A Contact Centers Effect on Healthcare Organizations

Jillian Myers

University of Arkansas Fort Smith

A Capstone Project Presented in Partial Fulfilment

of the Requirements for the Degree

Master of Science in Healthcare Administration

College of Health Sciences

University of Arkansas Fort Smith

May 2025

UNIVERSITY OF ARKANSAS FORT SMITH

College of Health Sciences

Master of Science in Healthcare Administration

May 1, 2025

It is hereby recommended that the project prepared by Jillian Leigh Myers entitled Contact Centers Effect on Healthcare be accepted in partial fulfillment of the requirements for the degree of Master of Science in Healthcare Administration.

THESIS/PROJECT APPROVED by

Thesis/Project Instructor/Supervisor	Date
MHCA Executive Director	Date
Dean of the College of Health Sciences	Date

Abstract

This pilot study explores the impact of healthcare contact centers on patient satisfaction, care coordination, and the use of customer relationship management (CRM) systems. With the increasing reliance on contact centers due to the growth and advancement in healthcare, contact centers provide a centralized primary contact point for patients allowing support for patient interactions. The study conducted revealed a positive correlation between the use of a contact center and patient satisfaction, indicating that those who utilize the contact center generally encounter agent professionalism and caller satisfaction. However, no quantitative data was gathered to measure the effect of a contact center on care coordination but qualitative findings showed healthcare contact centers ability to enhance care coordination through streamlined communication and information management. Furthermore, the integration of a CRM system is identified in this study as a key factor in improving service delivery, fostering personalized patient care, call volume metrics, and efficient processing while lessening burden on clinical staff. This paper provides insights into the role of healthcare contact centers in facilitating patient engagement and care processes, while highlighting areas for future research.

Acknowledgements

I would like to begin by thanking everyone in my incredible family for encouraging me to begin this program and continually being the backbone to my successes. Without you all taking care of Jrue and I, I do not think I could have been successful. To my son, Jrue, thank you for continually being a breath of fresh air or a giggle when I was feeling stressed or undetermined. Most importantly, I would like to thank God for continually giving me the strength and focus throughout this program. Mercy Fort Smith contact center has been such a blessing through this entire program and willing to work with me as much as they can especially throughout this capstone. I also want to mention Dr Holden and all the professors that created a fun, interesting, and stimulating program, thank you! All glory to God.

Table of Contents

List of Tables and Figures

Introduction

Healthcare in the United States is a fast paced and growing industry. Health research, technologies, insurance, and treatments are constantly evolving. Organizations are reaching more individuals and expanding or merging more than ever before. Being able to connect and communicate with patients in a timely manner is vital to the success of any healthcare organization. Whether it's appointment scheduling, reminders, results, sick symptoms, or medication concerns, medical teams need assistance in triaging and prioritizing patients' needs. Healthcare contact centers have been developed for this reason.

Healthcare organizations with a large number of patients, clinics, specialties, or offer support for rural areas receive an overwhelming amount of calls during and after hours. This abundant number of calls ties up phone lines, medical staff, support staff, and office personnel which can delay patient care and increase errors. Healthcare contact centers help ease the burden on clinical staff and aim to increase patient satisfaction and communication. Contact centers have the ability to improve patient satisfaction, streamlining operations, enhancing communication, and improving the overall quality of care offered in a world that has shifted focus to patient satisfaction and outcomes.

Contact centers or sometimes referred to as a 'call center', serves as a central hub for connecting patients with their healthcare providers while offering a range of services that address the patients needs and optimize processes for the clinic/medical provider(s). Whether it is scheduling appointments, requesting refills, inquiring about orders or referrals, or relaying patients symptoms, questions, or concerns to a provider, contact center agents are tasked with the initial triage of patient concerns while directing messages to appropriate locations and attempting first call resolutions.

Contact centers are a very complex department that require a combination of technology, human talent, problem solving, and task procedures in order to deliver appropriate information and direct messages correctly (Saberi et al, 2017). A system showing expansion within a contact center is the use of a customer relationship management system or a CRM. Integrating a healthcare contact center with a CRM system helps agents manage customer interactions more efficiently. There are different levels of CRM systems that can be used depending on the necessary customization and configuration needed for that organization or geographical area.

The success of a contact center relies heavily on communication with patients and communication with the clinics they serve. The satisfaction from all points of views differ at any given time. Just like the medical side of healthcare, the administrative and support side of healthcare is constantly evolving and changing. The contributions to this capstone will dive into the satisfaction levels behind the contact center, its contribution to care coordination, and the success of a CRM system.

Definition of Terms

Healthcare contact centers is a centralized hub within a healthcare organization that manages inbound and outbound patient communications including phone calls, emails, and online chats. Through trained staff and specialized technology, contact centers act as the primary point of contact for patients regarding their healthcare services.

Customer relation management or a CRM system is a software platform that organizations use to analyze, manage, and track patient interactions and data. A CRM allows healthcare providers to improve patient engagement, streamline operations, and deliver personalized care. A CRM aims to centralize patient data and provide comprehensive views of

each patient's medical history and interactions across different touch points within a healthcare system.

Care coordination refers to the process of organizing and managing a patient's healthcare activities across different providers ensuring seamless communication and information sharing to achieve better health outcomes and avoid unnecessary duplication of services. Care coordination is about coordinating all aspects of a patient's care to deliver the most effective treatment plan possible.

Background

Contact centers play a pivotal role in modern healthcare business operations by serving as the primary point of communication between clinics and their customers or patients. With new research, technologies, and medications, not to mention insurance changes happening everyday, healthcare contact centers are vital to the success of an organization. Healthcare focuses have shifted to quality management and patient satisfaction significantly transforming the role of contact centers and making them central to customer experience. Effectiveness in contact centers are measured by operational efficiency, call handling metrics, and quality of customer satisfaction.

The stigma around contact centers is relatively negative. In regards to healthcare, patients like to speak with their doctor, nurse, or clinic directly making it difficult to build that satisfaction and trust. A contact center's ability to provide timely, accurate, and empathetic services through effective communication can enhance patient satisfaction. Research regarding the use of a customer relationship management (CRM) system is low but has changed the way contact centers run. The development of new technologies such as CRM systems allow for integration and customization for any given organization which strives to improve speed and

accuracy of services delivered, reduce call wait times, reduce call length of time, and enhance staff productivity (Zussman, 2023). The growing necessity of contact centers in healthcare requires a deeper understanding of their impact on patient satisfaction, patient outcomes, and overall efficiency. This research seeks to explore the impact of a contact center on patient satisfaction and care coordination while determining the effect CRM systems have on department efficiency and success.

Organizational Review

The organization that was utilized for this pilot study operates across four different states with a diverse array of services. In this city, this organization provides essential healthcare services to the local population as well as surrounding rural areas such as outpatient services, inpatient services, specialists, primary care, urgent care, and emergency care through its hospital network. The organization's structure in this city is integrated, with care teams working collaboratively to provide a continuum of care that ranges from preventative health to more complex medical treatments. This non profit organization collaborates with other local healthcare organizations and the community to address gaps in services to ensure comprehensive care delivery to the entire population and surrounding areas.

While this organization’s operations span across extensive regions, the focus of this study is within a contact center on the western side of the state of Arkansas. In this city, the contact center provides a central contact point for 9 primary care clinics, 5 rural primary care clinics, and 6 specialist clinics in the area. The contact center is led by 2 supervisors in the office, 1 regional manager, and 1 regional executive director with around 80 agents on staff that range from PRN to full time employment. This study will examine the performance, challenges, and opportunities facing contact centers while assessing the contact center in this particular city’s ability to

improve care coordination, patient satisfaction, and effect of the newly implemented CRM system.

Problem Statement

The medical side of healthcare is constantly evolving which can affect non medical personnel tremendously but a facet that gets looked over by many is the evolution and development of information technologies. This advancement in technologies has revolutionized the impact of patient-provider relationships through the use of a contact center. Even with the internet capabilities, many patients continue to seek services through their telephone. Many technological systems such as Artificial Intelligence, interactive voice response (IVR) and customer relationship management (CRM) systems have been developed to help streamline phone calls. Approximately two thirds of all U.S. hospitals employ call centers in which this number is steadily increasing (Strother, 2006).

Some research findings suggest that patient satisfaction with contact centers are connected more closely with the quality of personal experience and personal service that is provided than to the technology that may expedite their requests (Strother, 2006). Within recent years, there has been a great shift that focuses on an organization's quality of services provided which is determined by patient satisfaction and patient outcomes. Healthcare contact centers have become a critical component in the delivery of patient care by serving as the primary communication channel between patients and their providers.

Contact center agents have a variety of responsibilities that are adjusted and changed constantly but ultimately are responsible for managing appointments, addressing patient inquiries accordingly, and coordinating care. Despite this pivotal role there has been scarce research on the efficiency, quality, and operations of contact centers in relation to patient outcomes and

satisfaction. This study will utilize current research on different aspects of a call center as well as newly discovered systems compatible with contact center purposes.

The effectiveness of a contact center relies heavily on communication on all levels, staff competence, and the ability to streamline care processes which can all improve patient experiences and overall quality of care. The use of a CRM system has the potential to guide contact center agents correctly and efficiently. When there are disruptions and inefficiencies within a contact center, this is when patients and providers can become frustrated, delay in patient care becomes abundant, and missed opportunities to improve patient care are possible. Contact center agent responsibilities are often overlooked as minimal but most hold no medical experience but are expected to understand, triage, and ask the right questions to further detail a patient's inquiries and symptoms. Miscommunications, gaps in care coordination, incorrect appointment scheduling, and uncoordinated follow ups can lead to fragmented patient care, increased hospital readmissions rates, and higher healthcare costs (Merritt and Drazin, 2024).

Purpose Statement

This research aims to examine the impact of healthcare contact centers on patient satisfaction and care coordination as well as the effect of a CRM system on department efficiency and success. By analyzing data gathered from a contact center located in western Arkansas, this study seeks to understand if an organization’s use of a contact center affects patient satisfaction and care coordination. The data gathered will also focus on the use of a CRM system and its effect on a contact center’s efficiency, error rate, and overall success.

Research Questions

This research project focuses on the following questions: 1) Does the integration of a CRM system within a healthcare contact center effect agent error rate, patient satisfacyion, and department efficiency? 2) Does a healthcare contact center positively affect patient satisfaction? 3) Do contact centers improve care coordination and patient improvement?

Hypothesis

H_1: The integration of a CRM system within a healthcare organization's contact center will decrease call wait time, call length of time, and abandoned calls.

H_2: A healthcare organization's contact center positively affects patient satisfaction.

H_3: A healthcare organization's contact center improves care coordination.

Literature Review

Healthcare contact centers play a crucial role in modern healthcare delivery, servicing as a primary point of contact for patients, caregivers, and providers. As healthcare continues becoming more complex, contact centers are tasked with navigating a variety of challenges while simultaneously striving to improve quality, enhance care coordination, ensure cost-effectiveness, and staying up to date on technological advancements. This literature review aims to explore the complex role of healthcare contact centers addressing their contributions to quality of care an organization delivers, the effect on care coordination, the use of a CRM system, cost-effectiveness and also the challenges a contact center may face that can affect the quality of care it provides and possibly the organization as a whole.

Quality in Healthcare

Healthcare costs have always been on the rise and are reaching astronomical numbers in today's world. Payment systems began as 'fee-for-service' which paid physicians, hospitals, and other healthcare systems for each service rendered or even the complexity of the care provided. Since reimbursement was based on quantity as well as the extent of diagnostic testing completed and therapies, the fee-for-service system contributed highly to the growth of healthcare spending in the United States (Yu and Gorgone, 2024). Fee-for-service systems have been known to increase overutilization of medical services, fragmented care, and patient dissatisfaction but also fail to provide incentives for efficiency, quality, or outcomes.

Within the last 10 years there has been a major shift in focus regarding the quality of a healthcare organization. Quality can be measured by many factors but primary focus is on patient satisfaction and patient outcomes. One major factor to this shift to quality is the use of the "Value-based care" reimbursement system. Value-based care focuses on delivering the best possible health outcomes for patients in a cost-effective manner. This type of reimbursement system has shifted the focus to the quality of care an organization delivers and its effect on patient outcomes. By focusing on the outcomes that matter most to patients, the value of care delivered aligns with how patients experience their health. Many aspects that play a role in Value-based care also factor into quality such as patient-centered care, improved care coordination, evidence-based practices, quality performance metrics, and patient satisfaction (Teisberg et al, 2020).

Healthcare contact centers have the ability to play a large role in the quality of care an organization provides. Contact center agents have the unique opportunity of being the main contact point for patients, influencing their experience through factors like appointment scheduling, information access, and overall customer service significantly impacting the quality

of patient care. Though there is little research on call center performance and patient outcomes, contact centers or call centers provide a vital link to lifesaving care and can be accessible around the clock. Three major factors that contribute to the assessment of quality are patient outcomes, patient satisfaction, and access to care in which contact centers are pivotal to an organization's success in these factors. Though contact center agents do not perform any medical treatment, they do play a role in initial triage, dispersing critical information to the correct medical professionals, and deterring any delay in patient care. Whether it is speaking with other providers, pharmacists, insurance companies, or patients themselves, contact center agents can fix any possible delay in care by analyzing charts and delivering any necessary patient information within the realm of HIPAA. The effort an agent puts forth in an attempt to satisfy customers, effort to improve their work, and go out of their way to help each customer has its own significance to patient outcomes (Strother, 2006).

In regards to patient satisfaction, contact centers attempt to satisfy patients through knowledge, analyzing, helpfulness, and effort. Within the minimal amount of research conducted, it has been found that hold times, staff courtesy, whether staff provided requested medical information or help, and number of transfers were all related to overall patient satisfaction with care (Griffith et al, 2019). In a study conducted by Griffith and colleagues that analyzes the relationship between 2 measures of telephone access which is average speed of answer and abandon rate. In this study it was found that facilities with lower performance in answering phone calls also had a lower patient perception of their ability to both access urgent care appointments and to do so in a timely manner (Griffith et al, 2019). With appropriate training, contact center agents have the ability to utilize first call resolution and accurately

distribute information from patients to the correct individuals. This allows for timely, accurate, and sufficient patient care which positively impacts patient satisfaction.

A healthcare organization's ability to deliver quality care can also be determined by admission rates and improved quality of care. Organizations and clinics attempt to deliver quality healthcare to decrease the number of appointments needed as well as decrease admission rate for their higher risk patients. Certain organizations have begun implementing the use of nurse practitioners within their contact center. Contact center agents were able to determine which calls needed to be transferred to the NP based on propensity score, call severity, and patient comorbidity. In this study conducted by Kaboli and colleagues, incorporating nurse practitioners into a call center was associated with lower in-person healthcare use in the subsequent 7 days compared to routine registered nurse-triaged calls (Kaboli et al, 2021).

Care Coordination

Care coordination involves deliberately organizing patient care and sharing information across multiple participants to improve patient safety and deliver more appropriate and effective care. A major factor with care coordination involves the patients' specific needs and preferences. Shared decision making is an aspect of care coordination in which patients and providers work together to decide the best path for treatment. More often than not, patients with new diagnoses will perform research on options such as medications and report back to their provider via a contact center. A middleman for care coordination. Other aspects of care coordination involve consistent and clear communication between patient and provider, provider and specialist, provider and insurance companies, or patient to new providers. Everyone knows that healthcare is complex, where each clinic is different on referrals, records, imaging, or peer to peer requirements, there is a lot of back and forth between parties in which contact centers are the

main point of contact needing to relay any pertinent information to help with first call resolution. Integrated and advanced contact center technologies improve care coordination, reduce administrative burdens and enhance patient outcomes (Care Coordination, 2024).

There can be significant challenges for healthcare providers in follow-ups and care coordination in which contact center agents are a strong middleman to help efficiency and decrease errors. By streamlining communications and ensuring accurate, timely information delivery, these agents have the ability to enhance the patient care process. There is little research on the effect of contact centers on care coordination in regards to patient outcomes but do highlight the idea that contact centers have the ability to bridge barriers between different healthcare professionals. Primary care physicians are constantly coordinating care with different specialists and insurances. The ability for that physician or organization to communicate with outside providers through the aid of a contact center can speed up the delivery of much needed care and reduce errors.

Cost Effectiveness and operation efficiency

In a world where healthcare costs continue to rise; reforms, advancements, and research are attempting to combat this constant increase in healthcare expenditures. There has not been research regarding the extent to which contact centers cut costs but there are aspects of contact centers that show favorable cost effectiveness. For instance, in a study conducted by Kappa and colleagues, centralized call centers managed on-site are able to provide a high-performing, cost-effective solution to answering patient and administrative telephone calls in relation to outsourced call centers (Kappa et al, 2020). Other than in-house contact centers, there are other aspects that can have an effect on cost efficiency such as an investment in agent training and retention.

Just like healthcare in general, contact centers are very complex and are constantly evolving. This means that scheduling optimization, performance monitoring, and targeted training is vital to being successful. Being able to conduct performance monitoring will decrease errors that will help avoid unnecessary spending, increase training opportunities, decrease turnover rate, and help overall with organizational or clinical operations. It has been found that a vast majority of dissatisfied patients do not complain but at a greater risk of abandoning that clinic or provider and in extreme circumstances the organization as a whole (Aksin et al, 2007). The importance of operational efficiency within a contact center plays a large role in attracting, retaining, and generating revenue for any healthcare organization.

In regards to clinical operational efficiency, there is minimal numerical data expressing a contact centers' effect. With that being said, healthcare contact center agents aid in initial triaging, first call resolution, and help streamline administrative tasks that allow those in the clinic to focus more on direct patient care. When trained correctly in correlation with an agent's effort, contact centers improve access to care by being a central point of contact for new patients and current patients enhancing accessibility to care. Agents also streamline communication between patients, providers, and administrative staff while also efficiently triaging urgent calls, routing patients to appropriate providers, and escalating critical issues promptly. Other administrative burdens that can be left for contact centers to help with are appointment reminders, billing, referral, and prescription inquiries as well as insurance verification.

Technology and Innovation

Telecommunications and information technologies have played a role in the fight against rising costs of healthcare. The technological advancements have led to the increased use of contact centers that have been initiated by patients that are known as “inbound” call centers.

Automatic call distributors and computer telephony integration used in contact centers has grown cheaper, more reliable, and increasingly sophisticated. This advancement has led to increased network capacity and improved quality seen within the healthcare sector (Aksin et al, 2007).

A newer system used within contact centers is the use of artificial intelligence (AI). AI has transformed contact center operations by better handling administrative tasks and call routing that allows for humans to focus on interactions that require empathy and complexity (Merritt and Drazin, 2024). Advancements in self-services such as interactive voice response, patient portals, and call routing allows for patients needs to be met to an extent without assistance from medical support staff. Interactive voice response allows for patients to be directed according to their needs and placed in a routing pool that will ultimately get them to the correct agent. This enhances workflow efficiency and improves patient experience by reducing wait times and errors.

Contact center agents have the ability to help patients in a variety of ways such as real time eligibility . Real time eligibility is a software that runs a patient's insurance through a clearinghouse to determine if the insurance on file is active or if there are any issues. This saves patients time and money as well as clinic resources. Some agents have authorization to release results left in patient's chart by the medical team. This allows for first call resolution and a chance for missed calls back and forth. One phenomenal concept of contact centers is the amount of data that can be pulled from the calls. Whether it is data specifically for the contact center, clinic, physician, or organization as a whole, data collection and analysis are pivotal for departments and organizations to stay up to date on current trends and improve overall service quality. In study conducted from a Wisconsin based health system that wanted to address the issues of long hold times and abandoned calls in its contact center, integrating AI and chatbots

allowed for a drop in abandoned calls below 5% and more than 20% of interactions were handled through self-service and 80% of calls were answered within 30 seconds (Merritt and Drazin, 2024).

Another major shift in contact center data collection and analysis involves the use of Customer Relation Management systems or CRM. CRM is an innovative, highly adaptive technology that seeks to improve customer satisfaction, customer retention, profitability, and decrease human errors by acquiring, developing, and maintaining effective customer relationships and interactions (Baashar et al, 2020). Unfortunately research is still limited on the use of CRM systems within healthcare but even less as a part of contact centers processes. Contact centers use CRM systems as an approach to learn about patients in order to communicate appropriately, build relationships, and deliver timely, accurate, and efficient information.

CRM systems can be adjusted to the complexity a clinic wishes it to be. Processes within the CRM system can be simplified or complex depending on how detailed or flexible the contact center can be. Health systems adopt CRM systems as a managerial approach that allows organizations to support patient-centered care in efforts to meet patients needs, expectations, retainment, and improve quality. In a study conducted by Baashar and colleagues, found that the use of web-based CRM systems had positive results in physician-hospital relationship, medical operations, patient satisfaction, and clinical outcomes (Baashar et al, 2020). Data pulled from the multi-system technologies within a contact center has the ability to track agent error rate down to a single error so agents can be trained and errors can be fixed.

Challenges Faced by Contact Centers

There are many challenges that healthcare contact centers face including high employee turnover rates, staffing and training challenges, high call volume, patient privacy and compliance, and sensitive conversations. These challenges, at any level, can cause serious repercussions if not constantly monitored or addressed. Contact centers are known for having a high employee turnover rate for reasons such as implementations of AI, complex processes, agent burnout, and lack of qualified agents. High agent turnover rates can lead to bad patient experience, negative effect on patient retention, organizational reputation damage, and lost revenue (Gareiss, 2024). Agent burnout can be an issue due to the type of calls possible such as angry patients or very sick or injured patients. Agents are not required to hold medical training yet have to handle complex medical issues and are expected to triage accordingly. Another major issue would be the advancement in technologies such as the use of AI or CRM systems. Some contact center departments have reported losing long-time agents who are uninterested in all the automation and new extremely detailed processes (Gareiss, 2024).

The consequences of high turnover rates can directly affect patient care. The most significant impact is poor patient interactions and disappointment in the services they receive. High employee turnover can increase call wait times, current employee frustrations, impacts supervisor times, costs companies to find and replace new agents. High employee turnover correlates with difficulties staffing and training agents within a healthcare contact center. Ensuring staff have the necessary skills and knowledge to handle diverse patient inquiries and maintain high service standards is crucial for these issues to not have a serious impact on the organization as a whole.

Another challenge faced by contact centers is HIPAA compliance and patient data security. HIPAA compliance for contact centers are essential for every organization providing an

answering service. According to HIPAA, all service providers processing, storing, or transmitting electronic protected health information (PHI) directly or on behalf of a healthcare organization are directly liable for data breaches attributed to non-compliance (Alder, 2023). In other words, contact center agents have a responsibility to verify each caller and only relay patient or appointment information to those who are reported on the PHI by the patient. Contact center supervisors have a responsibility to ensure each agent is up-to-date on any compliance regulatory requirements.

Healthcare contact center agents also face the challenge of managing not-so-pleasant or angry callers while navigating complex medical jargon. This requires empathy, active listening, and clear communication to de-escalate situations and ensure patient understanding. Contact centers agents are required to put forth the effort to de-escalate situations while listening to the actual issue at hand. Effective training and agent effort will have a huge effect on de-escalation. Being able to locate the information that a frustrated caller needs is vital and there are many ways information can be added into a patient's chart but knowing how to navigate the technology is vital.

Healthcare contact centers face several challenges that can directly impact patient/caller satisfaction. The challenges discussed previously can all cause inconsistencies in customer service, leading to longer wait times and possibly delay in care. These challenges can disrupt patient experience and can result in frustration or dissatisfaction causing a decline in patient retention. Together, these challenges can contribute to decreased patient satisfaction, highlighting the importance of continued training, addressing workforce stability, and caller management to improve overall quality of service provided.

Methods

Sample and Context

This study aimed to evaluate patient satisfaction, use of CRM systems, and the effect of contact centers on care coordination using a mixed-method approach. Primary data was collected through surveys, secondary data selection, and data retrieved from customer relationship management systems. The combination of these three methods allowed for a comprehensive understanding of patient satisfaction across multiple dimensions such as quality, communication, accessibility, and overall experience. The quantitative data collected relied on surveys and CRM system data gathered via patients utilizing the contact center. This quantitative data was collected from November and December in the year 2024 as well as January 2025 and consisted of thousands of recorded surveys. Qualitative data was gathered through peer-reviewed published articles via internet searches in websites such as the National Library of Medicine.

Population of interest

The recommended target population for this project consisted of patients utilizing services from a contact center located in Western Arkansas, which specifically caters to both urban and rural communities in the surrounding area. Much of the qualitative data relies on anyone who comes into contact with the contact center, especially patients and their caregivers but also insurance companies, pharmacies, drug reps, and other healthcare providers.

Analytical Strategies

The analytical strategies involved with this project include a mixed methodology of both quantitative and qualitative gathered first hand and secondary data. Quantitative data from the surveys and CRM systems were analyzed using descriptive statistics such as charts to summarize general levels of patient satisfaction and call volume statistics. Qualitative data was analyzed

through research articles regarding studies focused on contact centers' effect on care coordination.

Data Collection

Patient satisfaction surveys were utilized automatically after the conclusion of the call. Contact center agents were encouraged to mention a two-questions survey at the end of the call to increase a caller's chance to participate. The surveys used in this project consisted of closed ended or yes/no questions. Questions included: Were your needs met today and Was the coworker courteous, knowledgeable, and professional. The next quantitative data analyzed is skill group and call hub monthly statistics regarding call volume, rate of answer, total call time, and call abandonment. All surveys were used for this project along with all

Customer relationship management system was also utilized in gathering quantitative data relative to call volume and error rate. The CRM system tracks patient interactions, complaints, errors, and processes in relation to agents specifically or the contact center as a whole. Other telephonic information systems used in correlation with CRM are used to gather and analyze data such as patient engagement, agent errors, appointment trends, response times to concerns, and how well a patient's issues were resolved.

Secondary data collection involved peer-reviewed research articles in relation to a contact centers effect on care coordination. Though very little research has been conducted in this regard as well as patient satisfaction with contact centers in general or the use of CRM systems on call volume and error rate it provides context for understanding these systems and concepts more deeply.

Ethical Issues

There were not any distinct ethical implications with this project due to no individual patient or protected health information or identifiers were utilized in the data retrieval process. This project is a pilot study and therefore the identification of the organization utilized will remain anonymous. No proprietary information was obtained, regenerated or redistributed from the anonymous organization in which this study was conducted. This project was not required to be completed under the direction or approval of an institutional review board.

Results

The purpose of this pilot study was to determine patient satisfaction rates with health care contact centers, the use of customer relationship management systems and its effect on inbound call statistics, and a contact centers effect on care coordination. A 2-question survey pertaining to caller satisfaction began immediately after the agent ended the call. In November of 2024, 4,355 surveys were completed at the end of calls, 4,722 surveys in December of 2024, and in January of 2025 6,349 surveys were completed. In January agents were highly encouraged to mention the 2-question survey at the end of the call causing a significant increase in caller survey involvement. Looking at Figure 1, survey results in blue involved the contact center agents professionalism which showed a 97% satisfaction rate and only a 2.9% dissatisfaction rate. The orange section surveys whether or not the caller's needs were met which shows a 92% satisfaction rate and a 7% dissatisfaction rate.

Customer relationship management systems are a fairly new concept that does not have much current research and even less when applying to healthcare. In figure 2, you can see the monthly metrics for the month of January. This figure shows each hub in relation to the area this contact center covers and offers information on the amount of calls offered, answered, abandoned, average speed of answer as well as the service level. The service level percentage

refers to the amount of calls answered in regards to total number of calls as well as the amount of calls answered within 30 seconds. This department's service level goal is 80%. Figure 3 depicts the service level and number of calls this contact center received within a 7 month time span averaging a 95.84% service level. Finally figure 4 shows the error rate within the contact center with the use of this particular CRM system. Contact center agents as a whole have a goal of less than 2% error rate and on this graph from November of 2024 to January of 2025 there was a 0.89% increase as well as an increase from 440 errors to 926.

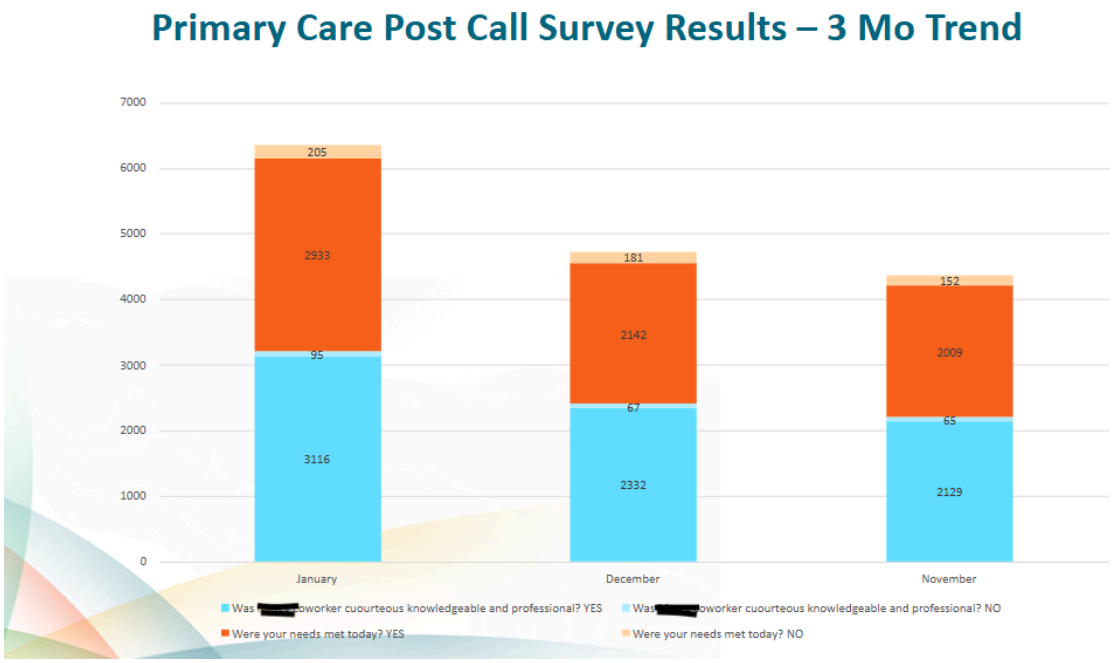

Figure 1: Patient satisfaction survey regarding agent professionalism and needs met.

January Metrics by Hub/Skill Group

SkillGroup	% SL	ASA	Offered	ANS	Tot Aband	% Aband	AHT	Max Calls Queued	AWrap
CCM_2.CL_C_FTSM_PC_OF_HUB1.SG	0.00%	0:00:00	0	0	0	0.00%	0:00:00	8	0:00:00
CCM_2.CL_C_FTSM_PC_NB1.SG	75.87%	0:00:22	8516	8248	268	3.15%	0:04:30	11	0:00:47
CCM_2.CL_C_FTSM_PC_OF_HUB2.SG	90.36%	0:00:10	363	363	0	0.00%	0:04:17	7	0:00:59
CCM_2.CL_C_FTSM_PC_NB2.SG	93.21%	0:00:06	5123	5085	38	0.74%	0:03:49	6	0:00:30
CCM_2.CL_C_FTSM_PC_NB3.SG	95.44%	0:00:06	8122	8085	37	0.46%	0:03:42	8	0:00:54
CCM_2.CL_C_FTSM_PC_OF_HUB3.SG	96.85%	0:00:03	127	127	0	0.00%	0:03:41	4	0:00:45
CCM_2.CL_C_FTSM_PC_NB4.SG	99.68%	0:00:01	10566	10564	2	0.02%	0:03:30	6	0:00:34
CCM_2.CL_C_FTSM_PC_NB5.SG	97.21%	0:00:03	9024	9009	15	0.17%	0:03:42	10	0:00:35
CCM_2.CL_C_FTSM_PCHub_Spanish.SG	86.50%	0:00:18	312	306	6	1.92%	0:04:52	2	0:00:32
CCM_2.CL_C_FTSM_Spec_Spanish.SG	79.56%	0:00:28	364	355	9	2.47%	0:04:18	2	0:00:45
CCM_2.CL_C_FTSM_Spec_Hub.SG	94.67%	0:00:08	15349	15251	98	0.64%	0:03:40	49	0:00:40

Figure 2: Metrics for the month of January

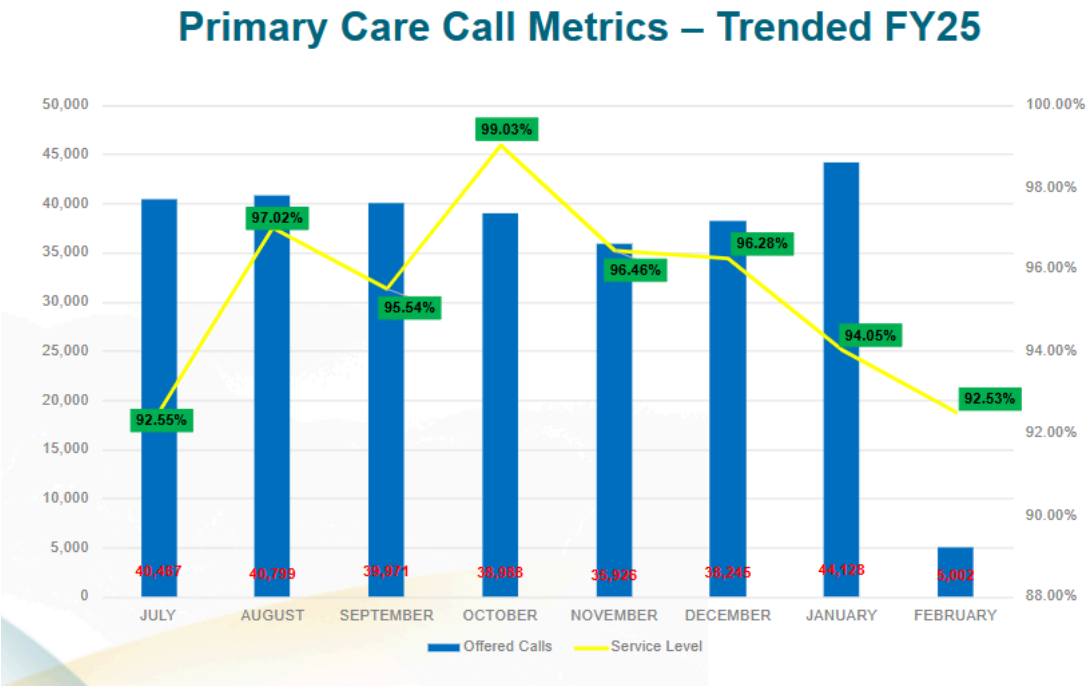

Figure 3: Service level and Call volume metrics

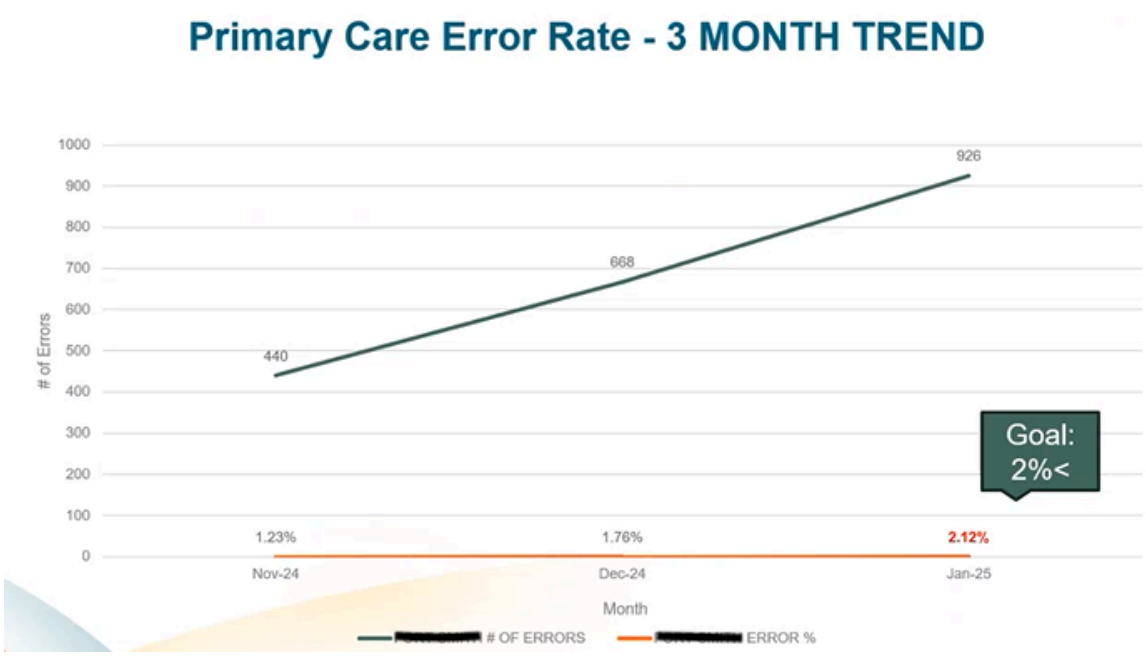

Figure 4: Error rate percentage and # of errors

Discussion

Recognizing patient experience as a driver for patient retention, healthcare leaders are increasingly investing in technologies and strategies to provide smoother, more efficient experience (Larsen and Ray, 2024). Patient satisfaction surveys are a highly utilized protocol throughout healthcare. As discussed in the literature review section, an organization's level of quality of care provided can easily be influenced by patient satisfaction. Healthcare contact centers play a vital role in patient satisfaction therefore, processes and agent professionalism are key. The contact center in this study utilizes a 2-question, yes/no, survey determining if callers' needs were met and if the agent was professional and knowledgeable. In January, contact center agents were highly encouraged to mention the survey at the end of the call which showed a large increase in the total number of surveys conducted as seen in figure 1. Depending on the effort

placed, agents have the ability to encourage survey participation creating a stronger data supply. Another interesting analytical factor part of the CRM system and survey, any dissatisfaction result can be flagged and reviewed thoroughly. Unfortunately, the post call surveys were implemented months after the start of the CRM system indicating that the effect of the CRM system on patient satisfaction was unattainable.

Technologies within the healthcare sector are astonishing. The way different systems can collaborate and work together to support one common goal. Contact centers utilize many different systems that bring forth so much data to be analyzed and used to create better patient experiences and efficient processes. Figure 2-4, depicts remarkable data that can be pulled from the CRM system and telephonic system used by the center in this project as a whole and even by individual agents. Error rates can be determined, service levels can be determined, and analysis can be performed on processes determining where wastes can be eliminated and quality can be continuously improved.

Many aspects of a healthcare contact center play a role in patient satisfaction and overall success of processes within that department. The service level, metrics percentages, and error rates depicted for this organization are above goal for most. The organization used in this study implemented a new CRM system in June of 2024 which underwent a massive update to a very complex version of the initial system. In figure 4, you can see that large increase in errors. The contact center in this study routinely analyzes the data from the department as a whole and individually to see which agents need additional training. The ability to keep up with the service level and error rates, allows for this department to eliminate wastes and reduce errors while adjusting any processes to better fit the population they serve. Keeping these percentages and numbers at goal levels allows for optimal processes within the CRM system.

Limitations and future research

There are several challenges to this pilot study. Largely there is not much research regarding contact centers in healthcare. No quantitative data is available correlating a contact centers effect on patient outcomes or care coordination. Therefore, there is hardly any research available discussing the role of customer relationship management systems and contact center processes specifically as well as its effect on inbound call statistics. Other limitations would be the lack of data available regarding patient satisfaction with the contact center before the CRM implementation making it difficult to determine if patient satisfaction was affected by the CRM implementation itself within the organization this study is based on.

This is considered a pilot study therefore, the future of research within healthcare contact centers in general are inspirational and necessary. With the growth of healthcare, contact centers are becoming more and more vital to the success of any organization. Contact centers can easily be the future of healthcare and healthcare administration.

Recommendations

Role of Healthcare Administrator

Healthcare administrators play a crucial role in managing the operations, finances, and overall efficiency of healthcare organizations such as hospitals, clinics, and long term facilities. Their responsibilities encompass a wide range of duties overseeing day-to-day operations, ensuring compliance, managing staff, and improving the quality of care delivered. One area where healthcare administrators are increasingly relying on technology is within contact centers. Healthcare contact centers play a large role in organizational efficiency and processes through improved patient communication, appointment management, first call resolution, low level triage, and patient satisfaction and retention. Healthcare administrators have the ability to

implement policy and procedures within a contact center that aids in the success of processes and efficiency. Each organization is different, each clinic is different, each provider is different, and healthcare is constantly evolving making a contact center and the use of customer relationship management systems highly adaptable and necessary for the success of large organizations.

Conclusion

Healthcare contact centers play a crucial role in enhancing patient satisfaction, improving care coordination, and streamlining the management of inbound calls. Through the integration of advanced technologies such as CRM systems and a patient centered approach, contact centers help address patient needs in a timely and efficient manner. With healthcare around the globe constantly evolving and patient populations increasing, the need for contact centers is vital to relieve administrative burdens on clinic staff.

Moreover, healthcare contact centers facilitate improved care coordination by acting as a centralized department specifically for communication among patients, their providers, insurance companies, and pharmacies. The use of a CRM system allows for a detailed information process to manage the information a caller has such as triaging patient symptoms to allow for correct distribution or sending callers to the correct department to better suit their needs. In other words, the use of a CRM system aids in streamlining inbound calls, ensuring that all callers are directed to the appropriate resources with minimal wait times. This efficiency not only reduces operational costs but also improves overall services of delivery ultimately positively affecting patient satisfaction.

Ultimately, healthcare contact centers are an invaluable asset in modern healthcare systems, promoting both operational efficiency and positive patient outcomes. Their ability to facilitate smooth communication, enhanced coordination, and foster patient engagement is

critical to achieve higher quality care and ensuring patient-centric experiences. As healthcare continues to evolve, the strategic investment in contact center infrastructure will undoubtedly remain an integral component of delivering high-quality, accessible healthcare services.

References

Aksin, Z., Armony, M., & Mehrotra, V. (2007). The Modern Call Center: A Multi-disciplinary Perspective on Operations Management Research. *Research Gate*. https://www.researchgate.net/publication/227629381_The_Modern_Call_Center_A_Multi-Disciplinary_Perspective_on_Operations_Management_Research

Alder, S. (2023, October 22). *HIPAA compliance for Call Centers*. HIPAA Compliance for Call Centers. https://www.hipaajournal.com/hipaa-compliance-for-call-centers/

Baashar, Y., Alhussian, H., Patel, A., Alkawsi, G., Alzahrani, A. I., Alfarraj, O., & Hayder, G. (2020). Customer relationship management systems (CRMS) in the healthcare environment: A systematic literature review. *Computer standards & interfaces*, *71*, 103442. https://doi.org/10.1016/j.csi.2020.103442

Care Coordination. Content last reviewed November 2024. Agency for Healthcare Research and Quality, Rockville, MD. https://www.ahrq.gov/ncepcr/care/coordination.html

Gareiss, R. (2024, August 27). *Why Contact Centers Have High Turnover and how to Combat it*. Customer Experience. https://www.techtarget.com/searchcustomerexperience/tip/Why-contact-centers-have-high-turnover-and-how-to-combat-it#:~:text=Several%20factors%20contribute%20to%20high,reputational%20damage%20and%20lost%20revenue.

Griffith, K. N., Li, D., Davies, M. L., Pizer, S. D., & Prentice, J. C. (2019). Call center performance affects patient perceptions of access and satisfaction. *The American journal of managed care*, *25*(9), e282–e287.

Kaboli, P. J., Augustine, M. R., Rose, D. E., Chawla, N., Bouchard, M., & Hebert, P. (2021). Call center remote triage by nurse practitioners was associated with fewer subsequent face-to-face healthcare visits. *Journal of General Internal Medicine*, 1-8.

Kappa, S. F., McClain, C., Wallace, K., Cinquina, P., Lawson, D., Smith, M. M., Walz, E., Edwards, B., & Kirsh, G. M. (2020). Implementation of a Centralized, Cost-effective Call Center in a Large Urology Community Practice. *Reviews in urology*, *22*(2), 67–74.

Larsen, M., & Ray, J. (2024, August 2). *Improving Patient Engagement Through the Call Center*. Patient-Centered Care. https://healthtechmagazine.net/article/2024/08/improving-patient-engagement-through-call-center

Merritt, S., & Drazin, K. (2024, June 24). *Enhance the patient experience with contact center transformation*. Technology Solutions That Drive Healthcare. https://healthtechmagazine.net/article/2024/08/enhance-patient-experience-contact-center-transformation

Morteza Saberi, Omar Khadeer Hussain, Elizabeth Chang, (2017) "Past, present and future of contact centers: a literature review", Business Process Management Journal, Vol. 23 Issue: 3, pp.574-597, file:///Users/owner/Downloads/BPMJ-02-2015-0018.pdf

Strother, J.B.. (2006). Call Centers in Health Care: Effect on Patient Satisfaction. IEEE International Professional Communication Conference. 291-298. 10.1109/IPCC.2006.320362.

Teisberg, E., Wallace, S., & O'Hara, S. (2020). Defining and Implementing Value-Based Health Care: A Strategic Framework. *Academic medicine : journal of the Association of American Medical Colleges*, *95*(5), 682–685. https://doi.org/10.1097/ACM.0000000000003122

Yu, Z., & Gorgone, M. (2024, May 2). Pay-for-Performance and Value-Based Care. Bethesda. Retrieved February 13, 2025,.

Zussman, Nick., (2023, November 27). *Harnessing a CRM in Healthcare*. Hummingbird Healthcare,. Retrieved March 5, 2025,. https://hummingbird.healthcare/harnessing-a-crm-in-healthcare/