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| RESEARCH ARTICLE

Quality Improvement Strategies Of Secondary Hospitals in the Philippines: A Basis for Hospital CQI Model

Ronald P. Arboleda[1] and Maria Nimfa R. Diaz[2]
[12]*Adamson University, Philippines*
Corresponding Author: Ronald P. Arboleda, **E-mail**: rparboleda0525@gmail.com

| ABSTRACT
This study examined the implementation level, influencing factors, and business profile relationships of Quality Improvement (QI) strategies in secondary hospitals in the Philippines, with the goal of developing a Continuous Quality Improvement (CQI) model. Adopting a mixed-methods approach, the study gathered quantitative data from hospital staff across Department of Health (DOH), government, and private hospitals, and qualitative insights from key informant interviews. Results showed a moderate overall implementation level (Mean = 3.39), with stronger performance in Patient Rights and Education, Infection Control, and Patient Safety, and weaker implementation in Access to Healthcare and Collaborative Integrated Management. A significant relationship was found between the type of hospital accreditation and QI implementation, while hospital ownership and years of operation were not significant. Thematic analysis revealed key enablers such as leadership support, interdisciplinary collaboration, staff development, and digital systems. These findings informed the development of the RPArboleda's Hospital CQI Model, which integrates Rogers' Diffusion of Innovation Theory to support scalable, sustainable, and context-responsive quality improvement in Philippine secondary hospitals.

| KEYWORDS
Quality Improvement (QI) strategies; Continuous Quality Improvement (CQI); secondary hospitals; Philippine healthcare; hospital accreditation; Diffusion of Innovation Theory; Donabedian Framework; Hospital Quality Standards

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

CQI (Continuous Quality Improvement) is a framework for continuous improvement and is used as a method to improve the quality of care in hospitals. It is an ongoing process of re-evaluating and improving processes, services and outcomes through continuous assessments and developments. Quality improvement is based on the delivery of care that is effective, safe and responsive to patients with the aim of having a positive, patient-centered experience.

Quality has always been a key component among business industries such as advanced machinery, equipment technology, sufficient raw materials, techniques, innovation agreed processes to reach customer satisfaction and meet needs. These resources need to be both reliable and affordable, which would set the standard of quality in service. There has been an increase in demand for healthcare quality as new and existing diseases emerged, and healthcare providers have developed quality improvement initiatives to provide a better service to their patients. This quest for quality is driven by the demand for

strong business models, skilled medical professionals working and ISO or JCI accreditations which directly add to the value of the hospitals, in terms of organizational efficiency and service quality.

However, worldwide healthcare organizations struggle with how to serve patients better by provide them a higher quality of care while reducing cost. In the Philippines, the increase in awareness and focus for quality have also raised public health expectations, making quality services a relevant concern. Patients are willing to pay more for greater quality healthcare services.

The Association of Southeast Asian Nations' (ASEAN) Universal Health Coverage (UHC) agenda reflects global movements in protecting all individuals from accessing health services without experiencing financial hardships. In this context, the Asian Development Bank (ADB) conducted an assessment pointing out disparities in healthcare quality and access, underscoring the need for a more uniform approach to quality improvement across hospitals. In addition, Sustainable Development Goals 3 (SDG 3): Ensure healthy lives and promote well-being for all at all ages as defined by the United Nations Sustainable Development Goals (UNSDGs). This highlights the need to improve the quality of care, to decrease the non-communicable diseases related deaths and reach universal health coverage. Efficient CQI programs in hospital setting is indispensable to reach these targets, especially in the Philippines.

Locally, the Philippine Development Plan (PDP) provides the broad framework for health assessment and strategy, focusing on health outcomes associated with the delivery of healthcare. The Department of Health (DOH) likewise carried out numerous evaluations identifying areas for improvement in patient safety, access to healthcare and resource allocation. This recommendation implies the implementation of a routine CQI system, to achieve the consistent bubbling up of local level quality improvements.

Despite efforts, high-value care is elusive. Insufficient adoption of performance systems in the U.S., where transformative performance systems were designed but struggled to deliver quality and cost desires, provide a model for such standardization. Published results both positive and negative, independently and with no bias, from studies such as Wells et al. (2018) call for transparent reporting, and standard frameworks on CQI activities. These studies highlight the knowledge gap and the absence of a common quality improvement strategy adopted healthcare organizations.

The absence of published studies and the bias in the literature make the research gap more accentuated. Large quality improvement projects suffer when data cannot be published, this leaves projects open ended. There has been evidence of the hospitals involved in continuous improvement work, although not specifically those groups considered in the review by Wells et al. (2018), reported positive results from performance benchmarking despite these limitations. Nonetheless, the effectiveness of these applications in general are ambiguous, because the number of published studies is quite limited, thus, it is reiterated that more wide-ranging studies are needed to this end.

Reduce in errors and medico-legal cases have been conceptually better with increasing patient safety through which the healthcare sector has been keeping itself in the finest possible form to offer nothing but best. Patients, families, and referring institutions prefer hospitals with a reputation for quality of care and patient safety. The longevity and effectiveness of organizations providing healthcare services rely on the adoption of strong (QMS) anchored on CQI principles. ISO 9001-QMS focuses on CQI, with an intent to improve quality results performance.

Nevertheless, operationalizing CQI approaches is challenging because of the lack of understanding, cultural or implementation issues, limited resources and little or no expertise. Barriers to sustainability of CQI such as other priorities, lack of resonance, short-term orientation, misalignment of interests, fear of failure, lack of commitment and resources, and ineffective measurement. Too frequently, organizations fall back into old habits; they focus on current needs at the expense of future gains. A past work of the researcher in 2016 for a government hospital's QMS practices which based on ISO-9001 standards, showed the problem arose, including the lack of commitment to meet customer requirements and unclear direction and identity of the organization. There was also unsatisfactory employee participation and empowerment, which pointed to the necessity for further improvement.

Although CQI is widely regarded as a critical element in improving the quality of healthcare, the amount of research that has examined aspects of the implementation of CQI in hospitals, such as company business profile characteristics - ownership type, management structure, accreditation status and years of operation affect its implementation - has been minimal. These may have a large impact on the extent to which a hospital can implement and maintain CQI. While the DOH requires all health facilities implement CQI (DOH, 2020), it does not account for how diversity in organizations might result in differential outcomes. Research such as Clay-Williams et al. (2020) stresses the importance of structured systems, safety culture and leadership in

effective CQI. Nonetheless, there is limited understanding of how these institutional factors influence CQI success in the Philippine context and underscores the necessity of context-specific, evidence-based approaches.

There is a need for Philippines research adopting a hospital CQI strategy, as a mean for standardization of hospital quality metrics and to address resource limitations. Such variance of care quality is escalated due to lack of standard CQI methods which results in varied patient outcomes. Despite the needs of public hospitals in the Philippines for fund and manpower, and old infrastructures are at the unwitnessed support system as barriers of efficient CQI. Standardization of CQI processes throughout the healthcare industry will effectively use resources, improve care giving and bring the more poorly endowed institutions up to the higher level of care provided by well-endowed institutions. The COVID-19 crisis has demonstrated the necessity of developing robust and consistent CQI guidelines to manage crises and requires the ability to facilitate hospitals to care for more patients while providing high quality care. The Health Bureau and PhilHealth promote the need of conducting research so that hospital CQI practices can be standardized to address public health problems, improve patient outcomes, and optimize the use of resources.

Moreover, the absence in the Philippine context of a standardized method for CQI in hospitals represents a substantial research gap. Despite multiple Quality Improvement (QI) measures, their adoption varies across healthcare systems contributing to different outcome. This gap is further underscored by the scarcity of study and documentation in the Philippine context, as noted by the Philippine Institute for Development Studies (PIDS, 2021). There is a clear need for research to develop and validate standardized model of CQI that can be adopted by hospital organizations across the country.

Expanding on this, with acknowledgement to significance of CQI in improving healthcare, there is a lack of published research and context-specific models appropriate to Philippine healthcare. Methodological biases, unpublished data, and fragmented initiatives obstruct collaborative quality improvement. Such ongoing shortage underscores the pressing imperative that further research and systems building efforts need to be put into advancing a standardized, evidence-based CQI model that will address systemic deficiencies and strive to maintain a steadfast and high standard of care across all healthcare institutions in the Philippines (Ulep, Uy, Casas, & Nuevo, 2022).

1.2 Statement of the Problem

This study sought to determine if there is a standard program the subject hospitals practice that can be utilized in achieving quality healthcare improvement given the strategies to choose from.

This study would like to determine the following:

1. What is the business profile of the subject hospitals in terms of:
1.1. Nature of ownership
1.2. Type of quality management accreditation
1.3. Length of hospital service operation?
2. What is the implementation level of the QI strategy practices of the subject hospitals in terms of:
2.1. Access to Healthcare
2.2. Health Assessment and Care Processes
2.3. Patient's Rights and Education
2.4. Patient's Safety
2.5. Infection Control
2.6. Facility Management
2.7. Collaborative Integrated Management
2.8. Performance Measurement
2.9. Management of Information and Human Resources
2.10. Education and Rights of Individuals
3. Is there a significant relationship in the implementation level of the QI strategies among the subject hospitals based on the hospitals' business profile?
4. What are the factors influencing the successful implementation of the QI strategies in the subject hospitals?
5. What standardized hospital CQI model can be derived from the findings of the study?
6. Based on the overall findings, what can be the recommendation to improve the implementation of QI strategies of the secondary hospitals?

1.3 Hypotheses

This study would like to seek answers to a single hypothesis in which the research believes to be critical in attaining the output of the study. This is:

$H_0$1: The subject hospitals' nature of ownership has no relationship to its implementation level of the QI strategies.

$H_0$2: The subject hospitals' type of management accreditation has no relationship to its implementation level of the QI strategies

$H_0$3: The subject hospitals' length of service operation has no relationship to its implementation level of the QI strategies.

This research would like to test whether the hospitals' nature of ownership, type of quality management accreditation and no. of years of hospital operation affects the implementation of their QI strategies. The researcher believes that the implementation of the QI strategies among the hospitals does not affect by their business profiles.

The aim of the researcher is to prove that in whichever business profile practicing different QI strategies a single hospital is categorized, there can be a standardized CQI model give that can serve as a framework and guideline for those other hospitals that aspires to have a Quality Management System that will greatly improve their quality service to their patients.

1.4 Significance of Study

Based on the studies mentioned, there is still no definite standardized quality improvement strategy practice for a hospital setting that fits all. The DOH may require a single healthcare organization to practice a continuous quality improvement program but does not provide into much detail the specific strategy a single organization should execute. The primary significance of this study is to formulate a CQI model which will serve as a standardized framework for hospitals to be guided in improving their QI practices so that they can improve their quality service for their patients.

Thus, the findings of this study shall provide significance to the following:

Healthcare Organizations. The findings of the study may provide a more concrete CQI process model that they can use in quality improvement initiatives in their healthcare setting. The CQI shall provide healthcare organizations a systematic and data-driven approach in improving quality, safety, and efficiency. CQI can assist healthcare organizations achieve improved patient outcomes, boost their efficiency, and improve staff engagement and responsibility by engaging their workers and focusing on outcomes. The conceptual model can guide their work, which the aforementioned quality tools can facilitate, and to generalize empirical findings from quality improvement initiatives, more consideration should be given to increasing sample size by collaborating with other organizations and providers. There is a need to have a better understanding of what tools work the best, either alone or in conjunction with other tools. It is likely that mixed methods, including non-research methods, will offer a better understanding of the complexity of quality improvement science. There also know very little about how tailoring implementation interventions contributes to process and patient outcomes, or what the most effective steps are that cross intervention strategies.

Patients and Community. As the receiver of the care and services of the healthcare organizations, the practices will be mostly standardized for most healthcare organizations that may or may not have the same results on the quality improvement activities to produce best results in terms of patient service. The findings of the study aim to have standards on the quality improvement methodologies. Standardized CQI methodology program may benefit patients and their communities by improving patient safety, increasing access to care, improving patient outcomes, increasing patient engagement, and improving population health.

Healthcare practitioner. The findings of the study aim to guide health practitioners for easy reference as to the benefits on having standard practices amongst hospitals within their practice as professionals. At the present, different hospitals implement different methods and quality improvement activities. Especially for doctors that having two or more affiliates, a standardized program will make the practitioners more confident and participative in the quality improvement activities for they are just following one process for all the hospitals that they are connected to. As for example, Clinical Pathway Guidelines (CPG), these are established to have a certain clinical pathway to follow with the medical practitioners. CPG's help the healthcare practitioner on what to look for to their patient, expectations, and interventions. This will make a structured approach in a certain diagnosis of the patient that later can come up with higher results of life expectancies for the patients they serve and increase

the credibility of the hospital and their personnel. Pathways promote standardization allowing for more meaningful measurement so improved patient outcomes result over time. Application of continuous quality improvement takes the Quality Deviations of provider generated variability in health care and through iterative measurement informs future practice of patient-generated variability with appropriate resource utilization thus increasing value.

Quality improvement practitioners. As the same as mentioned above, the findings of the study will aid the quality improvement practitioners if they have researches in the future as a reference to the nature of the study. The findings of the study can help to have a better understanding on the benefits of a standard approach that shall be implemented across the medical practice. This can also help different practitioners to assess the current practices of the chosen hospital on their drive for quality as the gold standard and of the results of the accreditation, the hospitals are aiming for. The findings of the study may be helpful to students by giving them an initial idea on how to appreciate a standardized quality improvement methodology program and at the same time can be experts in the CQI strategies and practices even as students.

Future Researcher. The findings of the study shall serve as give inputs to future researchers to the possibility of a standard approach in practicing quality improvement activities that came from the different existing quality improvement strategies practiced by different hospitals. This shall also serve an implementing step-by-step guideline for performing a CQI strategy practice. This shall also answer questions in making the CQI program a better executable standard. Having a CQI programs that is standardized shall result to a less difficult to follow execution. Practices shall be more consistent, can be monitored and documented and shall provide answers on how processes and interventions can be validated in the present and future studies.

1.5 Scope and Limitations

This study intends to create a standardized CQI model in analyzing the different QI strategies in the Philippine health setting. The focus is on strengthening organizational initiatives in secondary hospitals to support the delivery of high-quality care. The study is limited to secondary-level hospitals in the Philippines who serve as the referral level between primary (health centers) and tertiary level (level III) hospitals. Both primary and tertiary hospitals were excluded from the study in order to continue the exploration of the distinct operational environments and resource limitations that are unique to secondary hospitals.

To guarantee imposed insights, the study includes only secondary hospitals with at least 2 years of operational service. This eligibility ensures that institutions participating in the QI strategies have enough organizational maturity and history of implementation either to meaningfully evaluate strategies for improvement or to employ them strategically within the institution. Criteria for selection also includes service provision, ownership type, quality management systems accreditation and length of operation. These variables identified as the independent variables of the study and the extent of QI strategy implementation (based on the top ten (10) nationally and internationally recognized hospital quality standards) are the dependent variable.

Regional representation and diversity of type of hospital is achieved by using a cluster sampling method. Data collection time will be three (3) months, with the assistance of a self-reported survey tool made available through Google Forms for healthcare personnel directly participating in QI implementation. Participants include clinical and/or non-clinical staff responsible for implementing quality initiatives, but excluded hospital executives and top management to minimize response bias.

In order to provide further contextual information about the conditions under which QI is conducted, qualitative case studies are undertaken in a sub-sample of the hospitals. This added context and richness to understanding of how institutions implement QI practices, faced difficulties and achieved success in the field; thereby facilitating the development of real-world-based CQI model.

There are several limitations to the study, such as restriction of the analysis to one hospital category (secondary hospitals), which limits generalization of findings to primary or tertiary settings. Second, the removal of hospitals with less than 2 years of operation may exclude new organizations that provide promising QI strategies. Notwithstanding these considerations, the study aims to develop a field-tested CQI model that is both robust and scalable for application in the operational environment of the secondary hospitals in the Philippines, with the overarching objective of contributing to a high-quality, reliable, and equitable service delivery system in the country.

1.6 Definition of Terms

Benchmarking. The practice of comparing a hospital's performance to accepted standards and (or) to the best performance of other hospital(s) or healthcare system, and using the comparison as a basis for identifying, and, subsequently, improving, performance. Comparators are applied to define efficacy, to establish goals, and to monitor progress.

Clinical pathway guidelines (CPGs). Uniform evidence-supported guidelines for the diagnosis, treatment, and management of specific medical problems. CPGs maintain a standardized care delivery and best practice among healthcare providers.

Continuous Quality Improvement (CQI). These reviews will be facilitated to regularly improve quality, or an approach that systematically applies a data-driven method to improve healthcare by maintaining an attention on process, outcomes, and patient satisfaction. It is an ongoing process that requires re-evaluation and adjustments in order to most effectively and safely benefit the patient.

CQI Implementation Success Factor. Describes the essential components or environments essential for the delivery of CQI process within healthcare. This consists of good quality leadership, staff engagement, communication of intent and practice, appropriate training, access to resources, and development of robust systems and processes.

Evidence-Based Quality Improvement (EBQI). An approach that employs the strongest evidence available to direct and advance quality improvement efforts. EBQI refers to the integration of research evidence, clinical knowledge, and patient beliefs to improve health care practices and patients' outcomes.

Healthcare Accreditation. A process of assessing a health care provider, such as a hospital, against established standards to measure and demonstrate quality and best practice forthwith. The accreditation should be from a legitimate authority such as a governing body and can be at the national or international level.

Lean Healthcare. A methodical method to improve the delivery of health care by decreasing waste, improving efficiency, and enhancing appropriate use of resources. Lean strategies concentrate on simplifying processes, removing wasteful steps, and increasing patient throughput to drive overall hospital productivity.

Organizational Culture. The values, beliefs, and behaviors accepted and followed by employees working in a healthcare organization in their interactions among themselves and with patients. The quality and safety culture inculcates continuous improvement and enables implementation of the quality improvement approaches.

Outcome Indicators. Indicators of the effectiveness of healthcare interventions in achieving the desired results of that care (e.g., improving patient health). Such indicators help in determining whether the quality improvement ventures in healthcare have been successful.

Patient-Centered Care. A healthcare approach based on care that is respectful of and responsive to individual patient preferences, needs, and values. By this way, patients participate actively in their treatment and decision process.

Quality Improvement (QI) Strategies. Systematic efforts to enhance the effectiveness, safety, and quality of care. These tactics involve an analysis of existing protocols and incorporating best practices in areas of operations in a hospital, including patient safety, infection prevention and control, and facility management.

Quality Metrics. Indicators for quality of services in health care. These indicators may be clinical, operational, or patient-related and are utilized as a tool to measure aspects such as patient safety, clinical results, patient experience, and efficiency of delivered care.

Quality Standards. Our definition refers to pre-determined thresholds set for performance and quality in health care. Such standards act as a model for the development and deployment of systems and products aimed at quality management and usually reference international or national benchmarks.

Quality Status Quo. Characterizes the state of quality or performance at one point in time in a health care organization before any improvement activities occur. It acts as a benchmark for improvement after CQI interventions are carried out, and if

improvements in quality are evident, evaluating these against this benchmark could facilitate greater resonance with providers and other stakeholders.

Quality Target Outcome. It refers to the particular measurable, time-limited outcomes that a healthcare organization wants to reach through quality improvement efforts. These results are consistent with the those of the organization and can cover improvements in patient care, safety, satisfaction, efficiency or clinical outcomes. Acceptable targets of quality standard results provide a target value for judging the effectiveness of CQI interventions.

Six Sigma. An evidence-based approach that uses data to improve the flow of work and optimize the health care system by identifying and eliminating defects and errors. Six Sigma aims to decrease variation and improve results through a systematic method of problem solving and ongoing improvement.

Standard Operating Procedures (SOPs). Written instructions, specifying in detail the procedure to be followed by healthcare personnel performing common (or routine) tasks. At their best, SOPs guarantee consistency, high quality and safety in the delivery of health care.

Quality improvement (QI) model. Standardized approach for quality improvement across health care. This mechanism guarantees the standard in the provision of quality serving and assists in enhance of patients' treatment outcomes and service development.

Total Quality Management (TQM). A management philosophy concerned with improving the quality of products and services in every department and every process in the company. For healthcare, TQM emphasizes quality improvement, customer satisfaction, and participation of all staff members in striving for better care.

1.7 Review of Related Literature

1.7.1 Hospital's Business Profile

Nature of Ownership. The ownership of a hospital is critically important in determining the dynamics of operation, decision-making, and quality of care in a hospital. McMaughan et al. (2020) point out that private hospitals often have more independence in decisionmaking and can be more flexible in the use of resources than publicly operated bodies. Such flexibility may allow the private hospitals to quickly replicate breakthrough innovations and respond to the market, and hence its operational efficiency and customer service improvement as well. Government-run hospitals, such as those belonging to the DOH, are usually supported by the government which stabilizes the financial standing of a hospital. However, dependence on government budgets sometimes may also hamper the flexibility in making decisions and cause a delay in implementing improvement as a result of bureaucratic processes and rigid budgeting systems (Homauni et al., 2023). Needs-based healthcare requirements sometimes cannot invariably be addressed within public hospitals because the macro-level policy-driven system and its financial constraints inhibit changes in systems such as QI interventions as well as other systems acknowledgement building as reported by Hashmi et al (2021) highlight that the policymaker-oriented nature of public hospitals may generate opposition to quality improvement interventions. Cruz and Cruz (2021) investigate also the participation of government hospitals in developing countries as in the cases of government owned hospitals, they usually seek to equitably distribute healthcare, focusing in remote areas. Government hospitals, whether those of the DOH or other government arms, are not entirely placed on as much of a profit motive as privately owned facilities and may have a different pace and extent of innovation, driven more by public health imperatives than by revenue generation, they asserted. Friday et al. (2021) contend that private hospitals could possess greater endowments and aggressive strategies for the introduction of high-tech and services, which could attract patients with greater ability-to-pay. This difference may encourage hospitals to strive for better performance as mentioned by Devasahay et al. (2021) find that competitive pressures drive private hospitals provide a higher quality of service, namely to retain patients. On the contrary, Reñosa et al. (2021) describe the DOH hospitals as they encounter difficulties despite being bestowed with government resources and beset by management problems on the part of a lack of trained staff, low retention rates, and administrative obstacles. This may affect their ability to rapidly embrace themselves and implement QI strategies and this possibly brings a slower improvement in patient care as compared to private hospitals.

Type of Quality Management Accreditation. Quality accreditation is vital to improving the quality of care offered by hospitals. Alhawajreh et al. (2023) that accreditation is "critical for assuring that a health facility meets national and international standards and is an important element for the CQI." For Philippine hospitals (MHs), the DOH accreditation is be the de facto standard, a benchmark that may achieve center of excellence status relative to standards of quality, safety, and service provided

among health care facilities. For DOH-only accredited hospitals, they might be oriented to pass national regulatory standards that will already set benchmarks for compliance with the local HCF regulations and operational guidelines. Conversely, McMaughan et al. (2020) draw attention to the role of international quality management certifications, e.g., accreditation according to ISO, in enhancing the competitiveness of healthcare systems. They propose that ISO-certified hospitals are more likely to be committed to global quality standards and ongoing process improvement. Hashmi et al. (2021) also argue that dual certification is not only beneficial in contributing to improved operational efficiencies, but it also provides the added value of considering patient satisfaction in terms of service quality and quality of care, as being designed to be met at a high level by hospitals. JCI accreditation assuring the standard of international care-giving has an important role on improving Hospital CQI that health organizations must meet global standards of practice, far beyond the requirements of domestic regulations. By requiring a process-based approach – which is at the heart of successful CQI – this accreditation galvanizes hospitals to establish processes in place that promote patient safety, operational effectiveness and risk avoidance. Research has demonstrated that JCI-accredited hospitals exhibit superior hospital-level process of care, such as optimal resource use and compliance with clinical guidelines, which enables better quality of care. Furthermore, and perhaps more importantly, JCI accreditation promotes quality and safety by asking hospitals to create a system of constant improvement that keeps them on par with other countries. But the implementation of this approach can also have negative impacts, such as increased administrative burden, and documentation requirement may distract the team from direct patient care temporarily. Despite these issues, the long-term value of JCI accreditation as a catalyst for CQI, patient safety, and hospital stature are clear, and the JCI may be a necessary tool for health systems seeking to be serious players in the global healthcare market. (Alhawajreh et al., 2023; Inomata, 2018).

Length of Hospital's Service Operations. Recent research has pointed to the role of a hospital's lineage on the adoption and success of Continuous Quality Improvement (CQI) initiatives. Historical hospitals generally take advantage of their experience and their social credibility in the community to build up good quality management systems which have both influenced on patient care and operational efficiency. For example, as a part of scoping review 'study', undertaken by Endalamaw et al. (2023) identified various models & tools for CQI for avoiding duplicate medicines, and an initiative to assess the barriers & facilitators to the implementation of CQI, and also evaluated the impact of CQI in a health system. Furthermore, Harbi et al. (2024) also demonstrated that such intervention resulted in a better patient flow, a shorter length of service in the hospital and in lower costs and how the hospital could use its good practice for creating a CQI. However, McMaughan et al. (2020) highlight the challenge to the implementation of such systems at the substantive level of healthcare due to the hospital being aged less than 25 years while more favorably soon, their informatics and technology cantered on healthcare. And these same hospitals are also more likely to embrace new technologies and best practices in health delivery, resulting in higher-quality care and greater productivity. This provides them with the agility to react rapidly to shifts in both patient care patterns and market dynamics, with by far the advantage in terms of service provision. In contrast, Sardi et al. (2020) argue that old military hospitals may have more difficulties to adapt to new healthcare fashion for the fact that they have obsolete infrastructure and traditional processes. But such hospitals commonly also enjoy the advantage of community reputation and track record of experience, which provides them a strong head start from which to win over patients' trust and care. Moreover, Alhawajreh et al. (2023) stress that long-established hospitals have long experience in patient treatment, providing quality care, and staff training. But still, there is need for closure of quality gaps and to leverage modern technologies if these hospitals are to stay relevant in the health-care industry.

1.7.2 Conceptual Components of Quality Care

Most organizations in healthcare industries would like to standardized the quality of care amongst all hospitals and most recent work is what IOM produced, they did identify the components of quality care for the 21st century and is centered on the conceptual components of quality rather than the measured indicators: quality care is safe, effective, patient centered, timely, efficient, and equitable. According to Qualityze, (2021) identified 6 Components needed for the objectives in a health care organization are as follows: Safety, Effectiveness, Patient- Centered Care, Timeliness, Efficiency and Equitability, same as the Committee on the Quality of Health care in America.

The Qualityze (2021), defined the following as; Safety: Quality improvements, especially those led by technology, help healthcare organizations to provide the right healthcare to patients that can help them more without a lot of failsafe. But before upgrading to next-generation quality improvement approaches, they should be guided properly with the respective information to make efforts in the right direction.

The Institute for Healthcare Improvement takes a unique approach to working with health systems, countries, and other organizations on improving quality, safety, and value in health care. This approach is called the science of improvement. Science of Improvement, (2021). IHI's methodology traces back to W. Edwards Deming (1900-1993), who taught that by adhering to certain principles of management, organizations can increase quality and simultaneously reduce costs. Based on Deming's work,

the Model for Improvement was created by Associates for Process Improvement (API) as a simple, effective tool for bringing about positive change. Science of Improvement, (2021).

There are a lot of services that will provide a safer practice from the above-mentioned parameters such as providing bar code to the instruments and supplies in the Operating Room that can avoid Retained Surgical Instruments and supplies to a patient. Operating Room must activate the bar-coding of the supplies to be used in the procedure to make sure that nothing in the abdominal cavity of the patient shall remain. Another example of benefits of technology is use of targeted radiation therapy than the conventional radiology treatments. With the targeted radiotherapy procedure, other organ that doesn't need radiology therapy will be protected from the effects of radiation.

As per Qualityze (2021), effectiveness, the healthcare industry couldn't afford risky improvements. They want services that can benefit them and the patients. They strictly refrain from the services that aren't likely to be of any benefit or significant improvement in the care intended for people. Most hospitals monitor their Code Blue Programs in place to monitor the effectiveness in reviving patients. More revived patients mean effective resuscitate efforts of the team. Timeliness is an appropriate quality improvements component for it may help reduce the delays, which sometimes become harmful for both the parties involved i.e. the one receiving the healthcare and the ones who are responsible to provide care. There are diseases that time is of an essence, like with Cardio cases that it will take a matter of minutes for the intervention that may save their life. Being timely in the intervention to be implemented is crucial to the care. Efficiency as explained by Qualityze (2021) efficiency in healthcare implies lesser waste – be it equipment, medical supplies, ideas, and even energy. There is a need for quality improvements that can make processes efficient, keeping the product and efforts wastage to a minimum.

Person-Centered Care: In healthcare, patient-centered care has changed to more focus on the wants, needs and preferences of the patients (Qualityze, 2021). They need the advanced quality management systems that can help them serve individual preferences, coordinate and integrate care properly, inform, educate patients, provide physical comfort, emotional needs, to actively involve patient's family and friends, maintain continuity and smooth transition, and personalized access to care. This helps to align patient care with all clinical decisions for all patients differ from one another. Noticing the preferences within their care will make their hospitalization experience better on the well-being of the person in focusing patient centered care. Some hospitals also involve the patients and their families with the care through family/team conferences to make them feel part of the team to reach the outcome of their goals.

Most hospitals have their Kaizen Programs or making processes Lean to also reach the goal of being timely in providing care and efficient. As per Qualityze (2021). Equitability is when healthcare should be provided without any biases on gender, socioeconomic status, ethnicity, and geographical location. Quality improvements should be introduced keeping the same into consideration. Patients are also individualized and are not of the same person. All patients must be dealt fairly and equally regardless of their gender and more even for their socio-economic status.

1.7.3 Access to Healthcare

Healthcare access remains a key factor in determining health and quality of life in vulnerable populations in particular. McMaughan et al. (2020) studied the intertwined relationship between socioeconomic status (SES), age, and health systems in the healthful aging process. Their SES-based analysis demonstrated that low SES individuals often have confined access to care and subsequent poor health. The report highlighted that global income inequality had an influence on access to healthcare, with at national wealth levels tended to bring better health in old age. To remedy these inequities, the authors suggested policy solutions: income support, enhanced insurance coverage, and greater attention and funding for social determinants of health. The study further called for bottom-up efforts and policy reform based on evidence to address access to healthcare and well-being among older people.

Coinciding with the emphasis on SES-based obstacles, technological advances have provided valuable tools used to re-engineer the delivery of health care. Waring et al. (2020) reviewed automated machine learning (AutoML) and its application in healthcare. As biomedical data continues to double in volume every year (propelled by EHRs, genomes, and digital health tools), both clinical and research communities grapple with how to parse this wave of complex information. AutoML was introduced as an approach to automate end-to-end predictive modelling (including but not limited to feature engineering, hyperparameter tuning, and neural architecture search). The authors, however, highlighted limitations around data quality and transparency, and suggested future research and standardized benchmarks to drive robust implementation in medical practices.

Availability, affordability, and acceptability are the three dimensions of access to health care in line with Sacks et al. (2020). Their results indicated that material support and instrumental outreach are contributing factors to the elimination of barriers provider care. Similarly, Adams et al. (2022) highlighted how telemedicine has become increasingly important for its potential to enhance access, especially in rural areas. But obstacles, like the Internet's poor infrastructure and digital illiteracy, have confined such efforts.

Hospitals are adopting mobile clinics, community outreach, and medical missions to even gaps in geography and wealth (Weiner et al., 2024). Public Health Leadership The truth is that there's a mistaken belief that public health misses opportunities if it is innovative. Such projects are indispensable for underserved areas, especially where traditional medical care is lacking. Coughlin et al. (2021) also emphasized the impact of financial toxicity, and many patients depend on significant discounts or assistance programs to afford life-saving therapy.

Technology remains a disruptive force in expanding access and how care is delivered. Telemedicine Stoltzfus (2021) highlighted telemedicine as a QI intervention for improving service efficiency/enhancing patient involvement. Bhati (2023) concurred, stating that multidisciplinary practice models lend themselves to advancing holistic patient-centered care and patient health outcomes. Digdarshinee (2024) and Harbi and others. (2024) concluded that as a means to provide timely care under high patient load, efficient resource utilization and good patient flow management are essential to achieve timely care.

Regarding health inequities, Morales-Garzón (2023) emphasized models of comprehensive care for populations with the least resources, and called for systemic interventions to guarantee equal access. Carreño (2024) referred to the Kotter´s Change Leadership Framework mentioning that Organizational Resistance continues to be a major obstacle for implementing new health programs. Resistance of this type can be addressed but demands intentional leadership and a commitment to inclusive practice. Finally, the confluence of healthcare reform, technological advances, and universal care models will be necessary to create a more equitable and flexible health system (WHO, 2020; Stoltzfus, 2021; Carreño, 2024).

1.7.4 Health Assessment and Care Processes

The evaluation of intervention and caring processes are key to understanding how well health services respond to individuals' needs and contribute to their overall wellbeing. A holistic assessment approach can help to ensure that health interventions are timely and targeted, and also patient centered in that helping people at different stages of life to engage with the system.

Cella et al. (2022) and Blackwell et al. (2019) highlighted a marked dearth of child health measurement early in childhood, particularly in pediatric psychology, where most standard patient-reported outcomes (PROs) are employed beginning in middle childhood. Filling this gap, they produced 12 PROMIS® early childhood parent-report measures to assess global, mental, physical, and social health in children < 5 years old. Using the principles of developmental measurement science as a guide and collaborating with content experts, the authors adapted PROMIS instruments for the early years, resulting in reliable, short-form assessments that can identify the early signs of atypical development.

Similarly, Rudnicka et al. (2020) considered the prevailing global threat due to an aging population. Using a systematic review, they focused on the World Health Organization's (WHO) model of healthy aging -- the preservation of function and well-being in later years. Their review delineated five priorities derived from the WHO Global Strategy on Ageing (2016–2020), and the subsequent Decade of Healthy Ageing (2020–2030) with salient dimensions regarding: meeting basic needs, making choices, mobility, interpersonal relationships and taking part in society. The research urged that health strategies for older adults should be attuned to the diversity and inequalities among this population and focused on low- to middle-income countries.

Continuity of care, together with good communication, has also been recognized as integral to patient-centered healthcare. Baker et al. (2020) showed that trust and satisfaction are enhanced when patients are informed and involved in their care, which in turn increases adherence and decreases healthcare utilization. Haleem et al. (2021) highlighted the benefits of Electronic Health Records (EHRs) for coordination and avoiding professional mistakes, despite organizational barriers that may prevent their full exploitation.

The demonstration that standardizing clinical processes minimizes variation of care and improves outcome has been shown. Beauchemin et al. (2020) scholars reported the importance of implementing uniform protocols for improved patient outcomes, whereas Abu-Jeyyab et al. (2020) underscored that continual monitoring allows health care organizations to pinpoint inefficiencies and gaps. Nwaimo et al. (2021) covered the importance of health analytics in tracking outcomes, trends, and acting swiftly.

Evidence-based practice is also key to providing quality care. Connor et al. (2023) emphasized that evidence-based clinical decision-making supported by the best available evidence is paramount to providing optimal care. Similarly, the role of MDT is more appreciated now. Lin et al. (2021) high-performing MDTs were found to promote greater teamwork and patient safety perceptions. This was also affirmed by Suleiman and Ming (2025) the latter found a more effective communication, less errors, and better treatment outcome in cases that are being managed collaboratively.

When the patient's perspective is actively taken into account, patient-focus outcomes are radically enhanced. Research by Brands et al. (2022), Kwame et al. (2021), and Yu et al. (2023) highlighted that decision-making shared improves satisfaction and health outcomes. Moreover, Samardzic et al. (2020) Maintaining a prepared health system, including infrastructure improvements and staff training, is key to accommodating growing demands and delivering quality care.

1.7.5 Patient's Rights and Education

Respect to and adherence toward patient's rights is one of the principal bases of ethical medicine and an essential requirement for quality of care. Diwan and Kanyal (2024) carried out a cross-sectional study in a tertiary care hospital to know the awareness about health rights among patients who themselves and their relative attended the hospital. By resorting to direct questionnaires of the patients and their attendants (349 cases), as intended to ascertain whether any bias existed in either the access to, or application of the rule of patient rights on the part of practicing physicians. The authors assumed that a better developed sense of active obligation and compliance with patient rights would reflect on a respectful and empathetic organizational culture, and therefore improve patient empowerment. Previous research in countries such as Malaysia, Iran, and Poland also supports significant differences in knowledge of patient rights with respect to age and educational level, thus heightening the influence of demography on patient activation.

In Kenya, Njuguna et al. (2020) investigated the health literacy on rights and responsibilities among patients accessing primary healthcare in Kiambu and Machakos counties. They found that, although the awareness of rights is highly prevalent, it was associated with age, educational status, and duration of using healthcare services through their descriptive cross-sectional study conducted among four hundred and twenty-two outpatients. The results underscored that HL-programs have to focus situation specific; in terms of the patient population but also with regard to developmental stage and type of health care use. This is in consistent with the report by Xu et al. (2024) who, through a systematic review, VSC confirmed that educational interventions, particularly in elderly patients, are effective in increasing treatment adherence and health outcomes, thereby advocating for personalized re-engagement strategies.

Fully informed consent, essential standard of ethical care, is an important step in the development of trust and empowerment for patients. Shah et al. (2024) cited in the American Medical Association reporting that educated patients are more satisfied and more involved in their care. Alqallaf et al. (2024) who also reported patient satisfaction and treatment compliance as the strongest consistent correlates with knowledge of patient rights and suggested structured programs as the means of educating and thus empowering the patients. Similarly, Collins et al. (2020) suggested that this patient education program with feedback and outcome should be tested for workability and correctability with the desired of the patients, and recommended that the educator should be motivated to make routine assessment of the patient education program.

In another study by Biyazin et al. (2022) also reinforced the notion of informed consent as a significant practice in patient-centered care. The study showed that factors such as time to converse and good patient- provider communication played a large role in overall patient satisfaction and involvement in the decision-making process--both of which are strong indicators for better medical outcomes.

Additionally, Shahid et al. (2022) and Bhattad et al. (2022) underscored the importance of health literacy on patient care. Educated patients who understand their rights and health information are empowered to take action in managing their health care. This is especially true in cosmopolitan societies that require cultural sensitivity in patient education to minimize the barrier of communication and understanding, especially for diseases like skin diseases, where similar aspects of management may vary based on culture.

Lastly, patient input to CQI processes is increasingly viewed as critical. Wong et al. (2020) recognized the role of patient feedback not only in improving satisfaction but also identifying level of care in patients and any areas requiring improvement in the healthcare setting, further supporting that the patient's voice is essential to create positive change.

1.7.6 Patient's Safety

It is important to ensure the safety of the hospital's physical facilities to ensure high quality of care. Dela Cruz and Dela Cruz (2021) intended to develop a Facilities Technology Management (FTM) framework specifically suitable for public HCIs in the less developed countries (LDC) such as the Philippines. Supported by descriptive research with identified strategic drivers - efficiency, sustainability, ecological responsibility and innovation- as constructs. These informed an integrated FTM framework incorporating risk management, FM and technical factors. Survey responses primarily showed acceptability of the evidence-based interventions, such as the materials and innovations that are contextually relevant, although these findings were restricted to public HCIs and may not be applicable to private HCIs. The building is designed to minimize its environmental footprint in keeping with a commitment to environmental health and safety, and compliance with healthcare standards.

In response to another vital safety concern, Salleh et al. (2020) explored fire safety management in hospitals in the aftermath of the latest fire accidents, with a focus on Asia. Based on PRISMA guidelines and screening of 30 studies, three main themes were identified: technical and architectural risk factors, managerial and functional safety barriers, and legislative challenges. The authors recommended an integrated approach to fire safety policy – with technical improvements, staff training, working with the fire brigade and better clarity on emergency procedures. They recommended an exploratory sequential mixed methods design for future research, in order to extend the findings and match interventions more closely.

Highlighting the significance of hospital safety culture, Varnosfaderani and colleagues (2024) emphasized institutional safety measures to combat medical errors and patient harm. They urged to ongoing safety trainings and risk analyses to ensure that the safety regulations are followed. Consistent with this study, Negro-Calduch et al. (2021) stressed the importance of regular emergency drills and preparedness training, with the latter's study suggesting that hospitals that practice safety exercises were more able to respond in emergency situations and had lower incidence of injuries. Their results highlight the importance of promoting a proactive safety climate in which all team members are empowered to assert concerns and follow safety strategies.

Elsharaidy et al. (2022) also emphasized that frequent safety audits are essential to find hidden hazards and preventive safety. Likewise, Abu-Jeyyab et al. (2024) highlighted the role of the safety officers and regular evaluations in improving the hospital performances and diminishing the risk of patient safety. Environmentally friendly nature, also is important Issues that also has a play; Shetty et. (2024) physical renovations and regular inspections raise the quality of care and lower environmental risks.

In the field of infection control, reports by Kubde et al. (2021) and Habboush et al. (2021) emphasized how periodic auditing and compliance with safety procedures produce a reduction in the number of nosocomial infections leading to an immediate benefit for patients. Nwaimo et al. (2021) also contended that the training and development of employees are a part of safety practices which creates learning climate in an organization and therefore errors that cause injuries at work are minimized.

Lastly, Page et al. (2024) and Chilukuri et al. (2024) have called a Safety I–oriented culture, such that healthcare providers are not afraid to report on safety. This transparency does not only increase patient safety, it also enhances the general improvement of quality by identifying and focusing on error root causes.

1.7.7 Infection Control

Rapid case detection along with the implementation of robust infection prevention and control (IPC) measures are fundamental to patient safety and the public health response in healthcare facilities. This was further highlighted during the COVID-19 pandemic revealing serious deficiencies within the healthcare system, mainly concerning the protection of healthcare workers on the front lines.

In the Philippines, Sta. Ana et al., 2021) Cross-sectional study April - June 2021 Determinants of adherence to COVID-19 IPC protocol among residents and fellows Tertiary Government Hospital Residents and fellows Ana and Tanque (2021) One hundred and twelve hospital staff in different departments participated in the survey for completing a structured questionnaire with sections on demographics, knowledge, attitudes, organizational and environmental perception, and IPC practices.

Based on factor analysis, three primary compliance factors were identified: hand hygiene and sharps management, equipment disinfection and waste disposal, and personal protective equipment (PPE) use—with PPE compliance at the lowest level. Interestingly, risk perception, knowledge, and attitude towards COVID-19 did not have a significant impact on compliance,

unlike perception of the organization and the environment, which were highly associated with compliance to IPC. Such findings emphasize that institutions and environments should be improved for enhancing IPC performance.

In agreement with this perspective, Savul et al. (2020) and Senbato et al. (2024) have demonstrated that non-observance of infection prevention and control (IPC) practices, particularly in public health facilities, is an important factor in contributing to infection rates. They proposed that education, behavior reinforcement, and monitoring would be needed to enhance adherence. The necessity of established IPC guidance and strong institutional support to guide routine IPC practice is supported by the World Health Organization Infection Prevention and Control Assessment Framework (Tomczyk et al., 2020) as a crucial means to level the playing field of IPC practice deployment amongst different healthcare settings.

Supporting these findings, Toney-Butler et al. (2023) also confirmed the importance of continued surveillance to maintain high levels of hand hygiene compliance and decrease infection rates. Consistently, Zhang et al. (2024), Garcia et al. (2022), and Collins et al. (2022) that focused education on IPC for HCWs can increase compliance and reduce HAIs. Dancer et al. (2023) also added that the importance of a clean hospital environment via well controlled cleaning procedures, would have an impact on the reduction of infection rate.

Lastly, standard infection control audits at hospital level, as described by Collins et al. (2020), are critical to detection of failures in IPC and to reinforcement of best practices. These inspections provide a feedback loop enabling facilities to maintain a high level of cleanliness and patient safety.

Given the overwhelming evidence presented in the literature, an integrated approach of education, infrastructure, hygiene, and surveillance is paramount to reducing risk for healthcare workers and patients alike.

1.7.8 Facility Management

Productive hospital infrastructure management is the balanced administration of the hospitals physical structures, equipment and services in a way that supports the efficient provision of high-quality care. Infrastructure management for the hospital of the future Traditional hospital upkeep will need to keep pace with enhanced service delivery and security requirements for hospitals that are increasingly multidisciplinary, technological, and reliant on patient experience.

Sardi et al. (2020) performed a systematic literature review on the escalating menace of cyber risk in healthcare. They define cyber risk as operational threats to, and exposure of, information and technology assets that affects confidentiality, availability, and/or integrity. Based on 419 documents, they summarized 84-programs from which they drew all the reviewed documents, which indicated rising academic interest in this area especially in medicine computer science, and engineering, respectively. Noting this increasing focus however, the authors observed a large disparity between what industry knows is needed in cyber risk management in healthcare, versus the current state of empirical research, emphasizing the necessity for practical cyber risk management frameworks. Cross sector learning was demanded and tailored managerial tools for dealing with cyber security vulnerabilities in health technologies.

Outside of digital infrastructure, the quality of service is still fundamental to operational efficiency. Subiyakto and Kot (2020) measured outpatients' satisfaction with radiology service in the public hospitals of the South Kalimantan, Indonesia based on the SERVPERF paradigm. They supported that the components of core service quality—tangibles, reliability, responsiveness, assurance, and empathy—were found to have a significant effect on patient satisfaction and behavioral intention. Enhancing these aspects contends trust and long-term relationships between patients and health care providers.

There is also a technology transformation occurring with equipment maintenance and reliability. Zheng et al. (2020) considered use of AI and the IIoT for intelligent maintenance systems that improved P Kumar (2023) as well also suggested predictive maintenance model for machine learning, which helps in reducing the downtime of the equipment and avoid failures. These approaches enable hospitals to shift from reactive maintenance to data-driven, proactive infrastructure management.

Healthcare infrastructure choices are becoming more and more sustainability related. Thakur and Ramesh (2021) stressed strategic planning on healthcare waste management; this is a journey toward environmental sustainability. In the meantime, Sürme and Yıldız (2024) revealed the significant contribution of front-line healthcare professionals to trash and energy utilization, particularly in the more loaded services.

For maintaining reliability as well as minimizing operational risks, in González-Domínguez et al. (2020) also estimated planned PM using a decision model such as the Markov chain. Their results show that PM models can improve the reliability and reduce the risk of system failure. However, Astivia-Chávez and Ortiz-Posadas (2022) established that the majority of hospital equipment interventions are reactive, rather than proactive, and further adoption of proactive measures is needed.

Physical design also plays a role in the quality and experience of the infrastructure patient. Cai et al. (2021) concluded that the caring responsiveness of care was significantly enhanced by inpatients' physical environment such as the presence of many design features such as natural light, sound control, and individual room arrangements. These findings are congruent with those of Iroz et al. (2024) subjected quality improvement (QI) initiatives in LMICs to scrutiny, highlighting the importance of stakeholder engagement including public-private partnerships. Their analysis finds that this kind of collaboration supports learning, consolidation of implementation resilience, and the extension of access to innovative practices.

Lastly, Ramasamy et al. (2024) mentioned that Total Quality Improvement (TQI) is closely related to maintainability and sustainability. The assessment of performance measures among the hospitals against which they were assessed proved that the systematic monitoring and assessment results in continuing improvement of quality of care and future sustainability of infrastructure.

1.7.9 Collaborative Integrated Management

Integrated Healthcare (CIM) is the joint application of strategies and resources from stakeholders to improve the attainment of common health objectives. It focuses on communication, teamwork and system engineering in care delivery and system operations.

Reñosa et al. (2021) analyzed the reasons for non-adherence by healthcare workers (HWC) in the application of the Integrated Management of Childhood Illness (IMCI) in the Philippines, program developed by WHO to decrease child mortality and strengthening the ability of HCW to provide care with an integrated approach. With 46 HCWs, the everyday reality of operationalizing IMCI at primary healthcare centers was studied in five regions, resulting in identifying insufficiently trained staff, lack of training opportunities, unsatisfactory supervision, logistic challenges regarding drug supply, as well as outside interruptions as factors inhibiting the implementation of IMCI. Structural gaps in governance also played a role in uneven uptake, including insufficient funding and piecemeal messaging from central government. IMCI guidelines were also met with suspicion in certain communities. The study also suggested a need for local capacity building, improvement of HCW training, better supervision, and community involvement to enhance IMCI coverage and impact. It also invited more research to understand limitations to implementation and valid strategies for sustainability.

Friday et al. (2021) analyzed collaborative risk management in healthcare logistics and is adapted from a literature review focusing on Supply Chain Collaborative Risk Management during the COVID-19 pandemic. Their study further highlighted that previous work focused on cost effectiveness and inventory management, with so little attention to collaborative planning and negotiation. The writers observed that Collaborative Planning, Forecasting and Replenishment (CPFR) models were not widespread with respect to adoption in the health supply chains. In the context of challenges such as COVID-19, supply chain challenges are magnified by high interdependency with decentralized logistics planning. The study called for collaboration, shared risk readiness and objective alignment of stakeholders to improve resilience and ensure the continuity of care.

Interprofessional teamwork, also, is a key role in enhancing healthcare. Kaiser et al. (2022) reported in a systematic review that interprofessional team collaboration significantly enhances patients' patient-reported outcomes like satisfaction and perceived quality of care – regarding in-hospital patients in particular. Similarly, Ishii et al. (2024) identified collaboration as a mediator between organizational learning and safety climate related to how team communication and climate can have ripple effects on patient safety between departments.

Effective Internal communication is also vital. Samardzic et al. (2020) highlighted that clear interdepartmental communication promotes unity, enhances service delivery, and aligns organizational objectives. Lennox-Chhugani (2023) further reinforced that by the idea of "boundary work," or interdisciplinary work that extends beyond single role collaboration, utilizing shared understanding and mutual respect, is a requirement of effective integrated care systems. One such real-life example was witnessed amid the COVID-19 pandemic when Smith et al. (2020) found that centralization of management and shared decision-making is enhanced through the creation of specialist tracheostomy teams (ENT surgeons and anesthetists).

Additionally, family-centered care is integral to Collaborative Management. Brands et al. (2022), Kwame et al. (2021), and Yu et al. (2023) highlighted the importance of including families in care planning and the impact this has on satisfaction and

quality of care in pediatrics. De Abreu Pereira et al. (2023) also noted that cross-training and team-based care planning increased staff collaboration and patient care coordination. Likewise, Rahmah et al. (2023) suggested that data-accelerated process improvement—via opportunity detection, monitoring, and evidence-based action can improve the quality of care provided through collaborative means. Collectively, the literature overwhelmingly supports that clinicopathologic collaborations are vital for creating resilient, efficient, and patient-focused health systems, whether in care, supply chain, or administrative structures.

1.7.10 Performance Measurement

Hospital performance is an integral part of hospitals' administration and management that measures systems' efficiency, service quality and compliance with the regulations. It's used to drive process efficiencies, reduce costs and achieve healthcare standards.

Hashmi et al. (2021) examined the mediating effect of inventory management practices in order to improve the effectiveness of public hospital. They found that trained inventory handlers had a positive and significant impact on service levels and cost. The study also produced an integrated second-order model to advice operational efficiency analysis at healthcare organizations.

The performance of the team is also an important aspect of hospital effectiveness. Devasahay et al. (2021) used an evidence integration approach based on PRISMA principles to review validated instruments measuring hospital team functioning. Their examination consisted of both subjective (e.g., questionnaires) and objective (e.g., KPIs) techniques. Mainly cited indicators concerning these objectives were mortality, absenteeism, length of stay (LOS) and patient satisfaction. The authors called for tracking across time, team members, and team measures (e.g., objective and subjective) to provide a more comprehensive understanding of team processes and performance.

RCA is a well-established technique for analyzing the contributory causes of adverse clinical events. Nevertheless, Karkhanis, and Thompson (2020) indicated critical challenges when translating RCA into practice (i.e., departmental differences, culture of individual blame, and insufficient follow up). They suggested a standard, systems-based RCA method with inbuilt feedback and monitoring in order to influence patient safety outcomes.

Under the framework of continuous performance assessment, Chan et al. (2020) emphasized the necessity of employing the structure, process, and outcome dimensions as the major indicators of quality of healthcare. Supporting Nabovati et al. (2023), Setiawan (2020) confirmed that KPI (Indicators) reveals the a very good way of measuring to the operational and clinical performance in hospital. Ibrahim (2024) stressed the strategic use of healthcare data analytics for the observation of trends, analysis of the output, and to actualize focused interventions.

Another major factor of quality of care is in-service staff development and continuing education. Samuel et al. (2021), conducted a scoping review and showed that continuing professional development (CPD) is associated with a positive impact on health care professionals' work performance and on patient-related outcomes. CPD, both passive and interactive can influence clinical behavior and service provision.

Patient reported outcome measures is a second pillar of quality surveillance. Slehria et al. (2023) and Wong et al. (2020) emphasized that collecting patient satisfaction data can allow hospitals to discover where to improve and to confirm the success of interventions. Delgado et al. (2020) emphasized that regular checks and root cause analysis are useful ways to identify inefficiencies and poor quality, and support CQI processes.

Cumulatively, the reviews highlight the multi-faceted character of hospital performance, with a combination of operational efficiency, teamworking, data use and stakeholder involvement being key. The combination of those two dimensions is crucial to a sustainable advancement in health care provision.

1.7.11 Management of Information and Human Resources

Optimal utilization of information resources and human resources is a key factor for enhancing efficiency of the hospital without compromising the quality of the patient care.

Alhuwail (2019) investigated the extent of information management among public hospitals of Kuwait as measured by different qualitative and quantitative indices of standards compliance over two accreditation cycles. Consequently, there had

some progress, but there were some issues, as mentioned. Such factors included poor planning and implementation of strategies to manage information, limited participation of stakeholders in the selection of health IT solutions, and uneven access to the internet by staff and patients. The research emphasized the significance of centralized planning and the changing role of Health Information Management (HIM) leaders in driving the health revolution. Suggestion major rethinking was recommended to underpin transformational solutions in digital health.

Similarly, Abrigo et al. (2021) assessed the Philippine Department of Health (DOH) Human Resources for Health deployment program. Although the program did manage to redistribute health workers to areas with a scarcity of health workers, there were several challenges. These included over inclusiveness of coverage in deployment, erratic payment of allowances, and low retention after deployment because of under-remuneration and lack of knowledge about health worker motivations. The authors recommended that the program should be re-oriented to genuinely underserved areas, criteria for selecting locations revised, the delivery of benefits to be strengthened, and pre-deployment training be extended.

The ratio of staff to patients has also been strongly associated with the safety and quality of service provided to patients. Wang et al. (2020) found that higher nurse-to-patient ratios were associated with higher risk of getting a hospital-acquired pressure ulcer. Porcel-Gálvez et al. (2021) showed that adequate staffing adapted to institutional needs improved the clinical safety. Burnout in healthcare providers surged during COVID-19 pandemic, as reported by Kooktapeh et al. (2023) emphasized in order to point out the importance of interventions enhancing well-being.

Information security and empowerment of personnel also play important roles in healthcare. Adeniyi et al. (2024) showed that secure support better quality and safety of care. Rahmah et al. (2023) emphasized the point that lifelong learning, continuing education and professional development contributed to the development of health personnel's skills and at the same time morale, resulting in increased quality of service. Bragge et al. (2020) further stated that greater staff engagement is associated with higher quality of care, supporting the need for more respectful environments and implementation of staff feedback.

De Vries et al. (2023) and Warui & Karanja (2024) highlighted the importance of professional development, mentorship, leadership and succession planning as potential measures to sustain a skilled healthcare workforce. Incentive systems and good HR policies were considered as being helpful for stability of the workforce. Furthermore, Ibeh et al. (2024) and Orlu et al. (2023) emphasized the need for quality and validation of data to minimize errors and allow for accurate evidence based clinical decisions.

Collectively, these studies indicate that targeted investment in information infrastructure and human resources management is essential to ensure that healthcare improvements are sustained and service delivery is enhanced.

1.7.12 Education and Rights of Individuals

Education awareness and human rights are the essence of accessible quality health care. Carta et al. (2020) assessed a training program in Tunisia on the Convention on the Rights of Persons with Disabilities (CRPD) and the WHO Quality Rights (QR) mental health toolkit. Participants, who were professionals, human rights defenders, and persons with psychosocial disabilities, improved on knowledge and were encouraged around human rights after training. In particular, greater sensitivity to patient autonomy and diminished approval of coercive measures were observed. However, a re-evaluation of Razi using the QR toolkit showed little change in CRPD implementation after four years. Recurrent obstacles, including resources, staff morale and political and economic challenges, remained long-term obstacles to action. The research emphasized that more ongoing wider training and specifically tailored reform programs are required to take forward human rights in mental health.

Shoulah et al. (2021) Investigated how physicians and patients from internal, pediatric, surgical, and OB-Gynecological Egyptian departments perceived patient rights. Applying questionnaires derived from the Egyptian Hospital Accreditation Standards, the researchers observed association between knowledge of patient's rights and personal characteristics of the healthcare professional (i.e., age, gender, qualification, rank, and working hours) involving doctors. Patients' assessment of physician compliance, however, varied significantly according to patients' gender, education, and department of hospital. Although having a high level of physician's knowledge, supra half of the patients (only 14.7%) had favorable perception of patient's rights which indicates a large gap between knowledge and practice. The root cause is thought to be a shortage of healthcare workers and low pay, as well as lack of knowledge of rights on the part of both victim and healthcare provider. A comprehensive education and systemic change is needed to ingrained patient rights in daily clinical work, the study demanded.

Patient education was also found to be a significant predictor in patients' health outcomes. Arogyaswamy et al. (2021) noted that patients who are more knowledgeable are more likely to comply with recommended treatment regimens and better manage their conditions. Kawi et al. (2024) emphasized the importance of patient advocacy in upholding patient rights and resolving disputes in a care environment, and called for greater availability. Zohre et al. (2023) also reported that patients understand treatment better and follow it more eagerly if they know something about oral health promotion in connection with public health education.

Patient's rights Another key aspect of patient's right is the principle of informed consent. Studies by Shah et al. (2024) and Pugh (2020) advocated for the importance of clear and sufficient information to patients in order to facilitate making their own choice in healthcare. Finally, the quality of care is also shaped by cultural competence. Kaihlanen et al. (2021), nurses who had received cultural competence training were more sensitive to diversity and reported greater patient satisfaction and compliance outcomes.

Involvement of family and patient in planning of care also enhances quality of services. Vick et al. (2024); in this article a model in which patients and family members are included in the design of the services was proposed to facilitate shared decision-making and satisfaction. Echoing this, the World Health Organization (2021) suggested using easy-to-understand materials: visual and written to help them make informed choices, especially among the vulnerable and at-risk.

Collectively, these studies highlight the role of education, advocacy and systemic support in addressing patient rights to provide inclusive, patient-centered care.

1.8 Synthesis

The literature review covers different perspectives on hospital business profile and components of healthcare quality, including access to healthcare, health assessment and care processes, management of information and human resources, facility safety and infection control, integrated medical care, and facility management, performance measurement, and patient education and rights.

Specifically, the ownership status, accreditation status and tenure of a hospital have a major impact on the extent to which CQI can be introduced. Hospitals which are privately owned have more autonomy in decision making and in resource allocation, allowing for faster adoption of innovations and responding to market needs, while those which are government-owned are often characterized by constraints related to bureaucratic and administrative aspects (McMaughan et al., 2020; Homauni, 2023; Cruz & Cruz, 2021; Reñosa et al., 2021), although they are funded by public money and represented under a framework with emphasis in equal access to health care. Accreditation Accreditations are very crucial to the ensuring quality of the DOH licensed because It is known that DOH licensed only deal with the national standard; However, because UAE international certification bodies has the international certification of ISO reveals that the DoH licensed is keen and attached to it, and it shows the willingness of continuous improvement and high demanding with an increased administrative burden (Inomata, 2018, Hashmi et al, 2021, Alhawajreh et al, 2023). On the other hand, institutions with long longevity receive the advantage of experience and community trust that support stronger quality system but such may also be faced with aging infrastructure; newer institutions also make better use of modern technologies and innovative practices that improve flexibility and service productivity (Endalamaw et al., 2021; Harbi et al., 2023; Sardi et al., 2021). Together, these components determine a hospital's ability to facilitate and support the delivery of high-quality care by means of CQI.

The conceptual components of quality care as outlined by Qualityze (2021) and the Committee on Quality of Health Care in America include the following components: safety, effectiveness, patient centered, timely, efficient, and equitable. The two sources agree on what these ingredients are but disagree on their uses. Qualityze underscores the importance of technology in enhancing safety and efficacy; for example, barcoding technology to prevent retained surgical objects and directed radiation therapy to safeguard healthy tissue. They emphasize the centrality of the patient in the care process and for comprehensive quality management systems to address patient's wishes and coordinating care. The Committee on the Quality of Health Care in America offers a more expansive conceptualization of quality care and highlights the importance of addressing social determinants of health, and calls for community-based action and policy changes to improve healthcare access and health status.

Healthcare access is a key driver of health outcomes and quality of life. McMaughan et al. (2020) and Waring et al. (2020) have addressed health care access barriers. McMaughan et al. international focus on the relative deprivation of social position and its effects on health), including the importance of intervention at a global scale to enhance healthcare access for the older

age. They emphasize the association between increased wealth and better health in elders, and they suggest interventions such as income supplementation programs and the extension of health insurance to reduce SES differences in healthcare. Waring et al. (2020) conversely, consider the promise of to overcome the challenges that automating data analysis in healthcare might create, demonstrating at once how these tools could enable more effective health-care delivery through better decision-making. The paper focuses on the issues in handling big data under patient conditions and demonstrates that AutoML could facilitate model development and benefit the clinic.

Health assessment and care process - the systematic examination and implementation of activities that respond to the health needs of individuals and that maximize their wellbeing. Cella et al. (2022), Blackwell et al. (2019) and Rudnicka et al. (2020) emphasize the necessity for age-specific health assessments. Blackwell et al. target early childhood self-report outcomes given the lack of established measurement options, which begin generally from middle childhood onwards. They recommend the creation of pediatric early childhood PROs to assess early signs of health status for intervention in pediatric psychology. Rudnicka et al. (2020) address an ageing population and the recommendations for healthy ageing made by the WHO focusing on the importance of programs, which promote functional ability and well-being in older age. They emphasize the diversity and disparity of older persons and urge for the disparities to be treated with global solutions that can be locally adapted to different cultural settings.

The patient rights and education are very important to guarantee for ethical health care and in health care standard. Diwan and Kanyal (2024) and Njuguna et al. (2020) address this issue in diverse situations by examining patients' awareness of their rights in a teaching hospital to find out how much they know about, and how it could affect the provision of health-care. Njuguna et al. explore the level of health literacy with regards to patients' rights and responsibilities in Kenyan primary health facilities, and found that demographic factors such as age and education were associated with health literacy.

Another quality of health care is patient safety. Dela Cruz and Dela Cruz (2021) and Salleh et al. (2020) emphasize the necessity of rigorous safety management plan and government's intervention in protecting healthcare facilities safety. Dela Cruz and Dela Cruz design a Facilities Technology Management model for public healthcare facilities in the Philippines with respect to efficiency, sustainability and technology. Salleh et al. systematic review of fire safety management in Asian hospitals, suggesting that a fire safety management plan and training to facilitate hospital staff's increased perception of both awareness and readiness for fire safety

Preventing the patient from being infected and from contracting infectious diseases is an important aspect of maintaining patient health. De Claro et al. (2023) and Sta. Ana and Tanque (2021) discuss this problem, especially considering fire safety and the COVID-19 pandemic. De Claro et al. (2023) have underscored the importance of adherence to safety precautions and the role of organizational and environmental determinants of infection control practices. Sta. Ana and Tanque study the compliance to infection prevention and control measures against COVID-19 among resident and fellow trainees in the hospital setting in the Philippines, emphasizing the importance of strategies that could promote adherence among residents and fellows.

In a hospital, Facility management refers to maintaining the infrastructure of the building and equipment in an efficient condition that can meet the organization's objectives. Sardi et al. (2020) and Subiyakto and Kot (2020) consider the application of FM, including FM as to cyber risk and service quality. Sardi et al. (2020) emphasize why controlling cyber risk in healthcare is becoming increasingly important, observing that devices connected to the internet are susceptible to cyber-attacks. They suggest repurposing cyber risk management practices from outside the health domain to strengthen security in healthcare. Subiyakto and Kot (2020) calculate the effect of Service Quality (SQ) on patient safety in Indonesia Public hospitals, establishing that equal attention should be paid to enhancing service quality to keep patients loyal and trustworthy.

Collaborative integrated management is a process of harmonizing activities and access for resources among stakeholders to meet goals effectively. Reñosa et al. (2021) and Friday et al. (2021) examine interprofessional practices in health care. Reñosa et al. yes (article includes mention of) focus: on Integrated Management of Childhood Illness (IMCI) program in the Philippines and recognition of barriers like none/ insufficient competent providers, lack of supervision. They advise that district and municipal health capacity be enhanced and healthcare worker training be reinvigorated in order to enhance the implementation of IMCI. Friday et al. (2021) explore supply chain collaborative risk management in the context of COVID-19, indicating that collaborative planning and coordination is an instrumental way to keep the stock at a rational level and make the supply chain less vulnerable to stockout interruptions.

Healthcare performance measurement entails the ongoing monitoring and evaluation of a wide range of aspects to assess performance and better understand aspects of the healthcare systems (efficiency, effectiveness and quality). Hashmi et al.

(2021) and Devasahay et al. (2021) at different settings. Hashmi et al. examine inventory management (IM) practices and its role in organizational performance in public hospitals, with a specific focus on the significance of capable staff in inventory management. Devasahay et al. identify KPIs to validate team performance in hospital, suggesting KPIs should include a combination of subjective survey-based data and objective metrics to improve assessment rigor.

Effective management of human and information resources is essential for efficient and high-quality delivery of healthcare services. Alhuwail (2019) and Abrigo et al. (2021) report this feature in other settings. Alhuwail explores information management in Kuwait public hospitals and states that there are problems with no strategic framework, and key stakeholders are not involved in the selection of health IT systems. They suggest that the effective management of information according to centralized strategic planning is indispensable for making use of digital health systems to support health rehabilitation. Abrigo et al. assessing the Human Resources for Health deployment program of the Department of Health in the Philippines, and observed that although this program enabled delivery of health human service in underserved areas, issues of delayed pay and variability of allowances were observed. They suggest reorienting the program toward underserved areas, and enhancing the delivery of benefits in order to improve health worker retention and performance.

Although there is vast evidence on strategies to improve systems for the delivery of quality healthcare at the hospital level, this has not been optimized to suit the Philippine hospital setting. Current research mainly concentrates on the single aspects of quality or a single intervention, and few of them provide a full context-specific model. The need for the study Any study that can generate a standardized and comprehensive model in the CQI process directed and adopted by the healthcare professionals in the Philippines through the hospitals for that in line with the issues and concerns particularly ensuring quality of health care was developed in the future. This study will synthesize knowledge across broad domains such as access to care, elements of quality care, health facility assessment processes, health information, facility safety, infection control and patient rights into a unified structure that will be practically implemented within hospitals in the Philippines. The proposed model will not only improve the quality of health care and patient outcomes in the country, but will also guarantee the fair distribution and judicious utilization of resources in the Philippine health environment.

1.9 Theoretical Framework

Based on the studies reviewed, Donabedian's Quality of Care Framework appears to be the appropriate theory to the study entitled "Quality Improvement Strategies of Hospitals in the Philippines: Basis for Hospital CQI Process Model. The literature illustrates a number of core features that correspond well to Donabedian's structure-process-outcome model, so it is recommended as well as by implication.

The McMaughan et al. (2020) emphasizes the role of socioeconomic status (SES) in health, indicating the need for structural reforms in access to healthcare for successful aging. This is consistent with Donabedian's structure domain, which emphasizes the importance of a strong structure to enable effective delivery of care. Furthermore, Yang et al. (2023) on the human-like style dedicate this volume to voice the exponential growth of biomedical data and the requirement for more effective management suggesting the implications for more effective healthcare therein.

Qualityze (2021) specifically describes the abstract elements of quality care, namely safety, efficiency, effectiveness, patient-centered care, timeliness, and equity. These attitudes can be linked directly to Donabedian's process and outcome classifications, in which good processes will result in good health outcomes. Cella et al (2022), Blackwell et al. (2019) and Rudnicka et al. (2020) reinforce the relevance of individualized health assessments and the function of regular assessments for maximizing patient health, which are elements of both process and to a lesser degree outcome in Donabedian's framework.

Alhuwail (2019) and Abrigo et al. (2021) focus on information and human resources management, highlighting that strategic planning and rational human resource allocation are necessary to Donabedian's structure. Dela Cruz and Dela Cruz (2021) point out the importance of facility safety and technology management, strengthening the structural aspect versus Salleh et al. (2020) also emphasize fire safety management as an important structural aspect.

1.9.1 Donabedian's Quality of Care Framework

The Quality of Care Framework by Avedis Donabedian in 1966 has greatly influenced healthcare services evaluation. The framework (Fig. 1) is based on three key elements such as Structure, Process and Outcome. "Structure" refers to the physical and organizational contexts in which care is provided including facilities, resources, personnel, and administrative arrangements (Guta, 2022). This infrastructure component provides the baseline for healthcare providers to be able to provide good quality

care. "Process" relates to the approaches to care, or what is done in caring for the patient, including diagnosis, treatment, patient teaching, and coordination of care. Efficient structures ensure that structural components effectively serve the interests of the patients. "Outcome" is the effect of health care on the health status of patients and populations. Outcome includes both changes to health and changes to knowledge, skill, tradition or decrease health demands, any of which can be called "health" Outcome --thereby including both expectations and experiences of the effect of care. These results indicate the final impact of the structure and process elements.

Figure 1

Theoretical Framework

Structure. Among features of the care system as included in the Donabedian Quality of Care Model, structure represents the organizational and physical means through which health care is provided. This is a cornerstone for good healthcare. In this study, the structure refers to the infrastructure and facilities; human resources; technology and equipment; and organizational policies of hospitals in the Philippines. The work of McMaughan et al. (2020) and Waring et al. (2020) highlights the importance of such structural components as levers for quality of care. In particular, McMaughan et al. emphasize the effects of socio-economic status (SES) on health, and reinforce the need for liberal structural mechanisms to diminish SES-related disparities. Similarly, Waring et al. emphasize the role of technology and information systems in improving healthcare.

Process. Process relates to the methods and care provision procedures that are necessary to achieve desired health states. Qualityze (2021) and the Institute of Medicine Committee on the Quality of healthcare in America describe necessary process elements including safety, effectiveness, patient-centered care, timeliness, efficiency, and equity. The practice involves training and education of health care providers, quality improvement strategies, patient-centered forms of care and data management and monitoring. These are processes that are designed to allow hospitals to provide high-quality, safe, effective care. For example, quality improvement measures tie in with the necessity for ongoing practice improvement in healthcare and were identified to demonstrate associations with quality improvements to practice (Cella, 2022; Blackwell et al., 2019 and Rudnicka et al., 2020).

Outcomes. Results are the impacts that healthcare services have on the health status of patients and on the performance of the health system more generally. Patient satisfaction, health results, efficiency, cost, and accreditation standards are some of them. The literature assessed considers this measurement of the progresses and of the improvement of such outcomes as important elements to support the quality of the healthcare. Studies by Hashmi et al. (2021) and Devasahay et al. (2021) stress the importance of performance measurement in order to identify areas for improvement and to ensure the quality of healthcare delivery. By examining these different effects, the study seeks to show the impact of a standardized CQI process model in improving quality of care in Philippine hospitals.

The incorporation of the Donabedian's model with CQI principles guarantees a holistic perspective of the healthcare quality improvement. CQI is based on a model of cyclical, or repeating assessment, planning, implementation, and evaluation that is consistent with Donabedian's structure-process-outcome framework. The research project will systematically find out such mismatches in the existing practices, make targeted improvements, check their effectiveness through Donabedian's framework and finally formulate a standard CQI process model that could be adopted by the hospitals in the Philippines.

And the interrelation of the elements is paramount; good structures facilitate proper processes resulting in desired outcomes, while bad structures or bad processes can lead to bad outcomes. Results also serve as a feedback mechanism for refining structure and process, and the dynamic nature of the model is emphasized. In the real world, health care providers are using the framework to evaluate and measure quality, kick off improvement campaigns, and help guide policy and regulation. For example, structural developments could consist of facility upgrades and updated training programs, whereas process improvements could standardize clinical protocols and enhance patient communication. Outcome monitoring also employs data analytics to monitor patient recovery rates, among other metrics, informing further quality improvements (Guta, 2022).

1.9.2 Diffusion of Innovation Theory

The Diffusion of Innovation (DOI) Theory introduced by Everett Rogers (2003) provides a sound theoretical perspective for understanding the uptake of new ideas, methods or technologies within social systems such as complex healthcare institutions. This theory has been particularly useful in hospital environments, particularly, in facilitating the new protocols, monitoring devices and patient-centered care practices that are required for the implementation of CQI models.

DOI theory highlights five primary characteristics of innovations—relative advantage, compatibility, complexity, trialability, and observability—that affect the rate and level of adoption (Dong, 2021). These features are broadly endorsed in health services research and have been associated empirically with the success of CQI programs.

Relative advantage. This is an idea of how much better a new practice is from an old practice. However, if innovations can be shown to contribute to better outcomes, improved efficiency, or greater safety, there is typically relatively rapid diffusion. The rapid embrace of telemedicine during the COVID-19 pandemic, for instance, had been prompted by its capacity to offer safe, timely and accessible care amidst critical limitations (Barbosa et al., 2021). Also, CQI efforts that demonstrate measurable improvements in patient outcomes, workflow, and/or cost effectiveness is likely to be replicated and maintained.

Compatibility. It describes of how well the innovation aligns with prevailing values, work habits, and institutional priorities. In health care, compatibility leads to adoption when innovations are consistent with clinical culture and regulatory standards. Moon et al. (2023) stressed that digital tools and the culture of patient safety initiatives are more durable when woven into the cloth of healthcare organizations.

Complexity. This perceived difficulty in comprehension of or application of the innovation, may serve as a hindrance. Innovations considered to be too technical or resource-heavy can face resistance, unless there is training, leadership backing and stepwise implementation. Zhang et al. (2021) underscored the great impact that usability has on the utilization of wearable health technology by patients with chronic diseases, which also holds true in the context of hospital organizations implementing new CQI.

Trialability. Adoption can be facilitated if an innovation is perceived as testable on a trial basis. Pilot projects that allow a hospital to use CQI models in certain sections of the hospital would offer important experience and build internal champions prior to expansion (Dong, 2021). This is particularly concerning for secondary level hospitals in the Philippines

Observability. This is related to how obviously a benefit from the innovation is to others. The spread of CQI endeavors is expedited when the results, for example enhanced patient satisfaction, decreased infection rates, or increased staff productivity, are published and exchanged. Novikov et al. (2024) noted that other downstream adopters will be influenced if they can see performance gains (especially when performance gains are being publicly reported or shared across hospital networks).

DOI theory also divides adopters into five types: innovators, early adopters, early majority, late majority, and laggards. Every organization operates on a continuum of readiness, with different readiness levels for change and need for customized approaches to implementation. Dong (2021) stresses that innovators and early adopters generally have the institutional backing and decisional freedom that render them well suited to trial the new CQI strategies. The early/late majority look more for peer approval or evidence of effectiveness, while the laggards will only fall into line if the regulations force them.

In addition to innovation characteristics and adopter characteristics, organizational readiness and leadership are important facilitators for maintaining CQI activities. As reported in the systematic scoping review by Moon, Hogden, & Eljiz (2023); successful hospital-wide CQI requires the engagement of leadership, involvement of the workforce, alignment with strategic objectives, and the presence of feedback loops. Their findings also reinforce the advice to implement safeguards to

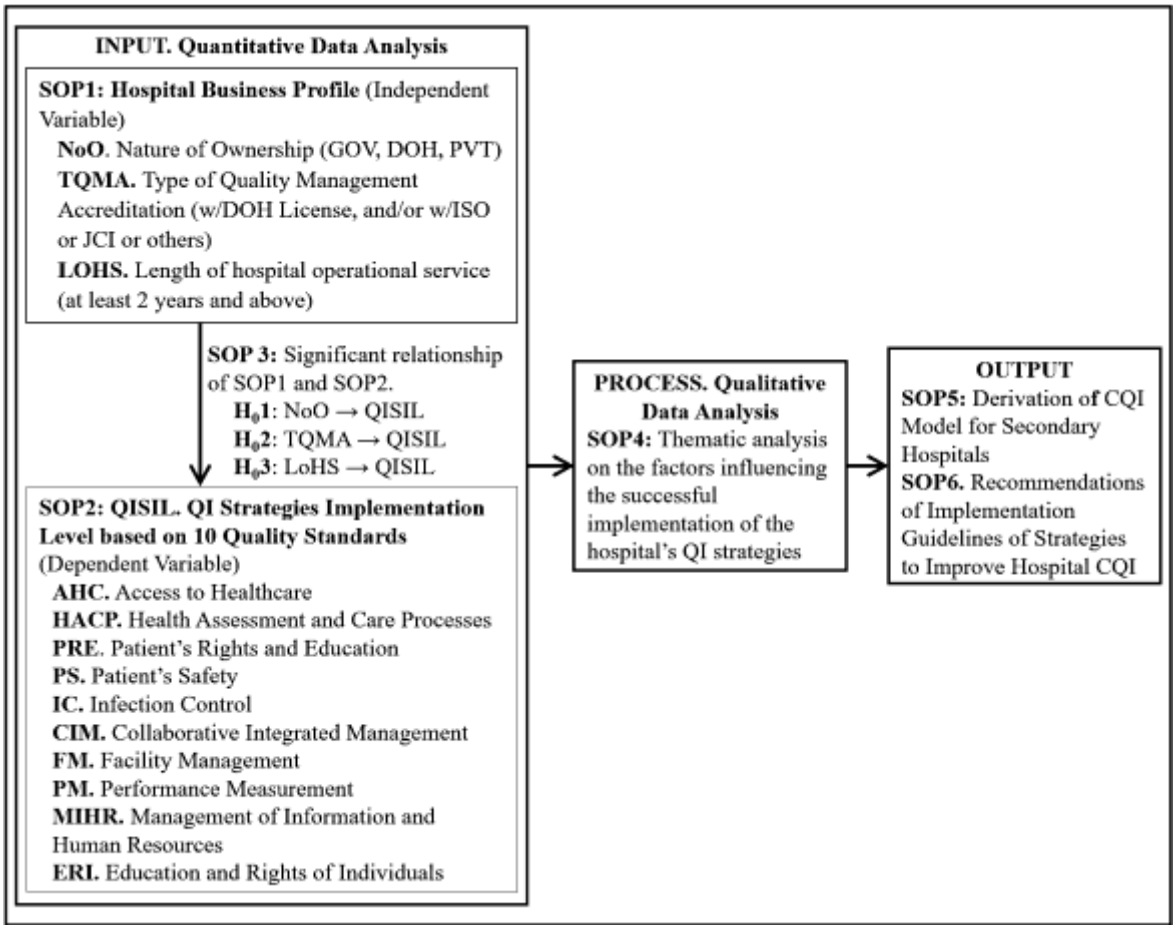
ensure ongoing monitoring and adaptive governance structures are in place to sustain the long-term gains of quality improvement initiatives.

Challenges to innovation adoption in low-and middle-income countries, including the Philippines, involve such systemic constraints as limited resources, selective policy enforcement, and digital divides. However, Sheikh et. al (2020) propose that the use of DOI theory in combination with policy reform and local development of capacity will allow quality improvement to spread and be sustained at pace, despite disparate health systems.

1.10 Conceptual Framework

Figure 2

Conceptual Framework



As shown in figure 2, the conceptual framework of this study offers a broad configuration to understand the QI strategies at the secondary level of hospitals. The framework includes three key dimensions: input, process, and output, and is designed to help explain the nature of QI effort within the healthcare system.

The input component includes the hospital business model, which is considered as the major independent variable of research. This profile is composed of three components: NoO (Nature of Ownership – Government, DOH or Private hospital); TQMA (Type of Quality Management Accreditation) e.g., ISO, JCI or PhilHealth Benchbook; and LOHS (Length of Hospital Operational Service). These are important variables to understand as they may impact on the extent to which hospitals can implement and sustain QI interventions.

The dependent variable is covered by the QISIL (Quality Improvement Strategies Implementation Level), which runs on ten quality standards only. These standards are extracted from well-known healthcare quality frameworks and are as follows: Access to Healthcare (AHC, Health Assessment and Care Processes (HACP), Patient's Rights and Education (PRE), Patient Safety

(PS), Infection Control (IC), Collaborative Integrated Management (CIM), Facility Management (FM), Performance Measurement (PM), and Management of Information and Human Resources (MIHR) and Education and Rights of Individuals (ERI). These areas combine to offer a multichannel perspective of how quality improvement initiatives are introduced in diverse areas of hospital care and management.

The process component of the framework includes the analysis of qualitative data-- specifically thematic analysis is proposed -- which is to be used to interrogate the forces that explain why QI strategy prospects as well as challenges have been realized. This analysis focuses on drawing insights from hospital staff and management about their experiences, perceptions and the contextual realities that influences their QI practices. It enhances the quantitative findings into the whole picture and interpretation of organizational climate, staff involvement, leadership support, availability of resources and other contextual factors that influence QI work.

Lastly, the framework yielded the generation of a CQI Model for secondary hospitals in the Philippines. This model will be built by incorporating quantitative evaluations and qualitative information to make it a practical, customized and adaptable model that can be used in a variety of settings. In addition to the model, the study will also develop recommendations for hospital leadership, policy makers and clinicians to improve design, implementation and sustainability of QI

CHAPTER 2

METHODS

This chapter discusses the methodology employed for examining the implementation of Quality Improvement (QI) strategies in secondary hospitals in the Philippines, detailing the design of the study, data collection procedures, sampling methods, and analytical techniques

2.1 Research Design

The research procedure of this study employed a mixed-methods approach, integrating both quantitative and qualitative analysis to thoroughly explore the implementation of Quality Improvement (QI) strategies in secondary hospitals across the Philippines. This approach is based on the relative importance of methods derived from previous studies and established criteria. When organizations choose a method for quality improvement, they usually have certain expectations or perceptions about which approach suits them best.

Quantitative analysis will be conducted using a descriptive research design. Pre-determined questions in a survey form will be administered to respondents to describe the level of implementation of the QI strategies practiced by each hospital. This quantitative method will identify which QI strategies are most successfully practiced and determine any differences in implementation among hospitals. Furthermore, it will identify, describe, and interpret the factors influencing the successful implementation of the QI strategies practiced by the subject hospitals. Quantitative descriptive statistical analysis using SPSS (Statistical Package for Social Sciences) will summarize the hospitals' business profiles, the level of implementation of their QI strategies, and inferential statistics to determine significant differences and relationships in QI strategy implementation based on various hospital profiles.

The quantitative approach was supplemented with qualitative analysis to confirm and enhance the quantitative results. Cluster-purposive sampling of respondents (informants) specifically, the quality improvement Committee members have been selected to gain depth of information through interviews. The richness of the qualitative data allowed interpretation and refining of the quantitative data so that nuanced and comprehensive level of QI strategy implementation across the various in hospital settings could be achieved.

2.2 Data Management

2.2.1 Data According to Source

This study used a self-made structured survey questionnaire to collect data on the implementation of QI strategies in secondary hospitals across the Philippines. The hospitals, which include private, government, and DOH-owned facilities, must have at least a DOH license to operate and/or management accreditations such as ISO or JCI. The subject hospitals are listed on the PhilHealth website, updated as of 2024.

In answering SOPs 1 to 6, the subject hospitals should clearly understand that the survey questionnaire can be best answered by those who are knowledgeable in the implementation of their hospital's quality improvement strategies. Therefore, the survey questionnaires of this study were distributed to the hospitals' CQI committee head, manager or representative.

The data collection phase will span three months to ensure thorough information gathering. Both face-to-face surveys and online follow-ups will be used to maximize response rates and completeness, with face-to-face surveys prioritized for detailed responses. Incomplete and unreachable respondents will be followed up by online surveys. This two-pronged strategy overcomes some of the limitations, including the availability and engagement. Alternate data collection modes (e.g. by telephone or over an extended survey period) will be explored, if necessary. A questionnaire will be sent to eligible private and government hospital staff working for at least 2 years. The researcher will conduct interviews with 10 hospitals that score highest on the CQI implementation scale. This approach to the selection of hospitals guarantees already successful CQI practices and best practices which may have evolved in practice. In-depth interview would be conducted in order to further examine their strategies, challenges and results.

2.2.2 Data According to Methods

The business profile of the hospitals is considered as the independent variable in this study, categorized through ownership nature (government, private, DOH-owned hospitals), type of quality management accreditation, and years of operational service of the hospital.

Ownership has profound implications for hospital operations, where resources flow and management practices—government hospitals emphasizing public health goals, private hospitals placing profits first, and DOH-owned hospitals combining some aspects of the two (Eggleston et al., 2008). In addition, quality management accreditation is recognized via hospitals' commitment to high quality patient care and operational efficiency among many hospitals in pressing patient outcomes brought about by compliance to best practice and protocols (Kiran, 2024). The years of hospital services, which can be an indicative of the stability and experience of an institution as well as how extensive are its procedures and quality of care, was also listed (Amer, 2021). Whilst analyzing these components this study has revealed the business profile of the hospital is a primary determinant of the quality of care delivered, hence making it a crucial independent variable for understanding the performance of the hospital.

Also in this study, the dependent variables are the QI strategies of the 10 quality standards delineated in the Donabedian framework that encompass evaluating structure, process, and/or outcomes of care. Structure is the physical and organizational characteristics of the hospital, process is the delivery of care, and outcomes indicate the appropriateness and effectiveness of the care (Donabedian, 2005). This study examined QI strategies by means of questions regarding the typical means, tools, techniques, manner in which they were implemented, and the results of these strategies to ascertain whether subject hospitals are appropriately deploying these strategies with the goal of improving care quality. Adopting this process, this study seeks to assess how far hospitals comply with the requirements of successful quality standard implementation and its implications in developing patient safety, satisfaction and overall hospital performance (Kiran et al., 2024; McGlynn et al., 2003). The inclusion of Donabedian's model enables a broad review of how hospital QI interventions are designed and implemented and the impact they have on the actual provision of care.

2.2.3 Data According to Form

Data arrangement will also include system wide data entry and validation steps in order to verify accuracy and identity. Data collection will be subjected to scheduled review and will also be cleaned to check for out of range or out of sequence observations. The data analysis will be performed by SPSS with the descriptive and inferential statistics applied.

Table 1

4-point Likert Scale for Level of Implementation of QI Strategies

Score	Mean range	Level of Implementation	Interpretation
1	1.00 to 1.50	No Implementation (NI)	The hospital/organization's insufficient resources and lack of awareness about Quality Improvement (QI) initiatives are contributing to subpar patient care and outcomes.
2	1.50 to 2.50	Slight Implementation (SI)	The hospital/organization is not actively enhancing patient care quality and outcomes, suggesting a need for a comprehensive Quality Improvement (QI) program.
3	2.51 to 3.50	Moderate Implementation (MI)	The hospital is enhancing patient care and outcomes, but there's room for improvement in integrating Quality Improvement (QI) principles into its operations.
4	3.51 to 4.00	High Implementation (HI)	The hospital has effectively integrated QI principles and practices into its operations, enhancing patient care quality and outcomes.

Descriptive statistics of the hospital profiles (independent variable) and the levels of their implementation of QI strategies (dependent variable) will be presented and inferential statistics (relationship of between the variables) will test the study hypotheses. This quantitative comparison will adduce information on the degree to which certain QI interventions are translated to practice as well as their impact across diverse hospital contexts. This research will take a 4-point Likert scale for the subject hospitals' level of CQI implementation as presented in table 1.

2.3 Sample Design

2.3.1 Sample Population

This study is limited to secondary hospitals in the Philippines, which are considered relevant for the application and assessment of QI practices. By December 31, 2023, the Department of Health informed that PhilHealth accredited 332 secondary hospitals. The hospitals have different service volumes and are in various areas. The uneven distribution necessitates cluster sampling to ensure that the sample is representative of the national landscape. Cluster sample design include division of the country into groups and random selection of hospitals within each cluster to ensure representativeness. This method ensures the representation of hospitals in densely and sparsely populated areas, thus providing a more complete and fair view on the implementation of the quality improvement activities in secondary hospitals.

In each study area, the same number of hospitals will be added to the sampling frame to ensure that the findings can be interpreted widely across different regional and administrative contexts in the Philippines. The sample size was determined using Raosoft's formula with finite population correction Z = 1.96, p = 0.05 and e = 0.05, a sample size of 172 is obtained. The study includes all of the secondary hospitals (332 in number), although form based preliminary sample sizes of 177 respondents were projected to provide enough power for the study.

One-hundred eighty-two (182) hospitals have contributed data to the survey part of the study. Out of the total samples, ten (10) hospitals with the highest mean scores in overall implementation of QI implementation will then be purposefully sampled for in-depth interviews. These high-performing hospitals will be the model sites for best practices in CQI. The qualitative information collected in these interviews will enable determining the key elements that help ensure the successful penetration of CQI strategies in the organizations these speakers represent. In addition, the qualitative data obtained from these interviews will help to supplement and enrich the interpretation of the quantitative results, providing a richer understanding of the extent and quality of CQI practice among the sampled hospitals.

2.3.2 Respondents

Respondents will be sampled to ensure a fair distribution between government, DOH-owned and private hospitals following the selection of hospitals by cluster sampling. Attendance will be limited to Quality Management Committee leaders/head/managers and to those directly involved with Quality Improvement, with management excluded to prevent bias. This focus ensures that the respondents have the necessary skills and grounding to report accurate and informative information on QI implementation. It will exclude the health-disadvantaged groups as it relies on staff with high skill to know the complexities of sensitive medical procedures. Stringent controls will be established to ascertain that subjects understand the volitional nature of consent, with informed consent will also be obtained to ensure that subjects are aware of their rights and that their participation will not incur any negative consequences. The random sample also aims to provide a comprehensive picture of the QI practices in secondary hospitals in all the provinces.

2.3.3 Research Instrument

The survey questionnaire (Appendix B) is divided into two parts. The first part will gather the subject hospital's business profile, describing their level of service capability, nature of ownership, type of quality management, and number of years of hospital operation. Respondents will be asked to indicate their answers along with optional information about the hospital's name, their position in the Quality Improvement Committee, and their number of years in service. The second part will contain the respondent's rating on the level of implementation of their hospital's QI strategy using a 4-point Likert scale, which will be considered as an ordinal level of measurement.

A reliability test is conducted using Cronbach's Alpha on the survey instrument with a sample of 30 responses used in this study in which the results is summarized in the Appendix L. Most parameter shows good to excellent reliability, particularly in hospital quality standards such as infection control facility management, performance measurement and education and rights of patients with α = 0.910, 0.917, 0.929 and 0.912 respectively. Only the standards on access to healthcare had an α = 0.740 which is still within the acceptable range. While the remaining quality standards such as health assessment and care processes, education and rights of individuals, patient's safety, management information and human resources, and collaborative integrated management had a good reliability with α = 0.855, 0.863, 0865 and 0.887 and 0.893 respectively. These results suggest that the survey items are well-constructed and consistent, concluding that the survey instrument is reliable in assessing the implementation level of the quality improvement strategies of the subject hospitals.

In addition to these quantitative analyses, the qualitative data utilizing a structured open-ended interview questionnaire (Appendix C) from key informant interviews will be transcribed and thematically analyzed. This qualitative analysis will complement the quantitative findings, providing a richer, more nuanced understanding of the QI implementation processes. By integrating these data management strategies, the study ensures a robust and comprehensive analysis, supporting its aim to develop a standardized CQI model. This comprehensive approach will allow for a detailed examination of the factors influencing the successful implementation of QI strategies, facilitating the identification of best practices and areas for improvement.

2.3.4 Control Procedure

The pre-test is an essential run-up to a survey, essentially conducted in a smaller sample prior to the main survey. This allows the researcher to can assess, if survey items are understandable, relevant, as well as high-quality. This way, possible problems, e.g., ambiguous or unrelated questions, can be detected and resolved by amending or eventually excluding source items. This detailed effort improves the reliability and validity of the instrument and reduces the likelihood of a negative outcome should the formal survey be conducted and data collected.

In order to perform an efficient pre-test, the researcher firstly surveyed 32 sample hospitals. A paper-based questionnaires were administered on-site with the assistance of the researcher. Short interviews followed to collect information about what the respondents had understood and about any confusions. During this procedure, the questionnaire was recognized to be clear, relevant and comprehensive in dimensions of key research and check the consistency. Respondent anonymity was preserved to ensure the security of the information. The pre-test feedback was carefully evaluated and contributed to the improvement of the questionnaire and the study design, thus increasing the reliability and power of the formal survey.

From there, the pre-test data were analyzed in-depth using the reliability test and then shown to three (3) professional experts in the area of hospital administration, quality initiatives and survey methodology (Appendix D).

2.4 Data Gathering Procedure

This study was subjected to an ethical review by the Ethics Review Committee of the University of the Immaculate Conception (Appendix A). A proposal detailing the objectives aims, methods, informed consent form (ICF), and procedures for data management was made; after the approval, the data collection has begun.

Participants will be provided with an e-Informed Consent describing the study objectives and the voluntary nature of the participation. Consent is provided for by signing "Yes" at the outset of the survey. Paper copy of the Informed Consent form was given to participants who take part in the In-Person Modality, and the researcher will read and explain it to them. Accompanied by the signature, an agreement was signed by the participants prior to the first interview. Participants were informed that they can withdraw at any time without penalty.

The subject participants were also then invited to ask questions while being informed that they can withdraw at any time during completion without any consequences. If they prefer to withdraw, all their data will be erased. With these, the participants can feel emotionally uncomfortable talking about such hard topics. During the on-site interviews there had been short breaks in between. The web-based survey allowed the respondent to take a break and return at his or her convenience. Any problems or questions that the respondent encounters as he/she completes the survey will be accommodated. The guidelines ensured participant rights by guaranteeing that participation is voluntary and confidential.

The study included a sample of 182 respondents acknowledging both statistical significance and reliability. Hospitals would be randomly selected to make sure the results are generalizable to various geographic and administrative settings in the Philippines.

2.5 Statistical Treatment

The data gathered from the survey will undergo both descriptive and inferential statistical analysis using SPSS. Each research question will be tested with appropriate statistical tools to ensure robust and comprehensive analysis.

To test whether the hospital's business profile in terms of nature of ownership, type of quality management accreditation and length of hospital service is related to the implementation level of their QI strategies, test for correlation utilizing Spearman's rho was employed. By evaluating the relationship of the hospital's business profile in relation to their QI implementation levels, its analysis will reveal whether variations different hospital's characteristics significantly influence how QI strategies are implemented. This insight is crucial for understanding if hospitals with better business profile are better equipped to implement QI strategies effectively.

2.6 Ethical Considerations

Several ethical considerations including that of principles in informed consent, confidentiality, anonymity, non-maleficence, beneficence, respect for autonomy, fairness, transparency, ethical approval, data integrity and cultural sensitivity were adhered to in this study.

2.5.1 Conflict of Interest

The researcher declared no conflicts of interest that are directly relevant to the content of this study's preparation, conduct, or reporting. Disclosure: Not caused if there is any conflict of interest and will be stated transparently to keep neutrality to users.

2.5.2 Privacy and Confidentiality

The identities and data of the participants will remain confidential and anonymous. All personal identification of participants, hospital identification and interview records will be coded separately and anonymized. Data will be saved in password-protected and encrypted digital files and in locked cabinets for hard copies. Data access will be limited and the data will not be shared without written agreement in accordance with the Data Privacy Act of 2012 (Republic Act No. 10173).

2.5.3 Informed Consent Process

The participants will be provided with full and plain information on the aim of the study, the procedure, any potential risk and benefit. Participation will be completely voluntary and participants will be made aware of their rights to consent — and withdraw from the study at any time without consequence or coercion.

2.5.4 Vulnerability and Possible Risk

The study is of minimal risk to the participants. It should be modelled around the principle of non-injury where any discomfort or damage is to be kept to a minimum. The goodwill of the study is one that is hoped to improve hospital continuous quality improvement (CQI) activities and patient care outcomes.

2.5.5 Recruitment

Participants were not recruited nor discriminated against. For vulnerable groups, this study aimed to attach assent as surrogate for ethical participation.

2.5.6 Assent

Prior answering the questionnaire, participants would be sent a detail explanatory letter about the background of the study, objectives of the study, questioning commitment, and voluntary participation, as well as any possible risk or benefit for participants. This mechanism for consent is designed to make it informed and voluntary. There is no penalty for withdrawing from the study and their relationship with the research facility will not be affected by their decision to withdraw. Unambiguous contact details shall be supplied to allow for any questions or concerns to be addressed so that the participants are not in any doubt about the study or their rights.

2.5.7 Benefits

Findings will also be made available to participants and/or their institutions to inform CQI approaches that improve quality and patient safety.

2.5.8 Compensation, Incentives, or Reimbursement

No financial compensation or other payment will be offered. Your involvement is optional and designed to enhance your professionalism and the quality of our organization's services.

2.5.9 Community Consideration

This study is sensitive to the cultural values, norms and traditions of Filipinos. Cultural respect will also be observed throughout the research process to enable respectful and appropriate participation.

2.5.10 Expected Output

This study will generate useful evidences and make recommendations on a widely acceptable hospital CQI model for the Philippines. Any dissemination will be conducted responsibly while protecting the confidentiality of the participants and of other stakeholders.

2.5.11 Collaborative Study Terms of Reference

This study's analysis was completed in partnership with the CQI experts of participating secondary hospitals. Clear parameters were set for roles, responsibilities and expectations to ensure transparency and mutual respect.

CHAPTER 3

RESULTS

This chapter examines the quality improvement (QI) strategies implemented by the secondary hospitals in the Philippines. This presents a summary of the hospitals' business profile, level of implementation of the hospitals QI strategies, its significant relationship to its business profile and the factors influencing the successful implementation of it. Therefore, the results of this study were divided into two parts.

The first part involves quantitative descriptive and inferential statistical analysis which utilizes the collected data to examine the frequency distribution of the subject hospitals in terms of their business profile. Secondly, the level of implementation of the QI strategies of the hospitals according to its nature of ownership. Then, through SPSS software, this will examine the relationship between the hospitals' QI strategies and its business profile. This analysis aims to address SOP1, SOP2 and SOP3.

The second part focuses on the qualitative analysis of the subject hospital's interview responses which will undergo thematic analysis to identify the factors influencing the successful implementation of the hospitals' QI strategies. Then, from the findings of the study, a hospital CQI model shall be derived and lastly the recommendation of the implementation guideline of the model. This aims to address SOP4, SOP5 and SOP6. Meanwhile, this section also tests the $H_0$1, $H_0$2 and $H_0$3 proposed in this study.

Part 1. Quantitative Descriptive and Inferential Statistical Analysis

3.1 The Subject Hospitals' Business Profile

This section outlines the business profile, covering the hospital's nature of ownership, whether government, private, or DOH-managed that discusses the type of management, highlighting its organizational structure and leadership. The type of management accreditation status is reviewed, showcasing the hospital's compliance with industry in local and international standards, and the length of service that reflects its experience in providing healthcare. This profile provides context for the hospital's quality improvement efforts.

Research Question Number 1: What is the business profile of the subject hospitals in terms of nature of ownership, type of quality management accreditation and length of hospital service operation?

Tables 3 to 5 presents the hospital respondents' business profile which illustrates the frequency and percentage distribution of the hospital's nature of ownership, type of management accreditation and length of service operation.

Table 2

Frequency Distribution of Hospital Respondent in terms of Nature of Ownership

Nature of Ownership	Frequency	Percentage
Government	54	29.7
DOH hospital	28	15.4
Private	100	54.9
Total	**182**	**100.0**

Table 2 describes the ownership pattern of the study hospitals. more private hospitals that may have contributed to the flexibility and operation of decision making and quality improvement initiatives. Because privately owned hospitals are most frequent in this study (54.9%), this result confirms the one reported by McMaughan et al., (2020) and Devasahay et al. (2021) that private schools must be more able to adjust more quickly to innovations and changes in education practices, because they have more autonomy in decision-making.

The 29.7% government owned hospitals–and particularly the 15.4% under DOH–may not have as many 'tricks' up their sleeves, as noted by Diggele, 2020 and Cruz and Cruz, 2021. Such organizations are typically well-funded through public sources, which gives them stability but limits the speed at which they can affect change in response to new healthcare challenges. Yet their commitment to delivering equitable care to the underserved positions them uniquely in the health system as Reñosa et al. (2021) pointed out.

Overall, ownership type plays a significant role on how hospitals prioritize its operations and what it is capable of providing, in operational terms. Though, private hospitals are usually recognized for their operational flexibility, government-run hospitals, particularly those under the DOH, have public funds at their disposal to guarantee health care to the public, including underprivileged groups.

Table 3

Frequency Distribution of Hospital Respondent in terms of Type of Quality Management Accreditation

Type	Frequency	Percentage
DOH licensed only	89	48.9
DOH with ISO accreditation	81	44.5
DOH with other accreditations (ACI, JCI aligned, on-going PCAHO, PGS or POGS)	12	6.6
Total	**182**	**100.0**

As shown in Table 3, quality management accreditation was a significant issue in the studied hospitals, since nearly half of them (48.9%) held only a license from the DOH, which means that they that have applied the camping standards of the country.Alhawajreh et al. (2023) also stated that accredited health facilities are more likely to implement and utilize QI and that the quality standards of an accreditation program create ongoing improvement and quality assurance. Devasahay et al. (2021) reinforce this perspective by suggesting that endorsement will be associated with adopting best practice and adhering to healthcare standards, which will in turn improve QI.

On the other hand, 81 (44.5%) hospitals are dual-accredited-DOH and ISO, indicating a surge among hospitals in the Philippines to comply with both national and international standards. This combined approach agrees with McMaughan et al. (2020) and Diggele (2020) who highlight that certified hospitals frequently obtain benefits in terms of efficiency and service quality, and that such benefits may lead to patient satisfaction and long-term viability. Those hospitals that seek such international credentials are making a statement about their willingness to improve their competitive advantage in quality in health care in the years ahead.

Lastly, the lesser proportion (6.6%) of hospitals aiming for other international accreditations like ACI, JCI, PCAHO, PGS, or POGS, may also indicate some hospitals aiming higher up the international healthcare chain. As Kringos et al. (2015), hospitals of such high accreditations are likely to have enhanced practices to attract international patients, which enhances its establishment in the international market.

Table 4

Frequency Distribution of Hospital Respondent in terms of Length of Hospital Service Operation

Length (in years)	Frequency	Percentage
Less than 2	6	3.3
2 - 25	85	46.7
26 - 50	28	15.4
51 - 75	38	20.9
76 - 100	18	9.9
More than 100	7	3.8
Total	**182**	**100.0**

Table 4 shows the hospital frequencies by hospital operating years. Most (46.7%) of the hospitals are relatively young–middle aged (2–25 years). In addition, the newly established and younger hospitals have not had sufficient time to develop their systems and are more open to adopting new technologies and best practices for improving care delivery, coordination and patient outcomes (Al Harbi et al., 2024). New QI models including electronic dossier, case management pathways as patient-centered changes are expected to be more likely implemented compared to recent data from the literature which revealed that newly built hospitals are more likely to introduce economic and lean processes and to apply recent QI models such as electronic dossier, case management pathways and patient-centered changes (Endalamaw et al., 2024).

The presence of mature hospitals — 51–75 years (20.9%) in existence, and greater than 100-year-old hospitals (3.8%) — but also an age distribution of hospital age at the institutional level suggests a rich distribution of institutional longevity in the sample. This well ensconced clinical cultures are crucial in being able to offer safe and effective care (McMaughan et al., 2020). For these older organizations, the struggle is not just how to maintain this heritage of trademarks, but how to evolve and adapt by including modern QI methodologies and digital health innovations (Sardi et al., 2021). For the thousands of hospitals that were founded years ago, it's a delicate balance between the relevance of their history and changing with the times to remain a successful destination for those in need of care.

This combination of the relatively new and the older hospitals, in fact, provides a diverse healthcare environment in terms of age, resources and institutional memory. Among the less modern to understand this term in a technical sense the management, however their inferior age, has been an advantage, as its excellence is made up by the indigenous depth, power of resistance, and social status, which give to the newer hospitals even greater venerability. These results can guide hospitals in investing in adaptive QI strategies, staff education, and strategic incorporation of medical devices to cope with the growing demand for quality care at all hospitals (Endalamaw et al., 2024; Alhawajreh et al., 2023), but particularly so for hospitals under the age of 65 in supporting a sustained increase in quality of care across all hospitals.

3.2 Implementation Level of the Hospitals' Quality Improvement (QI) Strategies

Research Question Number 2: What is the implementation level of the QI strategy practices of the subject hospitals in terms 10 hospital quality standards such as: Access to Healthcare; Health Assessment and Care Processes; Patient's Rights and Education; Management of Information and Human Resources; Patient's Safety; Infection Control; Collaborative Integrated Management; Facility Management; Performance Measurement; and Education and Rights of Individuals?

This section examines the implementation level of the hospitals' quality improvement (QI) strategies, focusing on various aspects of healthcare delivery across government, Department of Health (DOH), and private healthcare institutions. Also, this evaluates the extent to which key strategies improving the 10 hospital quality standards such as improving access to healthcare, ensuring patient safety, enhancing infection control, promoting patient education, and optimizing facility management—are implemented within these institutions. The purpose of this section is to examine the efficacy of these strategies to inform current quality improvement practice and identify additional improvements needed to achieve best practice quality in the delivery of health care. The study also contrasts performances across government, DOH and private institutions and provide insights into the strength and areas where all are high quality in care can be enhanced.

Table 5

Hospitals' Quality Improvement Strategies (QI) Implementation Level in terms of Access to Healthcare

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
AHC1. Equitable access to healthcare service by partnering with community organizations, enhancing cultural competence, & using data analytics to address care gaps.	GOV	54	3.24	Moderate	0.775	1
	DOH	28	3.29	Moderate	0.659	2
	PVT	100	3.16	Moderate	0.707	3
	Total	**182**	**3.20**	**Moderate**	-	-
AHC2. Monitor and address healthcare access barriers through community assessments, patient feedback, and targeted interventions.	GOV	54	3.22	Moderate	0.769	3
	DOH	28	3.43	Moderate	0.742	1
	PVT	100	3.40	Moderate	0.651	2
	Total	**182**	**3.35**	**Moderate**	-	-
AHC3. Availability of financial assistance programs, including sliding scale fees and charity care, to ensure financial constraints do not hinder access to healthcare.	GOV	54	3.70	High	0.571	1
	DOH	28	3.64	High	0.621	2
	PVT	100	3.24	Moderate	0.780	3
	Total	**182**	**3.44**	**Moderate**	-	-
AHC4. Outreach programs such as mobile clinics and health fairs provide vital services directly to underserved communities.	GOV	54	3.30	Moderate	0.838	2
	DOH	28	3.46	Moderate	0.693	1
	PVT	100	3.08	Moderate	0.825	3
	Total	**182**	**3.20**	**Moderate**	-	-
AHC5. Utilize telemedicine to improve access to care, offering remote consultations and specialist services to patients in remote or underserved areas.	GOV	54	2.89	Moderate	0.883	1
	DOH	28	2.82	Moderate	0.945	2
	PVT	100	2.64	Moderate	0.732	3
	Total	**182**	**2.74**	**Moderate**	-	-
AHC. Access to Healthcare (Average)	GOV	54	3.27	Moderate	0.543	2
	DOH	28	3.33	Moderate	0.466	1
	PVT	100	3.10	Moderate	0.528	3
	Total	**182**	**3.19**	**Moderate**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

As shown in table 5, the level of utilization of the various QI strategies to improve access to health care in government, Department of Health (DOH) and private hospitals. Overall, the strategies are being implemented to a moderate extent, with certain variations among the sectors.

In terms of equitable access to health care services (AHC1) moderate implementation is presented across the board by all sectors, however, government and Department of Health (DOH) institutions have scored higher than the private sector. This indicates that attempts are being made to achieve equity of access to health care, but there are still some deficiencies observed, particularly in the private sector. For the monitoring and remedial action against the health access barriers (AHC2), both DOH and private hospitals have a higher average score compared to government, likewise at moderate overall level implementation in all sectors. This does represent a continuing focus on the barriers of patient feedback and community assessments, but there is still work to be done in order to surmount these obstacles.

As far as financial aid packages (AHC3), there is notable difference. Both Government and DOH facilities achieved a high level of implementation score of 3.70 and 3.64 respectively. This may reflect a greater ability of these sectors to provide patient financial assistance through sliding scale fees and charity care. In contrast, the private implementation of such programs is fair to

medium, with a lower score of 3.24 suggesting that they may not be as effective in delivering material support to those in need. Community outreach programs (AHC 4), such as mobile clinics and health fairs, follow the same pattern and are moderately implemented across sectors. Nonetheless, the government and DOH sectors fare a little better, which indicates that these programs exist, although not in all areas.

Telemedicine, an important means of increasing healthcare access (AHC5), is slightly implemented with rates of less than 3 across all sectors. Notwithstanding the potential of telemedicine, its implementation has been limited, particularly in underserved regions. The government achieves the highest with a mean score of 2.89, representing moderate application of telemedicine, and private sector has the lowest at 2.64 indicating significant disparity in use of telemedicine.

The data indicates that there are significant attempts to improve access to health care, particularly through financial support and outreach, but there is still plenty of space for expansion. The low scores for telemedicine implementation suggest a gap that healthcare providers will need to fill with their digital care offers. To increase access to health care even more requirement is more investment and policy focus on in strategic wise utilization of resources in less served and distant areas. Sacks et al. (2020) point out that access to healthcare is a multi-dimensional concept that consists of availability, affordability, and acceptability. Their research suggests that financial assistance, in combination with targeted outreach, leads to improved access to health care. Adams et al. (2022) revealed telemedicine plays a major role in access to healthcare, particularly for those in rural areas, although they are impeded by some constraints, such as internet access and lack of computer literacy.

Table 6 presents the level of implementation of different strategies for quality improvement on health assessments and care processes among different hospital sectors. These approaches pursue a comprehensive plan of care, decreased variability, patient-focused care planning, and the application of technology for health care delivery.

The first sub-strategy, Regular health assessment for every patient (HACP1), demonstrates a good level of implementation by both in DOH (3.68) and private sectors (3.63) contributing to a combined average score of 3.25, however it is only reported as slightly lower at 3.41 for the government settings. This suggests that this in all sectors regular medical checks are prevailing, but that for DOH and private a stronger system is in place with continuous and comprehensive care. DOH and private was generally strong across the board with a total mean score of 3.57.

Care process standardization (HACP2) is also widely implemented, particularly in DOH (3.75) and private (3.57) institutions, while government agencies were found to be once again slightly behind overall a score of 3.37. This is a demonstration of the dedication to providing quality care by following approved techniques, however, other institutions in a position to standardize the care may face difficulties. The mean score of 3.54 indicates a positive degree of implementation of this strategy, much of which is consistently placed on raising standards of care.

Table 6

Hospitals' Quality Improvement Strategies (QI) Implementation Level in terms of Health Assessment and Care Processes

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
HACP1. Regular health assessments for all patients to ensure continuous and comprehensive care.	GOV	54	3.41	Moderate	0.714	3
	DOH	28	3.68	High	0.548	1
	PVT	100	3.63	High	0.562	2
	Total	**182**	**3.57**	**High**	-	-
HACP2. Standardized care processes based on best practices to maintain high-quality healthcare delivery.	GOV	54	3.37	Moderate	0.708	3
	DOH	28	3.75	High	0.585	1
	PVT	100	3.57	High	0.624	2
	Total	**182**	**3.54**	**High**	-	-
HACP3. Regularly review and update care protocols to stay aligned with the latest medical guidelines.	GOV	54	3.28	Moderate	0.738	3
	DOH	28	3.50	Moderate	0.577	1
	PVT	100	3.40	Moderate	0.682	2
	Total	**182**	**3.38**	**Moderate**	-	-
HACP4. Focused patient-centered care planning to tailor treatments to individual patient needs and preferences.	GOV	54	3.41	Moderate	0.714	3
	DOH	28	3.57	High	0.634	2
	PVT	100	3.58	High	0.589	1
	Total	**182**	**3.53**	**High**	-	-
HACP5. Utilized Electronic health care records (EHR) for efficient and coordinated care management across all healthcare services	GOV	54	2.89	Moderate	0.839	3
	DOH	28	3.00	Moderate	0.667	2
	PVT	100	3.05	Moderate	0.845	1
	Total	**182**	**2.99**	**Moderate**	-	-
HACP. Health Assessment and Care Processes (Average)	GOV	54	3.27	Moderate	0.624	3
	DOH	28	3.50	Moderate	0.398	1
	PVT	100	3.45	Moderate	0.541	2
	Total	**182**	**3.40**	**Moderate**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

All sectors reported a moderate level of implementation for monitoring and revising care protocols (HACP3), results ranging from a mean of 3.28 (government) to 3.50 (DOH). This raises the possibility that, although an attempt is being made to remain attuned to the most recent medical evidence, 'holistic' updating may not be evenly distributed across all healthcare providers. This middle implementation level, whose overall mean was a 3.38, indicates a potential opportunity for improving continuous updating of care protocols.

For patient-oriented treatment plans (HACP4), DOH (3.57) and Private Clinics (3.58) were also ranked highly to the treatments as per patient needs and preference. With an average score of 3.41, government institutions also have a moderate application of this strategy. The average score of 3.53 indicates a moderate commitment all around toward prioritizing the individual needs of patients, but plenty of opportunity for growth remains.

The use of electronic health records (EHR) (HACP5) is the less developed practice area, including only the scores between 2.89 (government) and 3.05 (private), indicating that the use of electronic records was made, but the adoption and incorporation of EHR are still not so mature in all sectors. The overall score of 2.99 also suggests that this area must be improved to calculate next higher measured values to manage the care more efficiently.

Lastly, although there has been significant improvement across sectors on the adoption of health assessment and care process strategies, to continue to see opportunities for some to increase their utilization of electronic health records and to follow routinely updated care protocols. Global views about the use of these strategies are moderate; DOH and private schools are keener than the government schools in general across most areas of application. Nevertheless, all participants are determined to make sure health assessments, care processes and patient-centric planning are important priorities, even if investment is needed in technology and standardization of processes. Research by Baker et al. (2020) highlights the importance of continuity of care and communication in patient trust, adherence, and health, it is patients feeling informed and involved, that can help increase patients' engagement in their own care, leading to increased satisfaction and decreased healthcare utilization. Haleem et al. (2021) observed that the adoption of EHRs can facilitate care coordination and minimize medical errors, yet organizational impediments prevent the full integration of EHR use.

The implementation of quality improvement strategies to promote patients' rights and education among different hospital sectors are shown in Table 7. These approaches are intended to educate and empower patients, respect their rights, and support them being informed on their treatment and care.

Table 7

Hospitals' Quality Improvement Strategies (QI) Implementation Level in terms of Patients' Rights and Education

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
PRE1. Trains staff to educate patients about their health and treatment options to empower patients in making informed decisions.	GOV	54	3.22	Moderate	0.718	3
	DOH	28	3.43	Moderate	0.790	1.5
	PVT	100	3.43	Moderate	0.714	1.5
	Total	**182**	**3.37**	**Moderate**	-	-
PRE2. Prioritize patient's rights in all aspects of care to ensure that their dignity and autonomy are always respected.	GOV	54	3.54	High	0.605	3
	DOH	28	3.75	High	0.441	1
	PVT	100	3.59	High	0.605	2
	Total	**182**	**3.60**	**High**	-	-
PRE3. Ensures informed consent for all treatments to guarantee that patients understand and agree to the procedures they will undergo	GOV	54	3.70	High	0.571	3
	DOH	28	3.93	High	0.262	1
	PVT	100	3.72	High	0.552	2
	Total	**182**	**3.75**	**High**	-	-
PRE4. Address patient's concerns and complaints promptly to demonstrate their commitment to responsive and compassionate care.	GOV	54	3.52	High	0.637	3
	DOH	28	3.71	High	0.535	1
	PVT	100	3.61	High	0.567	2
	Total	**182**	**3.60**	**High**	-	-
PRE5. Provides clear and accessible information about hospital policies and procedures to help patients navigate their care experience with confidence.	GOV	54	3.35	Moderate	0.731	3
	DOH	28	3.64	High	0.488	1
	PVT	100	3.50	Moderate	0.611	2
	Total	**182**	**3.48**	**Moderate**	-	-
PRE. Patient's Rights and Education (Average)	GOV	54	3.47	Moderate	0.555	3
	DOH	28	3.69	High	0.359	1
	PVT	100	3.57	High	0.525	2
	Total	**182**	**3.56**	**High**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. ***Implementation Level:*** *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

With regards to the training of staff to educate patients (PRE1), the entire representation is almost the same that all sectors are moderately implemented (scores range from 3.22 in government institution to 3.43 in both DOH and private sector). This implies that, although there is a trend to inform patients and educate them about their health and treatment options, this step has not completely been implemented by all the healthcare professionals. The overall average of 3.37 indicates that there is further work to optimize consistent, complete education of all patients about treatment options.

For patient rights priority (PRE2), implementation is very high across all areas with scores ranging from 3.54 (government) to 3.75 (DOH). This suggests that healthcare organizations are firmly dedicated to the promotion of patient dignity and autonomy, with a focus on maintaining patients' rights during care. The composite score of 3.60 underscores the general commitment or agreement that participants considered it very important in all areas of care that patient rights are protected.

Regarding informed consent (PRE3), all sectors have high implementation, with the mean scores from 3.70 (government) to 3.93 (DOH). It demonstrates how dedicated in ensuring that our patients understand and consent to the treatments that they will receive. The mean score of 3.75 demonstrated that informed consent is an issue with important concern for hospitals where patients need to be informed before interventions.

Across the board, healthcare sectors report high levels of implementation in responding to patient concerns and complaints (PRE4) with mean scores of 3.52 (government) to 3.71 (DOH). This demonstrates that health care organizations hear patients' concerns and are dedicated to delivering holistic care. The overall mean of 3.60 suggests that organizations commit resources to ensuring that patients feel listened to and supported during the course of their care episodes.

For transparent and understandable information on hospital procedures and policies (PRE5), the difference in application is evident. Government and private organizations, on the other hand, report mediocre measures with a score of 3.35 and 3.50, respectively. DOH facilitates on the other hand displays higher score of 3.64 which indicates higher effort made towards giving that information to patients for use to navigate their care experience. The overall score of 3.48 suggests that some work is being done in this regard, yet there is still a gap to be filled so that all patients and families can have greater ease of access to information about hospital policies and procedures.

All types of healthcare organizations exhibit robust implementation with aspects of prioritizing patient rights, obtaining informed consent and responding to patient concerns, but there are opportunities to educate patients on their health status and treatment options, as well as to provide the purpose and scope of hospital policies and procedures. On the whole, the extent of implementation of DOH and private facilities is good performing slightly better than government facilities in patients' rights and education policies. But efforts need to be made to further involve patients directly in the process as well as making sure that they have all of the relevant information to make a decision about their care. A recent systematic review indicated that educational programs had a significant effect on treatment adherence and health outcome, especially in elderly patients, therefore advocating for personalized re-engagement strategy (Xu et al., 2024). Besides, informed consent is a foundation of ethical healthcare, the American Medical Association states that when patients are fully informed about care it builds trust, autonomy, and satisfaction and ultimately facilitates a better health care experience (Shah et al., 2024).

Table 8 presents the implementation levels of various quality improvement strategies for patient safety among different hospital sectors. These strategies concentrate on injury prevention, maintaining a safe environment, taking action during an emergency, and having safe and functional equipment for the protection of patients and staff.

All sectors have high levels of implementation for safety protocols (PS1) including prevention of accidents and injuries with a mean of 3.54 (government) to 3.63 (private). The mean total score of 3.59 reflects that safety infrastructure has been and is currently well developed in all fields for a safe atmosphere for all and is highly patient oriented.

Regular safety drills and training for the staffs (PS2) indicates moderate implementation in government sector (mean = 3.50) whereas DOH and private sectors are highly implemented with a score of 3.64 and 3.59 respectively. The overall mean of 3.57 suggests that though majority of health facilities they train and conduct drills on safety the consistency and frequency in government owned health facilities may be improved.

Table 8

Hospitals' Quality Improvement Strategies Implementation (QI) Level in terms of Patient's Safety

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
PS1. Implementation of safety protocols to prevent accidents and injuries, ensuring a safe environment for everyone	GOV	54	3.54	High	0.665	3
	DOH	28	3.57	High	0.634	2
	PVT	100	3.63	High	0.580	1
	Total	**182**	**3.59**	**High**	-	-
PS2. Conducts regular safety drills and training for staff to prepare for and respond to emergencies effectively	GOV	54	3.50	Moderate	0.666	3
	DOH	28	3.64	High	0.488	1
	PVT	100	3.59	High	0.637	2
	Total	**182**	**3.57**	**High**	-	-
PS3. Monitoring and reporting of safety incidents to continuously improve our safety practices	GOV	54	3.39	Moderate	0.738	3
	DOH	28	3.75	High	0.441	1
	PVT	100	3.62	High	0.599	2
	Total	**182**	**3.57**	**High**	-	-
PS4. Secure environment for both patients and staff by maintaining strict security measures	GOV	54	3.37	Moderate	0.760	3
	DOH	28	3.54	High	0.508	2
	PVT	100	3.58	High	0.554	1
	Total	**182**	**3.51**	**High**	-	-
PS5. Perform regular maintenance and inspection of equipment to guarantee its safe and reliable operation	GOV	54	3.39	Moderate	0.763	3
	DOH	28	3.50	Moderate	0.638	2
	PVT	100	3.56	High	0.641	1
	Total	**182**	**3.50**	**Moderate**	-	-
PS. Patient's Safety (Average)	GOV	54	3.44	Moderate	0.614	3
	DOH	28	3.60	High	0.377	1.5
	PVT	100	3.60	High	0.503	1.5
	Total	**182**	**3.55**	**High**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

For monitoring and reporting safety incidents (PS3), the government sector shows moderate implementation with a score of 3.39, whereas DOH and private sectors report highly implemented levels with scores of 3.75 and 3.62, respectively. This indicates that while reporting and monitoring safety incidents is widely practiced in DOH and private institutions, government institutions may need to enhance their systems for tracking and improving safety practices. The total score of 3.57 reflects a strong commitment to improving safety practices, though further efforts are needed in the government sector.

With regard to safeguarding the environment for patients and staff (PS4), very high levels of implementation are observed in all sectors and these range from 3.37 (government) to 3.58 (private). The mean score of 3.51 implies that security measures were mostly effective in most of the institutions even though there is a need to put on enhancement to guarantee excellence standards of safety mainly in government institutions.

For conducting regular maintenance and inspections of devices (PS5), government and DOH facilities have moderate implementation with mean score of 3.39 and 3.50, respectively. Meanwhile at private institutions it is 3.56 higher for implementation. So, while everyone agrees all sectors understand the importance of maintaining equipment, the private sector might be getting it done in a more continuous manner to make certain their equipment is kept safe and operating. The overall average score of 3.50 indicates that maintenance practices are more or less established, but need strengthening in the government and DOH levels.

Overall patient safety strategy use has a high implementation in all sectors, with an average mean score of 3.55. Both DOH and private sector entities outperformed government facilities as a whole in most of the domains, including safety drills, incident reports, and equipment upkeep. Government facilities and cities exhibit moderate implementation in some instances, suggesting areas for improvement, particularly in tracking safety incidents, practicing safety drills, and ensuring regular equipment maintenance. "Ongoing improvement in safety procedures, staff training, and equipment reliability will continue to enhance patient safety in all health-care settings. Varnosfaderani et al. (2024) stress the importance of hospital safety procedures in mitigating medical errors as well as patient injury, reinforcing the need to institutionalize safety practices in the hospital setting in order to ensure consistency in adherence to best practices. They also encourage ongoing safety training and risk assessment to ensure the highest level of patient protection. Negro-Calduch et al. (2021) underscore the positive effects of regular staff training and safety offer also the emergency response drill in hospitals on hospital preparedness, which are used to assume that organizations that host frequent safety training have a shorter time of response in case of emergency in critical situations, thus resulting in a lowered injury rate and improved patient outcome. The study also emphasizes the importance of a safety culture, where all the staff in the hospital encourages risk prevention and follow safety rules.

Table 9

Hospitals' Quality Improvement Strategies Implementation (QI) Level in terms of Infection Control

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
IC1. Implement continuous training on PPE, hand hygiene, and disinfection to improve IPC adherence.	GOV	54	3.50	Moderate	0.666	3
	DOH	28	3.61	High	0.497	1
	PVT	100	3.60	High	0.550	2
	Total	**182**	**3.57**	**High**	-	-
IC2. Integrate fire safety with IPC protocols for a holistic approach to patient safety.	GOV	54	3.54	High	0.636	3
	DOH	28	3.68	High	0.548	1
	PVT	100	3.58	High	0.622	2
	Total	**182**	**3.58**	**High**	-	-
IC3. Enhances organizational support by improving communication and maintaining clean, safe environments.	GOV	54	3.46	Moderate	0.665	3
	DOH	28	3.75	High	0.441	1
	PVT	100	3.63	High	0.597	2
	Total	**182**	**3.60**	**High**	-	-
IC4. Use real-time compliance monitoring to track and improve IPC practices.	GOV	54	3.41	Moderate	0.659	3
	DOH	28	3.46	Moderate	0.508	2
	PVT	100	3.56	High	0.574	1
	Total	**182**	**3.50**	**Moderate**	-	-
IC5. Collaborate with experts to upgrade safety equipment and improve fire and infection control measures.	GOV	54	3.48	Moderate	0.693	3
	DOH	28	3.57	High	0.634	1
	PVT	100	3.56	High	0.671	2
	Total	**182**	**3.54**	**High**	-	-
IC. Infection control (Average)	GOV	54	3.48	Moderate	0.596	3
	DOH	28	3.61	High	0.400	1
	PVT	100	3.59	High	0.522	2
	Total	**182**	**3.56**	**High**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

3. ***Implementation Level:*** *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

As shown in table 9, the implementation level of different infection control strategies among hospital sectors, aims to augment the infection prevention and control practices, reports on training for personal protective equipment (PPE), convergence with fire safety protocols, and the real- time monitoring of compliance, among others.

For continuous training on PPE, hand hygiene and disinfection (IC1), the DOH and private sectors report high implementation levels at 3.61 and 3.60 respectively. The government sector, however, has represented 3.50 which suggests moderate level of implementation. The overall mean score of 3.57 indicates that training on infection prevention is high, with opportunity for improvement in the adherence of IPC practices in universal precautions across the sectors.

With respect to combining fire health with ICP strategies (IC2), the all industry average scores record all above the mean, and ranges between 3.54 (government) and 3.68 (DOH). The mean score of 3.58 implies that all institutions are more committed to integrating fire safety with infection control measures, suggesting total patient safety-focused practice.

For improving organizational support by improved communication and maintaining a clean and safe environment (IC3), DOH and private sectors have very good implementation scores (3.75 and 3.63, respectively). The government sector gets a little lower score at 3.46 (moderate implementation). The average value of 3.60 indicates that the communication and environmental safety are high in all sectors, but the government sector sometimes has trouble integrating them in their entirety.

The government and DOH sectors also scored 3.41 and 3.46, respectively, for monitoring compliance in real time against the practices for IC4. In the private sector, on the other hand, the score is 3.56, which suggests a higher level of real-time monitoring for IPC practices. The overall mean of 3.50 indicates that the real-time compliance monitoring is being implemented although it is developing in use especially for the government and DOH sectors.

For working with experts to improve safety devices and fire and infection control measures (IC5), the DOH and private sectors have their high implemented levels at 3.57 and 3.56, respectively, with the government sector scoring at 3.48 on a moderate level. The mean score of 3.54 demonstrates that collaboration with specialists is largely in place for enhancing safety and infection control (governmental institutions should potentially improve in this respect).

Overall, Infection control strategies in general among all sectors are effective in preventing transmissions (total mean score 3.56). Both DOH and private sector perform better than government in general; particularly true in real-time monitoring of compliance, organizational support, technical collaboration. The government stakes moderate application in several dimensions especially in training, real-time monitoring and expert cooperation, which suggest possibilities for enhancement. Ongoing improvement of IPC measures, especially in government hospitals, will lead to better application of infection prevention measures in all healthcare facilities. Studies by Savul et al. (2020) and Senbato et al. 2024) point to these IPC non-compliances particularly in public hospitals as antecedent to higher infection rates and stress the need for continuous educational programs, surveillance and behavioral modulation. Furthermore, the WHO Infection Prevention and Control Assessment Framework (Tomczyk et al., 2020) highlights the requirement for standardized in IPC-protocols and solid institutional support that guarantees consistent implementation for all healthcare settings.

Table 10 presents the implementation levels of different facility management strategies among different hospital sectors. These strategies are designed to guarantee that hospital buildings and infrastructure are properly maintained, resources are efficiently spent, safety levels are adhered to, space and resources are maximized, and environmentally friendly practices are incorporated into facility planning.

For well-maintained and up-to-date hospital facilities (FM1), all sectors reported moderately implemented levels, with government scoring 3.19, DOH at 3.11, and private at 3.33. Overall, the mean of 3.25 suggests that respondents perceive good or very good efforts to make hospitals as habitable and of a well-kept environment, yet to be improved upon, especially in DOH institutions.

For an organized system of hospital resources (FM2), all the sectors register moderate level of FM2 being implemented, government 3.24, DOH at 3.36 and the private 3.28. The average total mean of 3.28 suggests that hospitals are working to achieve efficiencies and targeted resource allocations; however, despite this the work may not be fully embedded in the hospital practice.

Table 10

Hospitals' Quality Improvement Strategies Implementation (QI) Level in terms of Facility Management

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
FM1. Well-maintained and up-to-date hospital facilities to ensure a safe and comfortable environment for patients and staff.	GOV	54	3.19	Moderate	0.729	2
	DOH	28	3.11	Moderate	0.737	3
	PVT	100	3.33	Moderate	0.652	1
	Total	**182**	**3.25**	**Moderate**	-	-
FM2. A systematic approach to managing hospital resources optimizes efficiency and ensures effective allocation of resources.	GOV	54	3.24	Moderate	0.751	3
	DOH	28	3.36	Moderate	0.559	1
	PVT	100	3.28	Moderate	0.668	2
	Total	**182**	**3.28**	**Moderate**	-	-
FM3. Regular facility audits and inspections to maintain standards of safety, cleanliness, and functionality within the hospitals	GOV	54	3.28	Moderate	0.763	3
	DOH	28	3.54	High	0.693	1
	PVT	100	3.45	Moderate	0.642	2
	Total	**182**	**3.41**	**Moderate**	-	-
FM4. Efficient use of space and resources to maximize capacity and minimize waste, improving overall operational efficiency.	GOV	54	3.13	Moderate	0.802	3
	DOH	28	3.39	Moderate	0.786	1
	PVT	100	3.29	Moderate	0.701	2
	Total	**182**	**3.26**	**Moderate**	-	-
FM5. Implement sustainable practices in facility management to reduce environmental impact and promote long-term resource conservation	GOV	54	3.09	Moderate	0.807	3
	DOH	28	3.39	Moderate	0.685	1
	PVT	100	3.36	Moderate	0.732	2
	Total	**182**	**3.29**	**Moderate**	-	-
FM. Facility Management (Average)	GOV	54	3.19	Moderate	0.701	3
	DOH	28	3.36	Moderate	0.574	1
	PVT	100	3.34	Moderate	0.562	2
	Total	**182**	**3.30**	**Moderate**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

In terms of regular facility inspection (FM3), DOH institutions also rated the highest at 3.54, this means that it strongly maintains the cleanliness and safety of the hospital. In government institutions, it is 3.28 whereas 3.45 in private ones. A total score of 3.41 clearly indicates that audits and inspections are taking place, but the process should be more uniform, particularly among governmental institutional settings.

All sectors report moderate implementation level to budget for most efficient use of space and resources (FM4) with government scoring 3.13, DOH 3.39 and private 3.29. The composite score of 3.26 shows a continued attempt to use case to full capacity, and minimize waste, but this is not being fully harnessed across all areas.

For sustainable practices in Facilities Management (FM5), all sectors exhibited moderately implemented level with the score ranged from lowest being 3.09 (government), 3.39 (DOH) to3.36 (private). The mean score of 3.29 reveals that the consideration of sustainable practices is not still completely implemented in facility management in governmental institutions.

Overall, the extent to which facility management strategies have been adopted generally is reasonably good across all sectors, with an average mean of 3.30. Both the DOH and private institutions tend to fair at least slightly better than government institutions in audits, resource management, and sustainable practices as well. Nevertheless, all have a moderate level of

implementation, reflecting a moderate degree of knowing and doing with regard to improving facility management, and further evidence for more coordinated and concerted efforts to land this work across healthcare institutions – to optimize facility condition, resource allocation and sustainable facilities. Predictive maintenance models and smart technologies have proven to optimize facility performance. For instance, Zheng et al. (2020) focus on intelligent maintenance with AI and IIoT to improve reliability and operational efficiency of the healthcare system. Likewise, Kumar (2023) illustrates how machine learning-based predictive maintenance models, supported by IoT, would prevent equipment failure and cut down downtime. Sustainability Thakur and Ramesh, 2021 emphasize the requirement of strategic planning of healthcare waste management towards achieving environmental sustainability, and, Sürme and Yıldız (2024) describe the role of frontline HCWs in a sustainable practice both in waste and energy management at critical services.

Table 11

Hospitals' Quality Improvement Strategies Implementation (QI) Level in terms of Collaborative Integrated Management

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
CIM1. Promotes collaboration among different departments for patient care to enhance continuity and ensure holistic treatment approaches	GOV	54	3.19	Moderate	0.754	3
	DOH	28	3.57	High	0.573	1
	PVT	100	3.44	Moderate	0.729	2
	Total	**182**	**3.38**	**Moderate**	-	-
CIM2. Integrate management systems to coordinate patient care seamlessly across departments, reducing fragmentation and improving efficiency	GOV	54	3.13	Moderate	0.778	3
	DOH	28	3.36	Moderate	0.678	2
	PVT	100	3.37	Moderate	0.720	1
	Total	**182**	**3.30**	**Moderate**	-	-
CIM3. Regular multidisciplinary team meetings facilitate comprehensive care planning and allow collective expertise in addressing patient's needs.	GOV	54	3.07	Moderate	0.773	3
	DOH	28	3.36	Moderate	0.780	1
	PVT	100	3.35	Moderate	0.744	2
	Total	**182**	**3.27**	**Moderate**	-	-
CIM4. Sharing patient information across departments to ensure a unified understanding of patient conditions fosters coordinated care delivery	GOV	54	3.09	Moderate	0.759	3
	DOH	28	3.18	Moderate	0.548	2
	PVT	100	3.39	Moderate	0.665	1
	Total	**182**	**3.27**	**Moderate**	-	-
CIM5. Join decision-making processes for complex cases that draw upon diverse perspective and expertise to devise optimal treatment strategies, prioritizing patient outcomes	GOV	54	3.30	Moderate	0.743	1
	DOH	28	3.25	Moderate	0.701	2
	PVT	100	3.23	Moderate	0.750	3
	Total	**182**	**3.25**	**Moderate**	-	-
CIM. Collaborative Integrated Management (Average)	GOV	54	3.16	Moderate	0.678	3
	DOH	28	3.34	Moderate	0.525	2
	PVT	100	3.36	Moderate	0.605	1
	Total	**182**	**3.29**	**Moderate**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

As shown in table 11 presents the implementation levels of various strategies for Collaborative Integrated Management (CIM) across all hospital sectors. These strategies aim to increase collaboration and integration across disciplines to better patient care, simplify management systems and expedite coordinated decision-making.

For collaboration across departments caring for the patient (CIM1), the DOH sector has the highest score of 3.57, indicating a strong commitment to ensuring patients receive comprehensive continuous care. Governments, and – to a lesser extent – the private sector, obtain intermediate average values, with 3.19 and 3.44, respectively. The mean score (3.38) shows that all PSUs are in the lower-half of their phase: as such, both sectors are working for the departments integration for the provision of comprehensive care.

For the collaborative integration of management systems to patient care (CIM2), sectors have a moderate implementation rating across all sectors with a value of 3.13 for government, 3.36 for DOH, and 3.37 for private. The overall mean score of 3.30 indicates that a united approach has been adopted to minimize fragmentation and streamline efficiency in arranging patient care. Yet, the coordination of the management systems is not yet mature and requires institution of stronger control and coordination for delivery of care.

Relating to periodic multidisciplinary meetings (CIM3) for global care planning, all sectors present a mean score for moderately activated items, with mean scores between 3.07 (government) and 3.35 (private). The overall mean of 3.27 indicates that although MDTMs are taking place, the extent, timing, and efficiency of coordinating comprehensive care plans might be better, especially in public institutions which score lower.

For sharing patient information across departments (CIM4) in order to maintain a coherent view of patient conditions, the private sector exhibits the highest (3.39) and government institutions the lowest (3.09). DOH institutions score 3.18. The overall mean score (3.27), showed that there is some level of sharing of patient's information among the departments but a lower level of patient-centric care coordination, particularly among government facilities.

For joint approaches to decision making on complex cases CIM5 the implementation has been reported as moderate for all sectors, with mean scores varying from 3.23 (private) to 3.30 (government). The mean total score of 3.25 shows that decision-making includes multiple viewpoints, but it would be ideal if collaboration and integration were better in order to achieve the best possible best therapeutic solutions for individual complex cases.

Overall, the implementation of collaborative integrated management practices is moderately effective, and the average total score is 3.29. Some indicators indicate that the DOH sector has a slightly higher level of implementation compared with the government and private sectors; however, all testing areas reflect moderate overall compliance. There are ways in place to facilitate cooperation and collaboration between departments but these systems are not fully embedded into daily work routines. Ongoing efforts to improve multidisciplinary team meetings, interchange of information, and shared decision-making with regard to complex cases will foster better collaboration, and thus better patient care, in all healthcare environments. Kaiser et al. (2022) highlighted that "interprofessional collaboration has demonstrated to have a positive effect on patient-reported outcomes, such as satisfaction and perception of quality of care, especially in the inpatient setting." They find that promoting a climate of collaboration may result in better health service experiences in their systematic review. Also, interprofessional collaboration was a mediator of the link between organizational learning and safety climate among hospitals (Ishii, Fujitani, & Matsushita, 2024). Their findings highlight the role of communication structure and team climate as key mechanisms to enhance quality of care in safety culture among departments.

Table 12 presents the implementation levels of various performance measurement strategies across all the hospital sectors. These strategies focus on measuring and assessing performance, using information to inform a course correction, establishing performance incentives and accountability, providing transparency and comparisons to benchmarks.

In the case of performance measurement for assessment and performance improvement (PM1), DOH institutions achieve the highest average of 3.68, thus indicating that they adopt robust perpetual improvement and assessment methods. There is a moderate level of practice of both the government and private sector (with mean scores of 3.39 and 3.40 respectively). The average rating of 3.44 indicates that performance measurement is implemented, the use thereof can however be integrated and standardized better, with government departments in particular again lagging behind.

Table 12

Hospitals' Quality Improvement Strategies Implementation (QI) Level in terms of Performance Measurement

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
PM1. Performs regular measurement and evaluation of performance in various areas to ensure continuous assessment and improvement	GOV	54	3.39	Moderate	0.712	3
	DOH	28	3.68	High	0.548	1
	PVT	100	3.40	Moderate	0.711	2
	Total	**182**	**3.44**	**Moderate**	-	-
PM2. Utilization of performance data to drive improvements and enables targeted actions for enhancing quality and efficiency.	GOV	54	3.20	Moderate	0.762	3
	DOH	28	3.39	Moderate	0.629	1
	PVT	100	3.31	Moderate	0.761	2
	Total	**182**	**3.29**	**Moderate**	-	-
PM3. Setting and monitoring performance targets to provide clear goals and track progress towards achieving excellence.	GOV	54	3.35	Moderate	0.731	3
	DOH	28	3.68	High	0.548	1
	PVT	100	3.41	Moderate	0.683	2
	Total	**182**	**3.43**	**Moderate**	-	-
PM4. Transparency in performance reporting to foster accountability and trust among stakeholders	GOV	54	3.33	Moderate	0.777	2
	DOH	28	3.50	Moderate	0.577	1
	PVT	100	3.31	Moderate	0.734	3
	Total	**182**	**3.35**	**Moderate**	-	-
PM5. Benchmarking against industry standards to allow in gauging performance relative to best practices and identify areas for growth	GOV	54	3.15	Moderate	0.763	3
	DOH	28	3.54	High	0.693	1
	PVT	100	3.38	Moderate	0.763	2
	Total	**182**	**3.34**	**Moderate**	-	-
PM. Performance Measurement (Average)	GOV	54	3.29	Moderate	0.677	3
	DOH	28	3.56	High	0.476	1
	PVT	100	3.36	Moderate	0.658	2
	Total	**182**	**3.37**	**Moderate**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

With respect to use of performance data for improvement (PM2), all sectors are moderately implemented, with government at 3.20, DOH at 3.39, and private at 3.31. The average score across all sectors of 3.29 suggests that performance information is used to some extent to direct improvements, but that the system could be more effect use to drive targeted actions to improve quality and efficiency in all sectors.

For performance target setting and monitoring (PM3), DOH institutions have the highest weighted mean of 3.68, followed by the private HEIs at 3.41 and government HEIs at 3.35. The overall mean score of 3.43 suggests that targets of performance are established and some are monitored, however, there is scope for strengthening monitoring of progress towards excellence in particular in government and private sectors.

For clarity in reporting on performance (PM4), all the sectors report moderately implemented, for government at 3.33, DOH at 3.50, and private at 3.31. A total score of 3.35 suggests that there are indications of transparency, but stronger and more frequent performance reporting is required if accountability and public trust are to be enhanced.

If compared to industrial standard (PM5), DOH is even further from an industrial standard with the highest score secured by DOH at 3.54, followed by private institution 3.38, and government 3.15. The overall average is 3.34 that indicates that

benchmarking is taking place relative to industry peers, however it is not being optimally used to benchmark oneself against best practices and identify areas for improvement in the government departments.

Overall, the general adoption of performance measurement strategies is fair with a combined average of 3.37. DOH facilities are slightly better than government and private sector counterparts, although not significant, in performance monitoring, target setting and benchmarking. Yet there remains only moderate performance measurement implementation across all sectors, so while it may be a priority, there is ample scope for further improvement. Better use of performance data, greater transparency in reporting, and improved benchmarking are among the principles that might better optimize the benefits of performance accounting within provider organizations. Chan et al. (2020) in the need for a continuous performance evaluation for not only facilitating healthcare quality. His model focuses on the structure, process and outcome dimensions as important indicators of quality appraisal. The research demonstrates the power of data-driven decision-making to drive health care excellence.

Table 13 presents the implementation levels of various strategies for managing information and human resources (MIHR) in government, Department of Health (DOH), and private healthcare institutions. These strategies aim to ensure adequate staffing, ongoing professional development, effective communication, staff involvement in decision-making, and the recognition of staff performance.

Table 13

Hospitals' Quality Improvement Strategies Implementation (QI) Level in terms of Management of Information and Human Resources

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
MIHRS1. Maintain adequate staffing levels to ensure that patient needs are met promptly and effectively	GOV	54	3.11	Moderate	0.744	3
	DOH	28	3.36	Moderate	0.678	1
	PVT	100	3.25	Moderate	0.730	2
	Total	**182**	**3.23**	**Moderate**	-	-
MIHR2. Provide regular training and professional development opportunities for staff to enhance their skill and knowledge	GOV	54	3.39	Moderate	0.763	3
	DOH	28	3.71	High	0.535	1
	PVT	100	3.42	Moderate	0.684	2
	Total	**182**	**3.46**	**Moderate**	-	-
MIHR3. Establish effective communication channels between management and staff to facilitate information flow and collaboration	GOV	54	3.17	Moderate	0.746	3
	DOH	28	3.39	Moderate	0.567	2
	PVT	100	3.44	Moderate	0.625	1
	Total	**182**	**3.35**	**Moderate**	-	-
MIHR4. Involve staff in decision-making process to prompt engagement, ownership, and a sense of value within the organization	GOV	54	3.13	Moderate	0.778	3
	DOH	28	3.43	Moderate	0.573	1
	PVT	100	3.38	Moderate	0.663	2
	Total	**182**	**3.31**	**Moderate**	-	-
MIHR5. Implement recognition and reward programs to acknowledge and incentivize staff performance, fostering a positive work environment and morale.	GOV	54	3.20	Moderate	0.833	3
	DOH	28	3.36	Moderate	0.621	1
	PVT	100	3.28	Moderate	0.766	2
	Total	**182**	**3.27**	**Moderate**	-	-
MIHR. Management Information and Human Resources (Average)	GOV	54	3.20	Moderate	0.682	3
	DOH	28	3.45	Moderate	0.461	1
	PVT	100	3.35	Moderate	0.579	2
	Total	**182**	**3.32**	**Moderate**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

For maintaining adequate staffing levels (MIHR1) to meet patient needs, all sectors report moderately implemented levels, with mean scores ranging from 3.11 (government) to 3.36 (DOH). The total mean score of 3.23 indicates that while staffing levels are being addressed, there is still a gap in ensuring that staffing is optimal to meet the demands of patient care. This suggests that improvements in staffing and resource allocation may be necessary to enhance patient care.

In terms of providing regular training and professional development opportunities for staff (MIHR2), DOH institutions score the highest at 3.71, reflecting strong efforts in enhancing staff skills and knowledge. Government and private sectors report moderately implemented levels, with scores of 3.39 and 3.42, respectively. The total mean score of 3.46 indicates that professional development is generally encouraged across all sectors, but the opportunities may not be fully widespread or accessible to all staff, particularly in the government and private sectors.

For establishing effective communication channels between management and staff (MIHR3), the private sector scores the highest at 3.44, followed by DOH at 3.39, and government at 3.17. The total mean of 3.35 shows that while communication channels are present, there is room for improvement in ensuring smooth and efficient communication between staff and management, particularly in government institutions where communication may be more fragmented or inconsistent.

Regarding involving staff in decision-making (MIHR4), all sectors show moderately implemented levels, with the private sector scoring the highest at 3.38, followed by DOH at 3.43, and government at 3.13. The total mean score of 3.31 reflects that while staff involvement is encouraged, the decision-making process may not always be inclusive or sufficiently empowering for all staff members, particularly in government institutions.

For implementing recognition and reward programs (MIHR5), scores are also moderately implemented across all sectors, with government institutions scoring 3.20, DOH at 3.36, and private at 3.28. The total score of 3.27 suggests that while there are efforts to recognize and reward staff performance, these programs may not be as robust or widespread as necessary to foster high morale and motivation consistently across all institutions.

The overall implementation of management information and human resources strategies is moderately effective, with a total mean score of 3.32. DOH and private sectors generally perform better than government institutions in areas such as professional development and staff involvement in decision-making. However, all sectors show moderate implementation in ensuring adequate staffing, effective communication, and recognition programs, indicating opportunities for improvement. Continued focus on improving staffing levels, enhancing communication, and empowering staff through decision-making and recognition can further strengthen the management of human resources in healthcare institutions. Adequate nurse staffing, effective communication, and staff involvement in decision-making are essential for improving patient outcomes and healthcare worker well-being. Wang et al. (2020) found that higher nurse-to-patient ratios were associated with a greater risk of hospital-acquired pressure ulcers, underlining the importance of sufficient staffing for patient safety. Similarly, Porcel-Gálvez et al. (2021) demonstrated that appropriate staffing, aligned with hospital characteristics, improved clinical safety and care quality. The impact of burnout, particularly during the COVID-19 pandemic, was highlighted by Kooktapeh et al. (2023), who emphasized the need for interventions to support nurse well-being.

Table 14 presents the implementation of different strategies in the education and rights of individuals in the different hospital sectors, including empowering of patients, provision of educational materials, staff education, feedback regarding inpatient care, and advocating for the patient. The focus of these strategies are to increase patients' knowledge of their rights and healthcare requirements in order to provide an educated and supportive healthcare environment.

All sectors report very high implemented levels for informing patients about rights and responsibilities (ERI1) with private rating 3.73 and DOH 3.64, while government is the lowest at 3.56. Overall, the hospitals achieved a mean score of 3.66, thus they are moderately effective in disseminating to patients the rights and responsibilities, starting point of patient empowerment in healthcare. This priority also seems to be balanced across sectors.

In relation to the education for patients to increase their knowledge about the illness or health condition (ERI2), there is a moderate application of scores across sectors, with government institutions having a mean score of 3.24, DOH at 3.46, and private institutions at 3.32. The overall mean score of 3.32 suggests that there are educational materials available, but that further work is needed to ensure that every patient has access to comprehensive and understandable educational materials about their condition, which gives them information about their condition and options for how to manage care.

Table 14

Hospitals' Quality Improvement Strategies Implementation (QI) Level in terms of Education and Rights of Individuals

Code. Strategies	NoO	No.	Mean	Implementation Level	SD	Rank
ERI1. Inform patients about their rights and responsibilities to empower them in their healthcare journey.	GOV	54	3.56	High	0.634	3
	DOH	28	3.64	High	0.488	2
	PVT	100	3.73	High	0.529	1
	Total	**182**	**3.66**	**High**	-	-
ERI2. Provision of educational resources to patients to enhance their understanding of health conditions	GOV	54	3.24	Moderate	0.823	3
	DOH	28	3.46	Moderate	0.693	1
	PVT	100	3.32	Moderate	0.723	2
	Total	**182**	**3.32**	**Moderate**	-	-
ERI3. Train staff on patient rights and education to ensure consistent and accurate information delivery	GOV	54	3.26	Moderate	0.805	3
	DOH	28	3.57	High	0.634	2
	PVT	100	3.60	High	0.603	1
	Total	**182**	**3.49**	**Moderate**	-	-
ERI4. Regular patient feedback to continually improve our educational materials.	GOV	54	3.37	Moderate	0.784	3
	DOH	28	3.82	High	0.390	1
	PVT	100	3.52	High	0.703	2
	Total	**182**	**3.52**	**High**	-	-
ERI5. Availability of patient advocates or ombudsmen to support and represent patient interests	GOV	54	2.83	Moderate	0.818	3
	DOH	28	2.89	Moderate	0.875	2
	PVT	100	3.00	Moderate	0.765	1
	Total	**182**	**2.93**	**Moderate**	-	-
ERI. Education and Rights of Individuals (Average)	GOV	54	3.25	Moderate	0.650	3
	DOH	28	3.48	Moderate	0.437	1
	PVT	100	3.43	Moderate	0.542	2
	Total	**182**	**3.39**	**Moderate**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

For staff's education level on patient rights (ERI3), both DOH and private facilities indicate highly implemented levels (3.57/3.60). Government agencies perform with a moderate user satisfaction level ("is moderately implemented"), yet one that is slightly inferior (3.26). The average of 3.49 shows that participants have received patient rights education to a great/extensive extent, however work to improve the consistency and quality of the information transferred across sectors appears to be on the horizon.

For regular patient feedback (ERI4) for improving educational materials, DOH institutions fetched the highest mean of 3.82, followed by private institutions, 3.52; and government institutions, 3.37. The overall average score of 3.52 implies that while patient feedback is sought in order to enhance the learning materials, a more systematic and rigorous feedback process would be positive across all sectors.

Scores for the presence of patient advocates or ombudsmen (ERI5) are moderately implemented across all sectors with government institutions obtaining the lowest at 2.83, followed by DOH at 2.89, and private at 3.00. A total score of 2.93 indicated the need for more focus on the availability of patient advocates, especially in government sector and DOH facilities which are least using the approach.

The educational efforts and civil rights of individuals strategies had average implementation scores, at 3.39 overall. Private and DOH facilities tend to do well in comparison to the government facilities on most parameters, except on patient

education and staff motivation and patient feedback. However, all aspects are of moderate implementation across the board, particularly, in the provision of educational resources and provision of patient advocacy. Ongoing efforts aimed at improving access to information including educational content and increasing the availability and training of patient advocates, will further empower and inform patients in terms of their right and health care needs in all healthcare institutions. Arogyaswamy et al. (2021) stress that educating patients improves adherence to treatment and self-management, and thus, the health status. Kawi et al. (2024) draw attention to the importance of patient advocates in ensuring patient rights and resolving conflicts, and advocate for their increased availability in the care setting.

The overall assessment of the general application of QI tools in secondary hospitals in the Philippines is summarized as shown in Table 15, indicate a fairly uniform progression

Table 15

Summary of Hospitals' Quality Improvement (QI) Strategies Implementation Level

Code. Hospital Quality Standards	NoO	No.	Mean	Implementation Level	SD	Rank
AHC. Access to Healthcare	GOV	54	3.27	Moderate	0.543	2
	DOH	28	3.33	Moderate	0.466	1
	PVT	100	3.10	Moderate	0.528	3
	Total	**182**	**3.19**	**Moderate**	-	-
HACP. Health Assessment and Care Processes	GOV	54	3.27	Moderate	0.624	3
	DOH	28	3.50	Moderate	0.398	1
	PVT	100	3.45	Moderate	0.541	2
	Total	**182**	**3.40**	**Moderate**	-	-
PRE. Patient's Rights and Education	GOV	54	3.47	Moderate	0.555	3
	DOH	28	3.69	High	0.359	1
	PVT	100	3.57	High	0.525	2
	Total	**182**	**3.56**	**High**	-	-
PS. Patient's Safety	GOV	54	3.44	Moderate	0.614	3
	DOH	28	3.60	High	0.377	1.5
	PVT	100	3.60	High	0.503	1.5
	Total	**182**	**3.55**	**High**	-	-
IC. Infection control	GOV	54	3.48	Moderate	0.596	3
	DOH	28	3.61	High	0.400	1
	PVT	100	3.59	High	0.522	2
	Total	**182**	**3.56**	**High**	-	-
FM. Facility management	GOV	54	3.19	Moderate	0.701	3
	DOH	28	3.36	Moderate	0.574	1
	PVT	100	3.34	Moderate	0.562	2
	Total	**182**	**3.30**	**Moderate**	-	-
CIM. Collaborative Integrated Management	GOV	54	3.16	Moderate	0.678	3
	DOH	28	3.34	Moderate	0.525	2
	PVT	100	3.36	Moderate	0.605	1
	Total	**182**	**3.29**	**Moderate**	-	-
PM. Performance Measurement	GOV	54	3.29	Moderate	0.677	3
	DOH	28	3.56	High	0.476	1
	PVT	100	3.36	Moderate	0.658	2
	Total	**182**	**3.37**	**Moderate**	-	-
MIHR. Management Information and Human Resources	GOV	54	3.20	Moderate	0.682	3
	DOH	28	3.45	Moderate	0.461	1
	PVT	100	3.35	Moderate	0.579	2
	Total	**182**	**3.32**	**Moderate**	-	-
ERI. Education and Rights of Individuals	GOV	54	3.25	Moderate	0.650	3
	DOH	28	3.48	Moderate	0.437	1
	PVT	100	3.43	Moderate	0.542	2
	Total	**182**	**3.39**	**Moderate**	**0.567**	
HQS. Hospital Quality Standards (Average)	GOV	54	3.30	Moderate	0.559	3
	DOH	28	3.49	Moderate	0.365	1
	PVT	100	3.42	Moderate	0.481	2
	Total	**182**	**3.39**	**Moderate**	-	-

Note: ***1. Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

2. Implementation Level: *3.51 to 4.00 – High Implementation (HI); 2.51 to 3.50 – Moderate Implementation (MI); 1.51 to 2.50 – Slight Implementation; 1.00 to 1.50 – No Implementation*

3. SD: *Standard Deviation*

among different quality indicators. The domains Patient's Rights and Education, Patient's Facility, and Infection Control were well implemented with mean recording 3.55 and 3.56. The QI processes are evident, there is a good training program, well designed patient education policies and proper infection control practices. Studies by Sardi et al. (2020) and Sta. Ana and Tanque (2021) also mentioned the importance of technology, training, and compliance to the infection control measures in terms of safety and quality of patient care. The variable Access to Healthcare (mean = 3.19) has the lowest implementation score and results indicate that even as opportunities improve, much of this progress is not well-directed, leading to a large divide in healthcare access especially for underserved areas. Carpio (2024) stressed the importance of responding to these access issues to lessen the disparities in healthcare in the country.

Other standards, Health Assessment and Care Processes (mean = 3.40) and Management of Information and Human Resources (mean = 3.32), show improvements, and suggest also further development. Also emphasized by Abrigo et al. (2021), healthcare worker remuneration and retention difficulties embattling the sector persist in contributing to the complete integration of QI mechanisms. Likewise, better health appraisals, particularly for at-risk or underserved populations, can have a large impact on early-stage interventions and people's health (Cella, 2022; Blackwell et al. (2019).

The strategy for Collaborative Integrated Management (mean = 3.29) is also moderately implemented and disparities related to inadequacy in training and shortage of skilled health workers inhibiting functioning as teams for delivery of care. Reñosa et al. (2021) highlighted these difficulties and stressed the necessity for better support services and improved training. In Facility Management (mean = 3.30) and Performance Measurement (mean = 3.37), hospitals are also adopting efficient practices to save the operational cost and to evaluate the service quality. The study results of Dela Cruz and Dela Cruz (2021) and Devasahay et al. (2021) emphasize the need to periodically revisit facility management frameworks and performance indicators and upgrade the same for better performance. Lastly, with respect to personnel education and rights, the mean score of 3.39 suggests a moderate level of implementation. Although the importance of patients' training, especially about their rights, is stressed people are not currently using against all fields.

Although QI initiatives in the secondary hospitals of the Philippines have already been improved, access to care and enhancement of the integrated management between hospitals have a high priority. Enhancing these will enhance patient care, and help hospitals adapt to the changing needs of patients and healthcare workers. QI should be comprehensive such that it considers structure, process, and/or outcome measures that can affect the specific aspects of healthcare that are targeted for improvement. These pieces of evidence are in line with the study of Tamondong-Lachica et al. (2024), patient safety drivers across sample of public and private hospitals in the Philippines, using Donabedian quality of health framework. They also observed that of the 54 indicators, 52% were process, 31% structural and only 17% outcome indicators which emphasizes the necessity for a comprehensive and systemic representation of QI. Importance of all three quality dimensions for enhancing patient safety and quality of care in the Philippines is highlighted in this study by its findings.

3.3 Significant Relationship in the Implementation Level of the Quality Improvement (QI) Strategies among the Subject Hospitals Based on Its Business Profiles

The results of section 3.1 and 3.2 was utilized to determine whether there is a significant relationship in the level of implementation in the QI strategies of the subject hospitals and its business profile. This section tested $H_0$1, $H_0$2 and $H_0$3 of this study.

Research Question Number 3: Is there a significant relationship in the implementation level of the QI strategies among the subject hospitals based on its business profile?

$H_0$1: The subject hospitals' nature of ownership has no relationship to its implementation level of the QI strategies.

$H_0$2: The subject hospitals' type of management accreditation has no relationship to its implementation level of the QI strategies

$H_0$3: The subject hospitals' length of service operation has no relationship to its implementation level of the QI strategies.

Table 16

Significant Relationship Analysis on the Quality Improvement (QI) Strategies Implementation Level based on Hospitals' Business Profile

Parameter	P-value	Ho Decision	Ho Interpretation	Correlation Coefficient	Strength of Relationship
$H_0$1: NoO → QISIL	0.419	Fail to Reject Ho	Not significant	0.060	Negligible Correlation
$H_0$2: TQMA → QISIL	0.00004	Reject Ho	Significant	0.300	Slight/ Low Correlation
$H_0$3: LoHS → QISIL	0.400	Fail to Reject Ho	Not Significant	0.063	Negligible Correlation

Note*:** ***1. QISIL *– Quality Improvement Strategies Implementation Level; NoO – Nature of Ownership; TQMA – Type of Quality Management Accreditation; LoHS – Length of Hospital Service*

2. Ho Interpretation*: Reject Ho if p-value < 0.05. Otherwise, fail to reject Ho*

3. Spearman's rho Correlation Coefficient: *± 1.00 – Perfect Correlation; ± 0.91 to ± 0.99 – Very High Correlation; ± 0.71 to ± 0.90 – High Correlation; ± 0.41 to ± 0.70 – Marked Correlation; ± 0.21 to 0.40 – Slight/Low Correlation; 0 to ± 0.20 – Negligible Correlation*

The significant relationship analysis presented in Table 16 investigates the relationship between the business profile of hospitals and the implementation level of Quality Improvement Strategies (QISIL). The analysis focuses on three variables: ownership, management credentialing, and years of hospital experience. The findings indicate that there is no significant relationship between ownership nature and the level of QI strategy implementation ($p > 0.05$). The coefficient of correlation (0.060) however, is considered low correlation, suggesting that the type of ownership seem to play little role in the adoption or effectiveness of QI strategies.

Type of management accreditation, on the other hand, is negatively associated with QI strategy implementation. The null hypothesis is rejected with a p-value of 0.00004 (< 0.05), which suggests that hospitals with higher and known quality management accreditations tend to have higher QI strategy adoption. The correlation coefficient of 0.300, though indicating a weak to moderate correlation, is a sign that accreditation is an impetus for the acceptance of quality management practices in the hospitals. Finally, duration of hospital work is not associated with QI implementation ($p = 0.400$) and the small correlation coefficient 0.063 indicates minimal correlation. This suggests that, the duration of time a hospital has been in existence has no significant effect on the QI strategy implemented.

Findings indicate that the type of ownership and years of service exert a less significant effect on whether hospitals adopt QI strategies when compared with the influence of accreditation. These results indicate that hospitals need to continuously work towards achieving and maintaining quality management certification to support their QI activities, because accreditation is associated with effective individual QI strategy implementation. Alhawajreh et al. (2023) notes that hospitals that are accredited are more likely to implement and embed QI interventions because accreditation is a framework that supports ongoing improvement and compliance with standards. Devasahay et al. (2021) further justify this approach, showing that accredited status may help the best practices and healthcare benchmark being adhered to, hence enhancing QI implementation.

With regards to the type of ownership (government, DOH, private) and the hospital service length and their very small association with QI strategy implementation, this corresponds well with the results of Kumah et al. (2020) that the type of organizational ownership itself is not an independent predictor of QI effects. Dela Cruz and Dela Cruz (2021) and Renosa et al. internal factors, including leadership commitment and organization culture are more important than ownership in QI success." (2021), they add. Similarly, McMaughan et al. (2020) it is not sufficient to achieve better QI implementation that longer time in the hospital service indicates more experience unless a long continuous improvement has been associated. The integration of leadership engagement and staff education is important for effective QI and are emphasized by both Cruz and Cruz (2021) and Diggele (2020) and Leadership as the creator of quality culture. Friday et al. (2021) further state that successful teaching enables the staff to use the principles of QI in practice which drives lasting applicability to patient care.

Part 2. Qualitative Thematic Analysis

3.4 Factors influencing the successful implementation of the Quality Improvement (QI) strategies in the subject hospitals

This section explores the qualitative analysis of the interview responses of the hospital's key informants with regards to the best practice of their QI strategies implementation based on the 10 hospital standards. As presented from table 17 to 26 and a summary on table 27 utilized a thematic analysis to address SOP4.

Research Question Number 4: What are the factors influencing the successful implementation of the QI strategies in the subject hospitals?

Table 17 presents the insights of this study's co-researchers' insight on the factors addressing the success of QI strategies implementation in their respective hospital in relation to Access to Healthcare (AHC). Based on the views of government (GOV), Department of Health (DOH) owned and private (PVT) hospital staffs, five themes were identified. This reflects both community-led versus individual strategies by type of hospital ownership, showing similar challenges and differences in health-care access across Philippine settings.

The first theme Universal Healthcare Access & Financial Support (UHAFS) captures the way in which the Universal Health Care (UHC) Act and institutional support programs have been instrumental to increased access. Several co-reserachers among the different hospital sectors frequently spoke the value of mechanisms for financial support. Co-researcher 1 from a DOH hospital pointed out that mechanisms such as the mobile clinics, outreach programs, and Malasakit or Ambag programs allow direct access to services, thus even the marginalized are served. This theme is about filling in gaps in access to health care, especially for the poorest. Another critical approach through which hospitals aim to improve healthcare delivery, particularly in remote or underserved locations is through the use of mobile clinics, community outreach programs, and medical missions (Weiner et al., 2024). Meanwhile, the co-researchers in private hospitals (co-researcher 2 and 3) stated that they believed in access through the Private-Public Partnership (PPP) and subsidized programs,

Table 17

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Access to Healthcare

Theme	Code. Co-researcher's Statements	NoO
UHAFS. Universal Healthcare Access & Financial Support	**UHAFS1.** Co-researcher 1: "Hospital provides fair access to healthcare services for all patients thru Universal Health Care (UHC) Act in the Philippines ensuring primary healthcare is accessible to all Filipinos."; "Deploy Mobile Clinics, Community Outreach Programs, Medical Missions."; "Patients admitted in facility or hospital privilege of financial assistance due to presence of Social Services and Medical Assistance Programs (Malasakit, Ambag, etc)."	DOH
	UHASF2. Co-researcher 2: "Currently there are specific services that are being established in partnership with the public and government hospitals."	PVT
	UHASF3. Co-researcher 3: "Some programs even offer free schemes. Particularly, this is focused with oncology."; "We are focused on patient access. to address financial toxicity, we are able to get 50% off."	PVT
SCTI. Specialized Care & Technology Integration	**SCTI1.** Co-researcher 1: "Privilege of Multi-specialty Programs Free open-heart surgeries (Cardiovascular Surgical Missions) with partnership to another hospital."	DOH
	SCTI2. Co-researcher 2: "We have a new CCC program, patients will be provided a doctor for IM, Endo, and Onco within that area or specialization."; "We have the Arcus Air system there is centralization of records following the data privacy act."	PVT
	SCTI3. Co-researcher 5: "If the patient has no ability to pay the future services, the institution looks for a possible hospital for transfer."	GOV
	SCT4. Co-researcher 7: "Technology plays a vital role in CQI, use of telehealth, mobile health applications."	DOH
PFRM. Patient Flow & Resource Management	**PFRM1.** Co-researcher 4: "lack of resources, understaffing and many more, proper follow ups are made to concerned areas."	DOH
	PFRM2. Co-researcher 6: "We face challenges such as the high influx of patients and limited manpower."	GOV
	PFRM3. Co-researcher 7: "All departments collaborate in creating patient care protocols, ensuring an integrated approach to care that addresses all aspects of the patient's needs."	DOH
	PFRM4. Co-researcher 9: "Influx of patients, addressed through management reviews."; "Management reviews assess patient waiting times to ensure timely care delivery."	PVT
IHVG. Inclusive Healthcare & Vulnerable Groups	**IHVG1.** Co-researcher 4: "aside from the telemedicine and other hospital-initiated programs, as an uprising apex specialty center in Mindanao, we are opening doors to patients in our region."	DOH
	IHVG2. Co-researcher 5: "If the patient has no ability to pay the future services, the institution looks for a possible hospital for transfer."	GOV
	IHVG3. Co-researcher 6: "In the hospital, wqe have established priority lanes not only for PWDs but also for indigenous patients."	GOV
	IHVG4. Co-researcher 7: "Geographic Barriers."	DOH
SOCCM. Sustainability, Organizational Culture & Change Management	**SOCCM1.** Co-researcher 5: "Resistance to change especially to younger gen and slower learning curve for older generation."	DOH
	SOCCM2. Co-researcher 8: "In the past, CQI was not a central part of the hospital's process. Moving forward, the hospital recognizes the importance of integrating CQI into its operations, and efforts to enhance this process will be prioritized once resources and staff availability improve."	GOV
	SOCCM3. Co-researcher 10: "It promotes the UHC law by running programs like E-Konsulta."; "The Psych services are in the process of getting accredited by PHIC."; "Sometimes people's attitudes get in the way of doing initiatives to promote accessibility."	PVT

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

especially in cases of expensive treatments such as the oncology. The remaining co-researchers expressed efforts need to be taken to address financial toxicity to have the capacity to receive discounts before they reach up to 50% discount when access to

life sustaining treatments, being able to afford it and lawn mowing at home (Coughlin et al., 2021) one participant stated. These reactions are illustrative of a mutual commitment among different hospital ownership categories to lower financial barriers, whether via government level directed programs, or local efforts.

The second theme, SCTI (Specialized Care & Technology Integration), explains how resources for specialty services and digital health solutions promote better access and care provisions to patients. Co-researchers from DOH and private hospitals cited the offer of multi-specialty programs (e.g. the CCC Program of care), free open-heart surgeries through collaboration. There were also numerous mentions of digital applications, such as the centralized electronic medical records (e.g., Arcus Air), telehealth, and Health apps that support patient's health needs and adhere to the Data Privacy Act. These statements indicate that both public and private hospitals are adopting digital strategies and specialty care models toward accessibility and patient-centered care in general, with DOH hospitals taking the lead in terms of volume and infrastructure. It was shown that technology such as telemedicine is revolutionary in enhancing access and service delivery in healthcare, hence a vital ingredient in effective QI strategies (Stoltzfus, 2021). Bhati (2023) also underscores that multi-specialty programs enhance patient outcomes by delivering patient-centered care across multiple specialisms.

Third theme on the Patient Flow & Resource Management (PFRM) indicates that overcrowding, understaffing, and care coordination are of mutual concern among hospital types. All co-researchers from DOH, GOV, and PVT hospitals (co-researchers 4, 6, 7, and 9) highlighted the issue of volume of patients and manpower constraint. They emphasized the value of multidisciplinary teamwork, uniformity of the care plan, and regular management reviews of, and action to reduce, patient response time. While patient volume tends to be an issue at public hospitals because of a more expansive range of services they provide, private hospitals also face these problems and resolve them with internal process assessments. Capacity limitations implications for practice similarities that arise from these findings highlight the need for a system-level response to capacity issues to ensure that care is not only timely, but efficient. As mentioned by Digdarshinee (2024) and Harbi et al. (2024), efficient resources utilization and control of patient flow are important to overcome high number of patients in-flow and to provide timely care.

In the fourth theme, Inclusive Healthcare & Vulnerable Groups (IHVG), co-researchers highlighted that it was imperative to engage people in vulnerable situations and in remote areas. Several DOH and GOV hospital representatives (co-researchers 4, 5, 6 and 7) addressed specific programs for PWDs, indigenous people and residents of geographically isolated and disadvantaged areas. They explained the application of priority lanes, the telemedicine and referral of the poor who can't stay on for treatment in a single establishment. Of note, the same wording was reiterated by DOH and GOV staff, who emphasized equity-based strategies, thereby articulating a collective preference for this approach across the public health care field. These results indicate that the introduction of inclusive policies is more organized in public hospitals, and at the same time the private sector also plays a role through indirect support and transfer mechanisms. Morales-Garzón (2023) highlight the importance of comprehensive care in vulnerable populations to achieve equal access to medical care, being a support for the fight against these inequalities.

Lastly, the theme on Sustainability, Organizational Culture & Change Management (SOCCM) focus on internal QI readiness. Co-researchers in GOV, DOH and PVT hospitals (Co-researchers 5, 8, 10) reported resistance to the change, including resistance from older workers, age gaps, and attitude related issues. Co-researcher 8 (DOH) stated that CQI was lack of previous priority but as resources and staff get better,he is increasing in UIE more and more. A private hospital co-researcher also mentioned that there had been attempts to push e-health initiatives through like E-Konsulta but it really depends on the attitudes of the staff. Overlapping of these concerns implies that despite external supports and structural policies which facilitate access there is a dependence of the QI process on the internal organizational culture and leadership support. In an analysis by Carreño (2024) of Kotter's model of Change Leadership Framework (2015), it explains that the resistance to change, in organization, has been identified as one of the significant manacles to the successful introduction and formulation of new programs, like that of healthcare.

Overall, , the thematic analysis reveals some shared themes and consistent approaches by DOH, GOV, and PVT hospitals in dealing with QI to access to healthcare. System of financing and support, special programs, integration of eHealth, resource allocation, and equal opportunities are the basic elements at all sorts of institutions. Implementation and resource availability however differed according to hospital ownership, wherein, DOH and government hospitals were tied to policy-driven mandates while private hospitals have used flexibility and partnerships to address the same goals. Key themes and significant statements across co-researchers' common perspectives indicate that it is not a matter of context but of the level of shared intention to improve access to healthcare through continual quality improvement across hospital types. The utilization of financial assistance initiatives, technology incorporation, and universal medical practices, which grant a possibility for a fairer healthcare (WHO, 2020; Stoltzfus, 2021; Carreño, 2024)..

The findings in this qualitative thematic analysis with reference to the quantitative analysis of section 3.2 in Access to Healthcare, support it, that healthcare institutions in the Philippines—DOH, government, and private have implemented quality improvement (QI) to improve Access to Healthcare (AHC), to a moderate extent, but there are still disparities and challenges. The financial assistance programs as an intervention was also seen to be the most optimally executed intervention in a public hospital setting, this finding is supported by the qualitative data that suggests the role of the UHC Act and programs such as Malasakit Centers, this finding correspond to Sacks et al. (2020) and Coughlin et al. (2021) who emphasise affordability in access to healthcare. In contrast, telemedicine was the most sparsely deployed across the sectors of measurement, based on survey results and interviews, as per Adams et al. (2022) and Stoltzfus (2021), that acknowledge its potential but highlight obstacles such as illiteracy and infrastructure gaps. Matters like managing patient flow and reaching vulnerable people help also explain that moderate scores for the outreach, and monitoring, factors that support DED, further to strengthening the arguments already highlighted by Digdarshinee (2024) and by Morales-Garzón (2023), when it comes to inefficiency-ing and when it comes to equity-ies. Finally, organizational reluctance to adapt, outlined in the thematic concept of sustainability and culture, provides support for Carreño's (2024) use of Kotter's model by noting the relevance of organizational readiness and leadership for successful QI uptake. Coming together, these results demonstrate that enhancing access to care depends on policy and financing along with building technology infrastructure and organizational change.

Table 18 highlights the thematic analysis of the factors of the successful QI strategies implementation of the hospital in the Health Assessment and Care Processes (HACP). Information from co-researchers in DOH, GOV and PVT hospitals is offered for five major themes. These themes reflect the work being undertaken in hospital types to improve patient safety and achieve standardized care as well as sustainable healthcare, with some differences in emphasis and delivery depending on hospital ownership.

The first theme, Standardization & Clinical Monitoring (SCM) focuses on care delivery strategies that invest in the use of objective, structured assessment tools and clinical audit to monitor care quality. DOH, GOV and PVT hospital (i.e., co-researcher 1, 2, 6 and 9) narrated that they had been working toward adhering to it by creating strategies, such as developing CPGs for the most prevalent illnesses, conducting patient record audits regularly and revising protocols as per the current changes in health innovations. Importantly, this is also a diet that both public & private hospitals now acknowledge as having the added benefit of a valid assessment tool and ongoing monitoring which promotes greater diagnostic accuracy, reduced variation and safer patients. The consistent implementation and updating of its practice through clinical audits emphasized DOH's rule and leadership function, and complement private and government hospitals that would apply these best practices to sustain performance. This is echoed in the literature as standardization of processes has been shown to minimize variations in care and improve patient outcomes (Beauchemin et al., 2020). Additionally, they offer a means for continual measurement, so that for instance delivery organizations can use them to enhance quality by identifying where there are inefficiencies or gaps in care (Abu-Jeyyab et al., 2020).

Table 18

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Health Assessment and Care Processes

Theme	Code. Co-researcher's Statements	NoO
SCM. Standardization & Clinical Monitoring	**SCM1.** Co-researcher 1: "Implement Standardized Assessment Protocols to implement consistent and reliable assessment tools and procedures."; "Clinical Audits by regular reviewing patient records."	DOH
	SMC2. Co-researcher 2: "We utilize Clinical Pathway Guidelines (CPGs) to standardize treatments for the top 10 most common diseases in our hospital."	PVT
	SMC3. Co-researcher 6: "Patient safety is ensured by regular audits, patient feedback, and continuous monitoring through our Clinical Pathway Guidelines and monitoring systems."	GOV
	SCM4. Co-researcher 9: "Adopting the updates/innovations available in the health sector."	DOH
DDEBP. Data-Driven & Evidence-Based Practices	**DDEBP1**. Co-researcher 1: "Data Analysis and key performance indicators."; "QI improvement efforts aim to improve the overall health outcomes for patients leading to better long-term health and well-being."	GOV
	DDEBP2. Co-researcher 3: "We rely on evidence-based protocols, utilizing patient feedback, clinical data, and outcome metrics to guide our quality improvement initiatives."	PVT
	DDEBP3. Co-researcher 5: "We actively use patient data and audits to support our evidence-based decision-making, ensuring that our practices align with local and international standards."	GOV
	DDEBP4. Co-researcher 7: "Data from CSAT is analyzed and discussed in management reviews."; Thru a customer satisfaction tool analyzed to gain data for continual improvement on patient care.	DOH
CCPS. Care Coordination & Patient Safety	**CCPS1.** Co-researcher 2: "We have different CQI champions from each hospital. target of the HR department. The HR department targets now that all managers and up should have lean six-sigma white to yellow belt."	PVT
	CCPS2. Co-researcher 3: "In pharmacy, we conduct medication appropriateness risk review. We also have to validate the dose."	PVT
	CCPS3. Co-researcher 4: "Multidisciplinary Collaboration, Continuous Education and Training, Patient Involvement."	DOH
PCCE. Patient-Centered Care & Experience	**PCCE1.** Co-researcher 2: "This is important because we were able to understand the needs of the patient, the main goal of the hospital is to promote patient experience together with the group COO."	PVT
	PCCE2. Co-researcher 4: "Our hospital ensures that patients are informed at every stage of their treatment, from admission through discharge, with clear explanations provided by healthcare staff."	DOH
	PCCE3. Co-researcher 5: "We focus on creating a patient-centered environment by improving communication and actively involving families in decision-making processes."	GOV
FESD. Facility Expansion & Staff Development	**FESD1.** Co-researcher 3: "We expanded the production area. We also expanded the inpatient dispensing of medication."	PVT
	FESD2. Co-researcher 4: "Multidisciplinary Collaboration, Continuous Education and Training, Patient Involvement."	GOV
	FESD3. Co-researcher 7: "Facility expansion has been driven by increasing patient demand, and we are continually updating our infrastructure to keep up with new healthcare demands."	DOH
	FESD4. Co-researcher 10: "The units involved in patient care go into continuous trainings and accreditation processes."	PVT

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

In the second Theme, Data-Driven & Evidence-Based Practices (DDEBP), co-researchers expressed that they relied heavily on the use of data analytics, performance measures, and patient feedback to inform QI. Co-researchers across all hospitals (co-researchers 1, 3, 5 and 7) stressed the importance of evidence-based protocols, clinical outcome monitoring, and tools such as

the Customer Satisfaction (CSAT) survey to guide decision-making. A co-researcher from a government hospital observed that patient information are utilised to standardise with local and international standards - and that this implies that there is an overt effort to benchmark practices. Representatives from private hospitals similarly emphasized their dependence on clinical, outcome, and performance data, suggesting that in even resource-limited or competitive environments, data are essential to reaching QI objectives. This application of management reviews through DOH to interpretation of CSAT data provides further evidence for a top-down approach to sustained continuous improvement. According to a study by Nwaimo et al. (2021), health analytics permits close monitoring of patient results, early trend detection, and on-time intervention. In addition, evidence-based practice can be used to inform healthcare decisions, based on new and existing reliable clinical evidence, and offers a method for decision-making that is considered to be of the highest standard of care (Connor et al., 2023).

The third theme, Care Coordination & Patient Safety (CCPS), covers promotion of interdepartmental collaboration, implementation of safety standards and investment in personnel. Co-researchers from PVT and DOH hospitals (co-researchers 2, 3 and 4) described methods involving the use of CQI champions, implementing medication risks reviews, and fostering multidisciplinary education and work. The private facilities seem to be more aggressive with capacity building (e.g. six sigma belt training for leadership) suggesting a more business-oriented QI integration model. Meanwhile, DOH hospitals concentrate on comprehensive and holistic solutions, such as education, training and coalition building. These methods demonstrate the necessity, as both cultural and structural imperative of care coordination for effective QI, and how hospitals adapted their approaches to their specific context. Recent research has also demonstrated the importance of team performance in developing safety culture and for enhancing the quality of patient care. For instance, Lin et al. (2021) observed that wards with better performing MDTs have significantly better teamwork climate and perceptions of patient safety. Likewise, Suleiman & Ming (2025) reiterating that team care, a collaborative approach to management, facilitates communication and surveillance that in turn decreases errors and ensures better patient outcomes.

The fourth theme on Patient-Centered Care & Experience (PCCE) emerged from co-researchers who shared that patient involvement is a cornerstone for attaining quality health care. PVT, DOH and government hospitals (co-researchers 2, 4, 5) drew attention to the need for better patient education along the care pathway and more effective communication with family members in taking decisions. As expressed by one private hospital co-researcher, the focus is on improving patient experience, as per executive leadership goals, demonstrating an organizational and strategic level orientation. Government and DOH hospitals, however, prioritized communication and education, particularly at transition-of-care points, like discharge. These comments reinforce the fact that all types of hospitals are looking to create a more responsive and personalized patient environment that has a positive impact on health and satisfaction. Research by Brands et al. (2022) Kwame et al. (2021) and Yu et al. (2023) underscores that in a patient-centered care setting, health outcomes and patient satisfaction is enhance by the consideration of the patient's perspective in decision-making. Personalized care that meets the individualized needs and preferences of patients tends to result in a better relationship with patients, promoting increased engagement and adherence to treatment.

Lastly, Facility Expansion & Staff Development (FESD) highlights infrastructure and workforce investments necessary for maintaining QI. Co-researchers from PVT, GOV and DOH facilities (co-researchers 3, 4, 7 and 10) found efforts to extend drug dispensing sites (as facilities were becoming over-crowded), infrastructure matched with increasing demand, and ongoing training and accreditation for staff. Another independent DOH co-researcher said the growth was fueled by population—what goes around comes around is a very important reactive way to develop services. Private hospitals seem to be taking lead in this area, and some have already been increasing physical spaces and operationalising training. They all represent, in varying ways, a recognition that creating high-quality care processes is built on the infrastructure and the ability of the workforce to implement them. Literature has indicated that facility upgrades and staff training are important for the provision of quality care to patients, such that healthcare workers are well trained while facilities are prepared to cater to service attention due to increasing demands (Samardzic et al., 2020). On-going staff education and certification are essential to keep healthcare professionals up-to-date on the latest clinical practices and standards and to maintain the high-level of care essential in these changing healthcare times.

Overall, the thematic analysis reveals that standardization, evidence-based practices, care coordination, and patient-centeredness as well as infrastructure requirements are critical enablers of QI effectiveness in health assessment and care management processes. All of these priority areas are held in common across hospital types but what they look like differs according to the hospital's different practices and governance structure. DOH hospitals tend to be initiators, trailblazers or model programs, often supported by systems and even the state. While government hospitals approach more closely DOH programs, private hospital innovate rather in leadership formation and organizational responsiveness. Co-researchers' reflections

illustrate an emerging culture of cooperation, continual learning, and patient involvement in health care and, in the process, fund the foundation for more resilient and adaptive QI systems within Philippine hospitals.

The findings from this qualitative thematic analysis support the quantitative analysis from section 3.2 for the HACP strategies, with a range of moderate implementation observed across Philippine health care providers, with both DOH and private hospitals tending to outperform government run facilities. High rates performance of scheduled preventive care and standardized care protocols reflect an explicit system commitment to uniform and high-quality care, which supports Baker et al. (2021) study and Beauchemin et al. (2020), supporting standardized guidelines with routine screenings for better outcomes. Nevertheless, lack of use of electronic health records (EHRs), as measured by low scores in all domains, also confirms the continued difficulties of digital integration such that reported by Haleem et al. (2021) contention stating that institutional factors limit full EHR implementation. With qualitative themes including Standardization & Clinical Monitoring, and Data-Driven Practices, the findings reinforce the sense that hospitals strongly depend on clinical audits, evidence-based protocols, and performance indicators to guide their decision-making, supporting Nwaimo et al. (2021) and Connor et al. (2023). Care coordination and patient safety: Developed in the context of multidisciplinary training and cooperation across departments will address Suleiman & Ming et al. (2025) concerning the significance of comprehensive strategies to reduce medical errors. Patient-centred care planning that was found to be uniform across all types of hospitals, reinforced that it is a sector priority based on literature from Brands et al. (2022) and Yu et al. (2023), where individualized approach is associated with greater satisfaction and better outcomes. Last but not the least, provision of health services and training of work force by infrastructure and HR input is a requirement for maintaining the quality as indicated by Samardzic et al. (2020). Taken together, they imply that specific interventions are required to optimise all functional systems for the delivery of quality care in each sector of the hospital.

Table 19 presents a thematic analysis on the factors influencing the hospital's successful Quality Improvement (QI) strategies in relation to patient rights and education. Co-researchers from different hospital sectors provided perspectives that demonstrate a wide and deep commitment to optimizing patient empowerment, informed decision-making, culturally sensitive education, and ongoing feedback integration. These themes highlight the industry's continued focus on not just educating, but also involving patients, across the healthcare landscape.

The first theme related to Patient Rights Education & Awareness (PREA) which emphasizes the role of patients' understanding of their rights and the education to be provided to them through various potential platforms. Co-researchers 1, 2, 6, and 8 from DOH, GOV and PVT hospitals followed the same course practices included brochures, posters, leaflets, consent forms and verbal explanation to instruct the patients. Family orientation and the use of online resources was also heavily promoted in DOH hospitals, suggesting a more comprehensive patient-centered approach to awareness. On the other hand, consent processes were the major areas of focus by private and government hospitals

Table 19

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Patient's Rights and Education

Theme	Code. Co-researcher's Statements	NoO
PREA. Patient Rights Education & Awareness	**PREA1.** Co-researcher 1: "We provide patients with brochures, posters, and leaflets on common health conditions, treatment options, and preventive care."; "Written materials, verbal explanations, and online resources, family orientation and involvement."	DOH
	PREA2. Co-researcher 2: "We have the patient consent including their rights and responsibilities and then we have them signed."	PVT
	PREA3. Co-researcher 6: "The hospital ensures patients are informed of their rights and responsibilities."	GOV
	PREA4. Co-researcher 8: "Patients are informed of their rights and responsibilities through the patient consent process, and staff ensures they understand what is being communicated."	GOV
EEP. Effectiveness of Education Programs	**EEP1.** Co-researcher 1: "Use a combination of quantitative and qualitative methods, including surveys, tests, observations, interviews, and focus groups."	DOH
	EEP2. Co-researcher 4: "Through feedback and positive outcome great results."	DOH
	EEP3. Co-researcher 5: "Effectiveness is monitored through patient feedback and surveys, along with assessing knowledge and compliance before discharge."	GOV
	EEP4. Co-researcher 10: "We measure the effectiveness through patient feedback and knowledge assessments, tracking improvements in patient compliance and readmission rates."	PVT
ICDM. Informed Consent & Decision-Making	**ICDM1.** Co-researcher 1: "Informed consent is obtained from patients before any procedures, and family members are involved in the decision-making process when necessary."	DOH
	ICDM2. Co-researcher 3: "Before proceeding with any treatment, we ensure the patients are fully informed about their options, risks, and benefits through proper consent forms and counseling."	PVT
	ICDM2. Co-researcher 7: "Informed consent forms, verbal communication and education."	DOH
	ICDM4. Co-researcher 9: "Patients are encouraged to participate in decision-making regarding their treatment plans."	PVT
Health Literacy & Cultural Sensitivity (HLCS)	**HLCS1.** Co-researcher 4: "Health literacy is a key focus, and we ensure all materials are culturally relevant and provide information in a way that is understandable to all patients."	DOH
	HLCS2. Co-researcher 5: "We actively incorporate cultural sensitivity in our patient education programs, adapting content to meet the unique needs of each patient."	GOV
	HLCS3. Co-researcher 7: "Written materials, digital resources, verbal communications and counseling."	DOH
	HLCS4. Co-researcher 10: "Cultural sensitivity is key in our education programs, and we provide resources that cater to the specific needs of different patient groups."	PVT
PFSI. Patient Feedback & Support Integration	**PFSI1.** Co-researcher 3: "Patient feedback is collected through surveys, focus groups, and real-time feedback systems, which inform continuous improvements in care."	PVT
	PFSI2. Co-researcher 4: "Patient feedback integration, getting their responses through reliable and realistic customer care satisfaction surveys."	DOH
	PFSI3. Co-researcher 9: "We integrate patient feedback through satisfaction surveys and focus groups, ensuring that their experiences guide improvements in care processes."	PVT

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

to inform the patients of their roles and responsibilities. Together, these practices highlight that enacting patient rights is not just procedural form filling, but constitutes established hospital practices and patient safety. This is also in line with the research

which highlighted the difference in patient satisfaction and compliance with treatment when patient rights education is available (Alqallaf et al., 2024). Teaching patients what they are able to demand is not only informative, it's empowering.

The second theme, Effectiveness of Education Programs (EEP), with a focus on good quality education programs was underscored by Co-researchers 1, 4, 5 and 10 from DOH and government hospitals. These types of responses demonstrate a structured process for assessing the effect of patient education with the use of both quantitative (i.e., surveys, tests) and qualitative (i.e., focus groups, interviews) instruments. There were also some suggestions to improve the description of the methods used to evaluate understanding (co-researcher 1) and the importance of patient feedback to judge the efficacy of educational strategies (co-researchers 4 and 5). Co-researcher 10 (government) commented that another example of outcome assessment was compliance and readmission rates. This further illustrates that public hospitals, especially DOH-affiliated, are taking a proactive stance in promoting that educational content is adequate and relevant. Studies like that of Collins et al. (2020) recommend that Educational Programs are to be evaluated from various perspectives, such as patient feedback and outcomes, to assist hospitals to fine-tune their educational offerings to suit patient needs. Quantitative and qualitative data together provide insights into how well educational programming is functioning at hospitals.

The third theme, Informed Consent & Decision-Making (ICDM), covers the ethics and clinical necessities of patient participation in treatment decisions. DOH and PVT hospital-based (co-researchers 1, 3, 7, and 9) all reported standardized practice of formal consent forms, verbal counseling, and discussions with families, as needed. Patients are being urged to get more involved with their treatment plans, thanks to a shift from passive to empowered patient roles, said one co-researcher from a private hospital. This patient-emphasized method is applied in hospitals broadly; the demand to respect patient autonomy is entangled with both ethical healthcare and QI schemes. Research by Biyazin et al. (2022) for his part, points out that informed consent plays a central role in patient-centered care, creating trust, comprehension and shared decision making. It found that factors such as provision of sufficient time for discussion and strong patient-provider relationships were positively correlated with greater satisfaction with the informed consent process, a process that confirms improved health outcomes and greater patient involvement.

While, the fourth theme on Health Literacy & Cultural Sensitivity (HLCS) reflects a shared perspective of making some educational materials both comprehensible and welcoming. DOH and GOV hospitals co-researchers 4, 5, 7 also stressed the need to contextualize the material by culture and to present it in simple, meaningful formats. "Integrating cultural sensitivity in an education program is important to satisfy different patients' requirements", replied one of the co-researchers from a private hospital. Among all hospital categories, it is widely recognized that better health literacy results in better patient outcomes, compliance, and satisfaction, particularly when reaching out to multicultural, multilingual settings like in the Philippines. A study by Shahid et al. (2022) and Bhattad et al (2022) and strengthens the concept that health literacy is a key factor for patient care as it empowers patients to be informed consumers of their intermediation. Cultural sensitivity in education Scratch upon the surface of most skin disease treatments, and one will almost always encounter inherent cultural issues in the provision of clinical information to patients. The way in which medical information is communicated to patients is arguably just as important as the actual information being conveyed—this is an educational grouping that is still under-researched, but has been shown to improve understanding and patient satisfaction.

Lastly, theme on Patient Feedback & Support Integration (PFSI), PVT and DOH hospital co-researchers 3, 4, and 9 described how patient feedback is collected and processed to support QI processes. Some of the feedback mechanisms are surveys, focus groups, and real-time monitoring systems, all of which are regarded as essential to bringing symmetry to the loop between education, experience, and action. In particular the private sector seems responsive to such patient feedback; it is used strategically to assist in the development of services and the cementing of public confidence. DOH facilities can build off of this by including feedback in satisfaction and customer care surveys, so patient voices more directly shape quality enhancement. Recent studies also support the importance of incorporating patient feedback into QI processes by suggesting patient feedback as an important method for identifying areas for improvement and for enhancing care (Wong et al., 2020). Through obtaining and responding to patient feedback, hospitals can enhance the satisfaction of patients and address issues in a timely manner so that services are tailored to suit patients.

Overall, the thematic analysis reveals that patient's rights and education, informed decision-making, cultural sensitivity, and feedback integration are core components of QI interventions in all types of hospitals. DOH hospitals lead in structured education delivery and evaluation systems and government hospitals are such initiatives are backed by patient-focused policies. And private hospitals show assertive practices in feedback-based service improvement and leadership in patient engagement. The perspective of the co-researchers combined reveals a growing healthcare landscape where nothing less than excellent medical care, as well as patient-oriented and ethical care are increasingly being seen as cornerstones for the sustained and long-term impact of quality improvement work in the Philippine hospital setting.

The findings from the qualitative thematic analysis in support to the quantitative analysis on Patient's Rights and Education strategies from section 3.2 indicate the widespread practice in Philippine healthcare from various facilities, DOH and private hospitals, with DOH and private hospitals consistently higher than government health institutions. The relatively high scoring in informed consent and patient concern provides evidence of an institution both dedicated to ethical practice and serving the patient community. These results are consistent with reports from Xu et al. (2024) and Shah et al. (2024), which highlight informed consent and patient autonomy as factors to improve satisfaction and results. However, the only moderately implemented standard information in hospitals that was easy for patients to understand, especially for public hospitals, reflects deficiencies in patient education and communication. Qualitative themes such as Patient Rights Education & Awareness, Informed Consent & Decision-Making, and Health Literacy and Cultural Sensitivity underscore the cross-sector use of brochures, verbal counseling, culturally adapted materials, and consent processes to enable patient self-efficacy, all supported by Alqallaf et al. (2024), Biyazin et al. (2022), and Shahid et al. (2022). Moreover, the addition of Patient Feedback and Support to hospital QI mechanisms, particularly in the private and DOH facilities, underscores patient voice as pivotal in quality enhancement processes, as demonstrated by Wong et al. (2020). Although the overall integration is laudable, these findings indicate an ongoing requirement for consistent, culturally competent educational interventions and wider access to patient-friendly information resources. If these elements are strengthened, it will provide not only more informed but rather engaged patients, who are involved in their care decisions and will promote better quality of care as well as improvement of ethical standards in any sector.

Table 20 provides a thematic analysis of the critical factors influencing hospitals' success in implementing Quality Improvement (QI) strategies related to Patient Safety. Perspectives of co-researchers from different hospital sector add other layers including systematic protocols, environmental safety, infection control, staff capacity, and a culture of safety and emergency preparedness. These results indicate that patient safety is a common organizational priority independent from the type of hospital, was already integrated audits, training and checking systems.

The first theme, Safety Protocols & Risk Management (SPRM), highlighted the broad implementation of audits, safety rounds, and sentinel event monitoring for detecting and preventing risks. Joint research teams of DOH, GOV, and PVT hospitals (co-researchers 1, 3, 4, 6 and 7) highlighted, in particular, the contribution of Patient Safety Officers, SAFE-Units and safety surveys. Routine safety assessments and risk monitoring would exist in all types of hospitals, indicating that formalized patient safety systems are an integral component of hospital-based QI frameworks. In a report from Elsharaidy et al. (2022), this ongoing process is critical as safety audits can reveal hidden risks and promote a proactive approach to safety management. Moreover, a study of Abu-Jeyyab et al. (2024) support this by showing that regular auditing and safety officer input are important in contributing to reduced patient safety risks and overall hospital performance.

Table 20

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Patient's Safety

Theme	Code. Co-researcher's Statements	NoO
SPRM. Safety Protocols & Risk Management	**SPRM1.** Co-researcher 1: "Patient Safety Protocols are available. Patient Safety Officers audit."	DOH
	SPRM2. Co-researcher 3: "We have safety audits, patient safety rounds."	PVT
	SPRM3. Co-researcher 4: "SAFE-Unit conducts safety surveys, monitors sentinel events."	DOH
	SPRM4. Co-researcher 6: "We manage and minimize facility safety risks through regular safety audits."	GOV
	SPRM5. Co-researcher 7: "Safety audits are a critical strategy for identifying safety gaps and ensuring compliance with safety standards."	DOH
EFS. Environmental & Facility Safety	**EFS1.** Co-researcher 1: "Leakage from ceiling hamper the operations of patient care in operating room causing delay, renovation of ceiling by Facility management."	DOH
	EFS2. Co-researcher 3: "Our hospital conducts environmental safety audits quarterly, checking everything from patient rooms to hazardous materials handling and ensuring compliance with all standards."	PVT
	EFS3. Co-researcher 5: ""Facility safety includes regular audits to ensure all patient rooms, equipment, and common areas are safe. We focus on maintaining a hazard-free environment."	GOV
	EFS4. Co-researcher 8: "Routine physical check-ups of facilities are done."	GOV
	EFS5. Co-researcher 10: "Environmental and facility safety are a priority for us. We perform regular checks and audits on all patient areas, equipment, and emergency systems to ensure compliance with safety guidelines."	PVT
ICP. Infection Control & Prevention	**ICP1**. Co-researcher 2: "EOC audit is quarterly done with the facility structure such as the cleanliness and fall of debris."	PVT
	ICP2. Co-researcher 6: "We have a multi-faceted infection control program, including monitoring hand hygiene, PPE compliance to prevent hospital-acquired infections."	GOV
	ICP3. Co-researcher 9: "We identify potential risk areas and implement protocols to minimize them proactively."; "We ensure strict adherence to protocols like hand hygiene, PPE use, and isolation practices."	DOH
	ICP4. Co-researcher 10: "We implement strict infection control measures, including regular audits, hand hygiene monitoring, and ensuring that staff are trained on infection prevention methods."	PVT
STSA. Staff Training on Safety Awareness	**STSA1.** Co-researcher 1: "Orientation of staff, constant reminders and for the monitoring of Supervisors every shift."	DOH
	STSA2. Co-researcher 2: "Staff training includes regular updates on safety protocols, patient safety, emergency response procedures, and infection control measures."	PVT
	STSA3. Co-researcher 4: "Staff training, emergency protocols, and compliance with safety standards."	DOH
EPSC. Emergency Preparedness & Safety Culture	**EPSC1.** Co-researcher 7: "Culture of safety where all staff feel empowered to report errors, and near misses, without fear of reprisal."	DOH
	EPSC2. Co-researcher 8: "Emergency preparedness is a priority. We have a safety culture where staff regularly participate in drills, ensuring they are equipped to respond to emergencies effectively."	GOV
	EPSC3. Co-researcher 10: "We have a CARM team where RFAs on safety are submitted"	PVT

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

Under the theme of Environmental & Facility Safety (EFS), all hospitals regularly monitor physical conditions, perform safety audits, and conduct facility upkeep activities for safe and hazard-free percentages. DOH, GOV, and PVT hospitals (co-researchers 1, 3, 5, 8, 10) outlined systems which included quarterly audits, inspections for equipment, and for monitoring of

structural risk for example ceiling leaks and emergency systems. The involvement of public and private hospitals in such initiatives demonstrates a commitment to safety of facilities and that good environment translates to good patient care. Environmental safety is not only relevant to the wellbeing of the patient as reported by Shetty et al. (2024), in decreasing hazards and improving care quality, it is important to provide a safe physical environment with structural modification and routine inspections.

The third theme on Infection Control and Prevention (ICP) reflects that hospitals are generally operating with strong infection control programs. CO-researchers from PVT and GOV hospitals (co-researchers 2, 6, 9 and 10) highlighted the significance of hand hygiene, PPE adherence, EOC audits and continuous risk assessment. These procedures are critical to the elimination of hospital acquired infections (HAIs), and they indicate adherence to worldwide standards of safety. Lastly, the focus on audits and the need for preventative protocols indicate that infection control is an integral part of patient safety work, irrespective ownership category. A study by Kubde et al. (2021) and Habboush et al. (2021), infection control and prevention measures, such as regular auditing and the application of safety procedures, are elementary in minimizing hospital-acquired infections as well as influencing patient outcome. The infection prevention measures are specifically important for ensuring the safety of both patients and the hospital staff, while infection risk reduction protocols represent one of the crucial components of the hospital safety programs.

The theme on Staff Training and Safety Awareness (STSA), the orientation, supervision and continuous education of staff, which emerges from DOH and PVT co-researchers (co-researchers 1, 2, and 4), stressed the importance of shift level supervision, protocol refreshers, and emergency response training. These results suggest that patient safety depends a great deal on staff that is properly trained to be safety conscious and aware of updated regulations and emergency procedures. Researches like that of Nwaimo et al., (2021) have demonstrated that workplace safety adherence is higher when workers' training and professional development include safety, and that these imperatives lead to fewer errors and injuries in the workplace. Hospitals can help maintain readiness by routinely educating staff on safety protocols and policies, so all staff can react to emergencies and ease potential risk to patients.

The last theme, EPSC (Emergency Preparedness & Safety Culture) captured a pervasive system-wide focus on developing a non-punitive culture of safety. Co-researchers 7, 8 and 10 from DOH, GOV and PVT hospitals respectively described incident reporting free from fear of retribution, frequent emergency drills and the reliance on CARM reports. This commitment to building transparency and readiness illustrates that hospitals are not just trying to meet regulatory requirements but are seeking to instill a sense of psychological safety and preparedness into their work cultures. In DOH and GOV hospitals in particular it was articulated that empowering staff to report near misses served to avoid systemic failure and enhance organizational learning. Research by Page et al. (2024) and Chilukuri et al. (2024) suggest that building and sustaining a safety culture within healthcare institutions, in which staff feel able to report safety problems, is fundamental to patient safety and efforts at avoiding errors. A positive safety culture leads to better staff commitment and to better performance where emergencies are concerned.

Overall, this reveals those hospitals across categories of ownership – DOH, government, and private – are establishing comprehensive, structured approaches to safety in their facilities, from managing risks in the environment through infection control to preparing for emergencies. Common themes across co-researchers' statements, including in relation to audits, training staff and culture, suggest a perception of safety as more than a compliance matter, but also about business strategy and culture. DOH hospitals show prominence in structured survey and safety culture, whereas private hospitals come into action when it comes to infection control and facility safety. Despite that, government hospitals solidify and ensure the continuity of operations by monitoring infrastructures and involving employees in rate determinations. These results confirm that patient safety is central to continuous quality improvement and high-performing healthcare organizations in the Philippines.

The findings on the qualitative thematic analysis, supporting the quantitative analysis for Patient Safety, indicate that the adoption of these strategies was generally good in most of the Philippine health care facilities attendant to a high aggregate score on total adherence, especially in comparison to the governmental facilities. Fundamental safety practices—accident prevention protocols, emergency drills, incident reporting and safety equipment maintenance—are well-established, indicative of a sector-wide dedication to reducing risk and providing safe health care settings. But average scores in government hospitals suggest inconsistencies, particularly in reporting safety incidents and in equipment. These findings are supported by the thematic insights with significant attention placed on formal audits, infection control, staff training, and promotion of a safety-focused culture in all areas. These results are in accordance with those of Varnosfaderani et al. (2024), Elsharaidy et al. (2022), and Page et al. (2024) which underscore the importance of standardized procedures, preventive risk management and ongoing education in the interest of better patient outcomes. In general, while a strategic priority is given to patient safety, focused

improvements in government-owned institutions, especially in surveillance system and infrastructure support, are necessary toward achieving homogeneous excellence in safety practices.

Table 21 presents a thematic analysis of factors influencing the success of hospital (QI) strategies implementation on Infection Control (IC). The results represent a comprehensive heterogenous approach, which entails general universal precaution, staff training, monitoring of the outbreak, the environmental safety and the outbreak management, DOP and governmental and private hospital had join forces in this endeavor. These themes illustrate that infection control is an operational and cultural priority for all types of hospital in the Philippines.

The first theme is Safety Precautions and Compliance (SPC), which involves staff-compliance with hand hygiene, PPE use, sharps-box management, and environmental cleaning. Other co-researchers from DOH and PVT hospitals (co-researchers 1, 3, 4, and

Table 21

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Infection Control

Theme	Code. Co-researcher's Statements	NoO
SPC. Standard Precautions & Compliance	**SPC1.** Co-researcher 1: "Standard Precautions like Hand Hygiene, PPE, safe management of sharps and effective environmental cleaning."; "Our infection control program includes hand hygiene, PPE, safe sharps management, and proper environmental cleaning protocols."	DOH
	SPC2. Co-researcher 3: "The hospital is very strict at 3 o'clock, intercom."	PVT
	SPC3. Co-researcher 4: "The infection control program includes strict hand hygiene, PPE use, sterilization protocols."	DOH
	SPC4. Co-researcher 10: "The nurses for one have random checking for proper hand washing."	PVT
ICTE. Infection Control Training & Education	**ICTE1.** Co-researcher 1: "Training, clear policies, regular monitoring and feedback, and a culture of infection prevention."	DOH
	ICTE2. Co-researcher 2: "Specialized training for staff ensures they are equipped to handle specific infection challenges."	PVT
	ICTE3. Co-researcher 5: "Regular infection control training is mandatory, covering topics like sterilization, hand hygiene, and environmental cleaning to ensure compliance across all departments."	GOV
	ICTE4. Co-researcher 7: "Comprehensive training and education, clear and accessible policies, monitoring and audits."	DOH
ISRM. Infection Surveillance & Risk Management (ISRM)	**ISRM1.** Co-researcher 1: "Environmental safety includes maintaining clean and safe environments, checking emergency exits, and ensuring equipment is functioning properly. Regular inspections help monitor safety."	DOH
	ISRM2. Co-researcher 2: "Infection surveillance involves constant monitoring and reporting of infection rates, while risk management helps identify potential hazards and control infection spread."	PVT
	ISRM3. Co-researcher 3: "The infection control is included in the quality management, the surveillance and monitoring, the controlled anti-microbials."	PVT
	ISRM4. Co-researcher 9: "We identify potential risk areas and implement protocols to minimize them proactively."	PVT
EFS. Environmental & Facility Safety on Infection Control	**EFSIC1.** Co-researcher 1: "Terminal Cleaning and disinfection, environmental cleaning."	DOH
	EFSIC2. Co-researcher 4: "We monitor facility safety through regular audits and inspections, focusing on cleanliness, waste management, and ensuring safe patient care environments."	DOH GOV
	EFSIC3. Co-researcher 8: "Our basic infection control focused on two areas. One was through cleanliness and sanitation of the facilities."	
	EFSIC4. Co-researcher 9: "We identify potential risk areas and implement protocols to minimize them proactively."	PVT
IOCA. Infection Outbreak & Compliance Audits	**IOCA1.** Co-researcher 2: "We have checklist used for audit, infection rates, hand hygiene, HAI in example is sepsis."	PVT
	IOCA2. Co-researcher 6: "During infection outbreaks, compliance audits are intensified, and we ensure that all infection control measures are strictly followed through increased monitoring and staff training."	GOV
	IOCA3. Co-researcher 9: "We recently faced an MRSA challenge in the ICU. It was addressed by implementing strict isolation protocols."	DOH
	IOCA4. Co-researcher 10: "Compliance audits are conducted to ensure that infection control policies are followed strictly, especially during outbreaks, to reduce the risk of infection spread."	PVT

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

10) identified scheduled hand hygiene reminders, sporadic checks for compliance, and sterilization standards as the primary barrier against healthcare associated infections (HAIs) and also act as a simple metric for the safety of the hospital. That the GOV, DOH and PVT hospitals strictly adhere to these protocols leads to the belief that compliance is already internalized and standardized in the programs of infection control. Studies from Toney-Butler et al. (2023) further confirms that a continuous surveillance is essential to ensure adherence to infection control practices such as hand hygiene can be facilitated, which has lead to a decrease in infection rates.

In the theme Infection Control Training & Education (ICTE), hospitals showed the importance of a common goal, building capacity through structured and ongoing training of staff. Independent co-researchers at the hospital and system level (co-researchers 1, 2, 5, and 7) emphasized regular mandatory infection control training, as well as policy dissemination, monitoring and feedback loops. Particularly, DOH hospitals highlight culture of prevention, while private and government hospitals invest in training for high-risk settings. These approaches underscore the importance of knowledgeable and competent healthcare providers for continuing to prevent infections. Based on a study conducted by Zhang et al. (2024) Garcia et al. (2022) and Collins et al., (2022), infection control education, particularly for healthcare workers, has been shown to increase compliance with infection control practices and, subsequently, to reduce hospital infection rates.

Infection Surveillance & Risk Management (ISRM) was also recognized as a critical factor, with coresearchers (co-researchers 1, 2, 3 and 9) detailing the ongoing surveillance of infection rates, identification of hazards, and risk management procedures. Private hospitals focused on AMCs and incorporating IC as part of quality management, while DOH hospitals brought attention to checking safety and equipment inspections. Such initiatives highlight the move from a reactive to a proactive model of infection control, in which decisions are based on data and earlier interventions lower risks. Their role in preventing antibiotic resistance and healthcare-associated infections is becoming more recognized (Ahmed et al., 2024 and Giamarellou et al, 2023). Surveillance initiatives also facilitate monitoring of infection rates and collection of useful data that can inform improvements in infection control.

Environmental & Facility Safety on Infection Control (EFSIC) theme emphasizes sanitation, terminal cleaning, and routine facility inspections specifically on infection control. Co-researchers 1, 4, 8, 9) Repeatedly and during key events, emphasized on waste, environmental and sanitation protocols as an infection control measure consistently throughout the training of DOH, GOV and PVT (co-researchers from DOH, GOV and PVT hospitals). These environmental considerations work alongside clinical care processes to mitigate risk and support the provision of care in an environment that is as safe and sterile as possible. The cross-disciplinary reach of this work confirms that infection prevention is not confined to the bedside, but involves the environment as a whole. This evidence is consistent with that of Dancer et al. (2023) that maintaining clean hospital environment by regular cleaning protocols would favorably decrease the rates of HAIs. Environmental cleaning, including disinfection of high-risk surfaces and patient care areas, is important for controlling the spread of infectious agents, especially in areas with high patient contact (e.g., operating and intensive care rooms).

Lastly, Infection Outbreak & Compliance Audits (IOCA) reveals how hospitals are dealing with peaks in infection risks. Co-researchers (co-researchers 2, 5, 6 and 10) reported responses including increased surveillance of compliance, the use of isolation, retraining of staff, and the use of audit tools to monitor sepsis and other HAIs. Government and private hospitals alike showed strong outbreak plans that highlight the need for preparation, speed, and accountability when cases spike. They also promote the hospital's long-term resilience and patient safety. Infection control inspections are critical instruments for identifying nonconformities and reinforcing best practices in preventing the infection (Collins et al., 2020). Audits also serve to monitor infection rates, including those associated with healthcare-associated infections (HAIs) and to assure that staff are following protocols that reduce risk, particularly during outbreaks.

Overall, this reveals that hospitals' successful infection control is not only due to structural systems (e.g., auditing, surveillance) but is also reliant on behavioral compliance (e.g., training, hygiene behavior). From DOH, GOV, and PVT hospitals there is a recognized and common dedication to maintaining standards in the infective process, particularly via education, environment safety, and surveillance. DOH-led hospitals take the lead in culture-setting and policy implementation, and private hospitals are active in compliance and surveillance. Recommended government hospitals would supplement both of these—pursuing outbreak response and audit driven improvement in government hospitals. Combined, these results demonstrate that infection control is an essential, living, and integral part of QI initiatives like the NPHPS that is organically part of hospital life, regardless of ownership.

In alignment with the results of the qualitative thematic analysis that support the quantitative analysis on the same subject on IC measures indicate an overall moderate-to-high degree of IC strategy implementation in Philippine healthcare

settings, with DOH and private hospitals consistently surpassing government facilities. Good rate of scores in PPE training, fire safety ingrain and environmental cleaning echo strong dedication to infection prevention and concurrent with studies done by Savul et al. (2020), Senbato et al. (2024) and Tomczyk et al., 2020) that underscore the role of staff training and adherence to hygiene practices in prevention of health care associated infection (HAI) applicants. Nevertheless, poor use in real-time adherence monitoring and in consultation with the expert among government hospital, highlights action lapses reflecting observations from Ahmed et al. (2024) with discrepancy in monitoring methods. Qualitative themes such as Standard Precautions & Compliance, Infection Control Training & Education, and Environmental & Facility Safety validate that policies and practices are equally important to infection control, as revealed by Toney-Butler et al. (2023) and Dancer et al. (2020). The level of infection tracing and outbreak response is especially good in DOH and private hospitals which indicates an active managerial risk management policy, as suggested by Giamarellou et al. (2023). Public hospitals, which score so-so, shine in audit-based reforms and emergencies. Overall, these results confirm that IC adherence is well-positioned and developing as part of hospital quality improvement systems while providing targeted improvements – especially in real-time monitoring and inter-facility cooperation – that are required to promote a uniform and comprehensive implementation of IC across all levels of healthcare.

Table 22 presents a thematic analysis of the factors contributing to the success of hospital QI strategies in facility management (FM). The findings reveals a holistic strategy consisting of facilities maintenance/renovations, stakeholder consultation, patient feedback and sustainability activities, which are common across DOH, government, and private hospitals. These "highlights" reinforce that effective management of health-care facilities is fundamental to hospital quality and patient care, and that the ability of health-care infrastructure to facilitate healthcare delivery varies among different types of hospitals.

The first theme, Facility Maintenance & Inspections (FMI) highlights the importance of regularly inspecting and conducting preventive maintenance of the facility. DOH, government and private hospitals (co-researchers 1, 3, 6 and 9) also reported the enforcement of full maintenance schedule, and regular checking of equipment, and patient care areas to meet the safety standard. This need for maintenance is important to avoid the distraction of a hospital wide failure and to make sure the facilities fit the needs of both patient and staff. The homogeneity of investment for prevention considering all hospital types indicates that good facility management appears to be a common goal, so as to keep the standard of care to minimize the risk for failure of instruments and infrastructures. Research supports the promise of this approach. González-Domínguez et al. (2020) stressed that the planned PM using decision models (like Markov chain) would definitely enhance the healthcare facilities reliability and reduce its risk of failure in operation. Likewise, an analysis by Astivia-Chávez and Ortiz-Posadas (2022) showed that in a general hospital environment, most equipment-related interventions were correcting rather than preventing — emphasizing the requirement for increased implementation of proactive maintenance strategies to increase the efficiency of the hospital and guarantee patient safety.

The theme on facility renovations and design enhancements (FRDE) focuses on how updating hospital construction (e.g., renovated emergency departments, and outpatient departments) directly leads to streamlined patient flow, as well as patient comfort and

Table 22

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Facility Management

Theme	Code. Co-researcher's Statements	NoO
FMI. Facility Maintenance & Inspections	**FMI1.** Co-researcher 1: "Preventive Maintenance to enhance efficiency and safety."	DOH
	FMT2. Co-researcher 3: "We have a comprehensive maintenance schedule that includes routine checks of patient care areas and equipment, as well as periodic upgrades to maintain a high standard of care."	PVT
	FMI3. Co-researcher 6: "We ensure facilities meet patient care requirements through regular inspections, preventive maintenance."	GOV
	FMI4. Co-researcher 9: "Regular facility inspections are done to ensure all equipment and areas are in optimal condition."	PVT
FRDE. Facility Renovations & Design Enhancements	**FRDE1.** Co-researcher 2: "Renovations to the emergency room and outpatient areas improved patient comfort, reduced wait times, and helped streamline care processes, enhancing patient satisfaction."	PVT
	FRDE2. Co-researcher 6: "Recently, we renovated the Emergency Room and Outpatient Department, improving patient flow, ventilation, and waiting areas."	GOV
	FRDE3. Co-researcher 5: "Our recent renovation of the Emergency Room and Outpatient Departments has greatly improved the flow of patients, which has enhanced both patient comfort and care efficiency."	GOV
	FRDE4. Co-researcher 7: "Redesigned patient rooms and treatment areas, improved patient privacy and dignity."	DOH
	FRDE5. Co-researcher 9: "The hospital has invested in renovations, like creating a more comfortable environment in the patient rooms, which positively impacts patient recovery and satisfaction."	PVT
SECI. Stakeholder Engagement & Collaborative Input	**SECI1.** Co-researcher 2: "As for now, the Dialysis unit, we have a newly established unit in a government facility."	PVT
	SECI2. Co-researcher 4: "Stakeholder engagement is crucial. We actively engage various departments and external parties during the planning phase of facility improvements to ensure the best outcomes for patients.	DOH
PFCFI. Patient Feedback & Continuous Facility Improvement	**PFCFI1.** Co-researcher 3: "If there are patient safety or patient experience issues, anybody can make a report. From there we can craft moving forward quality improvement initiatives."	PVT
	PFCFI2. Co-researcher 4: "Patient feedback integration getting their responses through reliable and realistic customer care satisfaction surveys."	DOH
	PFCFI3. Co-researcher 9: "Patient feedback helps guide our facility improvements, and we use this data to prioritize upgrades and changes in our patient care areas."	PVT
	PFCFI4. Co-researcher 10: "Improvements in the Medical Imaging Service Areas to accommodate machines."	PVT
TQIS. Total Quality Improvement & Sustainability	**TQIS1.** Co-researcher 1: "Total quality improvement, Plan Do Check Act cycle, Preventive Maintenance to enhance efficiency and safety."	DOH
	TQIS2. Co-researcher 2: "They have a new program called IRCA (Infection Related and Construction Management)."	PVT
	TQIS3. Co-researcher 6: "We focus on continuous quality improvement that ensures sustainable practices are implemented across all areas of facility management and patient care."	GOV
	TQIS4. Co-researcher 10: "Our hospital is committed to sustainable practices, focusing on continuous quality improvement, waste reduction, and energy-efficient facility management."	PVT

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

efficiency in care provision. Several co-researchers from private and public hospitals (co-researchers 2, 5, 6, 7, and 9) funded refurbished of patient rooms and procedure areas had improved privacy, patient satisfaction, and care efficiency. These

constructions are being made in response to growing patient needs and in an effort to streamline care. The fact that there is such similarity between these statements across the hospital types demonstrates that an investment in design impacts on the physical environment as well as operational improvement, and how infrastructure and patient clinical outcomes are interconnected. Supporting this, Cai et al. (2021) identified that certain design attributes of the inpatient environment – including design for noise, natural light, and individual room layout – led to a greater overall patient experience and perception of responsive care. These results show that evidence-based positive interventions in hospital design have an impact on hospital outcomes, patient satisfaction as well as staff effectiveness.

Third theme on Stakeholder Engagement and Collaborative Integration (SECI), co-researchers highlighted the importance of community engagement with both internal and external stake- holders in planning and implementing facility improvements. DOH and private hospital, co-researcher 2 and 4 highlighted at the level of planning, the participation between departments as well as external partners as they all contributed in the decision-making. This partnership helps to ensure that facility enhancements are aligned with the varied requirements of patients, the medical staff and the community. Stakeholder engagement The focus in stakeholder engagement emphasises the importance of including participative planning in facility management, to make certain improvements are comprehensive and are implemented with sufficient response to the needs of all stakeholders. These results are consistent with the results reported in Iroz et al. (2024) who recognized stakeholder engagement—specifically public-private partnerships—as a key success factor in interventions through a systematic review of QI work in LMICs. Their findings emphasize how joint contributions from external and internal movements promote mutual learning, contribute to the resilience of implementation and develop access to each other's new practices and resources. This demonstrates that engagement of diverse stakeholders is not just driven by considerations of representation; it is also a tactic employed to produce sustainable gains in healthcare.

Patient feedback and continuous facility improvement (PFCFI) was a key theme and one of the co-researcher emphasized the significance of applying patient feedback to improve facilities. According to co-researchers in both private and government hospitals (Co-researchers 3, 4, 9 and 10) patient feedback is an essential base of hospital infrastructure improvement. Hospitals can use patient feedback to inform decision-making so they can invest in renovations that meet the needs of patients which drives the patient experience. This subject demonstrates the dynamic interplay between patient focused care and facility design, where patient perceived quality has potential to continuously improve hospital environments. In line with this view, findings by a systematic review conducted by Berger et al. (2020) evaluated interventions from patient feedback to enhance the quality of hospital care. The multi-component interventions that aimed at both the individual and organizational levels were reported as being more effective than the single ones. These efforts positively affected communication with patients, professional operation in continuity of care and care transitions, patients as partners in their care, patient learning, and the physical hospital setting.

Lastly, the theme on Total Quality Improvement & Sustainability (TQIS) represents the integration of sustainability practices and continuous quality improvement into the field of facility management. Co-researchers 1, 2, 6, and 10 from private and government hospitals especially note that sustainability, energy efficiency, and waste reduction play an especially prominent role in hospital-based facility management. It can be observed that this practice is the result of an increased emphasis on environmental responsibility, and the integration of continuous quality improvement methods ensures that all processes within the field would be subject to various evaluations and adjustments. Continuous quality improvement methodologies of Plan-Do-Check-Act cycles are applied to maintain hospitals' sustainability and reduce institutional costs while promoting improved patient care delivery. Total Quality Improvement is often associated with maintainability and sustainability; as confirmed by Ramasamy et al., evaluation and use of performance patterns and indicators by hospitals can result in improvements in care and sustainability over a sustained timeframe.

Overall, CQI principles incorporation into the work of the hospitals also ensures that the facilities do not limit themselves to targeted improvements and advocate the systems to permit ongoing advancements and adaptability to varying health support demands. Hence, effective facility management in hospitals is associated with regular, pre-emptive maintenance, project-driven by infrastructure improvements. Patient and staff-based, stakeholder-based design renovations, and sustainability efforts. Every hospital strives for enhanced facility comeliness to support high-quality care and safety procedures for its inpatients and outpatients. DOH hospitals are entirely more focused on safety surveys and infrastructure regulations. Private hospitals are completely focused upkeep of the current health system and quality compliance. Government hospitals are completely more sustainable and invest in long-term benefits for facility management. Hence, hospital Facility Management is dynamic and a vital part of a hospital quality improvement initiative.

The results in the thematic qualitative analysis in justification of the quantitative analysis of Facility Management (FM) strategies indicate a good performance implementation of Facility Management (FM) practices among Philippine health care organizations with DOH and private hospitals generally performing better than government hospitals. By the numbers,

infrastructure maintenance, resource conservation, safety inspection, space utilization and sustainable efforts achieved similar moderate scores, indicating continuing but inconsistent progress across sectors. Themes relevant to high-quality infrastructure, operations effectiveness, and ongoing improvement coalesced with themes identified across multiple studies by Thakur, V. & Ramesh, A. (2021), Cai et al. (2021), and Ramasamy et al. (2024). DOH hospitals place a premium on safety inspections, private hospitals on design and patient centered improvements, while government hospitals give more weight on long-term sustainability. The implications of these findings are that there is a need to value facility management as a fundamental component of hospital quality and more closely integrate preventive maintenance, inclusive planning, and sustainable processes to provide safe, efficient, patient-friendly healthcare environments in all sectors.

Table 23 presents a thematic analysis of the factors influencing to the success of hospital Quality Improvement (QI) strategies in terms of Collaborative Integrated

Table 23

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Collaborative Integrated Management

Theme	Code. Co-researcher's Statements	NoO
CDCC. Cross-Department Collaboration, Communication & Feedback	**CDCCF1.** Co-researcher 1: "Establish clear communication channels, define roles, promote shared goals, and encourage open dialogue."	DOH
	CDCCF2. Co-researcher 2: "Cross-department communication is encouraged through case discussions, frequent meetings, and regular updates on the patient's care, improving overall care coordination."	PVT
	CDCCF3. Co-researcher 5: "Communication is fostered by creating interdisciplinary teams that meet regularly to discuss patient progress and challenges, improving care efficiency."	GOV
	CDCCF4. Co-researcher 8: "The hospital is small and department heads and staff all know each other. Department meetings are regularly scheduled."	GOV
	CDCCF5. Co-researcher 9: "Management committees ensure smooth communication across departments."	PVT
MTIC. Multidisciplinary Teamwork & Integrated Care	**MTIC1.** Co-researcher 1: "Pediatric asthma management program where pediatricians, pulmonologists, nurses, and respiratory therapists work together."	DOH
	MTIC2. Co-researcher 2: "Integrated care is achieved by creating teams consisting of specialists from different disciplines, allowing us to tackle patient care from multiple angles."	PVT
	MTIC3. Co-researcher 4: "A multidisciplinary trauma team can help in the improved patient outcomes by implementing quick emergency response."	DOH
	MTIC4. Co-researcher 6: "We implement standardized clinical pathways, multidisciplinary team rounds, continuous quality improvement programs."	GOV
	MTIC5. Co-research 10: "Our hospital uses an integrated care approach where teams of specialists collaborate to ensure the patient receives coordinated, comprehensive treatment."	PVT
PCFCC. Patient-Centered & Family-Centered Care	**PCFCC1.** Co-researcher 1: "Patient-centered care, medication management, and knowledge sharing."	DOH
	PCFCC2. Co-researcher 3: "We take a family-centered approach by educating patients and families, ensuring they are well-informed and involved in decisions regarding treatments and care plans.	PVT
	PCFCC3. Co-researcher 5: "Patient and Family Conference and Patient and Family Disclosure."	GOV
TCCTDM. Team Collaboration, Cross-Training & Decision Making	**TCCTDM1.** Co-researcher 4: "Orientation, collaboration, cross training, teambuilding."	DOH
	TCCTDM2. Co-researcher 7: "Engaging frontline staff in QI projects is crucial. they have valuable insights into process inefficiencies."	DOH
	TCCTDM3. Co-researcher 9: "Decision-making processes involve collaboration from various departments to ensure comprehensive patient care."	PVT
ECDDI. External Collaboration & Data-Driven Improvement	**ECDDI1.** Co-researcher 3: "For example, now, it's world immunization week. We are in collaboration now with the Asian vaccination unit."	PVT
	ECDDI2. Co-researcher 5: "External collaboration and data-sharing help us improve patient care by offering new insights and refining care protocols to meet evolving standards."	GOV
	ECDDI3. Co-researcher 7: "Data-driven quality improvement, strategic performance management system."	DOH
	ECDDI4. Co-researcher 10: "We also have an anti-microbial surveillance and resistance program being implemented."	PVT

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

Management (CIM). The results outlined a multi-faceted strategy on aims of cross-department communication, multi-disciplinary teamwork, patient focus care, decision making mechanism, and external cooperation, leading to the continuous works among all sectors of hospitals. These themes underscore the importance of collaboration across several levels of the hospital system to improve patient care and overall hospital functioning.

The first theme on Cross-Department Collaboration, Communication and Feedback (CDCCF), suggests the necessity for communication and feedback through the use of regular meetings and interdisciplinary teams. Administration of DOH, private and government hospitals (co-researchers 1, 2, 5, 8, and 9) revealed that transparent communication is developed through department meetings, case conferences and regular updates on patient management. This collaborative effort creates improved care coordination and operational effectiveness. Co-researcher 9 suggests that the committees of communication secure the pneumatic of communication and flow properly from department. These interventions seem to show that it is important to have more standardized communication structures in place in order to create shared orders, work up and follow up on patient cases across all departments. As noted by Samardzic et al. (2020), an organization's transparent and collaborative communication across its departments is important to cultivate a cohesive working environment which would improve patient care delivery and organization effectiveness. Good communications help align departmental goals and increase efficient communication flow throughout the organization.

Another key theme that emerged in the data was multidisciplinary teamwork & integration care (MTIC), involving specialists of different disciples working together for patient care. Co-researchers 1, 2, 4, 6, and 10 from DOH, private, and public hospitals highlighted the importance of multidisciplinary teams like those participating in the management of pediatric asthma, trauma, and general patient care. Such teams are created to approach the patient from all sides in order to ensure the delivery of comprehensive and coordinated care. The repeated reference to evidence-based clinical pathways and quality improvement programs also attests to the commitment to integrated care. This methodology encourages a multidisciplinary view on patient care, overcoming silos of different practitioners to ensure that each patient's needs are met from a 360-degree perspective. This is supported by evidence that kissing induces changes in the oral microbiome (Smith et al. (2020) reported that the formation of a specialist tracheostomy team consisting of ENT surgeons and anesthetists resulted in enhanced outcomes and efficiency during the COVID-19 pandemic through centralized management. It is well accepted that interdisciplinary "boundary work"—common understanding, communication, and respect across roles—is a prerequisite for successful integrated care (Lennox-Chhugani, 2023).

The theme on Patient-Centered & Family-Centered Care (PCFCC) will focus on the need to engage patients and families in the care process, provide them with the information they need, and actively involve them in decision making. DOH, government and private hospital co-researchers (Co-researchers 1, 3, 5) reported other interventions, including family conferences, and disclosure processes for the patient. Such efforts reflect the increasing recognition that family involvement is of paramount importance in enhancing outcomes and satisfaction for the patient. Hospitals improve the quality of care and at the same time optimize patient and family satisfaction and compliance by including patient and family viewpoints in planning care. A study by Brands et al. (2022) Kwame et al. (2021) and Yu et al. (2023) furthers the issue of care centered on families, explaining that family involvement in care aids with patient satisfaction and quality of care, and for pediatric populations this is significantly evident. Engagement of patients and families in their care results in a healthier atmosphere of trust so hospitals produce better health results.

To facilitate knowledge exchange in the Team Collaboration, Cross-Training & Decision Making (TCCTDM) theme, attention is directed at the significance of cross-training, team development, and collaborative decision making in QI. DOH and private hospitals co-researchers 4, 7, and 9) also emphasized the importance of involving frontline staff in QI initiatives and decision making. These are efforts that enable members of staff from different departments to not only provide invaluable process inefficiencies but also participate in rounded decision-making that improves patient care. When staff members cross-train, they develop a deeper appreciation for the roles of others, which will lead to tighter teamwork around patient care. Works such as that by De Abreu Pereira et al., 2023) as cross-training and team-based decision-making enhances staff cooperation and better care coordination, as well as more efficient decision-making. When staff is actively involved in working to improve care and receive the necessary training, hospitals have a better ability to improve their patient's care and continue to enhance organizational performance as a whole.

The last theme, External Collaboration & Data-Driven Improvement (ECDDI), is focused on how relations and data-sharing with external community organizations can be leveraged to improve care for patients. Private, public and DOH hospitals Co-researchers 3, 5, 7 and 10 reported that external collaborations i.e., infection control units, vaccination units and surveillance programs, give important feedback for the purpose of refining care protocols and enhancing the patient outcomes. Data-based quality improvement programs including performance measurement systems and antimicrobial surveillance also have

evidenced-based trends in the improvement of care practices. The significance about this model is that it underlines the value of using external resources, expertise, and data to improve internal practices and keep up with evolving industry standards. Data-driven approach for QI has resulted in excellent healthcare performance. According to Rahmah et al. (2023) process improvement can be achieved by hospitals through identifying opportunities for improvement, tracking their performance, and executing evidence-based interventions to improve quality by data-driven methods.

Overall, these emphasize the key importance of working in partnership within hospital QI program. Efficient and effective communication, shared decision-making, and teamwork across departments and disciplines is crucial in ensuring delivery of holistic patient care. External partnerships and data-driven enhancements also help hospitals better respond to emerging challenges and sustain a high standard of care. There is an allusion on DOH, government and private hospital that there was a consensus that these different types of collaboration—external and internal to the organizations—are integrated in their own QI frameworks. This joint approach allows hospitals to offer comprehensive, well-coordinated, and ever-improving care to their patients.

The results in the thematic analysis in support of the quantitative analysis suggest a moderate to the implementation of Collaborative Integrated Management strategies across government, DOH, and private health institutions, with DOH to a lesser extent performing better in interdepartmental and patient-focused integration. Quantitative results indicate that while there are collaboration among departments, meetings, joint decision-making and information systems, the use of these ways is not fully developed within the daily working life of hospital, with a total mean score for all below the 3.29. Qualitative themes – including Cross-Department Communication, Multidisciplinary Teamwork, Patient and Family Centered Care, Team Collaboration, External Data-Driven Improvement -highlight the significance of formatted communication, collaborative care pathways, the role of the family in the care process, staff across care teams, and outside partnerships in enhancing quality of care delivered. These joint efforts, backed by data from Kaiser et al. (2022) and Rahmah et al. (2023), improve coordination, minimize errors, and promote evidence-based improvements. In total, foundations exist for collaborative work, but healthcare organizations must continue to systematize these practices to deliver care that is integrated, effortless, and always getting better.

Table 24 presents a thematic analysis of the factors influencing the success of hospital Quality Improvement (QI) strategies in terms of Performance Measurement (PM). The findings highlight the importance of KPIs, data and evidence-based decision-making, staff performance appraisals, patient feedback and performance evaluations in molding hospital performance. These discourses delineate that performance measurement is a systematic exercise and is integral to a culture of ongoing improvement across all hospital sectors.

The first theme, Key Performance Indicators & Performance Targets (KPIPT), relates to the need to monitor operating and clinical data to evaluate and enhance hospital performance. The co-researchers from DOH, private as well as government hospitals (co-researchers 1, 2, 3, 6, 10) stressed the focus on KPIs such as waiting time (admission and discharge); hospital acquired infections, mortality rates, patient satisfaction surveys and average length of stay. These performance measurements are used as a baseline to gauge performance targets and lead continuous improvement actions in various functional areas.

Table 24

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Performance Measurement

Theme	Code. Co-researcher's Statements	NoO
KPIPT. Key Performance Indicators & Performance Targets	**KPIPT1.** Co-researcher 1: "Admission and discharge waiting time - turnaround time, Length of stay, Hospital Acquired Infections, Mortality rates, Readmission rates."	DOH
	KPIPT2. Co-researcher 3: "We track KPIs related to operational efficiency, patient safety, and patient outcomes. These metrics guide our performance improvement efforts."	PVT
	KPIPT3. Co-researcher 6: "We measure hospital service performance through key performance indicators (KPIs) such as patient satisfaction surveys, average length of stay."	GOV
	KPIPT4. Co-researcher 10: "KPIs like average patient discharge times, patient wait times, and infection rates are essential in determining performance targets for care improvement."	PVT
DDDMM. Data-Driven Decision Making & Monitoring	**DDDMM1.** Co-researcher 1: "CQI staff and capacity-building recipients consistently use data to drive decision-making."	DOH
	DDDMM2. Co-researcher 2: "Performance data is analyzed through our hospital's dashboard system, identifying trends and gaps. This allows us to make data-driven decisions to improve service delivery."	PVT
	DDDMM3. Co-researcher 7: "Making data available to staff, so they can see the impact of their work."	DOH
	DDDMM4. Co-researcher 5: "Thru hospital dashboards, system-generated data and departmental gathered data."	GOV
	DDDMM5. Co-researcher 9: "Data from CSAT is analyzed and discussed in management reviews."	PVT
SPCI. Staff Performance & Continuous Improvement	**SPCI1.** Co-researcher 1: "Skill gap analysis and competency assessment: Identifying strengths, weaknesses, and areas for improvement."; "Providing ongoing coaching, mentoring, and training opportunities."	DOH
	SPCI2. Co-researcher 3: "Staff performance reviews are conducted regularly, with an emphasis on feedback and skills development. Continuous improvement efforts include training and performance evaluations."	PVT
	SPCI3. Co-researcher 4: "An example would be a rapid response team implementation reduced code blue incidents by 30%."	DOH
PFOT. Patient Feedback & Outcome Tracking	**PFOT1.** Co-researcher 3: "If there are patient safety or patient experience issues, anybody can make a report."	DOH
	PFOT2. Co-researcher 5: "We collect patient feedback through surveys, focus groups, and interviews, using it to track patient satisfaction and outcomes, and make necessary adjustments to care plans."	GOV
	PFOT3. Co-researcher 9: "Customer SAT Tool from DOH."; "Patient outcomes are tracked through regular evaluations to measure care effectiveness."	PVT
	PFOT4. Co-researcher 10: "We use patient surveys and outcome data to track satisfaction and recovery, making adjustments based on this data to improve the patient care experience."	PVT
PRA. Performance Reviews & Audits	**PRA1.** Co-researcher 2: "Monthly is done for the data gathering. Unfortunately, it's manual."	PVT
	PRA2. Co-researcher 3: "We conduct root-cause analysis. So, it's important to have documented data for sustainability."	PVT
	PRA3. Co-researcher 7: "Internal audits are conducted regularly to evaluate the effectiveness of current strategies."	DOH

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

The similarity in the application of the KPIs in all types of hospitals underlines the fact that there is consensus in the health care organizations that the use of KPIs is an indispensable mean for Quality Improvement (QI) and for measuring the success. Research by Nabovati et al. (2023) and Setiawan (2020) agree that KPIs are used to measure the performance of hospitals and to

realize operational and clinical objectives. KPIs offer known data points which allow the identification of areas for improvement, guaranteeing that hospital services are data-led.

The theme Data-Driven Decision Making & Monitoring (DDDMM) emphasizes how data should be used for decision making. Co-researchers from DOH, government, and private hospitals (co-researchers 1, 2, 5, 7 and 9) highlighted the incorporation of evidence-based strategies in monitoring the performance of the hospital. Information from such sources as dashboards, patient satisfaction surveys, and system reports is periodically assessed to detect trends, gaps, and areas in need of improvement. When data is made available to staff, hospitals give them insights they can act on and have a more transparent view into performance enabling staff to see the ripple effects of their actions and drive necessary changes. Data not only drive the efficiency of operations, but also support decision-making based on evidence, connecting actual performance with where opportunities for improvement exist. Ibrahim (2024) describes analysis of data in healthcare as a method for organizations to track trends, to measure outcomes, and to do targeted interventions that make service and care better.

Staff Performance & Continuous Improvement (SPCI) was another key theme, presented prominently, with staff development playing an integral part in the quest for quality. Co-researchers from DOH and private or government hospital (Co researchers 1 to 4) emphasized on skill gap analysis and competency assessments, and continuous training as a factor in promoting staff growth. Routine performance appraisals, in addition to coaching and mentoring, promote development of staff to meet the changing needs in patient care. Other projects similarly, initiatives such as the rapid response teams were singled out as important strategies that led to a significant improvement in care outcomes, such as decreases in code blue. This theme also highlights that ongoing education and development of staff is crucial to sustainable quality improvement. For example, a scoping review by Samuel et al. (2021) impact of continuing professional development (CPD) on health professionals' performance and patient outcomes. The review indicated that CPD programs, ranging from passive to interactive learning, were beneficial in achieving changes healthcare workers' behaviors and patient care. The research highlights the significance of CPD in improving healthcare services.

The theme on Patient Feedback & Outcome Tracking (PFOT) also directed at incorporating patient feedback into performance measures and at using this data for the tracking of patient outcomes. With respect to safety and experience, patients may raise issues where there are shortcomings, which are dealt with through quality improvement programs, according to co-researcher 3. Co-researcher 9 mentions a model of monitoring for us in the form of CSAT (Customer Satisfaction Tool, DOH) and the tracking of patient progress over time through routine assessments. Involving patient-feedback is important for improving the patients' experience and quality of care. A study by Slehria et al. (2023) and Wong et al. (2020) stresses the importance of patient satisfaction feedback for hospitals to pinpoint those areas in which they should be improving services and monitoring patients' outcomes for verifying that interventions are working. Hospitals can further improve their clinical and operational performance by systematically collecting and acting on patient feedback.

Lastly, Performance Reviews, Audits & Root Cause Analysis (PRA) emerged as an overarching theme tied to the assessment and enhancement of hospital operations. Co-researchers 2, 3 and 7 (DOH and private hospital co-researchers) also stressed the need for 'in-house' auditing, root cause analysis and performance review to evaluate the impact of quality improvement. Recurring audits and root cause analysis of problems are key, proving that, in crisis-minimizing strategies that endure in the long term. When these performance appraisals are combined with audits, trust but verify concept can help improve processes, assure that the quality improvement efforts are not only effective but also sustainable. A study by Delgado et al. (2020) demonstrates that routine audits and root cause analysis are valuable methodologies for detecting waste and quality issues in hospitals. Hospitals can use these assessments to consistently improve their model, and to determine whether they met or exceeded performance measures.

Overall, these points out the importance of performance measurement in shaping hospital QI plans. Continuous monitoring and improvement indicators like KPIs, data-driven decision-making, staff performance appraisals, patient feedback and performance audits are important parts of hospital systems for quality improvement. The widespread adoption of these interventions across DOH, government and private hospitals reflects the significance of these interventions in promoting hospital responsiveness to internal and external exigencies. Through the evaluation and comparison of performance, hospitals can see and apply, scientifically proved methods that improve quality and safety, choice, cost and efficiencies. Performance measurement does not, therefore, simply serve as a means of assessment, but is part of the driving force for quality improvement efforts across levels of hospitals.

The results of the qualitative thematic analysis in support to the quantitative analysis show that Performance measurement (PM) strategies are moderately in place throughout government, DOH and private healthcare institutions, with

DOH in a dominant position on regular evaluation, target setting and benchmarking in a general sense. It also quantitatively describes average scores of about 3.3 to 3.7, representing implementation of measurement and data-use processes including transparency, benchmarking and involving data use to improve performance; with some room for more consistent usage in government hospitals, in particular. Through qualitative themes, study findings also highlight the importance of KPIs, data-driven decisions, staff performance review, patient feedback and audits in maintaining QI. They monitor processes to track progress and drive efforts, utilize analytics for data-driven decisions, invest in ongoing employee development, use patient feedback to improve service delivery, conduct frequent audits and root cause analysis to standardize guidelines. Study such as Chan et al. (2020) and Ibrahim (2024), these findings underscore that performance measurement is not just evaluative but formative for continual quality improvement, which creates accountability, efficacy, and responsiveness in the various types of hospitals.

Table 25 presents a thematic analysis of the factors influencing the hospital's successful Quality Improvement (QI) strategies in terms of Management of Information and Human Resources (MIHR). Findings reveals that management of data privacy, staff development, cross-departmental collaboration, staff retention and data-driven decision-making is critical to maximize the benefit of QI in hospitals. The findings show that these antecedents play a significant role in the effectiveness and sustainability of QI in hospitals, regardless their type of ownership.

The first theme, Data Privacy, Security & Management (DPSM), emphasizes the protection of patient information and compliance with legislations such as the Data Privacy Act 2012. DOH, private and government hospital (co-researchers 1, 3, 7, 9,10) emphasized secure data storage, access control and data validation. The use of individual user logins, non-disclosure agreements, and data validation serve to protect patient information and limit access to those who are authorized. These actions indicate the importance of balancing trust and adherence with the need for efficient data management in hospital systems. A study by Adeniyi et al. (2024) supports this by showing how secure systems can lead to better quality and safety of care. Further, adequate validation and verification of data (as already discussed by Co-researchers 7 and 10) ensures true and real data are put in place for decision-making leading to informed healthcare delivery and patient confidence or trust.

The second themes on Staff Training, Development & Empowerment (STDE) is an initiative that targets improvement in the quality of staff skills through training and professional development activities. From the DOH, government, and private hospitals as well (co-researchers 1, 6, 9, and 10) "It's important that we cater also programs that are specialized in nature– Nurse Certificate Programs, in-house training programs, and CPD programs as well. By doing regular training for staff, it increases their confidence to perform, and makes them more competent and able to adapt to the increasing needs of patient care. Additionally, engaging and educating staff and involving them in decision-making encourages a culture of ownership and engagement which contributes to the momentum of QI. This has been supported by the literature which has focused on the relationship between

Table 25

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Management of Information and Human Resources

Theme	Code. Co-researcher's Statements	NoO
DPSM. Data Privacy, Security & Management	**DPSM1**. Co-researcher 1: "Adherence to the Data Privacy Act 2012 Implementation of secure data storage, access control."; "Everyone has own account to access and accountable if determined for any violations."	DOH
	DPSM2. Co-researcher 3: "Patient information includes having their own credentials. We have unique username and password wherein when staff manages the patient, or if there is something they need to know and needs to access the charts. Because it's an electronic health record"	PVT
	DPSM3. Co-researcher 7: "Data validation and verification."	DOH
	DPSM4. Co-researcher 9: "Securing the hospital information system adhering to confidentiality and accessibility standards."	PVT
	DPSM5. Co-researcher 10: "The new HIMS manager has recently implemented a confidentiality form agreement."	PVT
STDE. Staff Training, Development & Empowerment	**STDE1**. Co-researcher 1: "Identifying staff to attend Learning and Development. New staff mandated to attend Learning development."	DOH
	STDE2. Co-researcher 6: "We offer Nurse Certification Programs, in-house skills enhancement training."	GOV
	STDE3. Co-researcher 9: "Staff undergo regular training to improve their skills and knowledge."; "Empowering staff through training and active participation in decision-making promotes ownership."	PVT
	STDE4. Co-researcher 10: "There are many training programs available for the staffs. It also has its own CPD accredited programs like BLS, SFA, FP."	PVT
CSCF. Cross-Departmental Collaboration & Feedback	**CDCF1.** Co-researcher 1: "Identifying their gaps and will be attending learning interventions."; "Employee Satisfaction Surveys."	DOH
	CDCF2. Co-researcher 2: "Care practices are harmonized through standardized protocols, regular interdepartmental meetings, continuous training."	PVT
	CDCF3. Co-researcher 3: "Employee satisfaction directly impacts the quality of patient care, making morale surveys an essential tool."	PVT
	CDCF4. Co-researcher 6: "Measuring and analyzing staff satisfaction helps link it to improved patient outcomes."	GOV
HRDR. Human Resource Development & Retention	**HRDR2.** Co-researcher 2: "The HR department targets now that all managers and up should have lean six-sigma white to yellow belt."	PVT
	HRDR2. Co-researcher 4: "Succession planning is critical to ensure staff continuity and minimize turnover."	DOH
	HRDR3. Co-researcher 7: "Executive Sponsorship, strong leadership commitment is essential to CQI efforts."	DOH
	HRDR4. Co-researcher 8: "Staff retention is a priority, and we ensure satisfaction through professional development opportunities, competitive benefits, and a supportive work environment."	GOV
DDDMA. Data-Driven Decision Making & Accuracy	**DDDMA1.** Co-researcher 4: "Data analysis is an essential part of our decision-making process. We use it to identify trends, address issues, and optimize service delivery based on real-time information."	DOH
	DDDMA2. Co-researcher 5: "Prior to admission or payment (outpatient), patients are required to provide their valid ID to ensure that the information provided is accurate and up to date."	GOV
	DDDMA3. Co-researcher 7: "Data validation and verification."	DOH
	DDDMA4. Co-researcher 9: "Data accuracy is vital. We use collected data from various departments to ensure that decisions made at the operational level are based on reliable information to enhance patient care."	PVT

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

the education level of staff and patient outcomes. According to Rahmah et al. (2023), ongoing learning and development empower healthcare staff to have more skills and more hope which in turn results patient care.

In the theme Cross-Departmental Collaboration & Feedback (CDCF), hospitals acknowledge the necessity to encourage collaboration and feedback between units. Co-researchers from DOH and private/government hospitals (Co-researchers 1, 2, 3, 6) mentioned that regular convening of inter-departmental meetings, annual employee satisfaction surveys, establishment of standardized protocols in assisting the patients, and enhancement of the care provided emerged as practice changers. Coordination of patient care is maintained through horizontal cooperation between departments, and there are feedback mechanisms such as morale surveys to highlight areas needing improvement. By gauging and acting on employee satisfaction, hospitals can develop an environment that not only supports the work of their staff but affects the quality of care delivered to the patients. Research by Bragge et al. (2020) found that higher employee engagement and satisfaction was associated with better quality patient care illustrating the importance of creating an environment of collaboration and acting upon staff feedback. According to Co-researchers 1 and 9, using employee satisfaction surveys can assist in identifying places to improve, raise morale, and enhance patient care.

Human Resource Development & Retention (HRDR) is another crucial theme, stressed the importance of strategic human resource management to sustain QI efforts in the long run. From DOH; Co-researcher 2, from a private hospital; Co-researcher 4 and 7 while from government hospital; Co-researcher 8 emphasized the need for succession planning, leadership commitment and staff retention programs. Measures to maintain staff loyalty and decrease employee turnover, such as Lean Six Sigma training for management and access to professional development, also contribute to the reduction in the amount of knowledge lost through staff turnover. Good leadership and commitment to quality improvement are crucial elements to ensuring a motivated, skilled workforce. Retention strategies, such as competitive benefits and a positive work environment, keep talented employees involved and committed to the hospital. Studies by De Vries et al. (2023) and Warui & Karanja (2024) emphasizes professional development, mentorship, supportive leadership and effective succession planning, for example rewards and HR strategies, enhance staff retention in a beneficial way. These strategic HRM practices are critical to maintaining an adequate pool of qualified healthcare workers and to the long-term success of initiatives to improve quality.

Lastly, the theme on Data-Driven Decision Making & Accuracy (DDDMA) is emphasized in its value data for decision-making purposes. Co-researcher from DOH, government and private hospitals (co-researchers 4, 5, 7, 9) stressed that accurate and good quality data was necessary to improve service provision. Data validation; up to date information and real time and data analysis are very important to guarantee that decisions taken are backed by the most current and relevant information at all levels. Data aggregation from multiple departments and patient data patient care is improved; trends can be identified and potential issues addressed before they hinder the overall nursery's operations. As reported by Ibeh et al. (2024) and Orlu et al. (2023), it is also important to note that data quality and validation is crucial to decrease errors and allow healthcare providers to have reliable information based for their clinical practice.

Overall, these themes emphasize the importance of managing information and human resources for successful QIs. Data privacy through effective mechanism, personnel development, working harmony, control of cross-departmental relationships, and the availability of human resource are important in process of performance improvement of a hospital. These approaches, across DOH, government and private hospitals, are some of the ways of how best to make the qualified service reachable, to nurture the culture of innovation, and guarantee that hospitals are able to provide the care the patients and staff require. The consistent presence of these factors in all types of hospitals demonstrates their importance for driving continued efforts to improve quality and hospital performance.

The findings in the qualitative thematic analysis in support to the quantitative analysis of Management of Information and Human Resources (MIHR) strategies reveals a moderately implementation across Philippine healthcare institutions, with both DOH and private hospitals having higher scores than government ones generally. Sufficient staffing, continued professional education, and recognition systems show a good groundwork for a staff retention, as well in Wang et al. (2020), Ghahramani et al. (2021) and Porcel-Gálvez et al (2021) who both highlight team and communication work as central to enhanced patient outcomes and staff well-being. The moderate scores on communication effectiveness and staff involvement in decision-making, especially among government ones, can be used as a lever to improve the level of staff's engagement and motivation. Qualitative themes such as Data Privacy & Security and Staff Training & Empowerment also reflect the overarching themes of securing patient information and staff competencies development found in Adeniyi et al. (2024) and Rahmah et al. (2023). Cross departmental co-operation and the need for avenues for employee voice is also relevant, which again is consistent with Bragge et al. (2020) in the context of the role of engagement in quality of care. Moreover, target-oriented HR retention and fact-based decision making, as emphasized by de Vries et al. (2023), Manjiru Warui and Kabiru (2024) and Ibeh et al. (2024,) This and other reports and guidelines underscore the importance of leadership commitment and sound information management for the on-going quality improvement. In general, although there are some basic MIHR strategies in the context of Iranian hospitals, it seems that optimization of the lines of communication, inclusiveness in decision-making, and also the existence of well-

structured reward and recognition plans are necessary to improve HRM and to maintain continuous quality improvement in all hospital types.

Table 26 presents a thematic analysis of the factors influencing the hospital's successful Quality Improvement (QI) strategies in terms of Education and Rights of Individuals. The findings were able to identify that the process of hospital patients Improvement can be enriched with patient education, dissemination of patients' rights policies, staff's cultural competence training, awareness to patient as the center of care and service responsiveness to the needs and accessibility of the vulnerable groups. These strategies, whether across all hospital sectors, facilitate patient-centered care and optimize quality of care.

Table 26

Thematic Analysis on the Factors Influencing the Hospital's Successful Quality Improvement (QI) strategies in terms of Education and Rights of Individuals

Theme	Code. Co-researcher's Statements	NoO
PEC. Patient Education & Communication	**PEC1**. Co-researcher 1: "Clear and accessible Communication, Patient Family Orientation and involvement, Educational Materials, Informed Consent."	DOH
	PEC2. Co-researcher 3: "Doctors are the primary source of information for patients regarding their health. Additionally, all ancillary departments are trained to obtain patient consent and provide basic information about any procedures or medications that patients would undergo."	PVT
	PEC3. Co-researcher 6: "We guarantee patient and family education through our Health Education and Promotion Office (HEPO), which conducts regular health teachings."	GOV
	PEC4. Co-researcher 7: "Patient Participation in Improvement Projects, Patient Advisory Councils."	DOH
	PEC5. Co-researcher 10: "The patients or their SOs are given education regarding diseases, regarding nutrition requirements."	PVT
PRAIC. Patient Rights Awareness & Informed Consent (PRAIC)	**PRAIC1.** Co-researcher 1: "Every department or units/rooms accessibility of Patients' Bill of Rights posted."; "Informed Consent."	DOH
	PRAIC2. Co-researcher 2: "We have the patient consent, rights and responsibilities. And once, the patient has agreed, they are informed as well with the possible outcome."	PVT
	PRAIC3. Co-researcher 6: "Our hospital sees to it that we will uphold patients' rights through informed consent, confidentiality, patient advocacy."	GOV
	PRAIC4. Co-researcher 9: "Patient rights are emphasized during every encounter, ensuring patients understand their rights and responsibilities, especially before undergoing any procedures."	PVT
STCS. Staff Training & Cultural Sensitivity	**STCS1.** Co-researcher 1: "Personnel managing education and rights of patient upon admission of patients at Emergency room by health education of our patients."	DOH
	STCS2. Co-researcher 2: "We ensure that the DOH requirements trainings are provided."	PVT
	STCS3. Co-researcher 8: "Training in cultural sensitivity is mandatory for all healthcare providers."	GOV
	STCS4. Co-researcher 9: "Programs are designed to ensure patient education is culturally sensitive and accessible to all communities."	PVT
PCCFI. Patient-Centered Care & Family Involvement	**PCCFI1.** Co-researcher 3: "We conduct family conference. It's important that the family members are involved in the decision-making process in the treatment that is needed to be done to the patient."	PVT
	PCCFI2. Co-researcher 4: "Through training and education, we capacitate our personnel and develop competencies."	DOH
	PCCFI3. Co-researcher 5: "Hearing the voices of our patients and letting them take charge and decide on what treatment and management they wanted."	GOV
SVPA. Support for Vulnerable Populations & Accessibility	**SVPA1.** Co-researcher 3: "We include provision health information to our patients. Counseling - how to take the medicine, complete labeling provided."	PVT
	SVPA2. Co-researcher 5: "Our hospital provides additional support to vulnerable populations through our accessibility programs, including transportation assistance, sign language interpreters for the hearing impaired, and outreach services."	GOV
	SVPA3. Co-researcher 7: "Programs are tailored to address the unique needs of vulnerable groups, such as the elderly or those with disabilities."	DOH

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

The first theme on Patient Education & Communication (PEC) focuses on the need for straightforward, comprehensible exchanges between patients and health care professionals. Co-researchers from DOH, private, and government hospitals (co-researchers 1, 3, 6, 7, and 10) underscored that patient and family education should be included. It includes the provision of education, family orientation, and informed consent. Co-researcher 1, representing DOH underscores the importance of clear communication and family orientation to patient while co-researcher 6 from the government hospital emphasizes that the health teachings are facilitated by the Health Education and Promotion Office (HEPO) on a regular basis. Such endeavors aim to ensure our patients and their families are well educated and empowered in the decision-making process regarding their care. This topic is consistent with conclusions from other works highlighting that patient education leads to better comprehension and consequent compliance with action plans in the area of health, and also occurs in public oral health promotion (Zohre et al., 2023). Moreover, patient involvement in improvement initiatives and setting up of Patient Advisory Councils, as indicated by co-researcher 7) also. help to facilitate communication and enhance teamwork in healthcare.

The Patient Rights Awareness & Informed Consent (PRAIC) theme emphasizes the significance of having patients aware of their rights while providing proper education. For co-researchers referred from DOH, private, and government hospitals (co-researchers 1, 2, 6, and 9), the protection of patient rights, including informed consent and disclosure of potential results, was paramount. For instance, Co-researcher 1 from DOH stated that the availability of the Patients' Bill of Rights is crucial in all departments and co-researcher 6 from the government hospital emphasized that the confidentiality should be retained and consented to in all interactions in upholding patient rights. This instillation builds confidence in the patient-physician relationship, and helps patients know their respective rights before treatment. A study by Shah et al. (2024) and the case of Pugh (2020) highlights the significance of informed consent in health, emphasizing that patients need adequate information to be able to decide on their own care.

The Staff Training & Cultural Sensitivity (STCS) theme emphasizes the importance of continuous staff training, especially in cultural competency and patient rights. Training of HCWs on culture-sensitive care co-researchers (1, 2, 8, 9) from DOH, and those working in private and government hospitals emphasized that training should be provided to HCWs for the delivery of culturally sensitive care. For instance, Co-researcher 8 at the government hospital: "We have a mandatory program for all healthcare givers aiming at culturally sensitive care". co-researcher 2 from the private hospital also mentioned that training in line with DOH requirements should take place to provide complete knowledge and consciousness. These efforts will help ensure that providers have the capacity to identify and respond to the unique cultural needs of their diverse patient populations, which will result in improved care outcomes. Kaihlanen et al. (2021) showed that nurses who participated in formal cultural competence training indicated increased perception of cultural diversity and reported improvement in patient satisfaction and adherence when they utilized this in practice.

The Patient-Centered Care & Family Involvement (PCCFI) theme focusses on family involvement in decision-making and giving patients a voice. Private, DOH, and government hospital co-researchers (co-researchers 3, 4, and 5) underscored the development of patient-centered care models that could engage both patients and family. In a similar case, co-researcher 3 in the private hospital emphasized the significance of family conferences in patient treatment decision-making and co-researcher 4 in the DOH mentioned that staff training capacitates staff to involve patients and families in care decisions more effectively. This is not only a way to ensure good quality care but also care that is consistent with patient and family preferences and needs. These observations are consistent with Wilandika et al. (2023) who demonstrated that nurse-led health literacy intervention (e.g. easy-to-understand educational materials and family explanation) led to notable patient comprehension and treatment compliance. Moreover, Vick et al. (2024) provided an organized mechanism to involve family and patient input into service design, and can improve shared decision-making and overall satisfaction.

The Support for Vulnerable Populations & Accessibility (SVPA) focuses on ensuring that equitable health care can be accessed by vulnerable populations, including older adults, individuals with disabilities, and people from disadvantaged communities. All hospital (co-researchers 3, 5 and 7) emphasizes the role of the accessibility programs which support the underserved patients was raised by equally number of respondents. Particularly, the co-researcher 5 from government stressed the provision of services (e.g., assistance with transportation, sign language interpreters, outreach services for vulnerable populations). Co-researcher 7 also referred to the need to customize programs for the special needs of vulnerable population group, and overall, cutting across all individuals, there should be a realization that everyone has the right to receive care no matter their situation. The World Health Organization (2021) recommends that in order to promote accessibility to health care for at-risk populations, specific supports, such as visual and written materials, be made available so that all receive all the information necessary to facilitate valid and informed consent for their treatment.

Overall, these themes underscore the significance of education and rights of persons for improving hospital QI strategies. Achieving such a balanced condition between education and patient, with fixed attention to an aware knowledge of the patients'

rights, the formation of educative staffs on this side, the intervention of the family in the process healthcare, and his support for marginalized populations can ensure an holistic and humanized approach in the healthcare. These are trust-building, healthcare outcome improving, including DOH, government and private hospitals compassionate care promoting strategies. By integrating these aspects into hospital operations, care organizations have a blueprint to enforce sustained excellence and to honor patients' desires and rights with dignity and respect.

The findings in the qualitative thematic analysis in support to the quantitative analysis of Education and Rights of Individuals (ERI) strategies suggest a moderate implementation in the Philippine healthcare setting where private and DOH hospitals perform better than government facilities. High scores in patient rights and responsibilities and staff training also reflect good efforts at patient empowerment and health worker enablement, in keeping with Arogyaswamy et al. (2021) and Kawi et al. (2024), who focus on patient education and patient advocacy in achieving better health outcomes and promoting the rights of the patients. But from low implement of educational resources and poor availability of patient advocates, there are some aspects need to be enhanced in the efforts for patient support program services. Qualitative themes Patient Education & Communication and Patient Rights Awareness suggest that clear communication, family engagement, and the provision of informed consent are key to developing a patient-centered care model, which is consistent with Zohre et al. (2023) and Shah et al. (2024). Henderson also reported on the effectiveness of staff training in cultural competence and involving families as support where Kaihlanen et al reinforces. (2021), Wilandika et al. (2023) and Vick et al. (2024) and the importance of inclusivity and shared decision-making to improve the quality of care. Further addressing access for vulnerable populations through programmatic targeting accords with WHO (2021) advice on equitable health care. In sum, while measures for basic education and rights-based approaches may be available, the reinforcement of patient empowerment and holistic, respectful care in all sectors of healthcare is vital, requiring further support, inclusivity and cultural competence within patient advocacy, education and cultural competency.

To summarize the strategic themes identified from the ten quality standards in tables 17 to 26, common factors influencing the successful implementation of hospital QI strategies are grouped in Table 27. This presents a refined synthesis of the factors influencing the successful implementation of Quality Improvement (QI) initiatives in hospitals, emphasizing which thematic strategies were retained or merged, as well as how these were distributed across different types of hospital ownership—government (GOV), Department of Health-retained (DOH), and private (PVT) hospitals. Of the original 50 themes, 19 were mashed up into 9 new themes and 25 or more were preserved or modified, such that 34 strategic themes were reduced. These themes represent cross-cutting CQI strategies across hospitals, such as patient-centered care, access to care, human resources, infection control, and data for management. The table demonstrates both common and disparate CQI practices among the various types of hospitals and provides some indication of appropriate institutional targets for healthcare quality improvement efforts.

Table 27

Summary on the Factors Influencing the Hospitals' Successful Continuous Quality Improvement (CQI) Implementation Based on the Thematic Quality Improvement (QI) Strategies

Factors influencing the successful QI implementation	Code. Thematic Strategies	NoO common response	Remarks: Reference Code	Table Ref.
EUHCOP. Effective Universal Health Care and Outreach Programs	**UHAFS.** Universal Healthcare Access & Financial Support	DOH & PVT only	Retained: UHAFS	18
	IHSVG. Inclusive Healthcare & Support for Vulnerable Groups	GOV & DOH only	Merged: IHVG & SVPA	18, & 27
OPCMS. Optimized Patient Care and Medical Services	**SCTI.** Specialized Care & Technology Integration	GOV, DOH & PVT	Retained: SCTI	18
	PFCCE. Patient/Family-Centered Care Experience	GOV, DOH & PVT	Merged: PCCE & PCFCC	19 & 24
	CCPS. Care Coordination & Patient Safety	DOH & PVT only	Retained: CCPS	19
	PEC. Patient Education & Communication	GOV, DOH & PVT	Retained: PEC	27
SPFRM. Streamlined Patient Flow and Resource Management	**PFRM.** Patient Flow & Resource Management	GOV, DOH & PVT	Retained: PFRM	18
	FESD. Facility Expansion & Staff Development	GOV, DOH & PVT	Retained: FESD	19
	PFSIOT. Patient Feedback, Support Integration and Outcome Tracking	DOH & PVT only	Merged: PFSI & PFOT	20 & 25
CSTDE. Comprehensive Staff Training, Development, and Engagement	**STSA.** Staff Training on Safety Awareness	DOH & PVT only	Retained: STSA	21
	HRDER. Human Resource Development, Empowerment & Retention	GOV, DOH & PVT	Merged: STDE & HRDR	Both 26
	TCCTDM. Team Collaboration, Cross-Training & Decision Making	DOH & PVT only	Retained: TCCTDM	24
RPREA. Robust Patient Rights, Education, and Advocacy	**PREA.** Patient Rights Education & Awareness	GOV, DOH & PVT	Merged: PRAIC & PREA	27 & 20
	ICDM. Informed Consent & Decision-Making	DOH & PVT only	Retained: ICDM	20
	HLCS. Health Literacy & Cultural Sensitivity	GOV, DOH & PVT	Merged: STCS & HLCS	27 & 20
DDQMM. Data-Driven Quality Monitoring and Management	**ADEDP.** Accurate Data-Driven & Evidence-Based Decision-Making Practices	GOV, DOH & PVT	Merged: DDEBP, DDDMM & DDDMA	19, 25 & 26
	KPIPT. Key Performance Indicators & Performance Targets	GOV, DOH & PVT	Retained: KPIPT	25
	ECDI. External Collaboration & Data-Driven Improvement	GOV, DOH & PVT	Retained: ECDDI	24
	PRA. Performance Reviews and Audit	DOH & PVT only	Retained: PRA	25
	SCM. Standardization & Clinical Monitoring	GOV, DOH & PVT	Retained: SCM	19
CICSP. Comprehensive Infection Control and Safety Protocols	**ICP.** Infection Control & Prevention	GOV, DOH & PVT	Retained: ICP	21
	ICTE. Infection Control Training & Education	GOV, DOH & PVT	Retained: ICTE	22
	ISPRM. Infection Surveillance, Protocol & Risk Management	DOH & PVT only	Merged: SPRM & ISRM	21 & 22
	IOCA. Infection Outbreak & Compliance Audits	GOV, DOH & PVT	Retained: IOCA	22
	SPC. Standard Precautions & Compliance	DOH & PVT only	Retained: SPC	25
PFMI. Proactive Facility Management and Improvement	**FMI.** Facility Maintenance & Inspections	GOV, DOH & PVT	Retained: FMI	23
	FRDE. Facility Renovations & Design Enhancements	GOV, DOH & PVT	Retained: FRDE	23
	EFSA. Environmental & Facility Safety Awareness	GOV, DOH & PVT	Merged: EFS & EFSIC	21 & 22
ECT. Effective Collaboration and Teamwork	**MTIC.** Multidisciplinary Teamwork & Integrated Care	GOV, DOH & PVT	Retained: MTIC	24
	CDCCF. Cross-Department Collaboration, Communication and Feedback	GOV, DOH & PVT	Retained: CDCCF	24
	SECI. Stakeholder Engagement & Collaborative Input	DOH & PVT only	Retained: SECI	23
CPEPFI. Continuous Performance Evaluation and Patient Feedback Integration	**TQIS.** Total Quality Improvement & Sustainability	GOV, DOH & PVT	Retained: TQIS	23
	PFCFI. Patient Feedback & Continuous Facility Improvement	DOH & PVT only	Retained: PFCFI	23
	SOCCM. Sustainability, Organizational Culture & Change Management	GOV, DOH & PVT	Retained: SOCCM	18

Note: ***Nature of Ownership (NoO)****: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

Reference Code Remarks: *Based from the Thematic Analysis of Hospital QI Strategies (Tables 18 to 27)*

Within the theme factor on Effective Universal Health Care and Outreach Programs (EUHCOP), only Universal Healthcare Access & Financial Support (UHAFS) strategy was retained to be classified and reported in DOH facilities and private hospitals. This reflects the relatively more established funding structures and health access programs in these domains. On the other hand, the combined strategy Inclusive Healthcare & Support for Vulnerable Groups (IHSVG) was the consequence of merging IHVG and retaining SVPA, and was implemented in GOV and DOH hospitals. This reflects an ongoing commitment on the part of the public sector to meet the demand for marginalized communities through comprehensive outreach and support. The inclusion of the Universal Healthcare Access & Financial Support strategy in DOH and private hospitals indicates that the latter have more entrenched funding and delivery arrangements for access to healthcare tactics. This is critical in that, it helps ensure that financial access barriers to healthcare are reduced as prescribed in Universal Health Coverage (Nkhwashu et al., 2023)

In Optimized Patient Care and Medical Services (OPCMS), three of the four strategies—Specialized Care & Technology Integration (SCTI), Patient/Family-Centered Care Experience (PFCCE), and Patient Education & Communication (PEC)—were adapted, and implemented in all hospital sectors. PFCCE was merged by taking a combination of "PCCE" while retaining "PCFCC," indicating a mixed emphasis on both parent-centered and family-centered care views. CCPS was also found to be significant only in DOH and PVT facilities, signaling issues that may arise in relation to care continuity and patient safety surveillance within public sector hospitals. The broad application of interventions such as Optimized Patient Care and Medical Services as well as Specialized Care & Technology Integration, Patient/Family Centered Care Experience is encouraging. Healthcare has increasingly focused on patient-centered care (Gartner et al., 2022).

For Streamlined Patient Flow and Resource Management (SPFRM), all three strategies Patient Feedback (FESD), Patient Feedback Support Integration and Outcome Tracking (PFSIOT), and Patient Feedback, Support Integration and Outcome Tracking (PFSIOT) were retained while PFSIOT—merged strategies of "PFSI" and "PFOT," was observed only in DOH and private facilities. This indicates that higher resource hospitals are better able to implement patient feedback processes in conjunction with outcome tracking. However, the identification of Patient Feedback, Support Integration, and Outcome Tracking within the DOH and private hospitals is reflective of that resources are more abundant in which to use patient feedback mechanisms and outcome tracking tools. Hospital Process Management Patient flow is an important aspect of hospital process management (Harbi et al., 2024).

Within Comprehensive Staff Training, Development, and Engagement (CSTDE), Staff Training on Safety Awareness (STSA) and Team Collaboration, Cross-Training & Decision-Making (TCCTDM) were retained with the qualification that they were to be offered in DOH and private hospitals only. However, Human Resources Development, Empowerment & Retention (HRDER), which was a merged strategy of “STDE” with retained items of “HRDR”, was implemented in all types of hospitals. This highlights that although they were operating within the constraining context of limited safety training resources, there was belief by all stakeholders in the need to invest in staff development and retention. The discrepancy draws attention to potential resource-efficient interventions in public hospitals to ensure the training on safety and team work; training in improving team work and communication is associated with increased patient safety (Fukami et al., 2020).

For Robust Patient Rights, Education, and Advocacy (RPREA), strategies such as Patient Rights Education & Awareness (PREA) and Health Literacy & Cultural Sensitivity (HLCS) both were merged and retained from previous strategies and were applied across all hospital types (PRAIC and STCS merged, respectively). Consent & Decision Making (ICDM) was preserved but could be found only in DOH and PVT hospitals, indicating ethical governance variation between public hospitals. However, due to a concern that only Informed Consent & Decision-Making was retained, and only in DOH and private hospitals, because it opens the possibility for variance in ethical governance mechanisms between government hospitals. Patients' advocacy representing themselves and their interests is key, and educational, and communication approaches are needed in order for aiding the patients themselves in understanding their rights and ways of protecting their privacy (Ibrahim et al., 2016).

In the theme of Data-Driven Quality Monitoring and Management (DDQMM), all but one strategy was retained. The outcomes of Accurate Data-Driven & Evidence-Based Decision-Making Practices (ADEDP) -- which was the integration of "DDEBP", "DDDMM" and "DDDMA" -- provides evidence of a united front towards data-driven practice. The three remaining themes (KPIPT, ECDDI, and SCM) were also preserved and present in all types of hospitals. However, Performance Reviews and Audit (PRA) was preserved, but it was limited to DOH and private hospitals showing more organized internal review system within these hospitals. Data are also being employed in hospitals to facilitate organizational and clinical decision-making to enhance patient safety and quality of care (Cascini et al., 2021). Nevertheless, the restricted provision for Performance Reviews and Audits, mostly involving DOH and private health facilities, indicates that internal mechanisms of assessment have to be enhanced in all institutions to guarantee equitable access to quality health care. Some of the hospitals have proved to be

resilient, being able to recover their quality of before pandemic, rites adding that adaptive strategies are key to the recovery (Ricardo et al., 2024).

Five strategies were retained under Comprehensive Infection Control and Safety Protocols (CICSP). This included Infection Control & Prevention (ICP), Infection Control Training & Education (ICTE), and Infection Outbreak & Compliance Audits (IOCA), which applied to all types of hospitals. Infection Surveillance, Protocol & Risk Management (ISPRM)—merged from "ISRM" and "SPRM"—and Standard Precautions & Compliance (SPC) were retained but only for the DOH and PVT hospitals, serving as an indicator of relatively stronger surveillance platform and compliance in those hospitals. All of these interventions are universally adopted in all hospital categories (Haque et al., 2020). But poor implementation of Infection Surveillance, Protocol & Risk Management and Standard Precautions & Compliance was observed in some of the hospitals, the variations in surveillance and compliance indicated discrepancies in practices and suggested a demand to intensify the infection control service across the institutions to provide patient safety (Hill et al., 2024).

For Proactive Facility Maintenance and Improvements (PFMI), all three of the retained strategies, i.e., Facility Maintenance and Inspection (FMI), Renovating and Constructing Based on Best Design Practices (FRDE) and Promoting Awareness of Safety and the Environment (EFSA), were universally adopted across all types of hospitals, demonstrative of widespread understanding that physical infrastructure has everything to do with healthcare quality. However, Stakeholder Engagement & Collaborative Input was mentioned as relevant only to DOH and private hospitals because of their more flexible use of non-government stakeholders. Hospitals are increasingly adopting predictive maintenance based on digital platforms such as BIM and indoor positioning systems, to advance asset tracking and operations (Chen et al., 2023). Linking maintenance to organizational goals is the way to safer, compliant healthcare environments and acceptable patient care (Wong et al., 2021). Facility management planning at an early stage and particularly in the design stage of infrastructure, and particularly in the case of public hospitals, is critically important for the longevity of assets and for their adaptability, and demands clear planning, resources, and stakeholder involvement (Lebea, 2024).

In Effective Collaboration and Teamwork (ECT), Multidisciplinary Teamwork & Integrated Care (MTIC) and Cross-Department Collaboration, Communication and Feedback (CDCCF) were retained in all hospitals. Stakeholder Engagement & Collaborative Input (SECI) on the other hand was available to DOH and private hospitals alone as they have more freedom to directly engage non-government stakeholders. Creating value in collaboration with stakeholders: a multidisciplinary perspective involving different layers of staff (Gorla et al., 2023). Multidisciplinary teamwork, evidence-based care, and quality improvement are major factors in improving patient outcomes and healthcare (Falade et al., 2024). Governance collaboration may also facilitate integrated care by convening policy actors (Gordon et al., 2020).

Lastly, within Continuous Performance Evaluation and Patient Feedback Integration (CPEPFI), all strategies including Total Quality Improvement & Sustainability (TQIS), Sustainability, Organizational Culture & Change Management (SOCCM), and Patient Feedback & Continuous Facility Improvement (PFCFI) were retained, though PFCFI was observed only in DOH and private hospitals. This difference suggests that the culture of development linked to feedback and focus on applying knowledge is more integrated into organizations that have more resources at their disposal, and which are more accountable for systemic changes-taking place. In searching for service failures, hospitals should use patients' critical comments to prevent a reoccurrence of the (Chakraborty & Pagán, 2025). Regular feedback on performance may lead to a culture of quality and care delivery (Becker et al., 2021). For example, a patient experience dashboard can track corrective steps and the information can be disseminated to various interest groups (Chakraborty & Pagán, 2025). A patient experience dashboard should be provided in a structured and organized way so as to improve HCAHPS or patient satisfaction scores (Nabeel et al., 2022). Planning and the so later changes in planning that will need to be made is something to consider. Some of the reasons behind such expansions would be to make it easier for the hospitals to manage the cost of such expansions (Pradhan et al., 2024).

In summary, the table presents a reduced and validated set of strategies, while many of them were either maintained or generated by strategic amalgamation of related strategies. Between hospital types, DOH and private hospitals maintain a larger and stronger QI strategy implementation, whereas government hospitals have scant application on safety training, stakeholder engagement and data-based auditing. The results underscore the need for focused capacity building and investments in institutions to promote more equitable QI implementation across the health system. To avoid service failures and learn from past experiences, hospitals should monitor patient feedback data and take measures to prevent such events (Chakraborty & Pagán, 2025). If executed, standard performance feedback can facilitate a culture of quality of care and quality improvement (Becker et al., 2021). A patient experience dashboard can track corrective actions and disseminate it to stakeholders (Chakraborty & Pagán, 2025). Organized patient feedback is known to affect HCAHPS scores in a positive way (Nabeel et al., 2022). This type of planning and adjustments should also be taken into account. This will also help the hospitals to reduce the cost of such expansions. (Pradhan et al., 2024)

The multilevel nature of CQI allows hospitals to introduce CQI spread over time strategies, that would be expected to have a good fit given the factors addressed in the previous pages. All these factors, from UHC that works, well-trained personnel, data-informed decisions, to engaged patient rights education are essential contributors to improving quality. It is important to consider the patient-centered medical care, the rational use of resources and infection control measures, in order to maintain an efficient and safe system. In addition, constant performance monitoring and working together between departments, promote a culture of ongoing quality enhancement. Through attention on their interrelatedness, hospital administrators may establish that robust CQI programs can be successfully implemented and are associated with improved patient outcomes, improved process efficiency and increased satisfaction. In the end, an integrated model of structural, process, and outcome variables with real-time lines of feedback and improvement assures the success and sustainability of CQI initiatives over the long-term in healthcare.

3.5 Proposed Hospital Continuous Quality Improvement (CQI) Model

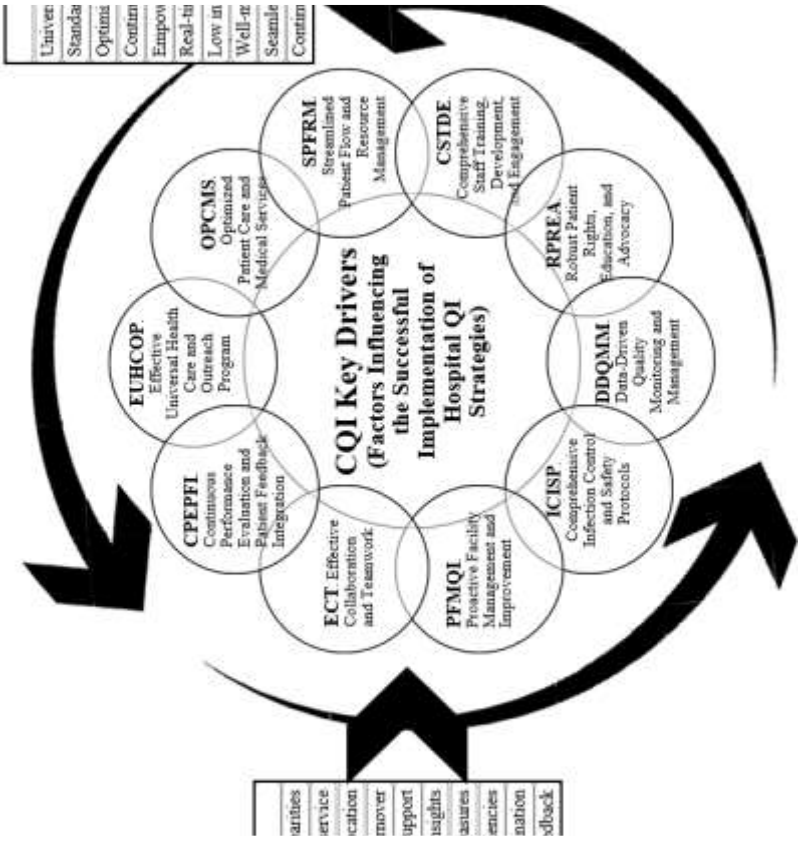
This section presents how the identified factors influencing the successful implementation of the subject hospitals from SOP4 are utilized to create a CQI model for secondary hospitals in the Philippines. This model shall be the framework of the study and is named after the researcher and shall be called as "RPArboleda's CQI Model for Secondary Hospitals in the Philippines."

Research Question Number 5: What hospital CQI model can be derived from the findings of the study?

It is necessary to create a mechanism for the continuous quality improvement program of secondary hospitals in the Philippines as a means of streamlining the efforts towards the improvement of quality health care delivery. A CQI model implies deliberately and methodically applying such interventions for purposes of enhancing service delivery and effecting change (Nkhwashu et al., 2023). This framework first recognizes variations in quality as the "status quo", reflecting the current problems and obstacles that secondary hospitals have to conquer to achieve the best performance in patient care and operation. This

Figure 3

RPArboleda's CQI Model for Secondary Hospitals in the Philippines



is premised on the explicit and methodical use of certain techniques to enhance service delivery (Nkhwashu et al., 2023). Some of the challenges that were identified are limited access to care, inequity in care delivery, fragmented care, long waits and

queues demand and supply, queues and wait time, gaps in talent and high staff turnover, low patient engagement, lack of decision support, high risk of acquiring infections and other preventable harms, limited transparency and weak performance monitoring. It is important to indicate that the objectives and facets of CQI may vary between settings (Endalamaw et al., 2024). Quality improvement is an intentional effort to ensure that care is: effective, safe, people-centered, timely, equitable, integrated and efficient (Koome Impwii & Kivuti-Bitok, 2023).

The CQI model for secondary hospitals offers a broad and cyclical method to respond to enduring difficulties of health care delivery. The model illustrates how secondary facilities are typically characterized by poor patient access, inequitable access to care, delays, and bottlenecks in care provision resource waste, higher than desirable rates of staff turnover, and poor coordination. These systemic problems are also exacerbated by a lack of safety measures, incomplete data collection and poor patient compliance. To change these circumstances, the Model encourages the effective execution of interrelated, mutually reinforcing quality improvement strategies. Lastly, all are expected to enhance the productivity of healthcare systems (Ricardo et al., 2024).

In response to these problems, the model emphasizes successful quality improvement techniques. These range from access issues, including universal coverage and outreach, to access within primary care to patient care processes for both timeliness and consistency to the flow of patients. It is understanding that staff training and engagement are paramount to ensure that care standards are high (DOH, 2020). The model also integrates patient rights education, evidence-based quality management, infection control and proactive facility management. Cross departmental collaboration and ongoing measurement of performance through patient feedback is crucial in addressing patient needs and elevating outcomes.

At the core of this model is the inclusion of the CQI Key Drivers into a process of continual improvement, the drivers being the factors that have been found to be most crucial to the successful implementation of the hospital QI strategies. Some of these are stand-alone work but relational, such as teamwork, staff training, data analysis, infection control, and patient advocacy, which are not only separately significant but also interact. For example, monitoring data provides a backbone for real-time decisions and staff equipped with power can act more effectively on behalf of patients. Together, these activities result in a dynamic system that can reflect upon and improve itself. Being a new benchmark tool, it can be used to assess the progressive development in the better performance, provide insights on the effectiveness of the implemented measures, help in an optimal resource allocation, and guide towards policy-making based on reporting of outcomes (Ricardo et al., 2024).

The goal of all these strategies is "Quality Target Outcomes" that reflect a fully optimized healthcare future. These results are universal and equitable access to healthcare, care that is uniform, timely and of high quality, optimal resource use, and a workforce that is constantly competent and positively engaged. Furthermore, the model aims to enable patients with information for informed judgement and bring in a current status for continuous developments. Low infection rates by a rigorous attention to safety, good facilities, teamwork, and the use of data for feedback are all important results that demonstrate the success of this model (WHO, 2003; WHO, 2018).

This hospital CQI model is a procedural model for secondary hospitals to follow in an effort to provide better quality of care for patients, job satisfaction amongst staff and cost effective operation. Through preventing quality variation and adopting focused improvement, this will allow hospitals to transition from a suboptimal quality and inefficient position towards a future where patient outcomes, staff engagement and resource utilization are consistently optimized. The circular model also reflects that QI is an ongoing process and not a single event, focusing on feedback and change. It builds a culture of accountability, learning, and innovation that ultimately leads to better patient care, a more engaged and satisfied workforce, and higher financial success. The quality level of public hospitals is checked with a tree structure of criteria (Ricardo et al., 2024).

3.6 RPArboleda's Hospital CQI Model Implementation Guidelines

Research Question Number. 6. Based on the overall findings, what can be the recommendation to improve the implementation of quality improvement strategies of the secondary hospitals?

Everett Rogers' (2003) Diffusion of Innovation (DOI) Theory offers a valuable perspective for the introduction and adoption of new practices. The theory once associated with these five important innovation characteristics which influence the adoption: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability (Dong, 2021). The inclusion of these principles in the researcher's CQI Model's CQI Model will ensure that it is more feasible, sustainable, and adaptable to the wide variety of health care settings (Zhang et al., 2021; Barbosa et al., 2021).

Relative advantage is the degree to which an innovation is believed to be better than what it will replace. The researcher's CQI Model holds a unique advantage in how it targets system inefficiencies in health, such as inequitable access, delays in care, risks of infection and lack of patient engagement. These system weaknesses were confirmed by the study's quantitative results, especially the low implementation scores in Access to Healthcare (mean = 3.19) and Collaborative Integrated Management (mean = 3.29). On the other hand, the high ratings in Infection Control (mean = 3.56) and Patient Safety (mean = 3.55) suggest that some quality domains are already relatively well-established, and can be "carriers" to further spread change activator. As Novikov et al. (2024) posit, Innovations are more likely to be adopted and supported if they are seen to represent value – particularly in terms of enhanced clinical or operational outcomes.

Compatibility refers to the extent to which the innovation is consistent with existing values, prior practices, and needs of potential adopters and with which the innovation fits with the current political and policy climate, etc. (Rogers, E.M., 2003). Specifically, the qualitative data revealed the themes of Universal Healthcare Access and Financial Support (UHAFS), Data-Driven and Evidence-Based Practices (DDEBP) and Patient Rights Education and Awareness (PREA)-indicating that the initiative is in line with the strategic priorities of the DOH. As Moon et al. (2021) and Sheikh et al. (2020) emphasize, ideas that fit the organization culture and policy priorities are more likely to grow and spread.

Complexity, or the relative difficulty of implementing an innovation, should be minimized in order to facilitate widespread adoption. The researcher's CQI Model addresses this with the phased nature of implementation, module-based training, peer-mentoring and ongoing feedback loops---strategies that are underscored in themes of Facility Expansion and Staff Development (FESD) and Sustainability, Organizational Culture & Change Management (SOCCM). Consistent with that reported by Zhang et al. (2021), streamlining work and enhancing ease of use decreases complexity and thereby promotes the use of a tool, particularly for healthcare workers with a varying range of technical skills.

Trialability is important for early majority adopters, who are more risk averse. The researcher's CQI Model is applicable to the pilot setting, especially DOH or private hospitals, which has demonstrated better baseline performance and infection control and patient safety. Real-time data can monitor and real-time satisfaction can be collected from patients in these pilot initiatives to tailor intervention locally indeed to understand the feasibility before mass scale up (Dong, 2021; Moon et al., 2023). Pilot programs are also to counteract organization resistance, particularly in government premises where change fatigue or generation gap might hinder immediate adoption.

Observability— other institutions' ability to see positive results—increases adoption of CQI innovations. The researcher's CQI Model emphasized monitoring of performance and sharing of results exciting by feedback dashboards, quality reports, and benchmarking that could be publicized via DOH-led forums, inter-hospital conferences and policy briefs. According to Novikov et al. (2024), this observability influential in convincing the early and late majority to adopt behaviors they can visibly see working in similar contexts through copying successful practices.

Lastly, Roger's adopter types provide a helpful guide for implementation of the RPArboleda Hospital CQI Model. As per the study's findings, DOH hospitals, which has the highest mean of implementation (3.49) could be the innovators and early adopters. Private hospitals, who have a little lower but constant scores with a culture of flexibility and responsiveness, would become the early majority. Public sector hospitals due to less implementation and high resistance toward innovation because of structural deficits and shortage of resources are characterized as late majority or laggards. Interest-specific participation, support, and policy incentives should be designed accordingly (Dong, 2021; Sheikh et al., 2020).

As Moon et al. (2023), finding that continued quality improvements will not occur without initial adoption, in addition to good governance, staff engagement and leadership. The RPArboleda's Hospital CQI Model meets these criteria by incorporating on an ongoing basis both a learning by doing approach and the organizing framework of participatory evaluation and leadership feedback.

Using the Diffusion of Innovation Theory as a framework, supported by policy formulation, healthcare leaders and policymakers may use this model as a tool for pushing for the adaptation of RPArboleda's Hospital CQI Model among secondary hospitals in the country. The model is aligned with institutional goals; has proved beneficial, intuitive, and testable; and yields trackable outcomes, thereby favoring national adoption. By tactically engaging early adapters and supporting the laggards, through ongoing feedback, this redesign can move from unrealized concept to reality in practice—adding to our national zeitgeist of the pursuit of quality and continuous improvement while bringing our us closer to achieving Universal Health Care and organizational transformation.

An implementation guideline is provided in Appendix M, based on key factors identified in this study as drivers for successfully implementing quality improvement (QI) strategies to address existing hospital challenges and achieve target outcomes. This guideline, entitled RPArboleda's Continuous Quality Improvement (CQI) Model Implementation Guideline, break down strategies to suggested action plans, and tools categorized by hospital ownership type.

The stratification of digital health and quality improvement tools across Department of Health (DOH)retained, government-managed (GOV) and private (PVT) hospitals captures distinctions in the functions, capacities and resources of hospitals in the Philippines. This customized strategy allows innovations to be contextually relevant, locally sustainable, and scalable within the operations of each hospital.

DOH-retained hospitals, patterned to international health laws and recommendations, are used as testing areas for digital health programs in the context of the Philippine eHealth Strategic Framework and the Health Facility Development Plan 2020–2040 (DOH, 2020). Tools like Fast Healthcare Interoperability Resources (FHIR) repositories, Tableau analytics software, and Research Electronic Data Capture (REDCap) facilitate these hospitals' data reporting and analytics efforts. "The integration with solutions such as the PhilHealth Enrollment Portal as well as national Memorandum of Understanding templates also increases policy adherence," added Abnett. Telemedicine, and implementation of Electric Medical Records (EMRs) are also being promoted to improve the provision of care and the sharing of information (Philippine Digital Health Summit Proceedings, 2024).

Local Government Units (LGUs) operated government hospitals that target indigent population have limited budgets, infrastructure, and information technology (IT) support. So their tools focus on Website Accessibility, Community Engagement and Capacity building. These limitations are overcome with systems such as the Community Health Information Tracking System (CHITS), mobile clinic vans, culturally sensitive Learning Management Systems (LMS), and WhatsApp groups. In research infrastructure and man power insufficiencies existed for the LGU hospitals that hinder a full HIS adaptation (Garcia et al., 2021 and Macariola, 2021). The COVID-19 pandemic further propelled the adoption of community-based telehealth modalities in LTCFs (Cordero, 2022).

In such context, private sector, given their more developed resources and autonomy, may adopt innovative digital solutions more quickly in order to enhance patient-oriented care and operational performance. These range from wearable health monitors, private EMRs like OpenEMR, patient portals like MyChart, and strategic quality improvement tools like Key Performance Indicator (KPI) dashboards and Environmental, Social, and Governance (ESG) reporting platforms. The private sector made a significant contribution in expanding the availability of telemedicine in the Philippines and showed leadership in digital health innovation (World Health Organization [WHO], 2021).

Overall, The DOH national hospitals are described to be national-level system integrators, the government hospitals focus on community-centered and accessible tools while the private hospitals employ market-based solutions for better quality and efficiency. Based on the availability of resources, governance and service models, this classification can be helpful as it contributes both to the success of implementation of these systems and to their sustainability in this group of hospitals.

CHAPTER 4

DISCUSSIONS

This chapter summarizes the key findings of the study on based on the implementation of the quality improvement (QI) strategies of secondary hospitals in the Philippines. It presents the drawn conclusions and suggests recommendation to different key aspects of the beneficiaries of this study.

4.1 Conclusion

This study explored whether there is a common program within a selected sample of secondary hospitals to facilitate functionally effective quality improvement (QI) initiatives. It evaluated the associations of hospital conduct features (ownership, accreditation, duration since inception) with their level of performance of QI in the core dimensions of healthcare. The research also tested hypotheses about these connections and determined related influencing factors and a CQI model according to the findings. This conclusion provides a summary of the findings and suggests the avenues for improvement to QI implementation in the secondary hospitals. This are as follows:

The subject secondary hospitals' business profiles reveal that hospital characteristics such as ownership, accreditation, and length of operation are important factors contributing to quality improvement (QI). The majority of the hospitals are under the private management (54.9%), expressing more flexibility in day-to-day operations and more inclination to use the QI strategies, following McMaughan et al. (2020) and Devasahay et al. (2021), although government (29.7%) and DOH-managed hospitals (15.4%) are crucial in healthcare access, they may be hindered by bureaucratic constraints (Cruz & Cruz, 2021). As regards accreditation, almost half (48.9%) are DOH-accredited only (normalizing adherence with the national standards (Homauni, 2023), however 44.5% are also ISO-accredited, demonstrating an evolving commitment to international quality standards. A smaller percentage (6.6%) of them hold international accreditations namely ACI, JCI and PCAHO, expressing desire to achieve international recognition and excellence (Kringos et al., 2015). In terms of operational life: 46.7% of the hospitals are on a span of 2–25 years in service – implying that most of the hospitals are modern enough to be open the most to innovation, 20.9% are 51–75 years and 3.8% are over 100 years old – which brings the age-old legacy and trust of community, but in dire need of modernization. As a whole, these results show a health care system with diverse levels of QI readiness so that newer, private, and accredited by ISO hospitals tend to have better capacity to learn from others; however, assistance would be necessary for older and public finance hospitals to keep pace with more recent standards and technologies.

The evaluation of the implementation level of Quality Improvement (QI) strategies by government, DOH and private hospitals in the Philippines shows that the overall level of implementation is moderate (mean = 3.39). Out of the ten hospital quality standards evaluated, Patient's Rights and Education, (mean = 3.56), Infection Control, (mean = 3.56), and Patient Safety (mean = 3.55) had the highest implementation scores indicating that there were institution-based efforts to enhance patient-centered care, safety, and prevention of infection. Indeed, these results are in accordance with those reported by the group of Sardi et al. (2020) and Negro-Calduch et al. (2021) who underlined that education, drills and standard procedures had a positive impact on safety and quality care. On the other hand, Access to Healthcare scored the lowest for Implementation (mean = 3.19), and particularly poorly in the for private sector (mean = 3.10) which suggests that outreach program, financial assistance or telemedicine offer significant challenges. This confirms the study of Carpio et al. (2020) and Adams et al. (2022) identified housing, geographic proximity, and digital access as major barriers to access to equitable health care.

Other quality standards with moderated level of implementation included Health Assessment and Care Processes (mean = 3.40), Education and Rights of Individuals (Mean = 3.39), Performance Measurement (mean = 3.37), Management of Information and Human Resources (mean = 3.32), Facility Management (mean = 3.30) and Collaborative Integrated Management (mean = 3.29), these being areas in which changes persisted unfinished. EHR adoption (HACP5 mean = 2.99), is noteworthy for being limited, similar to Haleem et al. (2021) also reported infrastructural and organizational challenges for complete inclusion. Across sectors, DOH hospitals overall performed the best (mean = 3.49), followed by private (mean = 3.42) and government hospitals (mean = 3.30), implying that DOH facilities have stronger institutional arrangements and support structures. Notwithstanding, challenges still exist even in the better-performing homes, as with real-time monitoring of monitoring infections (IC4 Mean = 3.50) and having sufficient staffing (MIHRS1 mean = 3.23), issues raised by Abrigo et al. (2021), Wang et al. (2020) and Ghahramani (2021) about shortage in healthcare manpower.

While the findings reflect commendable progress, particularly in in terms of patient safety and rights, significant challenges remain in achieving equal care access and efficient inter-professional cooperation. Some topical areas like

telemedicine (AHC5 mean = 2.74), multidisciplinary team (CIM3 mean = 3.27), Performance-based benchmarking (PM5 mean = 3.34) and Staff involvement in decision-making (MIHR4 mean = 3.31) require concentrated effort. A systems-based approach to QI, inclusive of systems infrastructure, process improvement, outcome measurement, and workforce empowerment, is needed. This is in line with the frameworks introduced by Chan et al. (2020) that underline the importance of quality improvement, systematic performance evaluation and data-driven decision-making in achieving durable improvements across quality in healthcare.

Results from analysis of the relationship between hospitals business profiles and the level of QI strategies implementation reveals that only one of the three variables tested (type of quality management accreditation) had a statistically significant impact on QI implementation. In particular, the relationship between the type of accreditation and the implementation of the QI strategies were statistically significant ($p = 0.00004$) with a positive weak to low association coefficient of (0.300). This underlines that the greater the recognition or the higher the level of accreditation or recognition, the more likely a hospital is to employ QI strategies, confirming the role of external standards in creating progress and organizational excellence. This finding is in agreement with that reported by Alhawajreh et al. (2023) and Devasahay et al. (2021) that suggest that the accreditation standards lead to compliance with best practices and an enhanced impact of QI interventions.

In contrast, type of hospital ownership (government, DOH, or private) and duration in the hospital had no significant relationship with the implementation of QI strategy, yielding p-values of 0.419 and 0.400, and correlation coefficients of 0.060 and 0.063, respectively. That ownership status and number of years in operation correlated too little with the rest of our variables, means that ownership type and the number of years of activity are not clear determinants of why and how QI strategies are used. This is in line with the finding of Kumah et al. (2020) and Dela Cruz and Dela Cruz (2021) mentioned that the internal factors for instance, leadership commitment and organizational culture are more defining than structural factors such as ownership. McMaughan et al. also add that (2020) assert that long survival of hospitals does not always mean quality implementation unless matched with staff development and staff performance monitoring.

While accreditation may provide an incentive to improve QI performance, whether the nature of the institution (public, private, long in existence) also mediates better QI practices is not clear. As a result, hospitals desiring higher quality should concentrate on achieving and maintaining valid accredited status, investing in leadership development, and fostering a culture of ongoing learning and system-oriented improvement—all approaches emphasized by Friday et al. (2021) in the quality culture and staff empowerment studies.

The Qualitative thematic analysis provides an additional layer of meaning to the quantitative descriptive analysis by highlighting contextual insight with DOH, government, and private hospitals into the realities and underlying structures that influence QI strategy implementation in settings of the different hospitals sectors in the Philippines. The quantitative dataset revealed that quality standards such as Patient's Rights and Education, Infection Control and Patient Safety were the most implemented; and Access to Care and Collaborative Integrated Management had the lowest mean scores. These patterns were strongly reinforced by the qualitative themes. In calling attention to challenges related to healthcare access, have found evidence for reasons that could be associated with geographic Inaccessibility, financial limitations, and limited telemedicine services, especially in government and private hospitals, as present within the themes of Universal Healthcare Access and Financial Support (UHAFS), Financial Support and IHVG. The contribution of government efforts such as the Universal Healthcare (UHC) Act and Malasakit Centers was highlighted by DOH informants, which is consistent with those of Sacks et al. (2020) and Coughlin et al. (2021) that emphasize the potential for National Programs to assist in healthcare affordability and access.

Strong adoption of infection control and patient safety were confirmed during analysis through thematic areas of Safety Protocols and Risk Management (SPRM), Infection Control and Prevention (ICP), and Emergency Preparedness and Safety Culture (EPSC). This is in line with other reports, such as that of Elsharaidy et al. (2022) and Abu-Jeyyab et al. (2024) that highlight the critical role of structured safety audits and staff training in preventing patient safety risks. Other domains, as Facility Management and Management of Information and Human Resources, have presented moderate level of implementation. They were articulated by way of themes such as Facility Maintenance and Inspections (FMI), Sustainability, Organizational Culture and Change Management (SOCCM) and Total Quality Improvement and Sustainability (TQIS). Frequent hurdles were found to be staff opposition to new systems, inter-generational learning gaps and lack of infrastructure which was more particularly the case for GOV hospitals. Poor uptake of EHRs, indicated by a mean score on the HACP5 indicator Health Assessment and Care Processes of 2.99, was supported by qualitative evidence of underused digital systems, as had been reported by Haleem et al. (2021).

Furthermore, the qualitative data helped elucidate why DOH hospitals scored higher in implementation than private and government hospitals, and a possible explanation was their systematized systems, state mandated ordinances, and more

established institutional support. In the private hospitals, 'flexibility, service innovation with feedback, and proactive leadership development' were evident. On the other hand, the government hospitals frequently stressed inclusiveness and the provision of service to the marginalized populations but were hampered by shortages of both staff and resources. Leadership engagement, best practices based on evidence, and inter-professional collaboration were identified as important elements in all themes as buttressed by topics such as Data-Driven and Evidence-Based Practices (DDEBP) and Care Coordination and Patient Safety (CCPS). These themes correspond to theories like Kotter's Change Leadership Model (Carreño, 2024), and findings from Diggelle et al. (2020) on the requirement of leadership led cultural change in maintaining QI.

The alignment of qualitative themes and quantitative scores suggests that overall implementation of QI strategy is moderate to high within domains, but success is strongly modulated by institutional readiness, leadership support, and the ability to adapt systems to local circumstances. Further investment in digital infrastructure, cross-departmental cooperation, and equitable care strategies is required in order to reduce disparities and to maintain a prospective quality improvement in the entire spectrum of the Philippines health-care service system.

The development of the RPArboleda's Hospital CQI Model for secondary hospitals in the Philippines is an innovative strategy in response to the systemic quality gaps identified throughout this project. Based on the results, the model combines important elements for the successful implementation of QI, including teamwork, staff development, data collection and analysis, infection control, and patient advocacy. These elements are not stand-alone, but rather are part of interrelated systems of action in a constant cycle of maximizing quality, a framework that can facilitate institutional resilience and preparedness.

The model addresses fundamental concerns of insufficient health care access, unfairness in provision of service, variability of care delivery, and staff turnover. The hospital follows a cyclical, data-informed and patient-centered method, which gives direction hospitals to shift from reactive to proactive and sustained quality stance (Nkhwashu et al., 2023; Koome Impwii & Kivuti-Bitok, 2023). Interventions include staff training, the promotion of universal healthcare, infection control, the management of devices, and dissemination of feedback are recognized as important levers to enhance process and patient outcomes (DOH, 2020; Ricardo et al., 2024).

Lastly, the model of the researcher does not merely prescribe improvement measures but establishes a culture of continuous learning and accountability. It offers a standard-setting system of monitoring progress and refining policy which has contributed to a climate of health care in which excellence is the norm and improvement is continuous (WHO, 2003; WHO, 2018). It therefore provides a benchmark for smaller hospitals wishing to mainstream quality as an operational value.

Applying the Diffusion of Innovation (DOI) Theory, this study's CQI model incorporates significant factors for effectively integrating new healthcare practices, such as: relative advantage, compatibility with system, ease of use, trialability, and observable results (Dong, 2021; Zhang et al., 2021; Novikov et al., 2024). It recognizes that successful implementation is not just about technological solutions – it needs strategic leadership, organizational readiness, and ongoing stakeholder engagement. Tailoring support to low-capacity hospitals and encouraging early adoption in high-capacity hospitals, these approaches foster flexibility and broad applicability in different healthcare settings (Sheikh et al., 2020; Moon et al., 2023). The RPArboleda's CQI Model Implementation Guideline, described on Appendix M, makes this approach operational by linking engagement strategies, tools, and action plans according to hospital ownership types—DOH-retained, government-managed, and private—bearing specifics of governance, resource, and service operational contexts (DOH, 2020; Garcia et al., 2021; Macariola, 2021; WHO, 2021; Cordero, 2022; Philippine Digital Health Summit Proceedings, 2024). Anchored in practical application, the model offers a road map for building the innovation, systems' alignment, and continuous quality improvement infrastructure necessary to evolve secondary hospitals into learning organizations that are adaptive, responsive, and aligned with national health priorities.

4.2 Recommendations

Based on the research conclusions, this section presents the following recommendations:

1. Based on the conclusion on the hospital's business profile, it is suggested that there is a need to develop customized CQI strategies group by different types of hospitals, ownership, different level of accreditation status, and years in operation in searching for ways to ensure continuous quality of health services in secondary hospitals in the Philippines. There is a need for policy and administrative support to increase flexibility and reduce bureaucratization so that QI could be more expeditiously introduced, particularly in resource-poor settings for government and DOH-managed facilities. As 48.9% of hospitals have been accredited only by DOH, capacity-building programs and incentives for more hospitals to apply for international accreditation (e.g., ISO, ACI, or JCI) — widely believed to be associated with better operational efficiency and patient satisfaction — should be

initiated. Second, Because a substantial portion of hospitals are new (46.7%) and may not have developed QI infrastructure or have lived out their missions or expanded QI education involving newer practices and tools, it is important that new hospitals are offered an opportunity to use frameworks and receive mentorship to develop strong QI roots early in their development and that older hospitals, particularly those with over 50 years of experience (24.7%) are empowered to remain current in their QI know-how by integrating new technology or to integrate new technology without abandoning some of their older traditions and strengths. In general, there is an imperative need for a context-sensitive CQI model to be developed, which is cognizant of the structural, regulatory, and experiential differences between hospitals to ensure that such a CQI culture is more purposive, equitable, and sustainable at a national level.

2. In view of the conclusion on the QI implementation in Philippine secondary hospitals, it is suggested that these institutions need to employ strategic actions to enhance the implementation of their Quality Improvement (QI) strategies. The lowest implementation score was observed to the Access to Healthcare domain, indicating the importance of increasing outreach efforts, especially in the most disadvantaged areas. Hospitals may work with Malasakit Centers, PhilHealth, and local government units to offer improved financial and logistical assistance to patients and make investments in telemedicine infrastructure to broaden reach to semi-remote areas. Furthermore, the low score on Collaborative Integrated Management indicates the need to enhance collaboration between departments. Furthermore, the multidisciplinary group work and developed a schedule for case conferences, shared training meetings and quality review meetings in the hospital were patterns of work that should be institutionalized.

While, DOH hospitals exhibited the highest mean QI implementation followed by private and government hospitals. To address this disparity, lower performing institutions are recommended to adopt DOH best practices including formal QI processes, performance-based monitoring, and routine internal surveillance. Also training programs should concentrate more in building capacity in the areas of Facility Management, Management of Information and Human Resources. Hospitals should make new investments in the advancement of electronic health records, real-time data systems, and facility maintenance plans and in the ongoing professional development of its leaders, workforce leadership in data use and system thinking.

Despite the challenges, hospitals are encouraged to continue focusing on their strengths of Patient Rights and Education and Patient Safety by spreading successful practice throughout their departments and reinforcing these approaches through continuous staff training and patient involvement. Policymakers are encouraged to as well support these efforts, by establishing a national CQI benchmarking system for secondary hospitals and incentivizing or accrediting credits for institutions that have high or improved implementation. Finally, QI programs must be attuned to the experiences of health workers and patients. Feedback loop Feedback through satisfaction surveys, incident reporting, and participatory evaluation modalities will contribute to quality improvement strategies being strengthened, responsive to needs, and effective in promoting sustained performance improvements in hospitals and patient care.

3. From the conclusion regarding the relationship of the hospitals business profile and implementation level of QI strategies, it is advisable to the hospital managers and the policy makers to attend to the programs of the accreditation and the quality certification, as the significant relation is founded between the type of the hospital accreditation and the level of the implementation of Quality Improvement (QI) strategies. The implication of this is that more structured QI practices exist in hospitals which have established accreditation mechanisms. Hence, it is important that both government and private hospitals seek and sustain accreditation with bodies like the Philippine Health Insurance Corporation (PhilHealth), the Department of Health (DOH), or even internationally through the ISO or Joint Commission International (JCI). Accreditation should not just be seen as regulatory imperative but as a catalyst for performance improvement and quality assurance.

Conversely, as the type of hospital ownership (government, DOH or private) and the duration of service in a hospital had no statistically significant effect on the QI implementation, the quality promoting strategies might not consider only the age of the organization or the ownership. Rather, the focus would need to be on presence of a solid internal QI culture, leadership support and staff involvement for both hospital type and operational longer-term when implementing QI programs. Leadership development, evidence-based practice training and team-based accountability systems need to be applied to all categories of hospitals in order to maintain a consistent quality standard. Finally, promoting a culture of continuous quality improvement through accreditation, strategic leadership, and performance tracking will narrow the gap in implementation and aid in the standardization of QI at secondary hospitals in the Philippines.

4. Consistent with the conclusion on the thematic qualitative findings from this study, the researcher recommends hospital leaders and policy makers consider an integrated, system-wide approach for the implementation of QI that attends to the organizational, cultural, and resource-related dimensions. The research identified a number of drivers of strong QI, such as strong leadership support, multi-disciplinary teamwork, sufficient staffing, evidence-based interventions, standard protocols and

patient-centered education. Thus, hospitals need to invest in the provision of leadership training, involve multidisciplinary in the decision-making process and foster learning and accountability as cultural values. Furthermore, the existence of digital deserts and the weakness of some of the infrastructures reinforce the pressing of updating the hospital information system, introducing monitoring of data-driven performance and facilitating access to telemedicine, feedback in real-time.

Inferred with less certainty, infection control and patient safety levels, which had relatively strong implementation need to be institutionalized through continuous staff training, compliance auditing and pro-active risk management. At the same time, known constraints, including generational opposition to change, inadequate rural resource limitations, and absence of embedded feedback necessitate targeted tactics, including modular CQI training, peer mentorship, and inclusive quality circles that facilitate bottom-up engagement. QI efforts should ultimately be integrated within the governance of hospitals while receiving continuous supported policies, funding and patient involvement initiatives for sustainability measures. By focusing on the technical and the behavioral aspects of QI, secondary hospitals can better navigate the systemic constraints and provide safe, timely and equitable care.

5. There are suggestions that the conclusion from the proposed RPArboleda's model for Hospital CQI in this study should aim to be consistent with findings and the goals of CQI Model; was designed to recommend a systemized, sustainable and strategic process to improve quality in the context of healthcare delivery in secondary hospitals. Secondary hospitals in the Philippines are encouraged to bring into practice and institutionalize the CQI Model as a standard approach to continuously improve the quality of services. This model addresses the underlying systemic needs found in the study—service inefficiencies, inequitable access, staff turnover, and systems coordination—bringing together related strategies to support staff capacity, infection control, engaging patients, and data-informed decision-making.

To ensure successful implementation, the model must be integrated throughout an organization's strategic planning, organizational development and performance management systems. In addition, DOH should adopt the model and provide support such as trainings, technical assistance, and monitoring to sustain and integrate CQI into national health objectives. By implementing this model, hospitals can move from a reactionary, disjointed model of care to one that embraces a culture of continual learning, accountability and service excellence – resulting in the success of patients, staff and the system.

6. Following the conclusion on RPArboleda's Hospital CQI model and the implementation guidelines, the recommendation would center on how such guidelines could be implemented, scaled, and maintained within various hospital settings--drawing on the DOI Theory for understanding. To further improve the CQI strategies in the secondary hospitals, it is highly recommended to the hospital administrators in conjunction with DOH to formally consider and adopt the RPArboleda's Hospital CQI Model Implementation Guidelines. These procedural steps take the form of a staged or step-by-step process based on the Diffusion of Innovation Theory, which assumes that the more an innovation can be perceived as relative advantage, compatibility, simplicity, or observable results, the more likely practitioners will be to use the new procedure.

Model pilot testing should be focused in early adopter institutions (eg, certain DOH and private hospital) with high baseline CQI performance. Lessons from these sites can inform refinement and momentum for wider spread. Institutionalization of capacity building interventions including modular training, peer mentoring and lead intervention might be necessary for resource late adopter hospitals.

Lastly, performance monitoring and feedback mechanisms should also be improved in order to increase the level of the observability and accountability. DOH should include these recommendations in the national hospitals' accreditation standards and provide sustained incentives for compliance and innovation. Strategic rollout, customized support, and regular monitoring can make the RPArboleda's Implementation Guidelines can serve as a catalyst for embedding continuous quality improvement throughout secondary-level healthcare facilities in the Philippines.

4.3 Implications of the Study

This study on "Quality Improvement Strategies of Secondary Hospitals in the Philippines: A Basis for Hospital CQI Model" carries significant implications on health system improvement, hospital management, policy making and patient care. First, it highlights the pressing need for systemic reform in the approach of secondary hospitals to quality improvement by showing that, while current efforts are to some extent effective, performance still varies significantly based on accreditation, leadership, infrastructure, and institutional culture. It seems that the existing healthcare policies should be recalibrated by national and local health authorities, especially the DOH, to accommodate a more standardized, inclusive, and performance-based quality improvement structure.

The proposed RPArboleda's Hospital CQI Model, derived from the study's findings, offers a strategic, targeted adaptive solution that is scalable and can be institutionally diffused to serve as a national CQI reference model in secondary hospitals. The study also suggests that workforce capacity has a major role in quality, thus emphasizing the importance of commitment to lifelong learning, capacity building for leadership and systems thinking, so as to ensure a competent and motivated health workforce. The findings also highlight the urgent need for better hospital infrastructure, digitalization particularly electronic medical record (EHR), and resource mobilization to ameliorate inefficiencies and technological divide that obstruct CQI in hospitals. Culturally, it highlights the importance of building quality as an organizational value, to take hospitals out of the reactive, control and compliance orientated culture and to create a more proactive, patient-centric, learning-focused culture. Equally more critical and transformational in the impact, however, is the understanding that accreditation, particularly when reinforced by international guidelines as ISO or JCI – should not be only a "badge" but an accelerator for sustainable change. As a result, policy makers should be encouraged to incentivize accreditation and to establish regulatory frameworks that incorporate CQI standards within the context of hospital licensing institutions and protocols. Lastyly, the inclusion of quantitative and qualitative information in the study underlines the need for ongoing data collection, patient and staff experience, and a rational approach to decision-making. If such insights are integrated, secondary hospitals in the Philippines can transition to both equity-based, safety-based, efficiency-based, and quality-based delivery of care that is locally responsive, yet resonant with national and global health priorities.

The implications of the study have relevance to different sectors in the healthcare system. For health care organizations, the hospital CQI model of the study provides a much-needed framework to amply evidence-based way of enacting CQI initiatives in a concrete and systematic way. Such a system is a basis for data-driven approach, designed to increase efficiency of hospital care, to improve patient safety and treatment results. Elements of accountability and performance measurement framework in adopting the conceptual framework such as this, it provides healthcare institutions opportunities for purposes of aligning internal practices with best practices, promotion of organizational learning, fostering a culture of accountability, high performance, fairness and equity. Additionally, the research highlights the importance of cross-organizational working to widen the empirical evidence of quality interventions, and indicates that by increasing numbers of cases and shared learning through joint working, the generalization of results may be improved. Deeper exploration of which tools and intervention combinations are most effective should also be pursued, acknowledging that mixed and even non-traditional approaches to research may be needed to more fully capture the nuanced processes that characterize quality improvement in the real world.

For patients and communities, the implications are equally significant. As the end users of care, they have the most to gain from the standardization of CQI processes within health care institutions. A universal quality framework would be an important step to help drive safer, more accessible and more equitable healthcare. Adoption of standardized CQI processes has the potential to enhance patient involvement, level of satisfaction, and health of communities, by targeting deficits in care and promoting a more patient-directed care management. This study has demonstrated the feasibility of adopting these methods into hospital practice, preventing drastic variations in service quality between different entities with the associated trust and reliability which are inherent to health outcomes.

The results of the study will also be of interest to healthcare workers. Today, disparate practice of CQI at different hospitals frequently leads to frustration and lesser participation on the part of providers, particularly those who work at several institutions. Standardizing a process for CQI can facilitate participation in QI activities in which practitioners are more able to participate with confidence and predictability. In the model, tools such as Clinical Pathway Guidelines (CPGs) provide structured protocols that facilitate decision-making and explain what is to be expected, as well as promoting standardized medical care. This not only improves patient care, but also confirms professional competence and enhancement of institutional reputation through reduction in variability and evidence-based approaches to care.

For who intend to practice and to conduct academic research on quality improvement, this study offers a valuable asset. It is based on a national sample and provides a strong base to assess existing QI initiatives and to connect them with a nationally focused, theoretically informed model. By using this framework, practitioners can evaluate the readiness of their organization, point out areas of improvement, and establish best practices more efficiently. The results also provide a source of reference for students and newcomers, a learning aid in CQI principles, and a guide in the science and art of quality to the less experienced quality practitioners. Having a standardized model available establishes QI language and process that are more consistent between institutions and thus permits more even outcomes and greater ability to repeat processes.

Lastly, the paper provides implications for future research. It provides an evidence based conceptual model to underpin studies of CQI strategies in healthcare. Subsequent research could expand on this work by assessing the impact of standardization on outcomes in the long run, or by examining the drivers of optimizing the fit of CQI interventions within varied institutional environments. The study's model is not only an instrument to be used in the QI work itself, but the tool is also

framed as a step-by-step guide to evaluate scalability, sustainability, and a QI project's impact. Additionally, the model's emphasis on monitoring, reporting and formalized implementation is intended to generate a consolidated evidence base on which to base health policy and services reform. In the larger context, the research adds to building a more integrated, responsive and results-focused health system in the Philippines.

This study has some limitations despite its useful implication. It primarily is a cross-sectional profile of the CQI implementation; no measures of long-term impact or sustainability of potential interventions are addressed. Further work is needed to assess the sustainability of normalized CQI models in different hospital contexts, in which a range of different hospital resources, infrastructure, and staff capacity will be present. Furthermore, practical realization guidelines that are sensitive to the context and can be adjusted to each hospital's individual requirements are also required. Adapting these strategies to work within the operational context of specific institutions will promote the feasibility, effectiveness, and sustainability of CQI efforts. These initiatives are necessary to create sustainable, responsive systems of care that are truly patient centered, continually providing care that is safe, effective, and high quality.

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APPENDIX A

CONSENT LETTER OF THE PARTICIPANTS

University of the Immaculate Conception
Research Ethics Committee (REC)
Bonifacio Street, Davao City, Philippines

REC_FO_0057
Control No.: _____

Ethics Informed Consent Form (ICF)

Informed Consent Form for: **Quality Improvement Strategies of Secondary Hospitals in the Philippines: A Basis for Standardized Hospital CQI Model**

Name of the Researcher(s): **RONALD P. ARBOLEDA**

Institution: **ADAMSON UNIVERSITY**

INTRODUCTION

You are invited to participate in a research study conducted by [Your Name] at [Your Institution]. Your eligibility for this study is based on your role within the healthcare system, and your insights are valuable for developing a standardized model for continuous quality improvement (CQI) in hospitals.

Your participation is entirely voluntary. Please read the information below carefully and feel free to ask any questions about anything you do not understand before deciding whether to participate. You may take as much time as you need to consider this information and discuss it with family or friends.

If you agree to participate, you will be asked to sign this form, and you will receive a copy of it.

PURPOSE OF THE STUDY

The purpose of this study is to examine the quality improvement strategies implemented in secondary hospitals across the Philippines. The research aims to identify effective practices that can serve as a foundation for a standardized CQI model, ultimately enhancing the quality of healthcare delivery in these facilities.

STUDY PROCEDURES

If you choose to participate in this study, you will initially receive a briefing about the research, your role, and your rights as a participant. You will also be provided with an Informed Consent Form (ICF) to review and could ask any questions.

Your participation will involve completing a survey questionnaire consisting of [number] items. The questionnaire should take approximately 45 minutes to one hour to complete. You will be asked to answer 50 likert-scale rating questions based on your experience with Quality Improvement (QI) strategies in your hospital. You may take the questionnaire home if needed, allowing you time to respond thoughtfully and accurately. Once completed, you will return the questionnaire to the researcher at a mutually agreed time and location.

This process is designed to ensure you can provide thorough and honest responses, while also protecting your time and convenience.

POTENTIAL RISKS AND DISCOMFORTS

The subject matter of this study is not considered sensitive; however, if any questions cause discomfort, you are free to skip those items or withdraw from the study entirely. Some questions may pertain to personal experiences or opinions and might cause embarrassment. If you feel uncomfortable at any point, please let the researcher know.

While there are minimal foreseeable risks, the researcher will take necessary precautions to ensure your comfort and safety during the study. Your well-being is of utmost importance throughout this process.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

This research aims to provide insights that can improve quality improvement strategies in secondary hospitals, benefiting healthcare professionals, hospital managers, and patients alike. The findings may contribute to enhancing healthcare services and patient outcomes throughout the Philippines, paving the way for a more efficient and effective healthcare system.

Additionally, the research may inform policymakers on best practices for quality improvement in hospitals, leading to better healthcare policies and interventions.

DATA PRIVACY AND CONFIDENTIALITY

Your privacy and confidentiality will be strictly protected in this study. In accordance with the Data Privacy Act of 2017 (Republic Act 10173), all identifiable information will remain confidential. Your responses will be aggregated and anonymized, and any identifiable details will not be disclosed in any reports or publications resulting from this research.

If applicable, please note that interviews or discussions may be audio recorded to ensure accurate data collection. These recordings will be securely stored for a duration of [insert duration, e.g., 3 years] and will only be accessible to the research team.

VOLUNTARINESS OF PARTICIPATION AND RIGHTS TO WITHDRAW FROM THE RESEARCH

Your participation is voluntary, and you have the right to refuse to participate without facing any penalties or loss of benefits. You may withdraw your consent at any time during the study without any consequences. Participation in this research does not waive any legal rights you may have.

REIMBURSEMENT AND COMPENSATION

No monetary compensation or incentives will be provided. Participation is voluntary and intended to contribute to professional and institutional improvement.

INVESTIGATOR'S and ADVISER'S CONTACT INFORMATION

If you have any questions or concerns about the research, please feel free to contact the researcher at +639178161436 or rparboleda0525@gmail.com.

RIGHTS OF RESEARCH PARTICIPANT

If you have questions, concerns, or complaints about your right as a research participant or the research in general and are unable to contact the researcher, or if you want to talk to someone independent of the research team, please contact the University of the Immaculate Conception Research Ethics Committee at 227-4860 or 4861 local 211.

RESEARCH PARTICIPANT'S CONSENT

I have read the information provided above. I have had the opportunity to ask questions, and my questions have been answered to my satisfaction. I agree to participate in this study and have received a copy of this consent form. I understand that I can withdraw my consent at any time without penalty.

Signature above Printed Name of Participant **Date Signed**

To be accomplished by the Researcher Obtaining Consent:

I have explained the research to the participant and answered all questions. I believe the participant understands the information in this document and freely consents to participate.

RONALD P. ARBOLEDA
Name of Person Obtaining Consent **Date Signed**

APPENDIX B

QUALITY IMPROVEMENT STRATEGIES OF IMPLEMENTATION SURVEY QUESTIONNAIRE

I. Participant's Information and Consent

The research seeks to promote healthcare quality through the development of standardized Quality Improvement (QI) models, hence improving healthcare delivery within communities. The research findings could impact policy modifications and practices in secondary hospitals across the nation, benefiting both patients and healthcare providers outside the studied group. Participation will be voluntary, with no undue inducements offered to preserve the integrity of informed consent. Confidentiality and psychological safeguarding will be upheld, with confidential consultations and assistance provided as necessary. Confidentiality measures will be implemented, ensuring secure data storage and restricted access to the study team. Participants possess the freedom to withdraw at any moment without incurring penalties or forfeiting advantages. Counseling services will be accessible for participants in distress, and a comprehensive strategy will be established to handle adverse responses. Informed consent will be secured for illiterate participants through verbal agreement in the presence of a witness, while legal guardians will provide consent for minors and persons incapable of consenting.

Participant Name (Optional): _____
Date: _____

II. Business and Respondent's Profile

Instructions: Kindly provide the following information in the blanks and put a check (√) in the spaces provided that best describe your hospital.

Name of Hospital: _____

Position in the hospital: _____

No. of years in service: _____

A. Nature of Ownership:
[ ] Government

[ ] Private

[ ] others, pls. specify: _____

B. Type of Quality Management (check as many as applicable):
[ ] DOH

[ ] ISO accredited

[ ] JCI accredited

[ ] other accreditation, pls. specify: _____

C. No. years of hospital operation: _____

III. Implementation of Quality Improvement (QI) Strategies

Kindly put a check (√) in the box provided that appropriates your perception/view about the implementation of the Quality improvement based on the 10 quality standards. Please be honest with your answers, your responses shall be helpful in creating a standardized hospital CQI model. Thank you for your participation The following ratings and scale indicators will be used to determine your perception/view:

Score	Level of Implementation	Interpretation
1	Not Implemented (NI)	The hospital/organization's insufficient resources and lack of awareness about Quality Improvement (QI) initiatives are contributing to subpar patient care and outcomes.
2	Slightly Implemented (SI)	The hospital/organization is not actively enhancing patient care quality and outcomes, suggesting a need for a comprehensive Quality Improvement (QI) program.
3	Moderately Implemented (MI)	The hospital is enhancing patient care and outcomes, but there's room for improvement in integrating Quality Improvement (QI) principles into its operations.
4	Highly Implemented (HI)	The hospital has effectively integrated QI principles and practices into its operations, enhancing patient care quality and outcomes.

AHC. Access to Health Care

Indicators	4	3	2	1
AHC1. Equitable access to healthcare service by partnering with community organizations, enhancing cultural competence, and using data analytics to address care gaps.				
AHC2. Monitor and address healthcare access barriers through community assessments, patient feedback, and targeted interventions.				
AHC3. Availability of financial assistance programs, including sliding scale fees and charity care to ensure financial constraints do not hinder access to healthcare.				
AHC4. Outreach programs such as mobile clinics and health fairs, to provide vital services directly to underserved communities.				
AHC5. Utilize telemedicine to improve access to care, offering remote consultations and specialist services to patients in remote or underserved areas.				

HACP. Health Assessment and Care Processes

Indicators	4	3	2	1
HACP1. Regular health assessments for all patients to ensure continuous and comprehensive care.				
HACP2. Standardized care processes based on best practices too maintain high-quality healthcare delivery.				
HACP3. Regular review and update care protocols to stay aligned with the latest medical guidelines.				
HACP4. Focused patient-centered care planning to tailor treatments to individua patient needs and preferences.				
HACP5. Utilized Electronic health care records (EHR) for efficient and coordinated care management				

across all healthcare services.				

PRE. Patient's Rights and Education

Indicators	4	3	2	1
PRE1. Trains staffs to educate patients about their health and treatment options to empower patient in making informed decisions.				
PRE2. Prioritize patient's rights in all aspects of care to ensure that their dignity and autonomy are always respected.				
PRE3. Ensures informed consent for all treatments to guarantee that patients understand and agree to the procedures they will undergo				
PRE4. Address patient's concerns and complaints promptly to demonstrate their commitment in responsive and compassionate care.				
PRE5. Provides clear and accessible information about hospital policies and procedure to help patients navigate their care experience with confidence,				

PS. Patient's Safety

Indicators	4	3	2	1
PS1. Implementation of safety protocols to prevent accidents and injuries, ensuring a safe environment for everyone				
PS2. Conducts regular safety drills and training for staff to prepare for and respond to emergencies effectively				
PS3. Monitoring and reporting of safety incidents to continuously improve our safety practices				
PS4. Secure environment for both patients and staff by maintaining strict security measures				
PS5. Perform regular maintenance and inspection of equipment to guarantee its safe and reliable operation				

IC. Infection Control

Indicators	4	3	2	1
FC1. Implement safety protocols to prevent accident and injuries, ensuring a safe environment for everyone.				

FC2. Conduct regular safety drills and training for staff to prepare for and respond to emergencies effectively				
FC3. Monitor and report safety incidents to continuously improve the safety practices				
FC4. Secure environment for patients and staff by maintaining strict security measures.				
FC5. Perform regular maintenance and inspection of equipment to guarantee its safe and reliable operation.				

FM. Facility Management

Indicators	4	3	2	1
FM1. Well-maintained and up-to-date hospital facilities to ensure a safe and comfortable environment for patients and staff.				
FM2. Systematic approach to managing hospital resources optimizing efficiency and ensures effective allocation of resources.				
FM3. Regular facility audits and inspections to maintain standards of safety, cleanliness, and functionality within the hospitals				
FM4. Efficient use of space and resources to maximize capacity and minimize waste, improving overall operational efficiency.				
FM5. Implement sustainable practices in facility management to reduce environmental impact and promote long-term resource conservation				

CIM. Collaborative Integrated Management

Indicators	4	3	2	1
CIM1. Promotes collaboration among different departments for patient care to enhance continuity and ensure holistic treatment approaches				
CIM2. Integrate management systems to coordinate patient care seamlessly across departments, reducing fragmentation and improving efficiency				
CIM3. Regular multidisciplinary team meetings to facilitate comprehensive care planning and allows collective expertise in addressing patient's needs.				
CIM4. Sharing patient information across departments to ensure a unified understanding of patient conditions and fosters coordinated care delivery				

CIM5. Join decision-making processes for complex cases that draw upon diverse perspective and expertise to devise optimal treatment strategies, prioritizing patient outcomes.				

PM. Performance Measurement

Indicators	**4**	**3**	**2**	**1**
PM1. Performs regular measurement and evaluation of performance in various areas to ensure continuous assessment and improvement				
PM2. Utilization of performance data to drive improvements and enables targeted actions for enhancing quality and efficiency.				
PM3. Setting and monitoring performance targets to provide clear goals and track progress towards achieving excellence.				
PM4. Transparency in performance reporting to foster accountability and trust among stakeholders				
PM5. Benchmarking against industry standards to allow in gauging performance relative to best practices and identify areas for growth				

MIHR. Management Information and Human Resources

Indicators	**4**	**3**	**2**	**1**
MIHR1. Maintain adequate staffing levels to ensure that patient needs are met promptly and effectively				
MIHR2. Provide regular training and professional development opportunities for staff to enhance their skill and knowledge				
MIHR3. Establish effective communication channels between management and staff to facilitate information flow and collaboration				
MIHR4. Involve staff in decision-making process to prompt engagement, ownership, and a sense of value within the organization				
MIHR5. Implement recognition and reward programs to acknowledge and incentivize staff performance, fostering a positive work environment and morale.				

ERI. Education and Rights of Individuals

Indicators	**4**	**3**	**2**	**1**
ERI1. Inform patients about their rights and responsibilities to empower them in their healthcare journey.				

ERI2. Provision of educational resources to patients to enhance their understanding of health conditions				
ERI3. Train staff on patient rights and education to ensure consistent and accurate information delivery				
ERI4. Regular patient feedback to continually improve our educational materials.				
ERI5. Availability of patient advocates or ombudsmen to support and represent patient interests.				

– End of Survey. Thank you for your participation –

APPENDIX C

QUALITY IMPROVEMENT STRATEGIES OF IMPLEMENTATION INTERVIEW QUESTIONNAIRE

Opening Question:

Can you describe the overall approach your hospital takes towards continuous quality improvement (CQI) and how it aligns with the healthcare quality standards set in the Philippines? And what role does quality improvement play in shaping the patient experience and outcomes in your facility?

AHC. Access to Healthcare

1. How does your hospital provide fair access to healthcare services for all patients?
2. Can you detail any recent initiatives aimed at enhancing patient access to care?
3. What obstacles do you confront in guaranteeing timely access to healthcare, and how are these addressed?

HACP. Health Assessment and Care Processes

4. What methods are in place to guarantee thorough and accurate health assessments?
5. How are care practices harmonized across multiple departments to preserve quality?
6. Can you offer an example of a recent improvement in care processes and its influence on patient outcomes?

PRE. Patient's Rights and Education

7. How does the hospital ensure patients are informed of their rights and responsibilities?
8. What educational materials are accessible to patients to help them make informed decisions about their care?
9. How do you measure the effectiveness of patient education programs?

PS. Patient's Safety

10. What protocols are in place to protect the physical safety of patients and personnel within the facility?
11. Can you share instances of recent safety audits and their outcomes?
12. How do you manage and minimize risks linked to patient's safety?

IC. Infection Control

13. What are the essential features of your infection control program?
14. How do you ensure compliance with infection control policies among personnel and patients?
15. Can you describe a recent infection control challenge and how it was addressed?

FM. Facility Management

16. How do you ensure that the hospital facilities satisfy the needed requirements for patient care?
17. What continuous improvement processes are in place for facility management?
18. Can you detail any recent renovations or changes in facility management and their influence on care delivery?

CIM. Collaborative Integrated Management

19. How do you create collaboration across different departments and specialties inside the hospital?
20. What integrated management strategies are in place to improve patient care?
21. Can you offer an example of successful collaborative care resulting in improved patient outcomes?

PM. Performance Measurement

22. What measurements do you use to measure the performance of hospital services?
23. How is performance data gathered, analyzed, and used to promote improvements?
24. Can you share an example of a performance improvement initiative and its results?

MIHR. Management of Information and Human Resources

25. How is patient information managed to maintain accuracy, confidentiality, and accessibility?
26. What continual training programs are available for staff to upgrade their skills and knowledge?
27. How do you quantify staff satisfaction and its impact on patient care?

ERI. Education and Rights of Individuals

28. How does your hospital guarantee that patients and their families are educated about their health and treatment options?
29. What actions are made to preserve and promote the rights of individuals inside the hospital?
30. How are personnel trained to manage patient education and rights issues?

Closing Questions

How has the hospital's CQI approach evolved over the past few years, what further efforts are planned to strengthen hospital quality standards, and how are patients and their families involved in the CQI process?

APPENDIX D

CERTIFICATE OF QUESTIONNAIRE VALIDATION

CERTIFICATE OF VALIDATION

This is to certify that I have checked and advised necessary changes to the questionnaire/research tool to be used by RONALD ARBOLEDA for his dissertation titled **"QUALITY IMPROVEMENT STRATEGIES OF SECONDARY HOSPITALS IN THE PHILIPPINES: A BASIS FOR STANDARDIZED HOSPITAL CQI MODEL."**

I also fully certify that I am an authority in the subject presented before me in this study. As an expert in this subject/topic, I have reviewed and validated the contents of the questionnaire/research tool. I ensured that the items were appropriate and accurate to answer the student's research based on the statement of the problem/purpose and/or theoretical/conceptual framework.

Indicators	4	3	2	1
1. The instruction of the assessment tool is easy to understand for the respondent.	✓			
2. The assessment tool is easy to administer.	✓			
3. The assessment tool has reasonable length for the respondent.	✓			
4. The assessment tool's items are appropriate for the level of understanding of the respondent.	✓			
5. The contents are relevant to the subject.	✓			
6. The contents are relevant to the program.	✓			
7. The assessment tool's items are clearly stated.	✓			
8. The assessment tool's items are focused on what they intend to measure	✓			
9. The assessment tool is not offensive to the intended respondent.	✓			
10. The assessment tool can be used for program evaluation purposes.	✓			

Scale: 4 – very much valid; 3 – valid; 2 – not so valid; 1 – not valid

Remarks: _____

Certification issued by:

Name: **BENJAMIN P. SABLAN, Jr., MD, MDM**

Profession/Designation: Professor UP College of Medicine/Fellow Philippine Pediatric Society

Date signed: January 24, 2025

CERTIFICATE OF VALIDATION

This is to certify that I have checked and advised necessary changes to the questionnaire/research tool to be used by RONALD ARBOLEDA for his dissertation titled "**QUALITY IMPROVEMENT STRATEGIES OF SECONDARY HOSPITALS IN THE PHILIPPINES: A BASIS FOR STANDARDIZED HOSPITAL CQI MODEL.**"

I also fully certify that I am an authority in the subject presented before me in this study. As an expert in this subject/topic, I have reviewed and validated the contents of the questionnaire/research tool. I ensured that the items were appropriate and accurate to answer the student's research based on the statement of the problem/purpose and/or theoretical/conceptual framework.

Indicators	4	3	2	1
1. The instruction of the assessment tool is easy to understand for the respondent.		✓		
2. The assessment tool is easy to administer.		✓		
3. The assessment tool has reasonable length for the respondent.		✓		
4. The assessment tool's items are appropriate for the level of understanding of the respondent.		✓		
5. The contents are relevant to the subject.		✓		
6. The contents are relevant to the program.		✓		
7. The assessment tool's items are clearly stated.		✓		
8. The assessment tool's items are focused on what they intend to measure		✓		
9. The assessment tool is not offensive to the intended respondent.		✓		
10. The assessment tool can be used for program evaluation purposes.		✓		

Scale: 4 – very much valid; 3 – valid; 2 – not so valid; 1 – not valid

Remarks: this is okay

Certification issued by:

02.08.25 09:06 PST

Name: **Dr. Bea-Gracia M. Cruz, PHRN, MAN, MBAH, DNM, FPCHA, CHA, USRN**

Profession/Designation: **Professor I**

Date signed: **February 8, 2025**

CERTIFICATE OF VALIDATION

This is to certify that I have checked and advised necessary changes to the questionnaire/research tool to be used by RONALD ARBOLEDA for his dissertation titled **"QUALITY IMPROVEMENT STRATEGIES OF SECONDARY HOSPITALS IN THE PHILIPPINES: A BASIS FOR STANDARDIZED HOSPITAL CQI MODEL."**

I also fully certify that I am an authority in the subject presented before me in this study. As an expert in this subject/topic, I have reviewed and validated the contents of the questionnaire/research tool. I ensured that the items were appropriate and accurate to answer the student's research based on the statement of the problem/purpose and/or theoretical/conceptual framework.

Indicators	4	3	2	1
1. The instruction of the assessment tool is easy to understand for the respondent.	✓			
2. The assessment tool is easy to administer.	✓			
3. The assessment tool has reasonable length for the respondent.	✓			
4. The assessment tool's items are appropriate for the level of understanding of the respondent.	✓			
5. The contents are relevant to the subject.	✓			
6. The contents are relevant to the program.	✓			
7. The assessment tool's items are clearly stated.	✓			
8. The assessment tool's items are focused on what they intend to measure	✓			
9. The assessment tool is not offensive to the intended respondent.	✓			
10. The assessment tool can be used for program evaluation purposes.	✓			

Scale: 4 – very much valid; 3 – valid; 2 – not so valid; 1 – not valid

Remarks: Recommended to be used for this study.

Certification issued by:

Name: Dr. Ma Luisa Belen J. Ascue

Profession/Designation: QMR

Date signed: March 31, 2025

APPENDIX E

MATRIX SOURCE OF REFERENCES OF SURVEY INSTRUMENT

Section	Code. Strategies	Author
AHC. Access to Health Care	**AHC1.** Equitable access to healthcare service by partnering with community organizations, enhancing cultural competence, and using data analytics to address care gaps.	Sardi et al. (2020),
	AHC2. Monitor and address healthcare access barriers through community assessments, patient feedback, and targeted interventions.	Subiyakto and Kot (2020),
	AHC3. Availability of financial assistance programs, including sliding scale fees and charity care to ensure financial constraints do not hinder access to healthcare.	Devasahay et al. (2021),
	AHC4. Outreach programs such as mobile clinics and health fairs, to provide vital services directly to underserved communities.	Njuguna et al. (2020), Hashmi et al. (2021)
	AHC5. Utilize telemedicine to improve access to care, offering remote consultations and specialist services to patients in remote or underserved areas.	
HACP. Health Assessment and Care Processes	**HACP1.** Regular health assessments for all patients to ensure continuous and comprehensive care.	Subiyakto and Kot (2020)
	HACP2. Standardized care processes based on best practices to maintain high-quality healthcare delivery.	Sardi et al. (2020),
	HACP3. Regular review and update care protocols to stay aligned with the latest medical guidelines.	and Hashmi et al. (2021)
	HACP4. Focused patient-centered care planning to tailor treatments to individual patient needs and preferences.	
	HACP5. Utilize Electronic health care records (EHR) for efficient and coordinated care management across all healthcare services.	
PRE. Patient's Rights and Education	**PRE1.** Trains staff to educate patients about their health and treatment options to empower patients in making informed decisions.	Diwan and Kanyal (2024), Njuguna et al. (2020)
	PRE2. Prioritize patient's rights in all aspects of care to ensure that their dignity and autonomy are always respected.	Subiyakto and Kot (2020)
	PRE3. Ensures informed consent for all treatments to guarantee that patients understand and agree to the procedures they will undergo.	
	PRE4. Address patient's concerns and complaints promptly to demonstrate commitment to responsive and compassionate care.	
	PRE5. Provides clear and accessible information about hospital policies and procedures to help patients navigate their care experience with confidence.	
PS. Patient's Safety	**PS1.** Implementation of safety protocols to prevent accidents and injuries, ensuring a safe environment for everyone.	Subiyakto and Kot (2020)
	PS2. Conduct regular safety drills and training for staff to prepare for and respond to emergencies effectively.	Sardi et al. (2020)
	PS3. Monitoring and reporting of safety incidents to continuously improve our safety practices.	Devasahay et al. (2021)
	PS4. Secure environment for both patients and staff by maintaining strict security	

	measures.	
	PS5. Perform regular maintenance and inspection of equipment to guarantee its safe and reliable operation.	
IC. Infection Control	**IC1.** Implement continuous training on PPE, hand hygiene, and disinfection to improve IPC adherence.	Sardi et al. (2020), Diwan and Kanyal (2024), Subiyakto and Kot (2020), Devasahay et al. (2021)
	IC2. Integrate fire safety with IPC protocols for a holistic approach to patient safety.	
	IC3. Enhances organizational support by improving communication and maintaining clean, safe environments.	
	IC4. Use real-time compliance monitoring to track and improve IPC practices.	
	IC5. Collaborate with experts to upgrade safety equipment and improve fire and infection control measures.	
FM. Facility Management	**FM1.** Well-maintained and up-to-date hospital facilities to ensure a safe and comfortable environment for patients and staff.	Devasahay et al. (2021), Subiyakto and Kot (2020), Sardi et al. (2020)
	FM2. Systematic approach to managing hospital resources, optimizing efficiency, and ensuring effective allocation of resources.	
	FM3. Regular facility audits and inspections to maintain standards of safety, cleanliness, and functionality within the hospitals.	
	FM4. Efficient use of space and resources to maximize capacity and minimize waste, improving overall operational efficiency.	
	FM5. Implement sustainable practices in facility management to reduce environmental impact and promote long-term resource conservation.	
CIM. Collaborative Integrated Management	**CIM1.** Promote collaboration among different departments for patient care to enhance continuity and ensure holistic treatment approaches.	Diwan and Kanyal (2024), Sardi et al. (2020) Devasahay et al. (2021)
	CIM2. Integrate management systems to coordinate patient care seamlessly across departments, reducing fragmentation and improving efficiency.	
	CIM3. Regular multidisciplinary team meetings to facilitate comprehensive care planning and allow collective expertise in addressing patient's needs.	
	CIM4. Sharing patient information across departments to ensure a unified understanding of patient conditions and foster coordinated care delivery.	
	CIM5. Joint decision-making processes for complex cases that draw upon diverse perspectives and expertise to devise optimal treatment strategies, prioritizing patient outcomes.	
PM. Performance Measurement	**PM1.** Perform regular measurement and evaluation of performance in various areas to ensure continuous assessment and improvement.	Hashmi et al. (2021), Subiyakto and Kot (2020), Devasahay et al. (2021) and Sardi et al. (2020)
	PM2. Utilization of performance data to drive improvements and enable targeted actions for enhancing quality and efficiency.	
	PM3. Setting and monitoring performance targets to provide clear goals and track progress towards achieving excellence.	
	PM4. Transparency in performance reporting to foster accountability and trust among stakeholders.	
	PM5. Benchmarking against industry standards to allow in gauging performance relative	

	to best practices and identify areas for growth.	
MIHR. Management Information and Human Resources	**MIHR1.** Maintain adequate staffing levels to ensure that patient needs are met promptly and effectively.	Hashmi et al. (2021), Diwan and Kanyal (2024), Devasahay et al. (2021) Subiyakto and Kot (2020)
	MIHR2. Provide regular training and professional development opportunities for staff to enhance their skill and knowledge.	
	MIHR3. Establish effective communication channels between management and staff to facilitate information flow and collaboration.	
	MIHR4. Involve staff in decision-making process to prompt engagement, ownership, and a sense of value within the organization.	
	MIHR5. Implement recognition and reward programs to acknowledge and incentivize staff performance, fostering a positive work environment and morale.	
ERI. Education and Rights of Individuals	**ERI1.** Inform patients about their rights and responsibilities to empower them in their healthcare journey.	Njuguna et al. (2020), Diwan and Kanyal (2024), Subiyakto and Kot (2020)
	ERI2. Provision of educational resources to patients to enhance their understanding of health conditions.	
	ERI3. Train staff on patient rights and education to ensure consistent and accurate information delivery.	
	ERI4. Regular patient feedback to continually improve our educational materials.	
	ERI5. Availability of patient advocates or ombudsmen to support and represent patient interests.	

APPENDIX F

MATRIX SOURCE OF REFERENCES OF INTERVIEW INSTRUMENT

Section	Item-Question	Author
Introductory Questions		
Continuous Quality Improvement (CQI)	Can you describe the overall approach your hospital takes towards continuous quality improvement (CQI) and how it aligns with the healthcare quality standards set in the Philippines?	Abrigo et al. (2021), Hashmi et al. (2021)
	What role does quality improvement play in shaping the patient experience and outcomes in your facility?	
Quality Improvement Strategies on 10 Hospital Quality Standards		
AHC. Access to Healthcare	How does your hospital provide fair access to healthcare services for all patients?	McMaughan et al. (2020), Waring et al. (2020)
	Can you detail any recent initiatives aimed at enhancing patient access to care?	
	What obstacles do you confront in guaranteeing timely access to healthcare, and how are these addressed?	
HACP. Health Assessment and Care Processes	What methods are in place to guarantee thorough and accurate health assessments?	Rudnicka et al. (2020), Blackwell et al. (2019)
	How are care practices harmonized across multiple departments to preserve quality?	
	Can you offer an example of a recent improvement in care processes and its influence on patient outcomes?	
PRE. Patient's Rights and Education	How does the hospital ensure patients are informed of their rights and responsibilities?	Diwan and Kanyal (2024), Njuguna et al. (2020)
	What educational materials are accessible to patients to help them make informed decisions about their care?	
	How do you measure the effectiveness of patient education programs?	
MIHR. Management of Information and Human Resources	How is patient information managed to maintain accuracy, confidentiality, and accessibility?	Alhuwail (2019), Abrigo et al. (2021)
	What continual training programs are available for staff to upgrade their skills and knowledge?	
	How do you quantify staff satisfaction and its impact on patient care?	
PS. Patient's Safety	What protocols are in place to protect the physical safety of patients and personnel within the facility?	Dela Cruz and Dela Cruz (2021) Salleh et al. (2020)
	Can you share instances of recent safety audits and their outcomes?	
	How do you manage and minimize risks linked to facility safety?	
IC. Infection Control	What are the essential features of your infection control program?	De Claro, (2023) and Sta. Ana and Tanque (2021)
	How do you ensure compliance with infection control policies among personnel and patients?	

	Can you describe a recent infection control challenge and how it was addressed?	
CIM. Collaborative Integrated Management	How do you create collaboration across different departments and specialties inside the hospital?	Reñosa et al. (2021), Friday et al. (2021)
	What integrated management strategies are in place to improve patient care?	
	Can you offer an example of successful collaborative care resulting in improved patient outcomes?	
FM. Facility Management	How do you ensure that the hospital facilities satisfy the needed requirements for patient care?	Sardi et al. (2020), Subiyakto and Kot (2020)
	What continuous improvement processes are in place for facility management?	
	Can you detail any recent renovations or changes in facility management and their influence on care delivery?	
PM. Performance Measurement	What measurements do you use to measure the performance of hospital services?	Hashmi et al. (2021), Devasahay et al. (2021)
	How is performance data gathered, analyzed, and used to promote improvements?	
	Can you share an example of a performance improvement initiative and its results?	
ERI. Education and Rights of Individuals	How does your hospital guarantee that patients and their families are educated about their health and treatment options?	Carta et al. (2020), Shoulah et al. (2021)
	What actions are made to preserve and promote the rights of individuals inside the hospital?	
	How are personnel trained to manage patient education and rights issues?	
Closing Questions:		
Changes in CQI Approach	In what ways has the hospital's CQI approach changed over the past few years?	Alhuwail (2019), Dela Cruz and Dela Cruz (2021), Diwan and Kanyal (2024), Njuguna et al. (2020)
Future CQI Efforts	What further CQI efforts are planned to further strengthen hospital quality standards?	
Involvement of Patients and Families	How do you involve patients and their families in the CQI process?	

APPENDIX G

CERTIFICATE OF ETHICS REVIEW

University of the Immaculate Conception
Rm 10, 3F, St. Joseph Bldg., Bonifacio Street, Davao City 8000, Philippines
227-8286 local 211
(63-082) 227-37-94
www.uic.edu.ph
rec@uic.edu.ph
Research Ethics Committee

ETHICAL CLEARANCE

December 6, 2024

RONALD P. ARBOLEDA
Adamson University

Re: **QUALITY IMPROVEMENT STRATEGIES OF SECONDARY HOSPITALS IN THE PHILIPPINES: A BASIS FOR STANDARDIZED HOSPITAL CQI MODEL**

Protocol Code: **EXT-ER-11-24-0142**

Subject: **Ethical Clearance**

Dear **Mr. Arboleda:**

UIC-REC acknowledges the receipt of the following documents on December 5, 2024:

- Revised manuscript: version 2_arboleda
- Revised ICF: version 2_icf_arboleda

These new documents have incorporated the recommendations of the UIC-REC, as stipulated in the DECISION LETTER emailed to you, to improve the initial protocol and ICF that you submitted earlier for **EXPEDITED** review, which took place on November 25, 2024.

Upon further scrutiny of and deliberation on the revised documents, the UIC-REC is convinced that your research/investigation embodies a process that is responsible and ethically accountable; thus, ETHICAL CLEARANCE with a validity period of **one year**, December 7, 2024 to December 7, 2025 has been granted.

Please be advised to submit the Final Report Form once you completed the study. Likewise, submit a report using the forms should any part of your research methodology and ICF, as outlined in your submitted approved documents, change in any way.

A. Protocol Amendment
B. Progress Report
C. Protocol Deviation/Protocol Violation
D. Negative Event Report
E. Early Study Termination Report
F. Application for Renewal of Ethical Clearance two months before expiry

The UIC-REC wishes you all the best with this research undertaking.

Very truly yours,

Mona L. Laya, PhD
Chair, UIC-REC

APPENDIX H

CERTIFICATE OF STA

TISTICIAN SERVICES

This is to certify that the statistical treatment and numerical results of the dissertation entitled **"QUALITY IMPROVEMENT STRATEGIES OF SECONDARY HOSPITALS IN THE PHILIPPINES: A BASIS FOR HOSPITAL CQI MODEL"** has been reviewed by the undersigned and are proven to be accurate and valid.

This certification is issued upon the request of the researcher, **RONALD P. ARBOLEDA**, given this day, 16th of May, 2025

Prof. LEAH MARTIN-LUNDAG
Statistician
leah.martin-lundag@adamsn.edu.ph
Adamson University, Manila

APPENDIX I

CERTIFICATE OF TURNITIN RESULTS

APPENDIX J

CERTIFICATE OF ENGLISH EDITION

ADAMSON UNIVERSITY

C E R T I F I C A T I O N

This is to certify that I have checked and edited the dissertation manuscript entitled **"QUALITY IMPROVEMENT STRATEGIES OF SECONDARY HOSPITALS IN THE PHILIPPINES: A BASIS FOR HOSPITAL CQI MODEL"** prepared by **RONALD P. ARBOLEDA**

The dissertation manuscript has been found thorough and acceptable with respect to grammar and composition.

Given on the 27th day of May 2025.

KRISTINE ANTONETTE C. TENGCO, MAED
Professor, Physical Education
Department College of Education and
Liberal ArtsAdamson University
kristine.antonette.tengco@adamson.edu.ph 09176271711

APPENDIX K

CERTIFICATE OF PUBLICATION ACCEPTANCE

APPENDIX L

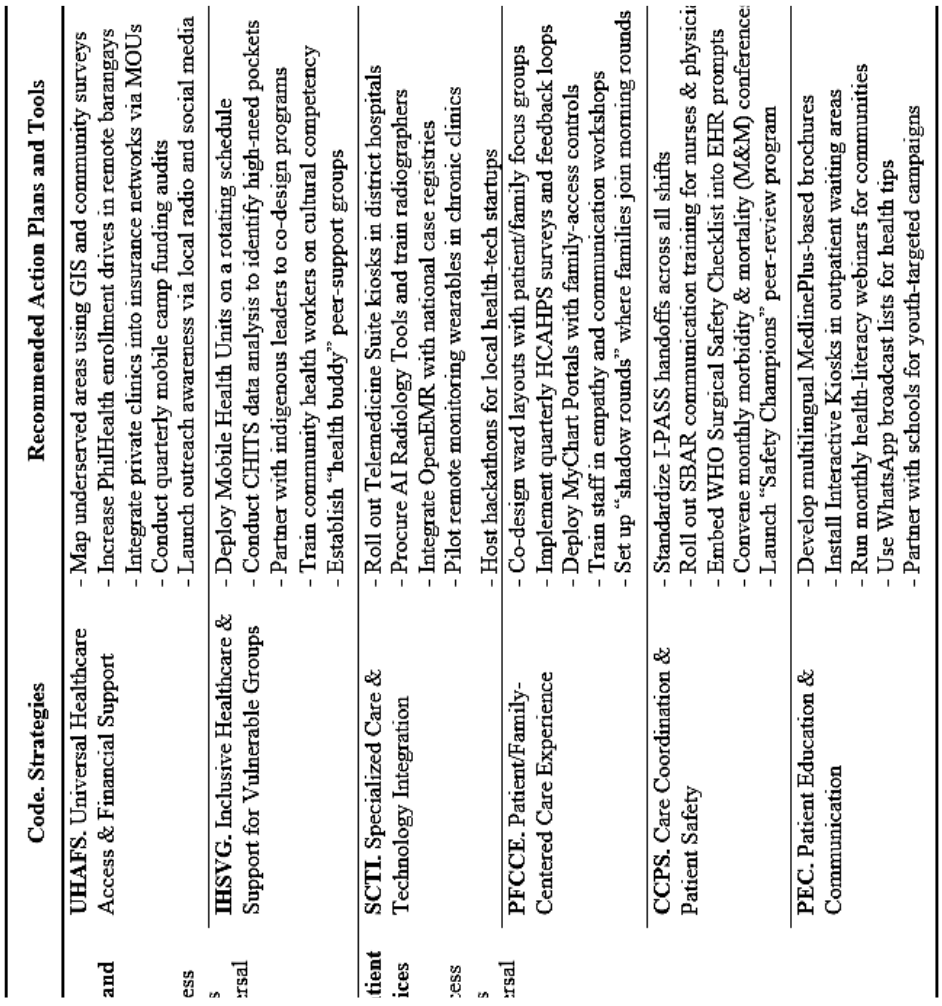
RESULTS OF SURVEY INSTRUMENT'S CRONBACH ALPHA RELIABILITY TEST ANALYSIS

Hospital Quality Standards	Number of Items	Cronbach's Alpha	Interpretation
AHC. Access to Health Care	5	0.771	Acceptable
HACP. Health Assessment and Care Processes	5	0.855	Good
PRE Patient's Rights and Education	5	0.912	Excellent
PS. Patient's Safety	5	0.893	Good
IC. Infection Control	5	0.910	Excellent
FM. Facility Management	5	0.917	Excellent
CIM. Collaborative Integrated Management (CIM)	5	0.866	Good
PM. Performance Measurement	5	0.929	Excellent
MIHR. Management Information and Human Resources	5	0.887	Good
ERI. Education and Rights of Individuals	5	0.865	Good

Legend: *α ≥ 0.9 – Excellent; 0.9 > α ≥ 0.8 – Good; 0.8 > α ≥ 0.7 – Acceptable; 0.7 > α ≥ 0.6 – Questionable; 0.6 > α ≥ 0.5 – Poor; 0.5 > α – Unacceptable*

APPENDIX M

RPARBOLEDA'S CQI MODEL IMPLEMENTATION GUIDELINES



Code. Strategies	Recommended Action Plans and Tools
UHAFS. Universal Healthcare Access & Financial Support	- Map underserved areas using GIS and community surveys - Increase PhilHealth enrollment drives in remote barangays - Integrate private clinics into insurance networks via MOUs - Conduct quarterly mobile camp funding audits - Launch outreach awareness via local radio and social media
IHSVG. Inclusive Healthcare & Support for Vulnerable Groups	- Deploy Mobile Health Units on a rotating schedule - Conduct CHITS data analysis to identify high-need pockets - Partner with indigenous leaders to co-design programs - Train community health workers on cultural competency - Establish "health buddy" peer-support groups
SCTI. Specialized Care & Technology Integration	- Roll out Telemedicine Suite kiosks in district hospitals - Procure AI Radiology Tools and train radiographers - Integrate OpenEMR with national case registries - Pilot remote monitoring wearables in chronic clinics - Host hackathons for local health-tech startups
PFCCE. Patient/Family-Centered Care Experience	- Co-design ward layouts with patient/family focus groups - Implement quarterly HCAHPS surveys and feedback loops - Deploy MyChart Portals with family-access controls - Train staff in empathy and communication workshops - Set up "shadow rounds" where families join morning rounds
CCPS. Care Coordination & Patient Safety	- Standardize I-PASS handoffs across all shifts - Roll out SBAR communication training for nurses & physicia - Embed WHO Surgical Safety Checklist into EHR prompts - Convene monthly morbidity & mortality (M&M) conference - Launch "Safety Champions" peer-review program
PEC. Patient Education & Communication	- Develop multilingual MedlinePlus-based brochures - Install Interactive Kiosks in outpatient waiting areas - Run monthly health-literacy webinars for communities - Use WhatsApp broadcast lists for health tips - Partner with schools for youth-targeted campaigns

ip (NoO): GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital

ers	Code. Strategies	Recommended Action Plans and Tools
l source	**PFRM.** Patient Flow & Resource Management	- Redesign triage using LeanFlow value-stream mapping - Implement EHR-integrated scheduling to reduce no-shows - Introduce Bed Management dashboards with real-time updates - Set daily huddle meetings to adjust staffing by demand - Audit patient wait times monthly
ient timized ce	**FESD.** Facility Expansion & Staff Development	- Use Modular Construction trackers for rapid unit builds - Roll out Coursera for Health learning paths for nurses - Implement BambooHR succession-planning modules - Conduct annual skills gap analyses to inform hiring - Establish mentorship rotations across departments
	PFSIOT. Patient Feedback, Support Integration and Outcome Tracking	- Deploy Qualtrics kiosks for immediate post-visit surveys - Build Tableau dashboards for real-time sentiment analysis - Integrate REDCap outcome data with clinical registries - Hold quarterly patient-family advisory council meetings - Use feedback to drive Kaizen sprints
sive	**STSA.** Staff Training on Safety Awareness	- Launch Moodle LMS courses on standard precautions - Host SimMan simulation drills every quarter - Incentivize completion with certification badges - Conduct surprise "safety rounds" with senior leaders - Roll out microlearning modules via mobile app
p and ntinuous nd	**HRDER.** Human Resource Development, Empowerment & Retention	- Implement SAP SuccessFactors career-path templates - Launch digital wellness portal with counseling access - Run quarterly "career hackathons" for staff ideas - Map individual development plans with managers - Offer spot awards for retention milestones
	TCCTDM. Team Collaboration, Cross-Training & Decision Making	- Deploy TeamSTEPPS workshops across units - Create RACI charts for key clinical processes - Set up Slack channels for rapid care coordination - Rotate staff through cross-training programs - Convene monthly cross-department case-review huddles

rship (NoO): GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital

y Drivers	Code. Strategies	Recommended Action Plans and Tools
ıst Patient ıtion, and ow patient poor decision me: ıtients with ion-making	**PREA.** Patient Rights Education & Awareness	- Distribute DOH Patient Rights Toolkits at admission - Partner with community radio for monthly health spots - Train staff on rights-based communication skills - Host town-hall patient-rights forums per district - Develop infographic posters for wards
	ICDM. Informed Consent & Decision-Making	- Roll out DocuSign Health for digital e-consent - Produce short videos explaining high-risk procedures - Test comprehension with teach-back audits - Offer translations via Video-Based Consent Tools - Monitor consent completion rates weekly
	HLCS. Health Literacy & Cultural Sensitivity	- Co-create Localized IEC materials with cultural advisors - Train Health Navigators from each community cluster - Run bi-annual "culture & care" immersion sessions - Use pictograms for low-literacy groups - Evaluate materials via focus-group pre-tests
-Driven toring and ıconsistent data l-time insights me: Real-time ontinuous ement	**ADEDP.** Accurate Data-Driven & Evidence-Based Decision-Making Practices	- Deploy Power BI dashboards for clinical metrics - Conduct monthly Cochrane Library journal clubs - Integrate WHO eDECIDE case-review modules - Run quarterly data-use workshops for leadership - Implement data-quality scorecards with targets
	KPIPT. Key Performance Indicators & Performance Targets	- Build Balanced Scorecard with executive sponsorship - Use KPI Wizard to define metrics - Hold monthly KPI-review steering-committee meetings - Tie staff incentives to SMART Goal Tracker progress - Benchmark against peers biannually
	ECDI. External Collaboration & Data-Driven Improvement	- Establish FHIR-based Health Data Repositories - Negotiate Inter-agency Data Sharing Agreements - Run annual benchmarking workshops - Publish anonymized scorecards for transparency - Pilot cross-institutional QI collaboratives
	PRA. Performance Reviews and Audit	- Schedule quarterly ISO 9001 health audits via AuditBoard - Use Audit Scheduler to track corrective actions - Publish audit findings and improvement roadmaps - Train internal audit champions in compliance - Conduct mock-audit drills ahead of review

of Ownership (NoO): GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital|

rs	Code. Strategies	Recommended Action Plans and Tools
en nd	**SCM.** Standardization & Clinical Monitoring	- Build clinical pathways in a Pathway Builder tool - Roll out SOP Management platform for all units - Audit adherence via EHR-triggered alerts - Convene monthly protocol-review committees - Update pathways based on latest guidelines
ive l Safety tion fety	**ICP.** Infection Control & Prevention	- Maintain PPE Inventory Systems with automated reorders - Use CDC Guidelines Toolkit for SOP updates - Install Infection Control LITE App on staff devices - Conduct bi-monthly hand-hygiene compliance audits - Set up isolation-unit readiness drills
strict	**ICTE.** Infection Control Training & Education	- Enroll staff in WHO OpenWHO infection courses - Run hands-on training with patient simulators - Issue quarterly competency badges via LMS - Host webinars on emerging pathogens - Integrate e-learning completion into annual appraisals
	ISPRM. Infection Surveillance, Protocol & Risk Management	- Deploy HealthMap for real-time outbreak alerts - Configure BioSurveillance platforms with thresholds - Develop facility-level risk-mapping heatmaps - Conduct annual outbreak drills - Review protocols post-drill with lessons-learned sessions
	IOCA. Infection Outbreak & Compliance Audits	- Engage Third-party Audit Frameworks for annual reviews - Schedule audits via Audit Scheduler Tools - Publish compliance dashboards facility-wide - Track corrective-action closure rates monthly - Reward units with sustained 100% compliance
	SPC. Standard Precautions & Compliance	- Monitor PPE use via Monitoring Dashboards daily - Launch Daily Compliance Apps for routine checks - Conduct spot-checks of standard precaution adherence - Rotate "precaution patrol" teams weekly - Share compliance summary in shift-change briefs

ship (NoO): GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital

rs	Code. Strategies	Recommended Action Plans and Tools
lity	**FMI.** Facility Maintenance & Inspections	- Schedule inspections in CMMS with automated reminders - Use QR Maintenance Logging on mobile devices - Track mean time to repair (MTTR) and publish quarterly - Audit vendor performance against SLAs biannually - Train facility staff on preventive maintenance
tional ll- suring	**FRDE.** Facility Renovations & Design Enhancements	- Model renovation plans in AutoCAD/BIM and review with us - Prioritize ergonomic improvements via staff surveys - Conduct safety walkthroughs at design milestones - Phase construction to minimize service disruption - Solicit post-renovation feedback
	EFSA. Environmental & Facility Safety Awareness	- Deploy Digital Safety Boards in high-risk zones - Run quarterly OSHA compliance checklists - Conduct monthly fire and evacuation drills - Publish monthly incident/risk reports facility-wide - Launch "Safety Moment" at daily handovers
	MTIC. Multidisciplinary Teamwork & Integrated Care	- Hold weekly MDT case-management huddles - Develop Shared Care Plans in MS Teams - Rotate liaison roles across specialties quarterly - Conduct team-bonding workshops twice a year - Publish MDT outcomes and lessons in a newsletter
k of nless imizing	**CDCCF.** Cross-Department Collaboration, Communication and Feedback	- Standardize project workflows in Trello/Asana - Issue weekly digital memos via Staff Portal - Run monthly inter-department town halls - Use pulse surveys (Typeform) for quick feedback - Set up "Office Hours" for leadership drop-ins
	SECI. Stakeholder Engagement & Collaborative Input	- Maintain stakeholder CRM in Salesforce Health Cloud - Host bi-annual public forums for feedback - Share progress dashboards with community reps - Run online surveys to capture wider input - Incorporate stakeholder comments into annual plans

***ship (NoO)**: GOV – Government hospital; DOH – DOH hospital; PVT – Private hospital*

APPENDIX N

. Strategies	Recommended Action Pl
Quality & Sustainability	- Launch Lean Six Sigma projects target - Use QI Macros to analyze process data - Facilitate PDCA workshops for frontlin - Schedule Kaizen Rapid Improvement I - Track sustainability metrics in ESG Re
nt Feedback & acility	- Install Real-Time Feedback Kiosks at - Convene rapid-response teams for urge - Publish monthly "You Said–We Did" t - Offer incentive vouchers for constructi - Monitor kiosk usage and adjust prompt
stainability, al Culture & agement	- Conduct annual organizational culture - Roll out Kotter's 8-Step change modul - Track change-readiness scores over tim - Publish an annual ESG Health Report - Embed sustainability criteria into proc

nment hospital; DOH – DOH hospital; PVT – Private hospital

RESEARCHER'S CURRICULUM VITAE

RONALD P. ARBOLEDA
J-5 RSG Guevent Homes Panapaan, Bacoor, Cavite, Philippines, 4102
+63917-816-1436/046-424-5027
rparboleda0525@gmail.com/rparboleda0525@yahoo.com

AREAS OF INTEREST

With a strong passion for teaching, I specialize in delivering complex concepts to diverse audiences in an engaging and interactive way. As a certified data analyst with expertise in Lean Six Sigma and hospital operations management, I develop and teach curriculum in project management, business system engineering, and quality management. My experience in research, technical writing, and statistical data analysis helps me create instructional materials that simplify complex ideas and foster critical thinking. I am committed to empowering students and professionals to make data-driven decisions and improve operational efficiency.

EDUCATIONAL BACKGROUND

DOCTOR OF PHILOSHY IN MANAGEMENT - Adamson University**,** *on-going, to graduate 2025*
MASTER OF SCIENCE IN MANAGEMENT ENGINEERING - Adamson University**,** *2016*
BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING - Mapúa Institute of Technology**,** *2010*

WORK-RELATED EXPERIENCES

SOUTHERN TAGALOG REGIONAL HOSPITAL – *December 18, 2023 to present*

Statistician II *December 2023 to present* *Key skills:* Data analytics, database management and visualizations using Microsoft Excel, and PowerBI	Prepares hospital statistics for financial planning and management committee (FPMC) meeting, DOH Annual Hospital Statistical Report and PhilHealth Mandatory Monthly Report (MMHR) and presents to MANCOM meetings Performs hospital data analysis and data visualization using interactive PowerBI dashboard on patient admissions, discharges, leading causes of hospital admissions and consultations, and census for computation on bed occupancy rate (BOR) Provides data for strategic performance management system including office and individual performance and commitment review (OPCR/IPCR) Monitors and reviews hospital patient Satisfaction Survey and creates data visualizations, insights and analysis. Assisted in Continuous Quality Improvement committee for TQM and process improvement activities.

TEACHING EXPERIENCE – *September 2020 to March 2024*

Key Skills: Teaching and Instruction, Thesis Advising & Mentoring, Curriculum Development, Accreditation Compliance, Critical Analysis and Thesis Review, Statistical Data Analysis	**UNIVERSITY OF PERPETUAL HELP MOLINO (Associate Professor II) –** *September 2022 to March 2024* Instructor under the College of Engineering – teaching course subjects on Engineering Data Analysis, Industrial Organization and Management, Operations Management, Operations Research, Systems Engineering, Lean Manufacturing, Ergonomics, Occupational Safety and Health, IE Capstone and Feasibility Study Designated as thesis adviser; conducts paper review and recommendation to student's thesis defense. Provides students with guidance on their paper on IE Capstone and Feasibility including statistical data analysis and interpretations. Assists in the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) accreditation compliance of the College of Industrial Engineering Program Assisted the Philippine Technological Council (PTC) accreditation in terms of preparation of the program's course level assessment, creation of course syllabus and formulation of department's quality manuals, policies and procedure **CAVITE STATE UNIVERSITY (Part-time College Instructor) -** *September 2020 to January 2023* Instructor under the College of Business Administration – teaching course subjects on Operations Management, Project Management, Total Quality Management, Strategic Management, Inventory Management and Costing and Pricing. Designated as technical critic; review and recommends paper improvement, and attends to student's thesis defense

QUALIMED HEALTH NETWORK STA. ROSA – *October 24, 2016 to December 31, 2024*

Patient Safety and Quality Improvement Coordinator
February 27, 2017 to December 2024

Key skills: Data analytics, database management and visualizations using SQL PowerBI and Tableau, Lean Six-Sigma, project management, research and development, and statistical analysis utilizing Microsoft Excel, SPSS and MiniTab, System and Process improvement, business analytics, TQM (QC-QA), Audit, reports management

Hospital Data Analyst/Statistician

Performs database management on patient census, business process, marketing, inventory and financials such as hospital revenue, profit and sales using SQL

Creates comprehensive hospital Key Performance Indicator (KPI) dashboards on growth and financials, margins and efficiencies, organizational development, and patient safety and branding using powerBI and Tableau based on real-time data

Supports ManCom effective and efficient data-driven decision-making process thru generation of clear and concise insights and story-telling interpretations from data visuals created.

TQM Project Lead

Designated as project lead to hospital TQM activities, facilitates project monitoring for effective and efficient project timeline implementation and serves in the following TQM projects:

- "Pharmacy Emergency Purchase Cost Reduction" (March 2023 to July 2023)
- "Laboratory TAT process improvement" (January to May 2023)
- "PhilHealth e-claims TAT improvement" (July to December 2022)
- "Improving In-patient Discharge and Billing Processing Time" (January to June 2022)
- "Clinical Outcomes of Team Approach in Covid-19 Management: The QualiMed STR Experience" (November 2021)
- "Effect of Performance Assessment Grade on In-Hospital Physician's Engagement" (November 2021)
- "You Complete Me" (October 2018 to January 2019)
- "Swiftly, Hasty Flow" (June 2018 to July 2018)
- "Please Admit Me" (February to March 2018)
- "Right Care, Right Now" (November 2017 to January 2018)

Business Process Engineer

Monitors hospital's dashboard and SLA metrics set as key result areas performance in terms of growth and financials, margins and efficiencies, organizational development, and patient safety and branding.

Reviews current and proposed hospital policies and procedures, work instruction and hospital forms developed by departmental process owners through actual observation, development of process map/flowchart and conducts time study to standardize turnaround-time (TAT).

Reviews hospital Process Variance Reports (PVRs)/Incident Reports, then investigates after occurrence of events, prepares cause-and-effect analysis to identify root cause of nonconformities, then develops and implements strategies/action plans which includes counter-measures based on hospital standards

Acted as the Senior House Officer and conducts weekly hospital rounds to identify and attend to facility and patient's issues and concerns.

Quarterly conducts Environment of Care (EOC) audit to maintain hospital and patient safety and quality care.

Facilitates hospital's patient-customer satisfaction and summarizes data into valuable information for hospital quality service improvement.

Consolidates data gathered from business process time-study, PVRs, SHO and EOC audit through statistical quantitative and qualitative data analysis, FMEA, frequency distribution tables, run and control charts, pareto diagram then presents to MANCOM.

Attends weekly hospital meeting to present updates on departmental operations and reports such as on process variance reporting, new proposed policies, TQM projects and EOC audit findings. Also, presents PSQM updates to the Medical Executive Committee for further discussion and recommendation of action plans.

Prepares semi-annual PSQM department Annual Operating Strategic Plan which includes managing of departmental OGSM (Objectives-Goals-Strategies-Measures) for current and incoming operational year, plotting of department's KRAs and KPIs, budget proposal and other plans and activities for the department's continuous growth and improvement.

Facilitates the hospital's initial and renewal of DOH license to operate, PhilHealth and HMO accreditation.

Provides standard orientation and training workshop to hospital employees concerning PSQM policies and procedures, process development and documentation, process variance reporting standards, EOC requirements and other continuous quality improvement programs.

Acted as document controller and maintains up-to-date hospital documentation such as memorandums,

communication letters, hospital policies and procedure manual, work instructions and hospital forms.

Medical Records Department Manager
October 2016 to Present (consultant since November 2022)

Key Skills:
Electronic Health/Medical Records management system, chart auditing, certified ICD-10 coder, Statistical data analysis, Reports management

Department Operations Manager

Manages the departmental operation of QualiMed Hospital's Medical Records service through implementation of continuous monitoring of medical record system such as proper safekeeping of filed patient charts, facilitates preparation, issuance and release of patient records, handling of staff and other compliance to the DOH and PhilHealth standards

Established quality standard operating procedure manuals and hospital forms for departmental operation and management.

Facilitates quality control and assurance on patient medical records through chart audit/review, monitoring and routing of chart completion and compliance of deficiencies by communications with doctors, nurses and other concerning hospital staffs

Prepares DOH Annual Statistical Report and monthly PhilHealth Monthly Mandatory Hospital Report (MMHR)

Prepares the Medical Records' Annual Operating Plan (AOP) and attends hospital meetings for weekly updates.

Provides pre-employment training on Medical Records Department operations, policies and guidelines for incoming hospital employees.

Devised a MS Excel file-based tool to effectively and efficiently monitor chart deficiencies, completion and compliance.

STA. ANA HOSPITAL – *July 30, 2010 to August 31, 2016*

Administrative Officer II
April 2012 to August 2016
Key Skills: Departmental accomplishment reporting, Process mapping and improvement, Standard operating procedure and policy creation, Billing and payment review and analysis, Claims and statement of account processing, Reimbursement check monitoring and reporting

Point-of-care (POC) Officer - *January 2016 to August 2016*

Monitor and reviews hospital's Philhealth Point-of-Care (POC) enrolment system and prepares POC accomplishment report on total no. and rate of enrollee and non-enrollee patients to POC system.

Identifies problems and investigates causes of non-enrolment of patients to POC for system and process improvement.

Billing-Cashier Section Head - *February 2013 to August 2016*

Developed the Billing and Cashier Section's Flow Process Map, Standard Operating Procedures, Quality Manual and Work Instructions.

Manages operations and activities of the Billing and Cashier Section including supervision and training of section's staff.

Monitor and reviews patient hospital billing and payment information, and prepares accomplishment report on Abstract of Patient Billing and Tally of Payments.

Philhealth (Claims Processing) Section Supervisor - *April 2012 to January 2013*

Process hospital patient's Philhealth claims, hospital's patient Statement of Account and official receipt to hospital pay patients

Monitor and reviews in-coming reimbursed checks for counter-checking versus transmittal of processed hospital patient Philhealth claims. Prepares accomplishment report on total amount of hospital patient reimbursed claims on facility and professional fee availment based on Philhealth Case Rate Package.

Designated as as officer-in-charge in lieu of the Philhealth section head.

Administrative Assistant I

Key Skills: Statistical reporting, Patient-chart review, ICD-10 coding, Patient record management

Other related tasks and accomplishments

Medical Records Assistant Supervisor - *May 2010 to March 2012*

Prepares hospital statistical report such as top 10 leading causes of patient's mortality and morbidity

Reviews completeness of In-Patient Medical Charts through sequencing of contents and thorough page-to-page checking for any lack/erroneous entry of information.

Encodes ICD-10 (International Coding of Diseases-10th revision) to patient medical records based on patient's diagnosis

Prepares hospital's patient records and other documents such as Live Birth and Death Certificates, Medical Certificates and Clinical/Medical Abstracts for requesting hospital clients.

Acted as the Hospital's I.T. representative and assisted in implementing a computer-based Philhealth claims processing and monitors the flow of the operation.

Member of the hospital Quality Circle committee responsible in audit of quality manuals, assigned to represent four (4) sections of the Administrative Department: Accounting, Budget, Billing and Cashier, to

review the existing quality manual, policies and guidelines, standard operating procedures and work instructions for standardization based on the DOH standards.
Conducted time study for standardization of processes on part of the Administrative Division such as in admission of patient, preparation of billing statement, patient payment transaction and request of medical records
Formulated an average billing package for common In-patient diseases through sampling computation.
Formulated a percentage distribution scheme through average sampling computation of In-Patient availment for all types of Case Rate Package (most common diseases on both Medical and Surgical Cases) implemented by the Philhealth Institute for the year 2013. The schemes have been used as basis and reference for ceiling amount that can be allotted per hospital patient admission under Philhealth accommodation.
Developed hospital process/operations flowchart diagrams for the Records, PhilHealth, Billing and Cashier Section. Also, prepared patient process instructions for step-by-step guide to patient's queries and requests.
Standardized hospital forms used in patient records and created a computerized template for most hospital forms such as Live Birth and Death Certificate forms and Statement of Account using Microsoft Excel and updates such forms on any revisions upon needed.

THESIS AND RESEARCH PAPERS CONDUCTED

"Quality Management System Practices of a Local Government Hospital in Manila: Towards ISO 9001 Implementation" – Adamson University, *March 2016*

This study aimed to evaluate the current implementation level of the Quality Management System (QMS) of a local government hospital based on the ISO 9001 QMS Principles. Using the descriptive method of research employing a quantitative and qualitative analysis, the `findings revealed that the current overall QMS of the subject hospital is moderately implemented. Factors affecting the subject hospital's current QMS implementation were determined such as lack of management commitment, lack of awareness to continual improvement, not well-standardized quality objectives, policies and manuals, lack of customer focus, and delay on related processes, etc. Programs were designed and recommended by the researcher for improvement of the subject hospital's QMS practices.

"An Operational Assessment on the Emergency Department of Public Hospitals in the City of Manila" – Mapúa Institute of Technology, *October 2008*

The study evaluates the operational assessment of Emergency Departments among Public Hospitals in Manila using Work Flow Assessment and statistical Analysis of Variance. The study examined the completeness of Emergency Room's operational guideline (or policies). Also, it gauges the adequacy of logistical support the hospital is extending in terms of the organizational structure, staffing, equipment, supplies, drugs and medicines the Emergency Room can offer compared to the Department of Health and Public Hospitals standards.

PROFESSIONAL EXAMINATION TAKEN AND ELIGIBILITY

Career Service Professional and Sub-Professional Eligibility

TRAINING PROGRAMS AND SEMINARS ATTENDED

"Continuous Quality Improvement Seminar Workshop" – Philippine Council on Accreditation of Healthcare Organization, *January 29 to 31, 2025*

"Calibration of Surveyors on the PhilHealth Benchbook 2nd Edition" Philippine Council on Accreditation of Healthcare Organization, *January 15 to 17, 2025*

"Full Stack Data Analytics (MS Eccel, VBA Macro, PowerBI, SQL, Python" – EXCELHelpline, *June 9 to September 20, 2024*

"Certified Database Management Associate" – Nievgen, *August 17 to September 7, 2023*

"Certified Data Analytics Associate" – Nievgen, *August 8 to 29, 2023*

"Universal and Sustainable Healthcare" – Philippine Society in Quality for Healthcare, *November 10 to 11, 2022*

"Quality Research "Quantumn Leap for Universal Healthcare" – Philippine Society in Quality for Healthcare, *August 19, 2022*

"Lean Six Sigma Green Belt Training and Certification" – Elevate Six Sigma, *February 15, 16, 22, 23 and March 8, 2020*

"Lean Six Sigma Yellow Belt Training and Certification" – Elevate Six Sigma, *January 18 & 25, 2020*

"Lead Auditor Training Course in Quality Management in Reference to ISO 9001:2015 & ISO 19011:2018" – Certification Partner Global Philippines, Inc., *November 30 to December 3, 2019*

"Health Records and Information Management: A Pathway to Excellent Quality Management System" – Philippine Association of Health Records & Information Officers Inc., *February 22 to 24, 2017*

"Leadership Training Seminar" – Sta. Ana Hospital, Manila, *October 18, 2014*

"International Classification of Disease and Related Health Problems – 10th Revision (ICD-10) for coders"– PhilhHealth Training Institute, *October 24 to 28, 2011*

"Training of Facility Users on "Updating the National Database for Human Resources for Health Information System (NDHRHIS)" – Department of Health, *October 19, 2010*

"Training on the Electronic Essential Drug Price Monitoring System Version 2 (e-EDPMS ver. 2)" – Center for Health Development - Metro Manila, CHD-MM LRED Office, *August 27, 2010*

TECHNICAL SKILLS

- Proficient in data analytics and data-based management software such as SQL, Tableau and PowerBI
- Expert in SPSS (Statistical Package for the Social Science) and MiniTab
- Proficient in Microsoft Office (Word, Excel, Powerpoint, Visio and Project)
- Knowledgeable in AutoCad, ProModel and Computer-Integrated Manufacturing (CIM),
- Knowledgeable in BIZBOX Hospital Information System ver. 8.0

PERSONAL DATA

- Born in Malate, Manila on May 25, 1987.
- Currently living in Bacoor, Cavite.
- Single, Filipino citizenship, Roman Catholic
- Excellent communication skills in English and Filipino.
- Dependable, highly analytical keen to details and hardworking. An enthusiast to new learnings. Very versatile and can adjust to situations that may be given. Can work under pressure independently.