthcare settings, we have found that patients and payor agents enjoy speaking to our AI agents, in great part because they are patient and efficient. In one analysis of 1,000 phone calls from our AI agents to payors, 93% of payor representatives responded positively when asked how their experience talking with the AI agent was. In addition, a Google Cloud survey revealed 58% of patients believe using AI to complete administrative tasks is a "good or great" idea, while 98% of payors and and 89% of providers reported positive opinions about the use of AI to streamline administrative tasks[4].

93% **of payor representatives responded positively when asked how their experience talking with the AI agent was.**

4. https://services.google.com/fh/files/misc/measuring_admin_burden_2024_ebook.pdf

But what about voice AI agents leading conversations with patients? Here, too, most consumers are already comfortable with AI. In fact, in one 2024 study, 52% of people said they would be interested in receiving immediate medical information from AI[5]. In recent conversations with our AI agents, patients have rated the experience "10 out of 10."

Infinitus recently led a survey of 500 US adults to better understand some of the challenges patients currently face when trying to acquire information about their medical conditions or medications they have been prescribed, which might be able to be solved by voice AI agents. We found that a significant percentage of patients have been unable or unwilling to speak to a healthcare provider when they sought information – and 79% of them had searched for the information on Google instead.

Some of the challenges our survey respondents reported included:

43%
Have had a question they were embarrassed to ask to a doctor, nurse, or other healthcare worker.

58%
Have been frustrated by an inability to reach a doctor, nurse, or other healthcare provider when they had a question or concern.

48%
Have had a medical question outside of regular business hours, and were unable to speak to a medical professional.

Voice AI agents can mitigate all of these challenges – and unlike Google or other internet search options, can be built to give only approved, accurate information which commercial teams have painstakingly already gotten approved. By providing reliable, on-demand support, AI agents can bridge critical gaps in patient access, ensuring that people get the answers they need when they need them.

[5] https://www.huronconsultinggroup.com/insights/healthcare-consumer-market-research?utm_source=Beckers&utm_medium=paidtrade&utm_content=text-701Rj00000BTIzZIAX&utm_campaign=2024-hc-careandconsumer

05

Rethinking your workforce in the era of AI

AI will never fully replace humans at work. But it will change how a human workforce is structured and what humans do at work. This is a good thing for healthcare specifically – we have a real opportunity to help patients (the reason most people enter the field in the first place) while improving the job satisfaction of healthcare workers who are reporting record levels of burnout[6].

But getting to this point may require a rethink for executives across the landscape. While today many think of AI as a tool to help get work done faster or cheaper, that's too limited a view. It's instead worth thinking about AI as a way to take on all the work that isn't getting done because there simply aren't enough workers to do it. Healthcare organizations that aren't able to appropriately engage patients because they don't have enough staff to do so aren't just providing subpar patient care; they are leaving revenue on the table. As an example: We know from

[6] https://www.hhs.gov/sites/default/files/health-worker-wellbeing-advisory.pdf

multiple studies that phone calls from nurses or patient advocates to patients increase adherence. But we also know that phone calls from nurses and patient advocates don't scale. AI agents, on the other hand, *do* scale – allowing staffing levels to move up and down based on need. If the peak two hours of a day require twice the number of call center agents, a healthcare organization could make up that gap with voice AI agents. And AI agents that call patients, perhaps to answer questions about a diagnosis or prescription, can help tackle the adherence challenges that lead to 125,000 possibly preventable deaths every year[7].

The agentic AI workforce is turning the way we think of technology today – software as a service (SaaS) – on its head. By guiding patients through their care journeys, voice AI agents can help boost both access and adherence, while at the same time helping healthcare providers avoid opportunities and therefore lost revenue. But they also have intangible benefits: How much more engaged, productive, and fulfilled could a healthcare worker be with a voice AI agent assisting them? How much more informed, confident, and in control could a chronically ill patient feel, if they had access to a personalized voice AI agent?

In healthcare, the agentic AI workforce is turning software directly into what we've traditionally thought of as labor; those in a prime position to reap the benefits of the AI agent workforce will think about AI as a way to get service *through* software.

[7] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6045499/


Employees who reach the top triangle are
More productive
Happier and innovative
Deliver better quality
Self-actualization
Able to make a difference in patient lives and leave a lasting legacy in our industry
Self-esteem
Allows them to learn new skills and take on new initiatives that drive their company
Love and belonging
Allows them to connect human to human (with patients and other employees)
Safety and security
AI gives employees ability to meet their goals

06

How to evaluate a voice AI agent platform

The AI industry is evolving rapidly, so it can be hard to keep up with all the changes and advancements to the technology, especially as they relate to AI agents.

To help, we've compiled seven questions that can help you uncover critical details about voice AI capabilities, support, security, and alignment with your business needs, reducing the risk of unforeseen issues should you look to bring AI agents onboard. Having answers to questions like these at the ready can also go a long way in gathering internal support across your organization.

1. What tasks can the voice AI agents take on?

It's best to start with the obvious to determine whether there's a fit and if the platform can actually do what you need it to do. Thus, asking what tasks the voice AI agents can handle helps you understand capabilities, limitations, and overall fit for your needs.

This question also reveals whether the AI can handle real-time conversations, escalate issues when needed, and integrate with your existing systems. Infinitus AI agents, for example, call patients, payors, and providers, completing a variety of tasks – with the ability to create new use cases based on customer need. But not all AI agent vendors can make calls across the healthcare ecosystem, and may be limited in the types of tasks they can complete. By exploring task capabilities, you can assess how well the voice AI agent aligns with your operational goals and whether it can truly reduce manual effort while improving the patient experience.

2. Will patients trust the AI agent?

Healthcare consumers are more skeptical than ever. Thus, transparency, empathy, and authenticity are essential in building trust, especially when marketing specialty medications. Brands that can materially improve patients' healthcare journeys will stand out, and AI can play a role.

Here are some examples of how to build trust when employing an AI agent, which are all elements of Infinitus' approach to the use of voice AI:

- **Transparency:** The AI agent immediately introduces itself as an AI agent by saying, "Hi I am a digital assistant from [Brand name]" – it doesn't try to hide that it isn't a human.
- **Clear communication:** The AI agents should be clear and empathetic, building a connection with their human counterpart.
- **Patient-centered content:** The AI agent should be created to specifically anticipate the questions patients will ask and have the necessary answers pre-approved and ready.

At Infinitus, we are trusted by 44% of the Fortune 50, including many top life sciences manufacturers, for providing agentic AI solutions, with more than 5 million calls completed. Our AI agents are proven in engaging with humans and following guidelines 100% of the time.

3. What kind of models does voice AI use?

The specific models in use by a voice AI solution can affect its performance, customization, and scalability. Proprietary models can be tailored to specific needs, offering better accuracy and control and benefitting from an organization's unique knowledge and data. Third-party models can also bring their own strengths and advantages in performance, flexibility, and deployment speed.

Knowing this helps assess the voice AI platform's capabilities, potential for innovation, and how well it can adapt to unique business requirements.

Our own AI platform employs over 100 models, from highly performant shallow models to custom fine-tuned and in-house audio and text models to large-language models (LLMs) from OpenAI and Google. We can thus apply the right model to the right use case to deliver customer results.

4. Is the solution secure, compliant, and bias-free, and how will I know patient data is safe?

HIPAA and SOC II compliance are table stakes for any AI platform to serve healthcare customers. Beyond this, it's also important to ask about the security and data protection measures in place, and be aligned with your internal security and compliance leaders on what matters most.

Certainly, you'll need to understand how protected health information (PHI) is handled, and whether it's used to train AI models. At Infinitus, for example, we never use PHI to train our models, and have procedures in place to ensure training data is de-identified and PHI is completely removed.

Regarding bias, be sure to ask about the review processes in place, whether they're AI- or human led, and how inaccuracies and potential biases are corrected.

As an example, here are some of the way Infinitus delivers on a safety-first approach to voice AI:

- **Data quality:** We ensure the data used to train AI models is accurate, complete, and representative of the population across diverse demographic and therapeutic areas.
- **Model validation:** We assess the model's performance on de-identified data and ensure its reliability and generalizability.
- **Ethical considerations:** We evaluate potential biases in the data and algorithms, considering patient privacy, and addressing the ethical implications of AI-driven decision making.
- **Regulatory compliance:** We ensure that models used in administrative and clinical use cases adhere to relevant regulatory guidelines.

5. How do I know AI agents won't share incorrect information, collect incorrect information, or even make things up?

This all comes down to the safety protocols and guardrails the voice AI platform has in place. A well-designed voice AI platform should have strict data validation processes, access only to approved sources, and mechanisms to prevent hallucinations or misinformation.

Infinitus, for example, can guarantee 100% adherence to standard operating procedures. Our AI architecture creates a discrete action space for the questions, answers, and statements that our AI agents are allowed to make. Understanding a voice AI platform's safeguards will give you confidence that the AI agents can be trusted to support both patients and healthcare organizations with accuracy and integrity.

6. Pacing is important in ensuring that humans who converse with voice AI don't get frustrated and hang up. How well does the AI agent engage in a conversation?

Pacing is crucial for an AI agent to effectively engage with a human in conversation. Just like in human-to-human communication, a well-paced conversation allows both parties to feel heard and understood. For an AI agent, this means accurately detecting when a human has finished speaking before generating a response, avoiding awkward interruptions or delayed replies.

When a voice AI agent demonstrates an understanding of conversational rhythm, it fosters a sense of connection and rapport with the human user, leading to increased trust and willingness to interact further.

At Infinitus, our voice AI agents have been optimized over 100 million minutes of conversation to have the right pacing. We continuously test, refine, and integrate the best "end of turn" detection models to ensure that humans have an engaging and satisfying experience with our AI agents.

7. How easily can the voice AI platform integrate with existing infrastructure?

IT teams don't have time to be integrators of scores of disparate products. Seamless integration minimizes disruption and ensures that the new technology works harmoniously with current systems. This question helps gauge the complexity of deployment, whether there's a need for additional resources, and potential compatibility issues, which can impact implementation timelines and costs. Ensuring smooth integration also maximizes the return on investment by leveraging existing technology and data without requiring extensive overhauls or custom solutions.

At Infinitus, we make integration easy for our customers. We provide ready integrations with Epic and Salesforce and a range of options for data intake via API, CSV, or native integrations. With the Infinitus API, customers only need to integrate once and can then add AI agents and AI copilots as their business evolves.

If you leave this book with one thing, it's that thoroughly testing any voice AI agent platform is critical. This is because one impressive AI interaction doesn't mean you've found the right solution – it just means the demo worked.

To truly evaluate an AI agent, you need to go beyond the highlight reel. You need to ensure it works correctly, every time, even if it encounters the unexpected. As an example, in real-world testing at Infinitus, our AI agents have called the same payor multiple times and gotten different answers to the same question. You'll need to understand how any agentic AI solution would respond to such a situation. Only then can you understand whether the agent delivers consistent, reliable performance, the kind that healthcare demands.

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How to get started

The first step is making the call. Infinitus builds safety-first voice AI agents to solve healthcare's ongoing workforce challenges and improve patient outcomes at scale. Our voice AI agent platform is making real change today, alleviating unnecessary staff burdens and creating new touchpoints to help get patients on therapy faster – and help them stay on therapy, too.

For example, Infinitus AI agents helped one payor-owned specialty pharmacy's employees spend more time with patients and less time making phone calls, while the agents' speed helped them service patients faster. Infinitus agents have also called patients to initiate health risk assessments, with high call completion rates.

We would love to help you discover how AI agents can provide a better patient experience while also alleviating hiring stress and strain on your employees. To speak to an expert who can share the myriad ways AI agents and copilots can benefit your organization, **send us a note today**.

infinitus.ai