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# Generative AI for Health Care Contact Center

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**ABSTRACT**

Contact centers in healthcare facilities face a myriad of challenges. Amongst them are the high workload due to numerous patient inquiries, the inability to respond to queries fast, the inability to effectively collect and process patient data, and increasing operational costs to meet the growing workload. Generative AI is an emerging technology that promises to address these issues. The technology can automate engagements hence reducing workloads and improving response time to inquiries. It also reduces operational costs and offers big data benefits. This document discusses the applications and benefits of generative AI in healthcare contact centers.

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## Introduction

Technology is increasingly proliferating in the healthcare industry. For the past two decades, the healthcare industry has witnessed increased adoption of digital technologies in virtually all sectors. For example, virtually all healthcare facilities globally leverage IT systems to onboard patients and keep their records. Relatively advanced facilities leverage digital technologies to diagnose diseases, prescribe interventions, and manage patients. Inventions such as telehealth and telemedicine allow doctors and healthcare givers to remotely monitor patients and perform less complex surgeries. Although digital technology is extensively employed in the healthcare sector, it is underexplored in patient engagement. Despite the widespread use of generative AI in many industries, patient engagement in many healthcare facilities is yet to be automated. This document explores some of the challenges in healthcare contact centers and how generative AI can mitigate these issues.

## Contact Center Challenges

A contact center is one of the vital departments in a healthcare facility. It ensures seamless communication between patients and healthcare givers. It also enhances patient satisfaction by providing easy access to medical advice, conveniently scheduling appointments with healthcare providers, and providing emergency support. A well-organized contact center contributes to positive patient outcomes and better operational efficiency. Unfortunately, many contact centers are limited when delivering these functions due to various issues. These issues include;

### High Workload

The contact center is typically the first touchpoint between a healthcare facility and the outside world. It not only serves patients but also partners, workers in the facility, and even job seekers. As a result of the high workload, some inquiries go unanswered, and follow-ups are never done [1]. This results in poor service delivery and missed opportunities for more business.

### Poor Response Time

Patients want immediate communication. They want their inquiries to be answered in real-time and even have conversations with the support team. However, due to many patients sending in inquiries, contact centers cannot respond in real-time. According to a survey by Startek, the US healthcare call centers take an average of 4.4 minutes to respond to customer calls, leaving about 50 percent of patients dissatisfied with the service [2]. The report also notes that 48 percent of the callers leave without their concerns being addressed.

### Limited Data Collection Capabilities

One of the core functions of modern healthcare contact centers is collecting patient data. Traditional contact centers are not tailored to collect data from patients. While the agents at the contact center may attempt to collect patient data, they are inefficient. Since the process is not automated, it slows patient engagement, and the data entry and analysis procedures are cumbersome and prone to errors.

### Costs Challenges

To reduce the impact of the aforementioned challenges, healthcare facilities increase staff at contact centers. Although this approach is relatively effective, it does not entirely obliviate the issues. Besides, increasing staff at contact centers comes at a cost [3]. The facility incurs an increase in wages and may need more office space.

These are some of the leading issues affecting contact centers in healthcare. While in some facilities, these issues may be insignificant due to the low number of patients they serve, in facilities that serve a large number of patients, these issues are weighty to the extent they are negatively affecting service delivery and operational efficiency. The good news is that healthcare facilities can leverage generative AI to mitigate these problems.

## Generative AI

Generative artificial intelligence, commonly called gen AI, is a deep learning model that generates high-quality responses based on users' prompts or requests. McKinsey and Company describe generative AI as algorithms, typically implemented as bots, that can create new

content in the form of text, audio, or video based on request [4]. In the healthcare industry, generative AI can automate various functions in the contact center. This technology can revolutionize interactions in contact centers by leveraging language models and algorithms designed to comprehend queries and produce authentic conversations similar to humans in real-time. Some of the applications of AI in healthcare contact centers include;

**Virtual Agents**

Generative AI can serve as virtual agents in contact centers. These applications can interact with patients, responding instantly to inquiries and providing necessary information. These applications can also be integrated with electronic health records, allowing them to schedule, reschedule, and even cancel appointments [5]. Advanced virtual agents can help patients diagnose minor conditions and prescribe therapies or recommend professional diagnosis. Virtual agents mitigate two major challenges in healthcare contact centers. One, they automate some procedures in patient support, reducing workload – these applications can simultaneously execute hundreds of conversations with patients. Two, virtual agents respond to queries in real-time. Patients do not have to wait for long before their inquiries are attended to.

**Knowledge Base Creation**

Generative AI can autonomously collect patient data efficiently. During conversations, these bots can collect vital information such as patients' names, neighborhoods, ages, and occupations and insert them into the database. Unlike humans, the data collection and entry process is fast, low in errors, and less vulnerable to inconsistencies. Contact centers that employ generative AI in data collection tend to be more capable of collecting patient data [6].

**Multi-Lingual Support**

Patients tend to express themselves better in their natural languages. Unfortunately, agents cannot be effective in multiple languages. Artificial intelligence bots can be trained to support multiple languages, making them suitable for serving different people in their first languages.

**Boost Agents' Productivity**

Besides automating various processes in contact centers, generative AI can enhance the overall productivity of human agents in contact centers. The technology can be used for data analysis and can be employed to generate scripts for agents and summarize interactions with patients. These processes are time-consuming when done manually. It is estimated generative AI can increase human productivity by 30 to 50 percent [3].

**Impact of Generative AI in Contact Centers**

Some of the key benefits of integrating generative AI in healthcare contact centers include;

- **Enhanced patient Experience:** generative AI generates accurate instant responses to patient inquiries. Fast response time and quality of communication enhance the overall customer experience.
- **24/7 Availability:** Bots operate around the clock. They always respond to patient queries, regardless of the day and time.
- **Cost Efficiency:** Automating patient engagement and enhancing the productivity of existing staff eliminates the need to hire extra manpower.
- **Opens up New Capabilities:** Generative AI enables healthcare facilities to leverage new capabilities such as data-driven patient care and data-driven decision-making. By accessing timely insights from collected data, facilities can tailor their services to specific patient needs.

**Considerations when Implementing Generative AI in Healthcare Contact Centers**

Although generative AI is a disruptive technology that promises to revolutionize operations in healthcare contact centers, the applicability of this technology is vulnerable to various issues that must be considered and addressed. Some of the key considerations when implementing generative AI in contact centers include;

**Data Privacy:** Generative AI in contact centers deals with vast amounts of sensitive patient data. The technology must be implemented in such a way that it strictly adheres to data privacy laws and regulations [7]. Strategies such as encryption and access control should be used to augment adherence to privacy needs.

**Compliance Adherence:** Countries have varying regulatory frameworks to which AI systems must adhere. For example, in the United States, these systems must comply with HIPAA regulations and meet FDA requirements. Generative AI models must comply with the necessary regulatory frameworks.

**Potential Biases:** Generative AI works based on the data type used to train the models. If the data sets used in training are not inclusive, this technology can discriminate against minorities. It is vital that the technology is trained with comprehensive data sets and the algorithms are continuously tested for biases.

**Conclusion**

Generative AI is a revolutionary technology that not only automates various tasks in healthcare contact centers but also serves as a tool that enhances the productivity of contact center agents. The technology can act as virtual agents that respond to patients' inquiries in real time 24/7 and also serve as a tool for collecting and processing patients' data, summarizing engagements, and creating scripts. Healthcare facilities that deploy the technology can reap benefits such as enhanced patient experiences, 24/7 support availability, cost efficiency, and access to new capabilities such as data-driven patient care. According to a Deloitte report, about 82 percent of healthcare facilities have plans or have already implemented generative AI in their operations [8]. Do not be left behind; embrace this new technology and unlock the full potential of your contact center.

**References**

1. Jiang L, Huang YL (2024) Healthcare call center efficiency improvement using a simulation approach to achieve the organization's target. International Journal of Healthcare Management 17: 379-388.
2. (2024) Discover how healthcare contact centers transform patient care. Startek https://www.startek.com/insight-post/blog/healthcare-contact-center/#:~:text=First%20call%20resolution&text=Only%2051%25%20of%20US%20patients,resolved%20during%20their%20initial%20call.
3. Hazarika I (2020) Artificial intelligence: opportunities and implications for the health workforce. International health 12: 241-245.
4. (2024) What is generative AI? McKinsey & Company https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-generative-ai.
5. Sharma D, Kaushal S, Kumar H, Gainder S (2022) Chatbots in healthcare: Challenges, technologies and applications. 4th International Conference on Artificial Intelligence and Speech Technology (AIST) 1-6.
6. Chui M, Hazan E, Roberts R, Singla A, Smaje K (2023) The economic potential of generative AI. McKinsey & Company https://www.mckinsey.de/~/media/mckinsey/locations/europe%20and%20middle%20east/deutschland/news/

presse/2023/2023-06-14%20mgi%20genai%20report%2023/the-economic-potential-of-generative-ai-the-next-productivity-frontier-vf.pdf.

7. (2024) Generative AI in healthcare: Use cases and challenges. N-IX https://www.n-ix.com/generative-ai-in-healthcare/.
8. (2023) From code to cure, how generative AI can reshape the health frontier. Deloitte https://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-from-code-to-cure-1.pdf.