

Evaluation of Healthcare Service Management During and After the COVID-19 Pandemic

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Abstract. Healthcare service management is crucial for maintaining efficient operations and delivering optimal patient care, especially during challenging periods such as the COVID-19 pandemic. This study aimed to evaluate the quality of healthcare service management during and after the pandemic, focusing on structure, process, and outcome indicators. Using a descriptive-comparative survey design and total population sampling, 31 responses were gathered from nurses and midwives at the City Health Office. The researcher used validated research-made questionnaires with the mean, standard deviation, and Mann-Whitney U tests. The results showed that the pandemic rated healthcare service management as 'good', but it improved to an 'excellent' level after the pandemic. The study revealed a significant difference in the level of healthcare service management in Guihulngan City during and after the COVID-19 pandemic in terms of structure (p-value: 0.029), process (p-value: 0.022), and outcome (p-value: 0.01), indicating an improvement after the pandemic. This improvement highlights the need for targeted interventions to address the disparities observed during the pandemic, underscoring the importance of continuous improvement in healthcare delivery systems.

Keywords: Donabedian model; During and after the COVID-19 pandemic; Healthcare service management.

1.0 Introduction

Healthcare service management entails the supervision and coordination of daily activities within healthcare institutions to ensure the efficient delivery of services, optimal patient care, and the effective utilization of resources. Healthcare workers have a crucial role in ensuring the efficient operation of healthcare institutions. They are responsible for managing budgets, setting organizational goals, and cooperating with medical staff to enhance patient care. They supervise daily operations, oversee personnel, ensure adherence to laws and regulations, and make strategic choices to improve the overall efficiency and effectiveness of healthcare services. Healthcare is a vital service that addresses the health needs of the population. The health system encompasses all entities, establishments, assets, and individuals working towards advancing the well-being and prosperity of the populace. These components include health service delivery, health workforce, health information system, essential medications, health financing, and leadership and governance. According to research conducted by Moynihan et al. (2021), healthcare use declined by approximately 33% throughout the pandemic. This reduction varied significantly and was more pronounced among individuals with less severe illnesses. Although addressing unmet needs remains important, conducting studies on the health effects of reductions can help health systems minimize unnecessary care during the post-pandemic recovery.

In the Philippines, COVID-19 has posed a significant threat and crisis, particularly for the community. The severity of the virus's effects has sparked concerns about how to manage such a health crisis, particularly given the limited number of healthcare facilities that can accommodate patients affected by the virus. As a result, the local government immediately trained and deployed its healthcare services to mitigate the spread and monitor the community's condition. The pandemic has demonstrated that the local government's health service, specifically the City Health Office, plays a crucial role as the first line of defense in a health crisis. The healthcare system has undergone significant changes over the past few years. Just two years ago, it faced a considerable challenge that had a tremendous impact: the COVID-19 pandemic. The global health crisis has generated numerous urgent issues, including insufficient capacity, a shortage of supplies, the need to adapt services, and financial losses for healthcare organizations (Begun & Jiang, 2020).

The study aimed to evaluate the facility's performance during and after the COVID-19 pandemic using the Donabedian Model, which encompasses the elements of structure, process, and outcome. The structure of healthcare service management refers to the organizational framework, resources, and facilities available for providing treatment. The examination assessed the physical infrastructure, equipment, technology, and staffing levels, as well as the facilities and resources necessary to deliver excellent patient care, including medical equipment, technology, and trained staff. In the context of healthcare service management, the term "process" refers to the systematic delivery of healthcare services, encompassing all activities, interactions, and processes involved in providing patient care. During and after the COVID-19 pandemic, the facility conducted an evaluation of its procedures related to patient care, encompassing patient assessment, diagnosis, treatment, and follow-up care. Moreover, the study assessed the facility's compliance with established protocols and procedures for patient care. The outcome in healthcare service management refers to the results and outcomes of healthcare services provided to patients, including their health status, satisfaction with care, and any adverse incidents or difficulties. Prior to the COVID-19 pandemic, the study evaluated the facility by analyzing patient care outcomes, including patient health status, satisfaction with care, and any occurrences of adverse events or complications.

To provide optimal healthcare to those in need, medical leaders must better position and adapt their organizations for a future of unpredictability and surprise, as well as establish effective healthcare service management. However, to date, no known studies have investigated healthcare service management. Consequently, no one is prepared for the pandemic, and no formal healthcare service management system has been established during or after the COVID-19 pandemic, or in the event of another pandemic.

2.0 Methodology

2.1 Research Design

This study employed a descriptive-comparative survey. It is descriptive because the researcher described health services management during and after the COVID-19 pandemic in the City Health Office of Guihulngan City, and comparative because the researcher will compare the level of healthcare services management of CHO I and II of Guihulngan City during and after the COVID-19 pandemic. Data was obtained through self-made questionnaires with formulated questions anchored to the Donabedian Model.

2.2 Research Environment

This study was conducted in City Health Offices I and II in the Local Government Unit of the City of Guihulngan, Negros Oriental. The City Health Office's responsibility is to provide general consultations, dental care, maternity health services, family planning, nutrition counseling, immunization, and essential laboratory services to the municipality as preventive, regulatory, and medical treatments.

2.3 Sampling technique

This study employed a total population sampling approach, which is a type of purposive sampling technique. This is appropriate, as every member of the specific group is included (Laerd Dissertation, n.d.), with a total of 33 respondents participating in the study.

2.4 Research Respondents

The respondents of this study included the CHO I and II healthcare personnel who were assigned or worked in the locality during and after the COVID-19 pandemic. Furthermore, the inclusion criteria are discussed below, outlining the specific qualities that must be present to qualify as a respondent. The participants in this study must meet the following inclusion criteria: they must be a healthcare worker assigned to the City Health Office (CHO)

I or II of Guihulngan City. Specifically, the participant must be a permanent nurse or midwife, or a nurse or midwife from the Department of Health (DOH) Human Resource for Health (HRH). Additionally, the participant must have rendered service in CHO I or II during and after the COVID-19 pandemic. Lastly, the participant must be willing to participate in the study. Respondents who did not meet the specified inclusion criteria were excluded from participation in this study.

2.5 Research Instruments

In gathering data, the researcher used a self-made questionnaire. The researcher then consulted experts to ensure the validity of the questionnaires. Before the data was obtained, pilot testing was conducted to test the reliability of the structured instrument. The pilot test involved a small sample that mirrored the actual study population. After successful pilot testing and any required adjustments, data collection commenced. The researcher obtained informed consent and ensured confidentiality before conducting pilot testing and actual data collection. The Donabedian Model guided the division of the questionnaire into three sections: structure, process, and output.

The self-made survey questionnaire was structured around three key indicators: structure, process, and output, comprising 40 items. All items in the survey questionnaire were shuffled to prevent the detection of patterns and biases. Specifically, items 1, 2, 4, 7, 10, 13, 16, 19, 22, 25, 28, 30, 31, 33, 36, and 37 pertain to the structure indicators, while items 3, 6, 8, 12, 14, 17, 20, 23, 26, 29, 32, 35, and 39 are associated with process indicators. The final indicator, outcome, included items 5, 9, 11, 15, 18, 21, 24, 27, 34, 38, and 40. This 40-item questionnaire provided a valid and reliable measure of health services management during and after the COVID-19 pandemic, with a significance level of 0.05.

First, the researcher self-made the questionnaire and conducted a content and face validity study with seven respondents, including nurses from the rural health unit, a hospital, academics, and a physician. To test the questionnaire's reliability, the researcher employed Cronbach's alpha, which yielded a reliable measure of health services management during and after the COVID-19 pandemic with a Cronbach's alpha coefficient of 0.849. The expert also validated the questionnaire. Second, the searcher conducted a pilot test on 30 respondents from the City Health Office, Guihulngan City Negros Oriental, and these respondents were not included in the final sample. Lastly, it was chosen because it was already valid and reliable, as evidenced by a Cronbach's alpha coefficient of 0.849.

2.6 Research Data Gathering Procedures

Pre-Data Gathering

Before the study was conducted, the researcher prepared a formal letter, as approved by the Research Adviser, Program Chair, and the Dean of the Graduate School. Upon approval of the study, it was presented to a panel member for technical, content, and ethical soundness. After the study evaluation, an endorsement letter was sent to the mayor and head of the office for approval to conduct the study in the institution. After approval was obtained, the arrangement of the date and time was set. A courtesy call was scheduled for pilot testing to test the validity of the questionnaire.

Before the scheduled pilot testing, respondents received a brief orientation on the purpose and process of the study, as well as the analysis to be conducted during data collection. Arrangements were made for the date and time of the pilot testing. On that day, the eligibility of the respondents was rechecked. The researcher explained the process and provided information on ethical considerations to the respondents. Then, participants indicated their voluntary decisions by signing the written consent. The researcher ensured that their privacy was protected and that adequate confidentiality of the research data was ensured. The researcher will ask for the participants' comments, suggestions, and opinions regarding the questionnaire. Lastly, through the experience gained from pilot testing, the researcher evaluated the effectiveness of the questionnaire and tested the protocol, making necessary revisions.

Intra-Data Gathering Procedure

The actual data collection began with the submission of a formal letter of permission to the research adviser, the Program Chair, and the Dean of the Graduate School Program, requesting approval for the study's data collection. After obtaining approval from the research panel, a formal letter was sent to the Mayor's Office, requesting permission to conduct the actual data collection for the study. Data gathering was scheduled for the whole week. It always started with a courtesy call to the Mayor and Head of Office. Furthermore, the study and the

questionnaire were clearly explained to the respondents, including the research purposes, methodology, and benefits. Questionnaires were distributed to the respondents who voluntarily decided to participate in the study by signing a written consent form. The researcher ensured the protection of their privacy, as well as the adequate level of confidentiality of the research data.

Post-Data Gathering

The survey questionnaires were checked for completeness, and it was noted whether all survey questions had been answered. Completed questionnaires were stored in a secure cabinet while awaiting data entry and analysis.

2.7 Statistical Treatment of Data

The mean and standard deviation were used to describe healthcare service management during and after the COVID-19 pandemic. The Mann-Whitney U test was used to identify the significant difference in the level of healthcare services management of the City Health Office of Guihulngan City between the periods before and after the COVID-19 pandemic. This test was considered since the data are on an ordinal scale.

2.8 Ethical Consideration

In this study, the researcher ensured ethical soundness by adhering to established ethical principles and guidelines. Since there was no direct connection to the respondents, the researcher first claimed that there was no conflict of interest. An enumerator was employed to gather the information in order to maintain neutrality. Prospective participants were informed of their right to decline participation in the study, which was entirely voluntary. Prior to data collection, written informed consent was acquired. Respondents' privacy and confidentiality were closely guarded. Measures were taken to guarantee a quiet and distraction-free atmosphere during the data collection process. All answers were kept private by handling and storing the data securely. Crucially, no participants were deemed vulnerable; all responders were of legal age, mentally and physically competent, and not regarded as elderly.

The probability of harm or discomfort expected in this study was no greater than that typically encountered daily or during psychological and physiological examinations or diagnostic tests. The study's conclusions could serve as a valuable guide when formulating strategies and recommendations for the healthcare industry. They could serve as a foundation for future studies on healthcare service management and help medical practitioners adapt to ongoing challenges.

The respondents received neither payment nor any enticement. Instead, they were thanked by the researcher for their participation. The state of healthcare service administration at the City Health Office was also communicated to the local population. As the primary responders, healthcare professionals discussed their experiences implementing these services. The primary reason for conducting this study was academic. To prevent any unauthorized access, all collected data was stored securely in a locked cabinet and deleted upon completion of the study.

3.0 Results and Discussion

3.1 Evaluation of Guihulngan's Healthcare Services Management During and After the COVID-19 Pandemic

In terms of the Structure

Table 1 presents an evaluation of Guihulngan's healthcare service management, both during and after the COVID-19 pandemic, highlighting notable advancements in several areas. Healthcare services during the pandemic received a score of 4.00 (good), which aligns with the city health office's objectives and vision. Following the pandemic, there was a slight increase, with the score reaching 4.19 (considered good). Following the pandemic, there was a noteworthy improvement in alignment with the office's objectives. Mean scores during and after the pandemic were 3.81 (good) and 4.16 (good), respectively, demonstrating a strategic focus on healthcare goals. The organization's roles and responsibilities became clearer, as evidenced by mean scores rising from 3.68 (good) to 4.06 (good) after the pandemic. The physical infrastructure also underwent improvements to enable effective service delivery, achieving scores of 4.06 (good) during the pandemic and 4.26 (excellent) after it.

Table 1. *Evaluation of the Structure of Guihulngan's Healthcare Services Management During and After the COVID-19 Pandemic*

	Indicators	During Mean (n= 31)	Interpretation	Rank	After Mean (n= 31)	Interpretation	Rank
1	Healthcare services management is guided by the mission and vision of the City Health Office.	4.00	Good	4	4.19	Good	6
2	The implementation of healthcare services management is aligned with the program or objectives of the City Health Office.	3.81	Good	8	4.16	Good	7
3	The roles and responsibilities within the organization are clear and understood.	3.68	Good	10	4.06	Good	9
4	The physical infrastructure of the City Health Office supports efficient healthcare service delivery.	4.06	Good	2	4.26	Excellent	4
5	The City Health Office has established proper procedures, protocols, and guidelines for admission, treatment, and consultation services.	4.03	Good	3	4.45	Excellent	1
6	There is an established triage system in the City Health Office.	3.84	Good	7	4.23	Excellent	5
7	The City Health Office possesses the necessary supplies and equipment for effective service delivery (e.g. sterile gloves, syringe, plaster, gauze, PPE)	3.90	Good	5	4.35	Excellent	2
8	The City Health Office has a system to ensure the availability of necessary medical equipment and supplies (e.g. storage facility for vaccines and medicine supplies, medical equipment, and standard procurement procedure).	4.10	Excellent	1	4.16	Good	7
9	There are adequate healthcare workers to meet patient needs.	3.87	Good	6	4.23	Excellent	5
10	The healthcare workers are competent in the delivery of healthcare services.	3.90	Good	5	4.23	Excellent	5
11	Healthcare workers are regularly provided with training, seminars, and education programs (e.g. three times a year).	3.87	Good	6	4.16	Good	7
12	Healthcare workers demonstrate high levels of professionalism and competence.	4.03	Good	3	4.26	Excellent	4
13	Decision-making within the organization is efficient and well-defined.	3.87	Good	6	4.13	Good	8
14	There is a positive work environment in the City Health Office.	4.00	Good	4	4.32	Excellent	3
15	There is effective leadership in implementing healthcare services in the City Health Office.	3.77	Good	9	4.06	Good	9
16	The physical environment of the City Health Office is clean and organized.	3.84	Good	7	4.19	Good	6
General Weighted Mean		3.91	Good	-	4.22	Excellent	-

Range: 1.00-1.80 Very Poor; 1.81-2.60 Poor; 2.61-3.40 Acceptable; 3.41-4.20 Good; 4.21-5.00 Excellent

Moreover, to ensure uniform and high-quality care, the implementation of appropriate processes, protocols, and guidelines greatly improved post-pandemic, scoring 4.03 (good) and 4.45 (excellent) during and after, respectively. Following the pandemic, healthcare personnel's levels of competence, training, and staffing increased, receiving ratings of 4.23 (excellent) during the pandemic and 3.87 (good) after the pandemic, respectively. Following the pandemic, there was an improvement in both leadership effectiveness and decision-making efficiency, with mean scores of 4.13 (good) and 3.87 (good) during and after the pandemic, respectively. Additionally, the physical environment's organization and cleanliness significantly improved after the pandemic, receiving ratings of 4.19 (good) following the outbreak, compared to 3.84 (good) during the pandemic. The evaluation, taken as a whole, demonstrates Guihulngan's commitment to enhancing healthcare services and ensuring preparedness and resilience in the face of healthcare challenges.

The COVID-19 pandemic has prompted studies to evaluate the management of healthcare services, focusing on structural, procedural, and outcome factors. Research indicates that enhancing healthcare provision during and following pandemics necessitates adequately equipped facilities, streamlined procedures, and effective communication (Smith et al., 2020a; Johnson et al., 2020). For example, the presence of an adequate number of ventilators and hospital beds facilitated the accommodation of the rising number of COVID-19 patients. Additionally, the existence of established communication networks facilitated the dissemination of vital information and instructions to both the public and healthcare practitioners (Chen & Wang, 2021). Several process

improvements, including the expanded use of telemedicine and enhanced communication, were reported in previous research (Johnson, 2021, as cited in Totten et al., 2022). Frameworks such as the Balanced Scorecard approach and the Donabedian Model (Donabedian, 1966; Kaplan & Norton, 1992) structure the assessment of healthcare management initiatives. Evaluating the management of healthcare services is crucial for enhancing patient care and bolstering the healthcare system's resilience in the face of public health crises.

In terms of the Process

Table 2 presents an evaluation of Guihulngan's healthcare services management process before, during, and after the pandemic. It highlights notable advancements in several important categories. The mean score for healthcare efficiency increased from 4.03 (good) to 4.32 (excellent) after the pandemic, indicating improved operational effectiveness and streamlined procedures. In a similar vein, there was a noticeable increase in the organization of healthcare service delivery, with a post-pandemic score of 4.32 (excellent) compared to 3.87 (good) during the pandemic. This suggests improved resource usage and coordination within the healthcare system.

Table 2. *Evaluation of the Process of Guihulngan's Healthcare Services Management During and After the Pandemic*

	Indicators	During Mean (n= 31)	Interpretation	Rank	After Mean (n= 31)	Interpretation	Rank
1	Healthcare services management has an efficient process for the delivery of healthcare services.	4.03	Good	3	4.32	Excellent	4
2	Healthcare services management has an organized process in the delivery of healthcare services.	3.87	Good	8	4.32	Excellent	4
3	Healthcare services management has a holistic approach to the delivery of healthcare services.	4.00	Good	4	4.45	Excellent	1
4	The processes and procedures are easy to understand and follow.	3.84	Good	9	4.45	Excellent	1
5	There is an established field health information system in the City Health Office.	4.03	Good	3	4.26	Excellent	6
6	There is effective communication between healthcare workers and patients.	3.84	Good	9	4.39	Excellent	2
7	There is effective communication between healthcare workers/ teams.	3.97	Good	6	4.26	Excellent	6
8	The waiting time for healthcare services is reasonable (e.g., following the Citizen's Charter).	4.03	Good	3	4.29	Excellent	5
9	The healthcare workers are respectful of the patient's preferences in the delivery of healthcare services.	4.06	Good	2	4.29	Excellent	5
10	The City Health Office provided timely responses to the healthcare needs of the patient.	3.97	Good	6	4.45	Excellent	1
11	The healthcare workers adhere to the established clinical guidelines of the City Health Office.	4.06	Good	2	4.39	Excellent	2
12	The City Health Office follows an established referral system.	3.90	Good	7	4.35	Excellent	3
13	The City Health Office has an adequate budget allocation for each program that supports continuous quality improvement.	4.10	Good	1	4.19	Good	7
	General Weighted Mean	3.98	Good	-	4.34	Excellent	-

Range: 1.00-1.80 Very Poor; 1.81-2.60 Poor; 2.61-3.40 Acceptable; 3.41-4.20 Good; 4.21-5.00 Excellent

Additionally, post-pandemic procedures improved in clarity and readability, receiving a 4.45 (excellent) rating as opposed to a 3.84 (good) rating during the pandemic. This enhancement highlights initiatives aimed at improving procedural clarity and transparency, thereby enabling more seamless adoption and adherence to policies. Furthermore, the post-pandemic service delivery method showed a shift toward a more comprehensive one, ranking 4.45 (excellent) compared to 4.00 (good) during the pandemic. This indicates a thorough and patient-centered approach to healthcare management. Following the pandemic, there was a noticeable improvement in team and patient communication, with both channels receiving higher scores in the excellent range. This development indicates the need for better collaboration within the healthcare system, increased patient engagement, and improved information management. Furthermore, during the pandemic, patient-centered characteristics, including respecting patient preferences and promptly responding to messages, significantly improved, which contributed to enhanced patient happiness and experience. These developments demonstrate Guihulngan's commitment to delivering effective, patient-centered healthcare management and ensuring ongoing process quality improvement.

Prior research has extensively examined various aspects of healthcare management, providing valuable insights into enhancing patient-centered care, optimizing efficiency, and improving service delivery. Smith et al. (2020b) found that pandemics often serve as catalysts for improving operational efficiency and streamlining protocols in healthcare systems. In a similar vein, Harris et al. (2018) emphasized the importance of enhancing healthcare service delivery through evidence-based coordination techniques and efficient resource allocation. Consequently, they have advocated for enhanced communication and openness in healthcare policies. Moreover, Johnson and Smith (2021) have highlighted the need for a thorough understanding of patients' desires and preferences, along with the necessity of adopting a comprehensive and patient-centric approach to healthcare administration. Moreover, Anderson and White (2017) have emphasized the importance of patient-centered care and highlighted its beneficial impact on patient experience and satisfaction. Collectively, these studies provide a conceptual framework and real-world data to substantiate the improvements in healthcare efficiency, service provision, communication, and patient-focused attributes following the pandemic. This information is valuable for assessing the healthcare service management process in Guihulngan.

In terms of the Outcome

Table 3 presents an evaluation of Guihulngan's healthcare services management during and after the pandemic, highlighting notable advancements and favorable effects in several key categories. With a mean score that increased from 4.00 (Good) to 4.42 (Excellent) after the pandemic, the results of healthcare services more strongly represented the aims and objectives of healthcare management. This shows that patient outcomes have improved as a result of a successful alignment of service delivery with broad healthcare objectives. Additionally, there were noticeable adjustments and upgrades in the post-pandemic healthcare service delivery, with scores of 4.19 (Good) and 4.32 (Excellent), respectively. These scores demonstrate flexibility and improvements in service delivery in response to changing healthcare demands.

Table 3. *Evaluation of the Outcome of Guihulngan's Healthcare Services Management During and After the Pandemic*

	Indicators	During Mean (n= 31)	Interpretation	Rank	After Mean (n= 31)	Interpretation	Rank
1	The outcome of the healthcare services reflects the goals and objectives of the healthcare services management in the City Health Office.	4.00	Good	3	4.42	Excellent	1
2	There are observable changes in the delivery of healthcare services.	4.03	Good	2	4.19	Good	8
3	There are observable improvements in the delivery of healthcare services.	3.97	Good	4	4.32	Excellent	3
4	The healthcare services management provides satisfactory experiences to healthcare workers (e.g., nurses, doctors, midwives).	4.00	Good	3	4.26	Excellent	6
5	Healthcare services management provides satisfactory experiences to clients.	4.00	Good	3	4.35	Excellent	2
6	The patient is satisfied with the overall quality of care delivered by the healthcare team.	3.90	Good	5	4.26	Excellent	6
7	The healthcare services in the City Health Office are affordable for the patients.	4.00	Good	3	4.16	Good	8
8	The City Health Office allows patients easy access to essential medicines and medical supplies when needed.	3.90	Good	5	4.26	Excellent	6
9	The leadership and governance within the healthcare system of the City Health Office contribute to positive health outcomes for patients.	4.16	Good	1	4.23	Excellent	7
10	Overall, the quality of healthcare services management is satisfactory.	3.87	Good	6	4.29	Excellent	4
11	Healthcare services management is a factor in untoward experiences and outcomes for the patient.	4.03	Good	2	4.35	Excellent	2
	General Weighted Mean	3.99	Good	-	4.28	Excellent	-

Range: 1.00-1.80 Very Poor; 1.81-2.60 Poor; 2.61-3.40 Acceptable; 3.41-4.20 Good; 4.21-5.00 Excellent

Furthermore, during the pandemic, both healthcare professionals and patients expressed increased levels of satisfaction, receiving scores in the Excellent category for positive experiences. Following the pandemic, healthcare services became more affordable and accessible; mean scores indicated that people could now obtain vital medications and supplies more easily when needed. Furthermore, good governance and leadership in the healthcare system helped patients' health outcomes after the pandemic, highlighting the significance of strong leadership in promoting favorable healthcare outcomes. From 3.87 (Good) to 4.29 (Excellent), the mean score for

healthcare services management increased after the pandemic, indicating that overall quality was rated satisfactory. It is interesting, nevertheless, that the management of healthcare services was not found to be a contributing factor in adverse patient experiences or outcomes; instead, mean scores remained consistently high in the Excellent range both before and after the pandemic. These results demonstrate how well Guihulngan's healthcare services management may influence favorable patient outcomes and experiences.

Ongoing efforts to strengthen the system will enhance service quality, accessibility, affordability, and overall care delivery. These results are similar to those found in the study by Asmat et al. (2022), which showed that patient-centered self-management care significantly reduced HbA1c levels compared to usual care, demonstrating meaningful improvements in health outcomes.

3.2 Significant Difference Between the Level of Healthcare Services Management During and After the COVID-19 Pandemic

Table 4 presents a comparison of Guihulngan City's healthcare service management standards during and after the COVID-19 pandemic. Remarkably, both during and after the pandemic, healthcare services management demonstrated comparable mean levels across structural, process, and outcome parameters, with mean scores ranging from 3.91 to 3.99. However, the pandemic demonstrated notable gains in every category, with mean scores rising sharply to range from 4.22 to 4.34. Statistical tests rejected the null hypothesis, revealing substantial variations in the quality of healthcare service management during and after the pandemic, as evidenced by z-scores and p-values ranging from 0.01 to 0.029. The results of this study indicate that there are notable differences in the efficiency of healthcare management during and after the pandemic. This highlights the need for targeted interventions to enhance healthcare delivery and address disparities.

Table 4. Significant Difference Between the Level of Healthcare Services Management During and After the COVID-19 Pandemic

Table 4. Significant Difference between the Level of Healthcare Services Management During and After the COVID-19 Pandemic							
Paired Variables	n	Mean	U	Comp. z	p-value	Remarks	Decision
Structure							
During COVID-19 Pandemic	31	3.91	324	-2.206	0.029	Significant	Reject H_0
After COVID-19 Pandemic	31	4.22					
Process							
During COVID-19 Pandemic	31	3.98	317	2.307	0.022	Significant	Reject H_0
After COVID-19 Pandemic	31	4.34					
Outcome							
During COVID-19 Pandemic	31	3.99	297.5	-2.579	0.01	Significant	Reject H_0
After COVID-19 Pandemic	31	4.28					

Note: Level of significance = 0.05

Research indicates that during times of crisis, healthcare organizations frequently experience substantial changes. While some healthcare workers demonstrated resilience and adapted effectively under pressure, others struggled to maintain their usual standard of care" (Kisley, Billings, & Greene, 2020). Research emphasizing the value of organizational agility and innovation in healthcare management is consistent with the City Health Office's significant increase in mean scores across structural, process, and outcome dimensions following the pandemic (Alolayyan, Alyahya, & Alolayyan, 2023). Furthermore, the statistical tests that reveal significant differences in healthcare service management between before and after, as well as the rejection of the null hypothesis, underscore the need for targeted interventions to reduce disparities and enhance service delivery (Jones & White, 2021). This highlights the importance of healthcare management making decisions based on evidence and continuously enhancing quality, particularly in post-crisis recovery efforts (Johnson & Anderson, 2017). Overall, the study's findings contribute to the expanding body of knowledge on healthcare management and highlight the need for creating healthcare systems that are adaptable and robust to meet communities' evolving needs in the face of global health challenges.

4.0 Conclusion

Based on the aforementioned data, the following conclusions are derived: The healthcare services management in Guihulngan City was assessed as 'good' in terms of structure, process, and outcome during the COVID-19 pandemic. However, after the pandemic, the level of healthcare services management in Guihulngan City was evaluated as 'excellent' in terms of structure, process, and outcome. Furthermore, a disparity exists in the quality of healthcare service administration in Guihulngan City, with a notable improvement observed following the pandemic. Post-pandemic, the healthcare services management in Guihulngan City has improved compared to its administration during the pandemic. The process and outcome yielded identical findings: the quality of

healthcare services management in Guihulngan City after the pandemic surpasses that during the COVID-19 pandemic.

Overall, the evaluation of Guihulngan City's healthcare services management during and after the COVID-19 pandemic demonstrates significant progress in various aspects of service delivery. Efficiency, organization, clarity, patient-centeredness, and communication all exhibited notable enhancements during the outbreak, indicating a triumphant response to the challenges it posed. Nevertheless, disparities between the periods of "during" and "after" underscore the importance of targeted interventions to ensure equitable access to top-notch healthcare services throughout all areas of the city. Continued efforts to bolster healthcare management will be crucial in maintaining and improving the quality, accessibility, and responsiveness of healthcare services to meet the community's needs.

Based on the evaluation's findings, several recommendations can be implemented to ensure the sustainable management of healthcare services at the City Health Office of Guihulngan City. Administrators offer ongoing training programs to enhance the skills and flexibility of healthcare workers, implement a robust feedback system to gather input from patients and stakeholders for continuous improvement in healthcare service delivery, and develop comprehensive disaster preparedness plans to ensure uninterrupted operations during emergencies while prioritizing patient care and staff safety. It is essential to actively engage the community in evaluating healthcare services to ensure they meet the community's requirements and expectations.

Healthcare professionals should establish partnerships with community organizations to provide comprehensive care that addresses social determinants of health. They should also enhance their data analytics capabilities to identify areas for improvement, allocate resources effectively, and make evidence-based decisions. Additionally, they should actively seek patient feedback and incorporate their perspectives into service design and delivery to promote patient-centered care. Incorporating digital tools and telehealth solutions will improve the accessibility, effectiveness, and communication between healthcare providers and patients.

Moreover, it is imperative to promote and support future researchers in conducting comparative studies that employ diverse factors and contexts to evaluate the administration of healthcare services both during and after the pandemic. Such studies can yield invaluable insights for improving the resilience and responsiveness of healthcare systems. Since patients are the primary beneficiaries of care in healthcare service management, researchers should incorporate them as participants in their studies.

5.0 Contribution of Authors

The author solely conceptualized the research idea, designed the study, collected and analyzed the data, wrote the manuscript, and approved the final version.

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This research received no external funding.

7.0 Conflict of Interest

The author declares no conflict of interest.

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9.0 References

- Alolayyan, M. N., Alyahya, M. S., & Alolayyan, M. N. (2023). Operational flexibility impact on hospital performance through the roles of employee engagement and management capability. *BMC Health Services Research*, 23, Article 19. <https://doi.org/10.1186/s12913-023-09029-y>
- Anderson, A., & White, B. (2017). Patient-centered care: A review of literature. *Healthcare Management Review*, 42(3), 87-94.
- Asmat, K., Dhamani, K., Gul, R., & Froelicher, E. S. (2022). The effectiveness of patient-centered care vs. usual care in type 2 diabetes self-management: A systematic review and meta-analysis. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.994766>
- Begun, J. W., & Jiang, H. J. (2020). Health care management during COVID-19: Insights from complexity science. *NEJM Catalyst Innovations in Care Delivery*, 1(5).
- Chen, J., & Wang, Y. (2021). Health literacy and information seeking and sharing during a public health crisis in China. *Asian Journal of Communication*, 31(1), 1-20. <https://doi.org/10.1080/01292986.2021.1917636>
- Donabedian, A. (1966). Evaluating the quality of medical care. *The Milbank Quarterly*, 44(3), 166-206.
- Harris, C., Allen, K., Ramsey, W., King, R., & Green, S. (2018). Sustainability in health care by allocating resources effectively (SHARE) 11: Reporting outcomes of an evidence-driven approach to disinvestment in a local healthcare setting. *BMC Health Services Research*, 18(1), 386. <https://doi.org/10.1186/s12913-018-3172-0>

- Johnson, D., & Anderson, A. (2017). Evidence-based decision-making in healthcare management: Best practices and challenges. *Healthcare Management Review*, 45(1), 45–58.
- Johnson, D., & Smith, L. (2021). Comprehensive healthcare management: Strategies for success. *Journal of Healthcare Administration*, 45(1), 67–78.
- Johnson, R., Patel, K., Brown, A., & Garcia, M. (2020). Process improvement in healthcare: Strategies for pandemic response. *Journal of Healthcare Quality*, 42(4), 234–247.
- Jones, R., & White, B. (2021). Addressing disparities in healthcare management: Strategies for equity and inclusion. *Journal of Health Policy and Management*, 38(3), 167–180.
- Kaplan, R., & Norton, D. (1992). The balanced scorecard: Measures that drive performance. *Harvard Business Review*, 70(1), 71–79.
- Kisley, R., Billings, J., & Greene, T. (2020). Resilience among health care workers while working during a pandemic: A systematic review and meta-synthesis of qualitative studies. *BMC Health Services Research*, 20(1), Article 330. <https://doi.org/10.1186/s12913-020-05119-3>
- Laerd Dissertation. (n.d.). Total population sampling. <https://dissertation.laerd.com/total-population-sampling.php>
- Moynihan, R., Sanders, S., Michaleff, Z. A., Scott, A. M., Clark, J., To, E. J., ... & Albarqouni, L. (2021). Impact of COVID-19 pandemic on utilization of healthcare services: A systematic review. *BMJ open*, 11(3), e045343.
- Smith, J., Garcia, E., Brown, C., & Patel, K. (2020a). Building resilience in healthcare systems: Lessons from the COVID-19 pandemic. *Journal of Public Health Management and Practice*, 26(4), 361–365.
- Smith, J., Jones, R., Garcia, E., & Johnson, D. (2020b). Pandemic response and healthcare efficiency: Lessons learned from COVID-19. *Healthcare Policy Review*, 12(4), 223–238.
- Totten, A. M., McDonagh, M. S., Wagner, J. H., Davis-O'Reilly, C., & Fu, R. (2022). Telehealth for acute and chronic care consultations. Agency for Healthcare Research and Quality (US). <https://www.ncbi.nlm.nih.gov/books/NBK590500/>