

Conversational AI In Healthcare: The Ultimate Guide

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2020 has witnessed significant upheaval in the healthcare sector. When most of us were confined inside our homes, healthcare facilities were struggling to meet rising patient demands and assist them with remote care and virtual treatments. The healthcare sector was overwhelmed by the number of COVID-19 patients, creating major constraints on supplies, space and staff. This made the industry introspect on whether it has the tools it needs – not only to deal with such a crisis but also to ensure the best possible healthcare outcomes even under normal circumstances.

As the pandemic has demonstrated, there can be no substitute for doctors, medics and other healthcare providers. But technology, specifically [Conversational AI](#) in healthcare, can play a key complementary role in enabling them to focus their efforts and energies more effectively and amplifying the impact of their work.

Today, patients need a platform that offers quick access to information, personalized care, and other medical facilities. Conversational AI-powered [chatbots](#) are one of the solutions that have the power to revolutionize the healthcare industry.

According to [Accenture](#), AI in healthcare can save the US healthcare economy a whopping \$150 billion annually by 2026. By augmenting human activities and capabilities, [Conversational AI](#) for healthcare can unleash immense improvements in healthcare quality, accessibility, and costs. This is why Accenture expected the market for AI technology in healthcare would grow from \$600 million in 2014 to over \$6.6 billion by 2021. This represents an explosive CAGR of 40%.

In this ebook for Conversational AI in Healthcare we explore why Conversational AI is such an exciting new development in the healthcare industry.

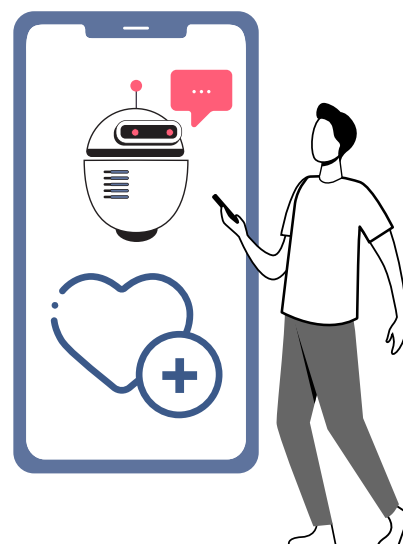
- What are the key growth drivers of AI in healthcare?
- How is Conversational AI changing the quality of healthcare?
- What are the benefits of Conversational AI in the healthcare industry?
- What are the most popular use cases?

Keep reading this detailed guide to learn all these and more.

Conversational AI In Healthcare With Chatbots And Virtual Assistants

Conversational AI in the medical field is helping to bring about much-needed digital transformation with potential benefits for everyone across the healthcare value chain, including consumers, providers, administrators, marketers, and more. By enabling users to interact with healthcare providers via voice or text-based chatbots and virtual assistants, Conversational AI technology is helping streamline and automate many different processes.

In simple terms, Conversational AI refers to the solutions like chatbots and virtual assistants that employ similar AI techniques like [Natural Language Processing \(NLP\)](#), voice technology, and machine learning to automate user interactions. These tools go beyond simple rule-based answers to analyze human speech (or text), understand their intent and meaning, and generate appropriate responses. Thus “conversational” truly means having conversations that feel entirely natural, human-like, and comfortable to users.



AI in healthcare encompasses tools and machines that can sense and comprehend human inputs, act according to these inputs and their context, and even learn over time to improve their ability to feel, understand and operate. Moreover, unlike legacy AI algorithms and tools that only complement human activities and can't function independently, Conversational AI tools can work independently to augment human activities.

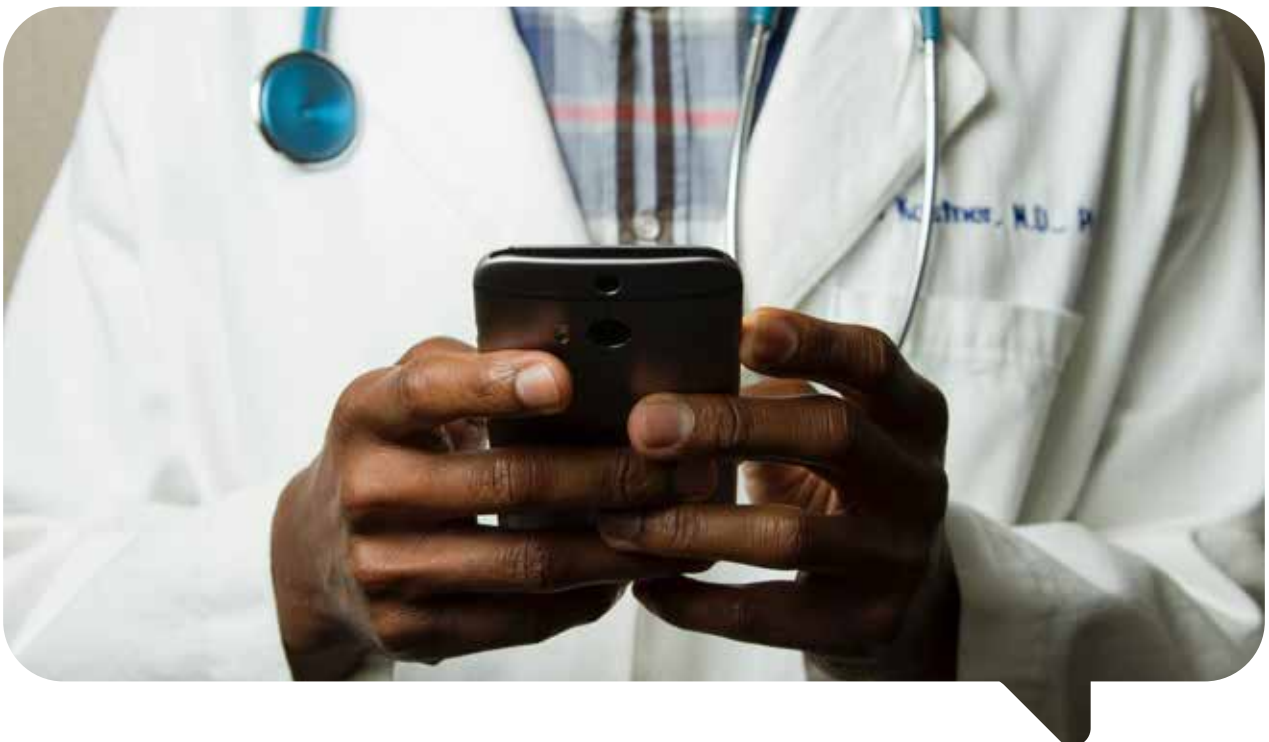
To be truly beneficial, Conversational AI tools like [chatbots](#) must have the following qualities:

- **Knowledgeable:** The chatbot should fetch the correct information and present it to the user in an accessible, easy-to-digest format.
- **Empathetic:** Conversational chatbots should understand the user's query and its underlying intent and context to present the right solutions with minimal hassle or wait times.
- **Engaging:** Robotic, overly real conversations are a strict no-no in healthcare. Instead, the chatbot should converse with users in a warm, human-like manner that makes them feel important and cared for.

How Does The Healthcare Chatbot Work

A healthcare chatbot is simply a chatbot that has been designed to work specifically in a healthcare setting. It runs on machine learning algorithms' rules, including NLP. Along with carrying out interactions, it also performs repetitive tasks such as providing solutions, sending emails, [marketing](#), lead generation, result analysis, etc.

A healthcare chatbot is initiated by a QR code placed on physical surfaces such as billboards, posters, leaflets, print ads, etc. The chatbot can also be initiated by links or widgets placed on websites or applications or any digital surface of the brand. The chatbot link can also be sent to customers via messaging channels such as [SMS](#) and [WhatsApp](#).

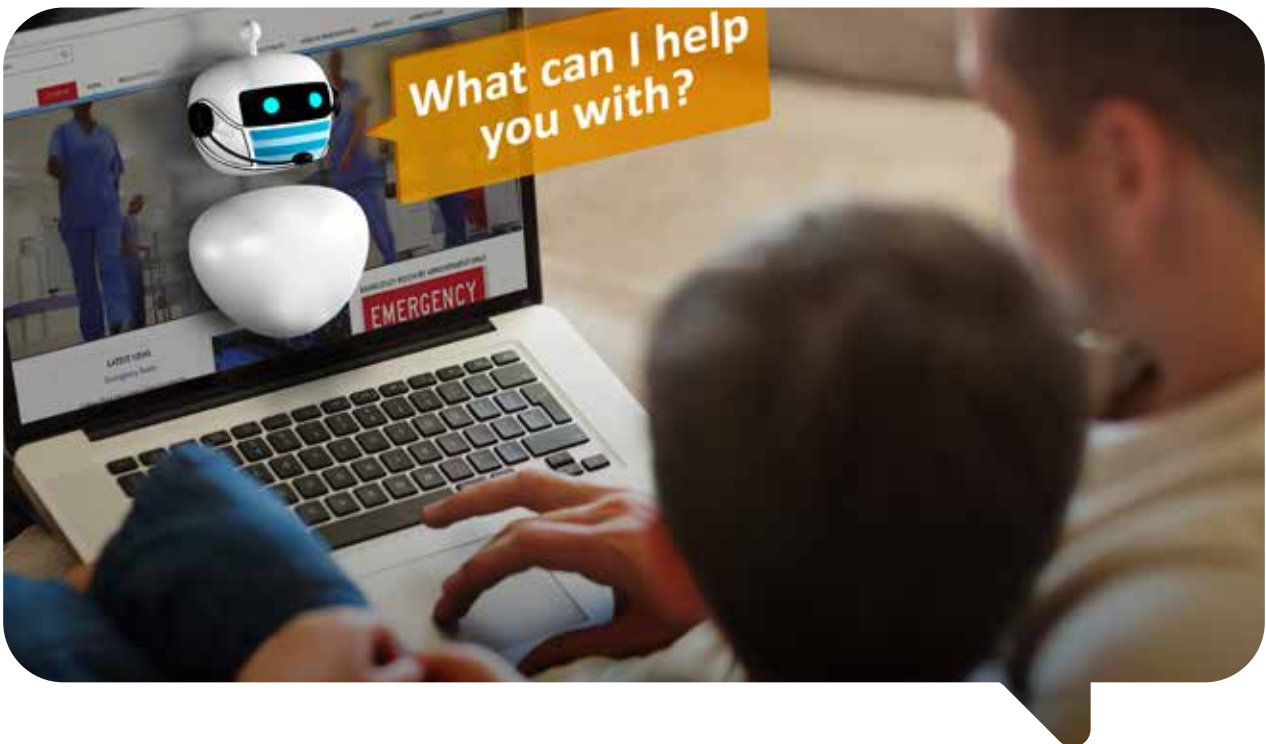


The chatbot workflow is designed to trigger when the QR code is scanned, the link is clicked or someone visits the website. The chatbot prompts the visitor with a greeting and display of a standard menu. After choosing a menu option, a workflow is triggered to collect information from the users and give an appropriate response. The collected information is passed on to different integrated systems such as CRM, [customer support](#), sales, etc. The chatbot also notifies human representatives to take on important queries that need intervention. The user is also sent an SMS afterwards to reinitiate the chat or with the resolution of the inquiry.

Now your patients don't need to wait in a long queue for hours before a representative looks into their queries; a healthcare chatbot can answer them and provide accurate information instantly. Moreover, according to a [study by OpenMarket](#), 75% of millennials prefer texting over calling. Therefore, chatbots fit modern-day requirements perfectly.

The Current State Of Conversational AI In Healthcare

Healthcare firms have already started leveraging [Conversational AI](#) to provide accurate and updated information to patients without making them visit hospitals. Healthcare chatbots are being used now to cater to specific issues in healthcare. For instance, [Northwell Health's chatbot](#) helps decrease the no-shows for colonoscopies. The chatbot assists patients by taking care of any concerns or misunderstandings about this exam and providing all the necessary information through emails and texts.

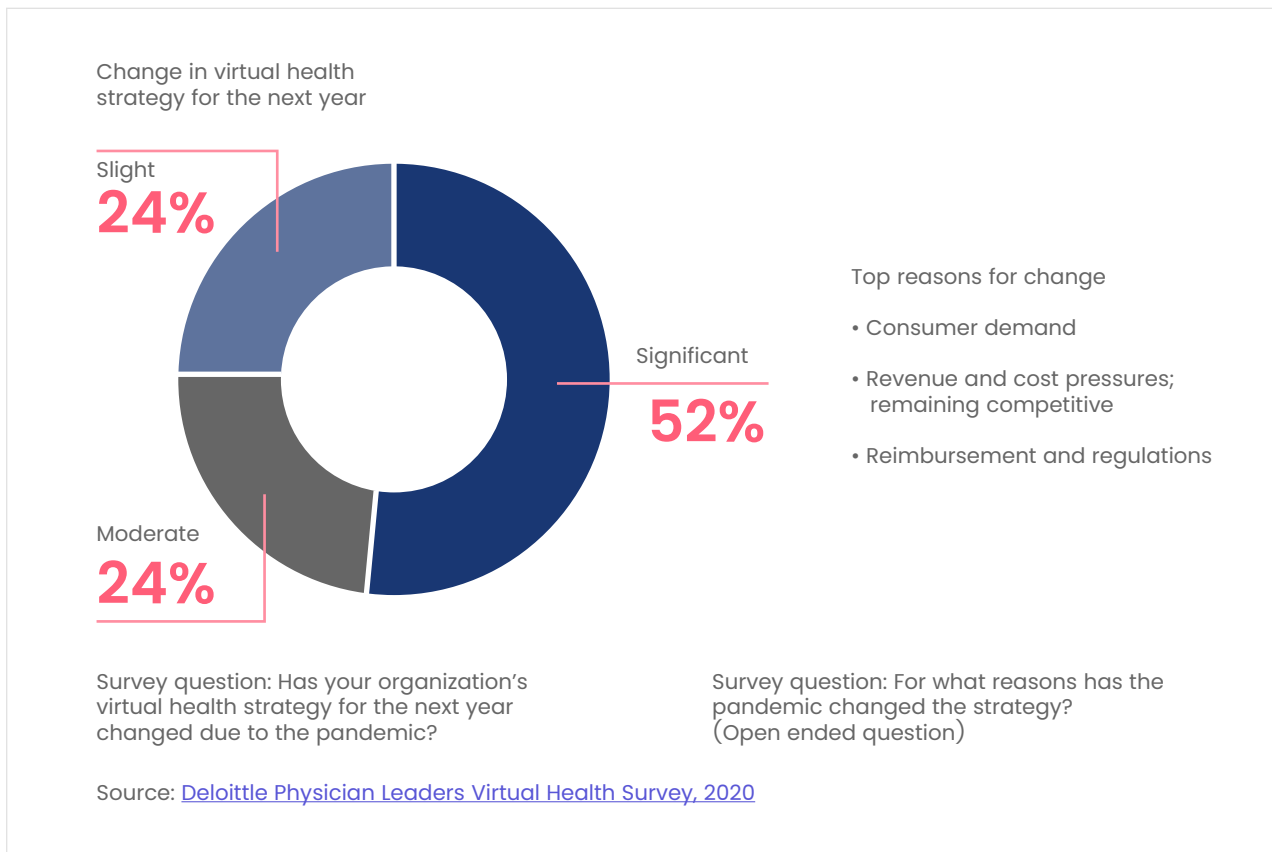


Chatbots like [Grace](#) have improved healthcare recommendations accuracy through queries and interactions. By informing a chatbot of their symptoms, users can receive appropriate recommendations for the next steps in seconds, expediting the process. In some cases, chatbots can assist with the next steps by helping users schedule appointments, transferring user medical records to the desired facility, providing insights into expected costs and copays, and more.

Similarly, Indian Pharma major Lupin's chatbot [ANYA](#) helps patients with health-related concerns as part of their disease management. The chatbot educates and interacts with patients around diseases like diabetes, hypertension and tuberculosis.

Furthermore, the COVID-19 pandemic accelerated the virtual healthcare services, which otherwise might have taken years to reach the level of adoption that took place during the pandemic.

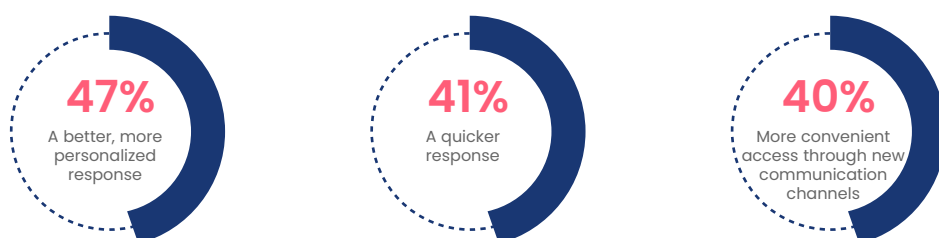
Figure 1: The pandemic has led to significant shifts in virtual health strategy, driven by consumer demand, cost pressures, and easing of regulatory barriers



During the pandemic, when the clinical trials were disrupted and patients faced difficult choices about whether and how to continue their treatments, they learned to use technologies to continue their care.

Virtual tools became essential lifelines for communication and guidance for patients to administer their own treatment at home. By using tools like messaging apps ([WhatsApp](#), [SMS](#)) and chatbots, healthcare providers were primarily able to maintain or even improve the patient experience and enabled patients to have personalized interactions and manage and monitor their care from home at their convenience. [Nearly half of patients](#) reported that they are now getting treatment at home instead of going to their healthcare provider's office.

Reasons for improvement in care:



Key Growth Drivers Of AI In Healthcare

Consumers today are taking a more active and authoritative role in healthcare journeys. This is especially true of highly developed healthcare markets such as the US, where federal mandates like the new [CMS rules](#) proposed in 2020 improve patient access to health information and thus empower them to make better decisions about their health.

Following such changes, healthcare consumers (patients and others) demand better, more relevant information that's available quickly and in a format they can easily consume. The healthcare industry is burdened with a staff shortage, particularly in the post COVID era, and thus struggles to provide quality care and information. This is where Conversational AI can step in to fill the gaps. [Conversational AI](#) in healthcare offers a user-friendly, automated means of sharing information with consumers at a low cost and scale.

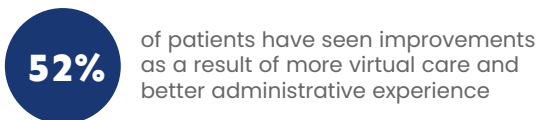
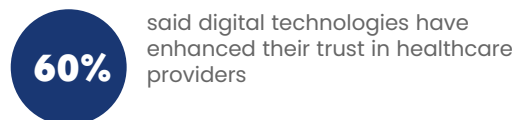
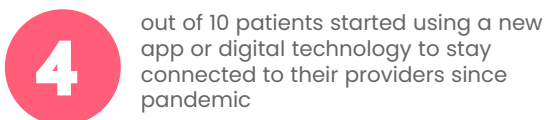
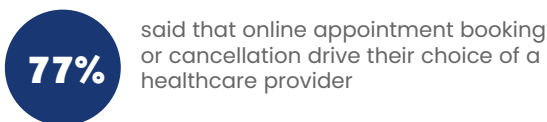
Additionally, consumers also increasingly prefer digital channels like [SMS](#), live chat, and chatbots over traditional voice interactions to interact with healthcare providers and organizations. This creates a broad space for an increasing number of Conversational AI applications and use cases. Moreover, such platforms also offer more privacy and a record of interactions – two benefits that users appreciate and even prefer.

Another driver of the demand for Conversational AI healthcare applications is the COVID-19 pandemic, specifically stay-at-home measures, social distancing norms, and the increasing pivot towards deferred care. Due to pandemic-related concerns, [41%](#) of US adults delayed medical care. Instead, they turned to digital care solutions like telehealth and chatbots to alleviate their problems.

Telehealth proved helpful for COVID-19 symptom screenings, continuing chronic disease management, and helping to connect patients to other types of care. These benefits have given rise to a question about telehealth and chatbots' place in the industry going forward. More specifically, to what extent would patients enjoy the quality of care delivered via telehealth and prefer it even post-COVID?

The answer, according to Accenture survey responses from 2700 patients in the US and similarly other developed nations, is they were much satisfied with virtual care quality. [Four in ten](#) patients started using a new app or digital technology to stay connected to their providers at the onset of the COVID-19 outbreak.

Patients today expect virtual health services as a standard



How Conversational AI Is Changing The Quality Of Healthcare

Conversational healthcare is rapidly being recognized as a means of providing the best care possible based on the patient's needs since it offers one-on-one communications that doctors want to provide for their patients. Approximately 52% of patients acquire their health data through the use of healthcare chatbots, and approximately 36% approve of the use of healthcare chatbots in treating their patients, according to a [report by Market Research Future](#).

So, do medical chatbots powered by Conversational AI cause significant paradigm shifts in healthcare? Yes. Medical [chatbots](#) can reduce healthcare professionals' workload by reducing hospital visits, reducing unnecessary treatments and procedures, and decreasing hospital admissions and readmissions as treatment compliance and knowledge about their symptoms improve.

Chatbots drive cost savings in [healthcare](#) delivery, with experts estimating that cost savings by healthcare chatbots will reach [\\$3.6 billion](#) globally by 2022. In developed countries like the US and the UK, [chatbots](#) are gradually reducing hospital wait times, consultation times, unnecessary treatments, and hospital readmissions by connecting patients with the right healthcare providers and helping patients understand their conditions and treatments even without visiting a doctor.

Healthcare to represent 10% of all chatbot interactions across key verticals such as banking, eCommerce and social media by 2023

Source: [Juniper Research](#)

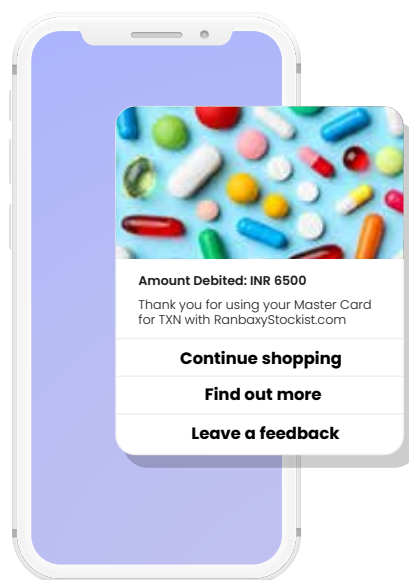
Furthermore, hospitals and private clinics use chatbots to triage and clerk patients even before they come into the consulting room. These chatbots ask relevant questions about the patient's symptoms, with automated responses that aim to produce a sufficient history for the doctors. Subsequently, these patient histories are sent via a [messaging](#) interface to the doctor, who tries to determine which patients need special attention and which patients require a brief consultation.

Capabilities Of Conversational Messaging In Chatbots

[Conversational messaging](#) enhances the quality of a conversation between a chatbot and a user. Chatbots are equipped to make human conversations and indulge users in performing a variety of actions. The capabilities include appointment booking, telemedicine, one-on-one communication with a doctor for emergency help, diagnostic report access via messaging, EMR (Electronic Medical Records) access, post-treatment follow-up, feedback collection, etc.

A chatbot on the website engages with visitors to collect patient information and book appointments. The AI engine answers frequently asked queries such as suggesting the right health procedure for patients, giving answers to health-related information, and also giving out suggested slots as per doctor's availability.

Patients can also engage with healthcare departments through popular messaging channels like [WhatsApp](#), [Telegram](#), [SMS](#), etc. Other services include getting notifications, prescriptions, and reminders on [WhatsApp](#) and [SMS](#).



Benefits Of Conversational AI In Healthcare

Conversational AI-driven [chatbots](#) and virtual assistants are two remarkable applications of AI in the medical field that bring numerous benefits for both consumers and providers.

[Chatbots](#) can respond to all commonly asked questions and thus take the burden off call centers and their human agents. Agents are no longer distracted by repetitive, low-value queries. Instead, they can focus on higher-value tasks and situations where automation cannot work, and their unique human capabilities are required. [Juniper Research](#) suggests that the number of chatbot interactions will exceed 2.8 billion annually by 2023.

Conversational AI-driven chatbots leverage [NLP](#), ML, contextual awareness, multi-intent understanding, and other functionalities to address the new complexities of modern users' healthcare journeys. Such lower-cost, self-service channels can also understand user intent, ask relevant clarification questions, and provide answers in the shortest possible time. They can carry on independent conversations with users and quickly provide the information they need in a user-friendly, low-friction format. These conversations can even be asynchronous, so users can leave and return to the conversation at some other time. This flexibility and convenience are not possible with human-based voice interactions.

Conversational AI solutions also continuously learn, adapt, and optimize user experiences over multiple interactions. Virtual assistants can even connect Net Promoter Scores (NPS) to user interactions to garner feedback that can be used to enhance customer experiences further.

Higher call volumes are the new reality in the post-COVID era. And the healthcare industry is not exempt from this fact. AI-based chatbots can not only handle larger call volumes, but they can also provide a more consistent user experience with every interaction.

Conversational AI In Healthcare: Use Cases

Artificial Intelligence in the medical field already has numerous applications that are changing the face of healthcare worldwide. Especially, Conversational AI solutions have the potential to make life easier for patients, doctors, nurses and other hospital clinic staff in a number of ways. Let's explore them.

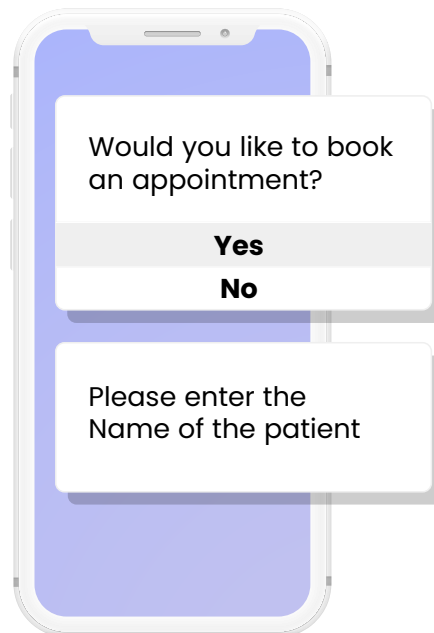


Doctor Appointment Booking

[Chatbots](#) (or voice bots) can guide a patient through the booking process and complete the transaction by approving the appointment or deferring or terminating it. All the user has to do is type in their requirement through a series of conversational cues, they can find available slots and book the appointment for their preferred time and date. Some [chatbots](#) even allow users to appointments with preferred doctors (e.g. based on doctors-specialities or previous medical history), all within the same easy-to-use conversational interface.



SCAN ME



Information Dissemination

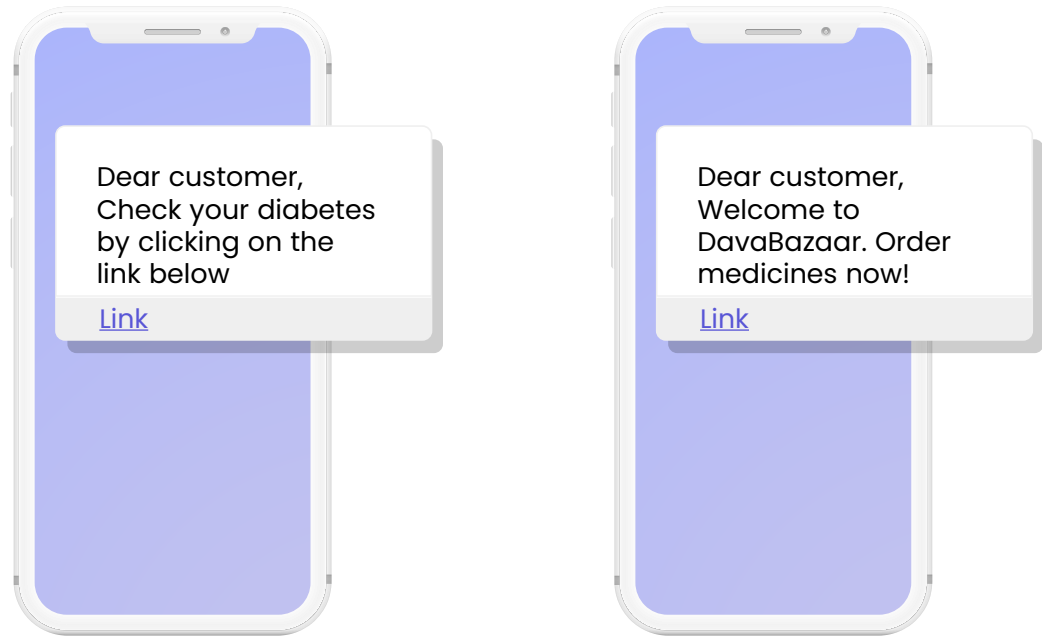
A Conversational AI chatbot is an excellent way for a provider to disseminate relevant and accurate information to users. Instead of users having to sift through lots of jargon-heavy content, the chatbot can provide simple answers to general user queries in a smooth conversational way that's almost as easy as talking to a doctor face-to-face.



Medical Triggering and Escalating Emergency Cases

Conversational AI can be effectively used to prioritize patient screening and triage treatment as per the specific case. Users enter their symptoms into the bot, which will then direct them to take safe actions according to the severity of their situation.

So if it's an emergency, it will immediately escalate the case to the right provider and bring it to their immediate attention. If it's a more common, non-emergency issue, the bot can provide support in other ways, such as directing the user to a useful article. Automated triaging mechanism can make a big difference in ensuring that emergency patients get the fast help they need and in reducing the overwhelm for hyper-busy healthcare institutions like hospitals and ambulance services.



Patient Engagement



Conversational AI chatbots are also incredibly useful for post-treatment engagement with patients. Through such automated tools, hospitals and healthcare providers can follow up with patients, monitor their health, and send regular alerts or reminders about check-ups, medications, etc. Such ongoing engagement helps reduce incidents of relapse. It enables patients to take better care of their health and frees up time for providers who can now focus on more serious treatment cases rather than multiple follow-ups and other low-value tasks.

Personalized Treatment



With Conversational AI [chatbots](#), patient data recovery is easy for healthcare institutions and providers. To understand their unique situation, they can easily access patients' medical records (while staying compliant with laws such as HIPAA in the US). They can then create a personalized treatment plan to make the patient's visit more productive and have better health outcomes.

Patient Scheduling



Providers can use [chatbots](#) to admit new patients quickly. They can review their patient load and assign medical staff through push notifications and reminders. Data is available in real-time, and everything is automated, so scheduling is easy and does not overwhelm staff or stress patients.



Employee Training

In the healthcare industry, onboarding new employees can be a long and complicated process. Credentials have to be checked, backgrounds verified, and documents submitted. These tasks can waste a lot of time for administrative staff and overwhelm new joiners. A Conversational AI chatbot can solve these challenges via automation. Recruits can upload the necessary documents into the chatbot, ask for information about the onboarding process, etc. The organization can send them reminders and alerts to complete their onboarding requirements. All of this ensures smooth onboarding for both recruits and the organization. easy and does not overwhelm staff or stress patients.

Future Of Healthcare Is Conversational

AI-driven chatbots and other applications are helping to usher in a digital revolution in the healthcare industry. In particular, Conversational AI in healthcare is transforming patient care, supporting, and reducing the burden for healthcare providers. From providing information and scheduling to diagnosis and engagement, AI in healthcare revolutionizes patient experience and improves outcomes for both consumers and providers.

Chatbots are a perfect combination of human assistance and AI technology that empowers the healthcare industry to operate seamlessly. Thanks to innovation and advancement in artificial intelligence technology, chatbots are evolving with each passing day and performing more complex tasks. Doctors are already excited about the prospects of chatbots, and so should patients.

Clinicians say virtual assistants will transform the quality of care

92% feel digital health assistants reduce staff workload and enhance patient experience

80% said virtual assistants will streamline patient appointment scheduling

80% believe virtual assistants will drive patient engagement by monitoring their health post treatment

7 out of 10 doctors opine virtual assistants will transform the way they interact with patients

In the distant future, if you are an owner of a hospital or a nursing home, you can see live healthcare chatbots that will:

- Help patients manage chronic conditions, psychological disorders, behavioural problems, and mental health issues. Chatbots remotely serve as 24/7 personal assistants helping patients monitor their health conditions in real-time.
- Automatically call for medical assistance in case of emergencies.
- Proactively analyze symptoms, validate them against the patient's medical history, and recommend the next best steps.
- Improve health outcomes in cases where early diagnosis can play a crucial role.

Creating a conversational AI application such as a chatbot or voice bot with the right Conversational AI platform is easy. Gupshup's advanced bot-builder platform is ideal for healthcare institutions and providers looking to leverage the power of Artificial Intelligence and Machine Learning to deliver better and more timely care that improves the health and lives of their patients.

Contact us to schedule a demo or enroll for our podcast or webinar to know more.
#LetsGupshup

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