

Capitalization and Cost Management in Dialysis Care: A Case Study of a Philippine Hemodialysis Center

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Abstract. This study examined a hemodialysis center's actionable policies and programs in the Philippines, focusing on how it sustains its operations amid the resource-intensive demands of hemodialysis treatment. Using a qualitative-descriptive research design, data were gathered through document analysis, interviews, and financial records review to assess capitalization strategies, cost management, and financial aid programs. The results showed that the center has significantly improved service delivery and economic performance, with efficient cost management and minimal delays in treatment contributing to its operational success in 2024. Key initiatives included enhanced staff retention, patient engagement, partnerships, and robust cost control measures. Despite these achievements, challenges remain in specialized staff training, access for underserved patients, equipment management, and collaboration with health agencies. Addressing these gaps is essential to ensure the center's long-term sustainability and to optimize patient care. The study recommends continuous monitoring and refinement of service delivery and financial strategies to strengthen the center's resilience and meet the growing healthcare demand in the region.

Keywords: Cost management; Financial assistance programs; Hemodialysis; Operational sustainability; Resource-constrained settings.

1.0 Introduction

The rising global demand for medical services, the increasing prevalence of chronic diseases, and advancements in healthcare technologies have placed a significant financial strain on healthcare systems (World Health Organization, 2020). Among the most affected were specialty care units, particularly hemodialysis centers, due to the resource-intensive nature of their operations (Mekonnen et al., 2021). Hemodialysis served as a life-saving procedure for patients with Chronic Kidney Disease Stage 5 (CKD5), a condition characterized by the kidneys' failure to filter waste and regulate bodily fluids. Without this treatment, patients faced severe, life-threatening complications (National Kidney Foundation, 2019).

However, delivering hemodialysis services required a substantial investment. Facilities needed to acquire high-cost medical equipment, maintain a continuous supply of consumables such as dialyzers and bloodlines, and employ specialized personnel, including nephrologists and dialysis nurses (Kerr et al., 2020). These recurring expenses, exacerbated by global healthcare inflation, posed ongoing challenges to the sustainability of dialysis services (International Society of Nephrology, 2021). Comparative studies in both developed and developing countries highlighted similar concerns. However, the financial impact was particularly acute in lower-income

settings, where resource constraints and limited insurance coverage heightened patient vulnerability (Liang et al., 2017; Caballes et al., 2018).

Additionally, the routine operation of dialysis facilities demanded considerable utility resources, such as electricity and purified water, intensifying the need for cost-efficient strategies. In developing countries like the Philippines, these challenges were compounded by constrained healthcare budgets and significant out-of-pocket patient costs (Caballes et al., 2018). Beyond the direct cost of treatment, patients also bore indirect financial burdens, including transportation expenses, caregiving needs, and income loss. While PhilHealth, the national health insurance provider, subsidized dialysis sessions, studies indicated that patients often faced substantial co-payments, underscoring gaps in financial protection (Department of Health, Philippines, 2020; Simbulan & David, 2021). Healthcare providers, in turn, grappled with sustaining service delivery and ensuring affordability, particularly for economically disadvantaged populations.

Although several studies had examined the economic burden of dialysis and the effectiveness of insurance mechanisms, there remained limited research on the financial sustainability of dialysis centers from an operational perspective, especially in resource-limited settings like the Philippines. This gap highlighted the need for localized evaluations of sustainability practices and policies. This study evaluated the financial sustainability policies and programs implemented at the GSAC General Hospital Hemodialysis Center. It investigated resource management strategies, costing practices, and revenue-generation initiatives to identify best practices that maintained operational viability while ensuring affordable, high-quality dialysis care. The findings provided evidence-based recommendations for policy enhancements and financial interventions in resource-constrained healthcare settings such as Sorsogon Province.

2.0 Methodology

2.1 Research Design

This study employed a convergent mixed-method research design to systematically explore and document the current practices, challenges, and sustainability efforts of the GSAC General Hospital Hemodialysis Center. A convergent mixed-methods design (also known as a concurrent triangulation design) involves the simultaneous collection of quantitative and qualitative data, which are analyzed separately and then merged or compared to examine how the findings relate to each other (Creswell, 2005). By integrating the strengths of both quantitative and qualitative approaches, this design provides a more comprehensive and nuanced understanding of the research topic, offering broader insights than either method could achieve alone.

2.2 Research Locale

The study was conducted at the GSAC General Hospital Hemodialysis Center in Sorsogon City, Sorsogon, Philippines. The center commenced operations in July 2023 and provides critical dialysis services to patients diagnosed with Chronic Kidney Disease (CKD) Stage 5. Sorsogon has high rates of lifestyle-related diseases, which have contributed to a growing demand for dialysis services. The Hemodialysis Center is crucial in meeting these healthcare needs for urban and rural populations. Despite its importance, the center faces significant challenges, including escalating operational costs and limited funding resources. This study focused on assessing the center's financial sustainability, policy strategies, and operational challenges, aiming to provide insights that could enhance the accessibility and quality of dialysis services in the region.

2.3 Research Participants

Sixty-five individuals participated in the study to gain a holistic understanding of the sustainability and operations of the GSAC General Hospital Hemodialysis Center. These participants were categorized as either key informants or respondents, depending on their roles and the relevance of their expertise to the research objectives. Key informants included individuals in managerial or administrative positions, while respondents comprised healthcare workers and staff directly involved in service delivery, costing strategies, and financial management.

2.4 Research Instrument

For the quantitative aspect, a four-point Likert scale was utilized to measure the level of satisfaction regarding service delivery, costing strategies, and financial management at the GSAC General Hospital Hemodialysis Center. The Likert scale is a widely accepted tool in social science research for assessing attitudes, opinions, and

perceptions (Likert, 1932; Allen & Seaman, 2007), allowing for a detailed evaluation of subjective experiences that is quantifiable (Miller, 2006). For the qualitative component, a structured interview questionnaire was employed to capture in-depth insights from participants. This tool was designed to explore participants' experiences and perspectives in greater detail, complementing the quantitative data.

2.5 Data Gathering Procedure

The data collection involved identifying and engaging officers and employees in service delivery, costing, and financial management. Respondents completed the structured survey questionnaire, and follow-up questions were posed when clarification or deeper understanding was needed. All collected data were systematically tabulated, analyzed, and interpreted using appropriate quantitative formulas. The qualitative data were analyzed descriptively, allowing key themes and insights to emerge, which were then integrated with the quantitative findings to provide a comprehensive view of the research topic.

2.6 Ethical Considerations

Ethical guidelines were rigorously observed throughout the research process. The study complied with the Data Privacy Act 2021 (Republic Act No. 10173) and the Philippine Patients' Bill of Rights and Responsibilities (DOH A.O. 2016-0002). Written consent was obtained from the GSAC General Hospital Board of Directors to access internal documents, and sensitive data were anonymized to maintain confidentiality. Informed consent was secured from all participants after providing them with a full explanation of the study's purpose, procedures, and rights, including their right to privacy and the option to withdraw at any time. All data were handled securely and used exclusively for research purposes. Participants were allowed to ask questions before their involvement, ensuring voluntary participation and respect for their autonomy.

3.0 Results and Discussion

3.1 Current Practices of Healthcare Personnel in Service Delivery

Table 1 presents the assessment of current practices among healthcare personnel at the GSAC General Hospital Hemodialysis Center, which is focused on service delivery. The survey's mean scores provided insights into the facility's strengths and areas that require improvement.

Table 1. *Descriptive Result for Current Practices of Healthcare Personnel in Service Delivery*

Indicators	Mean	Interpretation
Maintenance of effectiveness of treatment, improvement in symptoms, and stabilization of health conditions.	3.69	Excellent
Availability of doctors and nurses when patients require assistance or consultation.	2.50	Good
Clarity of information provided about procedures, medications, and treatment schedules.	3.62	Excellent
Ease of scheduling appointments and flexibility to accommodate patient preferences.	3.69	Excellent
Doctors, nurses, and other staff show courtesy, respect, and empathy.	3.65	Excellent
Cleanliness and hygiene of the facility, including dialysis stations and waiting areas.	3.62	Excellent
Availability of counseling services for patients coping with the stress of chronic illness.	2.48	Good
Coordination between departments, including the business office, laboratory services, and pharmacy.	2.53	Good

The findings revealed that several practices are “excellent”, indicating strong performance in crucial areas. The findings showed that certain areas, including the maintenance of treatment effectiveness and staff courtesy, were highly practiced, indicating strong clinical management and positive patient-provider relationships. However, areas such as the availability of doctors and nurses when patients require assistance and counseling services were often practiced and interpreted as “good,” highlighting gaps in continuous patient support and psychosocial care. This may be attributed to staffing limitations, insufficient mental health resources, or workload imbalances. Similar trends were observed in the study by Johnson et al. (2021), which identified healthcare staffing shortages as a barrier to optimal chronic care delivery.

Furthermore, department coordination emerged as an area requiring improvement. Inefficient communication between units such as the laboratory, pharmacy, and administrative offices could contribute to delays in patient services, as supported by findings from Lee et al. (2020), who emphasized the role of integrated care models in enhancing service efficiency. The implications of these findings are significant. Enhancing staff availability through optimized scheduling or recruitment, integrating mental health counseling into routine care, and improving interdepartmental coordination can lead to more comprehensive, patient-centered care. However, this study is limited by its single-site focus and reliance on self-reported data, which may introduce response

bias. Future studies should consider multi-center analyses and include patient perspectives to better understand service delivery in dialysis centers.

3.2 Current Practices of the Finance Personnel in Costing Strategies

Table 2 revealed the assessment of current practices in the Finance Department, particularly within the Accounting and Business Office of the GSAC General Hospital Hemodialysis Center, focused on costing strategies to ensure both financial sustainability and patient satisfaction.

Table 2. *Descriptive Result for Current Practices of the Finance Personnel in Costing Strategies*

Indicators	Mean	Interpretation
The treatment costs are affordable for most patients.	3.74	Excellent
The hospital is transparent about its pricing and fees.	3.54	Excellent
Pricing information is communicated clearly to patients before treatment.	3.69	Excellent
The hospital offers flexible payment options for patients.	2.34	Fair
Discounts or financial assistance programs are available for low-income patients.	3.85	Excellent
Pricing strategies are competitive compared to other local hospitals.	2.40	Fair
Costs are regularly reviewed and adjusted to remain sustainable.	3.49	Good
Patients are satisfied with the value they receive for the cost of services.	3.71	Excellent

The findings revealed that most costing strategies are highly practiced, with statements such as affordable treatment costs (mean score = 3.74), transparent pricing (3.54), and clear communication of pricing information (3.69) receiving strong positive ratings. Additionally, discounts or financial assistance programs for low-income patients (3.85) were highly practiced, indicating a strong commitment to financial accessibility. Patient satisfaction with the value of services also scored highly (3.71), reflecting the effectiveness of these practices in meeting patient expectations. However, particular areas require attention. The flexibility of patient payment options received a lower mean score of 2.34, interpreted as sometimes practiced. Similarly, compared to other local hospitals, competitive pricing strategies scored 2.40, also categorized as sometimes practiced. This suggests that while the hospital maintains affordability and transparency, it may lack diverse payment schemes and adaptive pricing strategies that cater to varying patient financial capacities. Furthermore, although cost reviews for sustainability are often practiced (mean score = 3.49), there is room for improvement to ensure consistent financial health amidst fluctuating economic conditions.

These findings are consistent with those of Rivera et al. (2020), who emphasized the importance of flexible payment schemes in enhancing healthcare accessibility, especially for chronic disease management like hemodialysis. The lower scores in pricing competitiveness align with Garcia and Lee (2019), who found that healthcare facilities often struggle to adjust pricing dynamically due to rigid administrative processes. This gap could affect the hospital's ability to attract and retain patients in competitive healthcare markets. These results have two implications. First, enhancing payment flexibility through installment plans, deferred payments, or tailored financing options can alleviate the financial burden on patients undergoing long-term treatments. Second, adopting competitive pricing strategies informed by market analysis may strengthen the hospital's position relative to other healthcare providers while maintaining financial viability. Additionally, regular cost reviews should be institutionalized, with data-driven approaches to adjust pricing based on operational costs and patient feedback.

3.3 Current Practices of Directors, Administrative Staff, and Managers in Financial Management

Table 3 shows the assessment of current practices among the Directors, Administrative Staff, and Managers in Financial Management at GSAC General Hospital Hemodialysis Center, revealing significant insights into the effectiveness and efficiency of the center's financial management systems. Financial transactions are handled efficiently and without errors, with a mean score of 3.80, suggesting a well-established system that minimizes the risk of financial discrepancies. Similarly, the center's budget allocation effectively improves services, with a mean score of 3.60, reflecting sound fiscal planning and resource management. Investments in equipment and infrastructure to enhance operations and financial strategies focusing on long-term sustainability received the highest possible mean score of 4.00, highlighting the organization's strong commitment to growth, operational efficiency, and sustainability. Furthermore, a mean score of 3.80 for staff training in financial policies and procedures is highly practiced, ensuring that personnel can handle financial responsibilities competently. All five variables received an "excellent" rating.

Table 3. *Descriptive Result for the Current Practices of Directors, Administrative Staff, and Managers in Financial Management*

Indicators	Mean	Interpretation
Financial transactions are handled efficiently and without errors.	3.80	Excellent
Financial records are updated regularly and accurately.	3.39	Good
The center allocates its budget effectively to improve services.	3.60	Excellent
Investments are made in equipment and infrastructure to enhance operations.	4.00	Excellent
Financial audits are conducted regularly to ensure accountability.	2.80	Good
Staff members are well-trained in financial policies and procedures.	3.80	Excellent
The revenue generated is sufficient to cover operational costs.	2.43	Good
Financial strategies focus on the long-term sustainability of the center.	4.00	Excellent

However, some areas are identified as needing improvement or considered “good”. Financial records are updated regularly and accurately, receiving a mean score of 3.39. Similarly, financial audits periodically conducted to ensure accountability had a mean score of 2.80, and the sufficiency of revenue to cover operational costs had a mean score of 2.43. The current practices of the hemodialysis center in service delivery, costing strategies, and financial management got an average rating of 3.45 with an overall interpretation of “excellent”.

3.4 Challenges Encountered

In terms of Service Delivery

As shown in Table 4, the most frequently reported challenge is limited staff availability, with a frequency of 29, highlighting a significant human resource gap that could affect service efficiency and patient safety. Through Administrative Order No. 2012-0001, the DOH mandates that Hemodialysis Centers (HDCs) meet minimum facility, staffing, and operational standards to ensure patient safety and treatment efficacy. Facilities must have proper dialysis machines, sterile environments, and essential medical supplies to provide safe and effective care. Additionally, HDCs must employ board-certified nephrologists, trained dialysis nurses, and skilled technicians who can administer treatments and monitor patient progress. The DOH also emphasizes patient education, requiring centers to implement programs that enhance patient awareness about kidney disease, self-care, and treatment compliance (DOH, 2012).

Table 4. *Frequencies of Responses for Challenges in Service Delivery*

Responses	Frequency	Rank
Limited staff availability	29	1
Long waiting times	6	4
Difficulty in maintaining patient adherence protocols	5	5
Lack of equipment and supplies	26	2
PhilHealth reimbursement delays	25	3

In hemodialysis, where continuous monitoring and timely interventions are crucial, staff shortages can lead to increased workloads, staff burnout, and compromised patient care. This finding aligns with studies by Garcia et al. (2021), which emphasize that adequate staffing levels correlate with better patient outcomes and reduced medical errors. The issue also reflects institutional constraints, where hiring limitations or budgetary restrictions affect the center’s capacity to recruit and retain qualified healthcare professionals.

Lack of equipment and supplies, with a frequency of 26, and PhilHealth reimbursement delays, with 25 frequencies, are equally pressing concerns. The recurring issue of delayed reimbursements was also evident in the financial management challenges, underscoring its widespread impact on economic sustainability and service delivery. Reimbursement delays disrupt cash flow, limiting the center’s ability to procure essential medical supplies and maintain equipment. This financial bottleneck can aggravate resource shortages, affecting service reliability and increasing the risk of equipment-related service interruptions. According to Institutional Theory, such systemic delays reflect broader structural inefficiencies within the healthcare financing system, where bureaucratic processes hinder timely resource allocation (DiMaggio & Powell, 1983).

The lack of equipment and supplies directly affects the quality of patient care. Hemodialysis requires specialized machines, consumables, and reliable water treatment systems. Inadequate resources can lead to treatment delays, increased infection risks, and poor patient outcomes. This challenge highlights the need for robust procurement strategies and contingency planning to ensure resource availability despite financial or logistical constraints. Interestingly, while long waiting times and difficulty maintaining patient adherence to protocols were reported less frequently, they still represent critical service quality indicators. Although less prevalent, long waiting times can indicate scheduling, resource allocation, or patient flow management

inefficiencies. Prolonged waiting can negatively impact patient satisfaction and adherence to treatment schedules, potentially compromising clinical outcomes. Patient adherence challenges reflect issues in communication, education, or the complexity of treatment protocols. Effective patient engagement strategies like personalized counseling and adherence monitoring are essential in chronic care settings like hemodialysis.

When viewed alongside financial management practices, operational and financial challenges are linked. For instance, the limited revenue sufficiency identified earlier may constrain the center’s ability to hire additional staff or invest in equipment, exacerbating service delivery challenges. This interconnectedness supports the Resource-Based View (RBV), which suggests that the availability and effective management of key human, financial, and material resources are critical determinants of organizational performance (Barney, 1991).

The challenges in service delivery at the GGGH Hemodialysis Center are complicated, encompassing human resource limitations, financial constraints, and operational inefficiencies. Addressing these issues requires a comprehensive approach that includes strategic workforce planning, improved financial management, and system-level reforms to streamline reimbursement processes. Strengthening resource allocation and enhancing operational efficiency will be key to improving service quality and patient outcomes.

In terms of Costing Strategies

The most frequently encountered challenge is high fixed costs with fluctuating patient volumes, underscoring the vulnerability of the center’s financial stability to patient admission variability (see Table 5). Hemodialysis centers incur substantial fixed costs related to facility maintenance, staff salaries, and equipment depreciation, which remain constant regardless of patient load. This situation aligns with the findings of Drummond et al. (2015), who emphasized that fixed costs in healthcare create financial strain when patient volumes decline, reducing revenue without a corresponding decrease in expenses. According to Porter and Kaplan (2016), value-based healthcare models must account for such cost structures to ensure efficiency and sustainability.

Table 5. *Frequencies of Responses for Challenges in Costing Strategies*

Responses	Frequency	Rank
Complexity of direct and indirect cost allocation	15	4
Depreciation of equipment	29	3
High fixed costs with fluctuating patient volumes	48	1
Inventory management and supply chain issues	30	2
Inconsistent reimbursement and payment rates	3	5

PhilHealth plays a crucial role in making hemodialysis costs more affordable to patients. Under its case-based provider payment system, PhilHealth reimburses a fixed amount per hemodialysis session, streamlining the billing and reimbursement process for public and private healthcare facilities. In 2024, PhilHealth increased its reimbursement rate from PHP 4,000 to PHP 6,350 per session, addressing the rising costs of dialysis treatments (PhilHealth, 2024). Moreover, PhilHealth expanded its coverage by increasing the number of covered hemodialysis sessions from 90 to 156 per year, significantly reducing the financial burden on patients requiring lifelong treatment (Inquirer, 2024). With the increase in PhilHealth dialysis treatment coverage, the center must monitor its costing strategies and constantly review and implement necessary adjustments to the direct and indirect costs to fully exploit the amount reimbursable.

Inventory management, supply chain issues, and equipment depreciation, with a frequency of 30 and 29, further complicate the cost management landscape. Hemodialysis equipment, such as dialysis machines, water treatment systems, and specialized chairs, represents significant capital investments that depreciate over time. This depreciation reduces asset value and necessitates periodic replacements and maintenance costs, contributing to long-term financial burdens (Lee & Qaseem, 2014). Moreover, supply chain disruptions can increase procurement costs and stockouts, affecting service delivery. Chopra and Meindl (2019) highlighted that supply chain inefficiencies in healthcare often stem from inadequate demand forecasting, poor supplier relationships, and logistical challenges.

The complexity of direct and indirect cost allocation with a frequency of 15 reflects the difficulties in accurately distributing costs across different services and departments. Direct costs (e.g., consumables, medication) are relatively easy to assign in hemodialysis centers, while indirect costs (e.g., administrative overhead, utilities) require more sophisticated allocation methods. Misallocation can lead to distorted cost analyses, affecting

pricing strategies and financial decision-making. Kaplan and Anderson (2007) advocated adopting time-driven activity-based costing (TDABC) to enhance cost transparency and accuracy in healthcare organizations.

Interestingly, inconsistent reimbursement and payment rates were reported less frequently, posing significant financial risks. Variability in reimbursement, particularly from government health programs like PhilHealth, can create cash flow uncertainties, affecting the center's ability to plan and invest effectively. This issue resonates with the findings of Smith et al. (2018), who noted that inconsistent reimbursement policies disrupt financial planning and discourage investment in quality improvement initiatives. When integrated with the broader financial management challenges identified earlier, these costing issues highlight the importance of comprehensive financial strategies that address revenue generation and cost control. The Resource-Based View (RBV) emphasizes the strategic management of internal resources, including financial capital, to achieve sustainable competitive advantage (Barney, 1991). Additionally, Institutional Theory (DiMaggio & Powell, 1983) suggests that external factors, such as regulatory frameworks and reimbursement policies, significantly shape organizational practices and financial performance.

Addressing the challenges in costing strategies at GGH Hemodialysis Center requires a complex approach. This includes optimizing cost allocation methods, enhancing supply chain resilience, managing fixed costs through flexible service models, and advocating for consistent reimbursement policies. By aligning internal resource management with external environmental demands, the center can improve its financial sustainability and service delivery efficiency.

In terms of Financial Management

The most prevalent issue identified is delays in PhilHealth and financial assistance reimbursement frequency, 40, including subsidies from MAIFFPIP, DSWD, and PCSO (see Table 6). These delays create significant cash flow disruptions, limiting the center's ability to manage day-to-day expenses and invest in service improvements. This finding aligns with the study by Tobe et al. (2016), which highlighted that delayed reimbursements in publicly funded healthcare systems can result in liquidity crises, forcing institutions to defer critical expenditures. Moreover, inconsistent reimbursement cycles reduce financial predictability, a key factor for sustainable healthcare financing (WHO, 2010).

Table 6. *Frequencies of Responses for Challenges in Financial Management*

Responses	Frequency	Rank
High cost of preventive maintenance, calibration, and repair of dialysis equipment and water treatment facility	28	4
Difficulty in procuring dialysis machines, equipment, and consumables	34	2
Lack of diversified funding sources and insurance coverage from HMOs (Health Management Organizations)	30	3
Delays in PhilHealth and financial assistance reimbursement	40	1
Limited Financial flexibility for patient support programs	17	6
Challenges in managing pricing and transparency due to frequent revisions or amendments to different regulatory policies from the government	22	5

Difficulty procuring dialysis machines, equipment, and consumables emerged as another primary concern, with a frequency of 34. This challenge often results from procurement inefficiencies, regulatory barriers, and supply chain disruptions, which were exacerbated during global health crises like the COVID-19 pandemic (Shih, 2020). Limited access to essential equipment compromises service delivery, patient safety, and the facility's capacity to meet rising demand. According to Chopra and Meindl (2019), robust supply chain management is crucial in healthcare to ensure the consistent availability of critical supplies.

The cost of preventive maintenance, calibration, and repair of dialysis equipment, 28 occurrences, further strains the center's budget. Dialysis machines and water treatment facilities require regular maintenance to ensure patient safety and compliance with health standards. The cost of these services and the need for specialized technicians add to the financial burden. This finding is consistent with Kaplan and Porter's (2011) argument that healthcare systems often overlook hidden costs related to equipment lifecycle management, which can significantly impact operational budgets.

The lack of diversified funding sources and limited insurance coverage from HMOs, with a frequency of 30, reflects the center's overreliance on government subsidies and PhilHealth reimbursements. This narrow funding base increases financial vulnerability, particularly when public funding is delayed or reduced. Diversification

through partnerships with private insurers, philanthropic organizations, and donor agencies can enhance financial resilience (Bazzoli et al., 2012). The Resource-Based View (RBV) framework supports this approach, emphasizing the strategic value of resource diversification to strengthen organizational sustainability (Barney, 1991). Limited financial flexibility for patient support programs, 17 occurrences suggest that firm budget allocations restrict the center's ability to respond to emerging patient needs. This rigidity often results from bureaucratic financial management practices prioritizing cost containment over adaptive service provision (Mintzberg, 1994). Financial flexibility is critical in healthcare, where patient demands and treatment costs fluctuate unpredictably.

Finally, challenges in managing pricing and transparency due to frequent revisions in regulatory policies highlight the impact of policy volatility on financial planning. While necessary to improve healthcare standards, regulatory changes can create administrative burdens and compliance costs for providers (Oliver, 1991). Institutions need robust financial governance systems to navigate such regulatory complexities effectively. These financial challenges are deeply tied to external institutional factors and internal resource management issues. While Institutional Theory explains how regulatory environments influence organizational practices (DiMaggio & Powell, 1983), RBV emphasizes leveraging internal capabilities to achieve sustainable competitive advantages. Addressing these challenges requires a dual approach: advocating for policy reforms to improve funding mechanisms while strengthening internal financial management systems to enhance efficiency and resilience.

3.5 Actions Taken to Address Challenges

In terms of Service Delivery

The most frequently reported action was offering competitive compensation and benefits to attract and retain staff, with a frequency of 42 (see Table 7). This approach underscores the critical role of human resource management in healthcare, particularly in specialized services like hemodialysis, where skilled professionals are essential. Competitive compensation packages attract talent, improve job satisfaction, and reduce turnover rates, which impact patient safety and care continuity (Shields & Ward, 2001). This strategy aligns with Herzberg's Two-Factor Theory, which identifies salary and benefits as key extrinsic motivators influencing employee retention (Herzberg, 1966).

Table 7. *Frequencies of Responses for Actions Taken to Address Challenges in Service Delivery*

Responses	Frequency	Rank
Hired additional healthcare staff and allocated workload more efficiently	33	5
Offered competitive compensation and benefits to attract and retain staff	42	1
Introduced an appointment scheduling system to manage patient flow	31	6
Extended operational hours or added more shifts to accommodate patients	36	3
Streamlined the claims submission process and improved documentation accuracy	30	7
Conducted patient education sessions about the importance of adherence	35	4
Implemented reminders through text or calls for scheduled treatments	37	2

Implementing reminders through text or calls for scheduled treatments was also a highly utilized strategy, with a frequency of 37. This action improves patient adherence to treatment schedules, which is vital for chronic conditions like end-stage renal disease. Studies have shown that reminder systems, particularly mobile health (mHealth) technologies, significantly reduce missed appointments and improve health outcomes (Fischer et al., 2016). This reflects the growing importance of technology in enhancing patient engagement and adherence to treatment protocols. The center also prioritized extending operational hours or adding more shifts to accommodate patients (frequency, 36), demonstrating flexibility in service delivery to meet patient demand. This approach helps reduce patient wait times, improve access to care, and manage fluctuating patient volumes effectively. According to Blegen et al. (2011), flexible scheduling and adequate staffing are critical for maintaining quality care and preventing staff burnout in high-demand healthcare settings.

Efforts to conduct patient education sessions about the importance of adherence (frequency, 35) highlight the center's commitment to patient-centered care. Educating patients about their condition and treatment fosters self-management, reduces complications, and enhances treatment efficacy. This strategy is supported by Orem's Self-Care Deficit Nursing Theory, which emphasizes the importance of educating and empowering patients to manage their health effectively (Orem, 2001). Introducing an appointment scheduling system to manage patient flow and administrative improvements was also evident through streamlining the claims submission process and improving documentation accuracy, with frequencies of 30 and 31, respectively. These measures enhance

administrative efficiency, reduce bureaucratic delays, and improve resource utilization. Lean management principles suggest that minimizing process inefficiencies can significantly improve healthcare service delivery by reducing waste and optimizing workflow (Womack & Jones, 2003).

Lastly, hiring additional healthcare staff and allocating workload more efficiently (frequency, 33) addresses staffing shortages and workload imbalances, which are common issues in healthcare facilities. Adequate staffing levels are directly linked to improved patient outcomes, reduced errors, and better staff morale (Aiken et al., 2002). This action reflects the principles of resource optimization within the Resource-Based View (RBV) framework, which emphasizes the strategic importance of human resources in achieving organizational sustainability (Barney, 1991). The center's actions reflect an integrated approach that balances human resource strategies, patient-centered care, and operational efficiency. While these measures have shown positive impacts, continuous evaluation and adaptation are necessary to address evolving challenges in service delivery.

In terms of Costing Strategies

The most frequently reported action was negotiating contracts with payors to secure predictable reimbursement terms, with a frequency of 37 (see Table 8). This finding highlights the center's focus on financial stability through strategic partnerships with insurance companies, government health programs, and other payors. Predictable reimbursement agreements reduce revenue unpredictability and improve cash flow management, which is critical in healthcare operations with high fixed costs, such as hemodialysis (Cutler & Zeckhauser, 2000). This approach aligns with the principles of Institutional Theory, where organizations adapt to external pressures, such as reimbursement policies, to maintain legitimacy and financial viability (DiMaggio & Powell, 1983).

Table 8. *Frequencies of Responses for Actions Taken to Address Challenges in Costing Strategies*

Responses	Frequency	Rank
Trained finance staff on cost accounting methods specific to dialysis.	27	6
Explored leasing models or long-term maintenance contracts	33	4
Diversified income sources by offering other services (e.g., laboratory tests).	34	3
Used inventory management software to monitor and predict supply needs.	35	2
Developed agreements with multiple suppliers to avoid stockouts.	32	5
Negotiated contracts with payors to secure predictable reimbursement terms.	37	1

Closely following was the use of inventory management software to monitor and predict supply needs (frequency, 35). Effective inventory management reduces waste, prevents stockouts, and optimizes procurement costs, which are significant concerns in healthcare settings (Mangan et al., 2016). This action demonstrates the application of the Resource-Based View (RBV) theory, emphasizing the strategic use of technological resources to gain operational efficiencies. Predictive analytics in inventory systems can forecast demand trends, streamline supply chains, and reduce unnecessary expenditures, contributing to overall cost containment.

Another widely adopted strategy was diversifying income sources by offering other services, such as laboratory tests (frequency, 34). Income diversification reduces reliance on a single revenue stream, mitigating financial risks associated with fluctuations in patient volume or reimbursement rates. This strategy is consistent with portfolio theory in financial management, where diversification minimizes risks while maximizing potential returns (Markowitz, 1952). Additionally, integrating ancillary services enhances patient convenience, potentially increasing patient retention and satisfaction.

The center also explored leasing models or long-term maintenance contracts (frequency, 33) to manage the high costs associated with dialysis equipment. Leasing reduces upfront capital expenditures, allowing the center to allocate financial resources flexibly while ensuring access to the latest technology (Nash & Nash, 2012). Long-term maintenance contracts help stabilize operational costs by mitigating unexpected repair expenses and enhancing financial predictability. Furthermore, developing agreements with multiple suppliers to avoid stockouts (frequency, 32) reflects strategic risk management in procurement practices. Supplier diversification reduces dependency on single suppliers, minimizes supply chain disruptions, and enhances bargaining power during negotiations. This approach aligns with supply chain resilience frameworks, emphasizing the importance of flexibility and redundancy in critical healthcare supply chains (Ponomarev & Holcomb, 2009).

Lastly, training finance staff on cost accounting methods specific to dialysis underscores the importance of building internal financial management capabilities, with 27 occurrences. Specialized cost accounting provides accurate insights into the cost structure of dialysis operations, enabling data-driven decision-making and identifying areas for cost optimization (Horngren et al., 2013). This internal capacity-building is crucial for sustaining financial health, especially in resource-constrained healthcare environments. The GGHI Hemodialysis Center's actions reflect a comprehensive approach that integrates costing strategies, best practices, technological innovation, strategic partnerships, and operational efficiency. Combining these strategies enhances the center's capacity to navigate costing strategy challenges while maintaining high-quality patient care.

In terms of Financial Management

The most frequently adopted strategy was forming partnerships with suppliers for bulk or discounted purchases, as reported by 33 respondents (see Table 9). This approach reduces procurement costs through economies of scale, enabling the center to maintain adequate supply levels while optimizing its budget. Bulk purchasing agreements lower unit costs, a cost-containment strategy in healthcare supply chain management. This action aligns with the Resource-Based View (RBV), emphasizing the strategic acquisition of resources to achieve operational efficiency and financial sustainability.

Table 9. *Frequencies of Responses for Actions Taken to Address Challenges in Financial Management*

Responses	Frequency	Rank
Conducted routine maintenance to avoid costly repairs or replacements.	30	3
Formed partnerships with suppliers for bulk or discounted purchases.	33	1
Created a fundraising campaign or sought CSR partnerships with private companies.	28	4
Partnered with government agencies and GSAC to provide subsidies.	31	2
Communicated changes clearly to patients and stakeholders through regular updates.	26	5

Closely following, partnering with government agencies, and 31 respondents identified GSAC to provide subsidies as a key financial strategy. This reflects the critical role of external funding in mitigating the high costs of hemodialysis treatment. Subsidies from government programs and cooperative organizations like GSAC reduce the financial burden on both the center and its patients. This strategy aligns with Institutional Theory, highlighting how organizations adapt to external pressures and leverage institutional support to enhance sustainability and legitimacy within the healthcare sector.

Thirty respondents reported conducting routine maintenance to avoid costly repairs or replacements. Preventive maintenance minimizes the risk of equipment failures, extends the lifespan of dialysis machines, and reduces unplanned expenditures. This proactive approach aligns with asset management best practices in healthcare, where scheduled maintenance ensures operational efficiency and cost-effectiveness, preventing the financial strain of emergency repairs or equipment replacements.

Another significant action was creating fundraising campaigns or seeking corporate social responsibility (CSR) partnerships with private companies, as noted by 28 respondents. Fundraising and CSR initiatives diversify revenue streams beyond traditional funding sources such as patient fees and government support. These efforts attract philanthropic contributions and corporate sponsorships, providing additional financial resources crucial for the center's sustainability. Moreover, CSR partnerships enhance the center's public image, fostering stronger community ties and support from the private sector.

Lastly, communicating changes clearly to patients and stakeholders through regular updates was identified by 26 respondents. Although this was the least frequently reported strategy, it plays a vital role in financial management. Transparent communication fosters trust and ensures stakeholders are well-informed about policy changes, financial adjustments, and operational decisions. This approach mitigates potential misunderstandings and facilitates better patient decision-making regarding treatment plans and financial responsibilities. The GGHI Hemodialysis Center's financial management strategies reflect a well-rounded approach integrating cost-reduction initiatives, strategic partnerships, preventive maintenance, revenue diversification, and stakeholder engagement. The frequency of these actions underscores the center's focus on maintaining financial stability while ensuring the continuous delivery of high-quality hemodialysis services.

3.6 Areas for Improvement

As shown in Table 10, one of the most frequently cited issues, with a frequency of 15, is that while hiring additional staff has been done, ensuring their adequate training for specialized needs in dialysis and patient care is not explicitly mentioned. This gap in specialized knowledge can impact the overall effectiveness of healthcare delivery, as dialysis requires precise skills in equipment handling, patient monitoring, and infection control. Another critical area of concern concerns the accessibility of services for rural or underserved patients, with 13 occurrences. Despite the center's efforts to expand capacity by adding additional shifts, many patients from remote areas still face significant barriers to dialysis services. These challenges may stem from limited transportation options, financial constraints, or geographical distance, underscoring the need for more inclusive strategies to ensure that all patients, regardless of location, receive timely and adequate care.

Table 10. *Frequencies of Responses for Areas for Improvement*

Responses	Frequency	Rank
While hiring additional staff has been done, ensuring their adequate training for specialized needs in dialysis and patient care is not explicitly mentioned.	15	1
No action has been detailed to address the lack of equipment or consumables.	2	5
Streamlining claims is a step forward, but there is no mention of collaboration with PhilHealth or advocacy to improve the reimbursement process.	7	4
Actions such as education sessions and reminders address this issue; however, mechanisms to monitor adherence long-term are unclear.	9	3
While additional shifts have been added, rural or underserved patients might still face challenges accessing services.	13	2

Furthermore, the center has implemented educational sessions and reminders to promote patient adherence to treatment plans; however, the mechanisms to monitor long-term adherence remain unclear. This issue, noted with a frequency of 9, suggests that while initial efforts to educate patients are in place, there is a lack of structured follow-up processes to ensure consistent compliance over time. Long-term monitoring is crucial for managing chronic conditions like kidney disease, where treatment adherence directly affects patient outcomes. The center has streamlined claims submission processes in financial management, but there is little evidence of collaboration with PhilHealth or advocacy efforts to improve the reimbursement process. This gap, identified with a frequency of 7, highlights the need for stronger partnerships with government health agencies to ensure timely reimbursements, which are vital for the center's financial sustainability. Lastly, the least frequently mentioned but still significant concern, with a frequency of 2, is the absence of specific actions to address equipment or consumables shortages. Ensuring a steady supply of dialysis equipment and medical consumables is critical to maintaining uninterrupted patient care. This calls for developing robust supply chain management strategies, including partnerships with multiple suppliers and effective inventory management systems.

3.7 Actionable Sustainability Policies and Programs Needed

The actionable sustainability policies and programs identified for the GGHI Hemodialysis Center reflect a strategic approach to addressing financial, operational, and service-related challenges. Implementing a dedicated monitoring system to closely track PhilHealth reimbursements, MAIFFIP, DSWD, and PCSO financial aid emerged as the most frequently suggested action, with a frequency of 47. This highlights the critical need for financial oversight and efficient reimbursement tracking, ensuring consistent cash flow and reducing the risks of delayed funding (Smith et al., 2020).

Conducting regular training and development programs to enhance staff competency in hemodialysis management also received a high frequency of 43. This indicates a strong recognition of the importance of continuous professional development to maintain high standards of patient care and operational efficiency (Jones & Brown, 2019). Similarly, exploring opportunities to buy in bulk or negotiate long-term contracts with suppliers, coupled with investments in renewable energy, was frequently recommended, with a frequency of 41. This strategy aims to reduce operational costs and promote environmental sustainability (Green & Taylor, 2021). The allocation of specific funds for emergency repairs or replacements and the exploration of telemedicine options were noted with a frequency of 37 and 35, respectively. These initiatives reflect a proactive approach to enhancing service delivery and ensuring the center's resilience in the face of unforeseen disruptions (Lee et al., 2022).

Furthermore, staff should stay updated with government policy changes and partner with regional dialysis centers for joint procurement, both of which recorded frequencies of 34. These actions emphasize the need for adaptive financial planning and collaborative resource management to achieve cost efficiencies (White, 2018). Building an emergency fund to address short-term liquidity issues caused by reimbursement delays was

suggested with a frequency of 29, but it remains a crucial component of financial sustainability. This measure can provide a buffer (Kim & Park, 2020).

Table 11. *Actionable Sustainability Policies and Programs*

Policies And Programs	Frequency	Rank
Implement a dedicated monitoring system to closely track PhilHealth reimbursements, MAIFFIP, DSWD, and PCSO financial aid.	47	1
Build an emergency fund to address short-term liquidity issues caused by reimbursement delays.	29	8
Explore opportunities to buy in bulk or negotiate with suppliers for long-term contracts to secure better prices and invest in renewable energy.	41	3
Ensure staff stays updated with government policy changes to adjust financial planning and reimbursement processes promptly.	31	7
Partner with other regional dialysis centers or healthcare providers to jointly procure equipment and supplies, benefiting from economies of scale.	34	6
Conduct regular training and development programs to enhance staff competency in hemodialysis management.	43	2
Explore telemedicine options to provide remote consultations and follow-ups for patients.	35	4
Allocate specific funds for emergency repairs or replacements	37	5

4.0 Conclusion

In conclusion, the study showed that the GSAC General Hospital Hemodialysis Center in Sorsogon has made substantial progress in improving service delivery, financial management, and cost strategies. The center achieved excellent performance with minimal treatment delays and stronger financial outcomes in 2024, positioning it well for continued success. However, the study highlighted ongoing challenges such as specialized staff training, access for underserved patients, patient adherence, partnerships with health agencies, and equipment management. Addressing these gaps is essential to maintain high-quality care and long-term sustainability. Continued efforts in staff development, improved patient monitoring, and stronger collaboration with health partners will help enhance service delivery and meet growing healthcare needs. Future studies could explore patient satisfaction and compare practices with other centers to further guide improvements.

5.0 Contributions of Authors

The author contributed to all aspects of the research, including the study design, data collection, analysis, and interpretation of findings. The author reviewed and approved the final manuscript.

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7.0 Conflict of Interests

The author declares no conflicts of interest regarding the publication of this paper.

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