



# **Challenges and Opportunities of Clinical Pharmacy Services in DOH-Retained General Tertiary Hospital in Cebu City: A Basis for Operational Development Plan**

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## **ABSTRACT**

CPS was increasingly recognized as vital to improving patient care and medication safety in hospitals. Yet, in many Philippine government hospitals, the full integration of clinical pharmacists into patient care teams remains a work in progress. This qualitative study was motivated by both professional passion and firsthand experience, born from witnessing the real challenges and the untapped potential of clinical pharmacy practice in a large, DOH-retained general tertiary hospital in Cebu City, aimed at analyzing the challenges and opportunities of clinical pharmacy services in a DOH-retained general tertiary hospital in Cebu City as a basis for an operational development plan. Specifically, it sought to: (1) assess the current status of CPS; (2) identify challenges faced by clinical pharmacists; (3) explore opportunities for strengthening CPS; and (4) develop strategic recommendations for the sustainable delivery of clinical pharmacy services.

Guided by a genuine desire to understand and improve clinical pharmacy services in our hospital, this study used a qualitative descriptive design to dig deeper into both the everyday challenges and untapped opportunities faced by clinical pharmacists. To capture authentic perspectives, self-administered, open-ended questionnaires were sent electronically to ten pharmacists who are directly involved in clinical pharmacy services within the hospital. Each pharmacist's experiences and insights were gathered in their own words, allowing for a rich and nuanced picture of the current realities on the ground.

The responses were then analyze using Braun and Clarke's well-established six-step framework for thematic analysis, a process designed to systematically identify recurring patterns and meaningful themes. To ensure accuracy and organization, the Delve qualitative analysis tool was used to further validate the codes and themes that emerged. This approach allowed the study not just to capture the voices of those at the frontline, but to provide a practical, experience-based foundation for developing an operational plan tailored to the unique needs and context of the institution.

The analysis of the collected responses brought to light ten core themes that paint a vivid picture of the clinical pharmacy landscape in the hospital. Pharmacists described how their role is steadily evolving, moving beyond traditional tasks and becoming more involved in direct patient care. However, this transition has not been without its hurdles. Chronic staffing shortages and resource gaps mean that pharmacists are often stretched thin, trying to balance both clinical and logistical responsibilities. At the same time, inconsistent policy implementation and a lack of clear, updated standard operating procedures (SOPs) make it even harder for them to practice to the fullest extent of their training.

This study highlighted the importance of strategic workforce planning, clear policies, technology adoption, and a culture of teamwork to fully realize the benefits of clinical pharmacy services. The insights gathered, serve not only as a mirror for institutional self-assessment but as a roadmap for meaningful improvements that can enhance patient care, empower pharmacists, and help set a higher standard for clinical pharmacy in Philippine hospitals.

**Keywords:** *Clinical Pharmacy Services, DOH-Retained General Tertiary Hospital, Challenges, Opportunities, Operational Development Plan*

## **1. Introduction**

Over the past few years, clinical pharmacy services (CPS) have become an increasingly vital part of patient-centered care, especially within hospitals. The expanding role of clinical pharmacists—driven by complex healthcare needs, advances in pharmaceutical science, and the demand for more personalized care—now includes direct patient involvement and teamwork with other health professionals (Jokanovic et al., 2017). In the Philippines, the Department of Health has strongly supported the integration of CPS in public hospitals,

aligning with international standards. However, resource limitations, technological gaps, and institutional barriers continue to slow the full adoption of CPS in many government-run hospitals (Ramos et al., 2022; Litonjua et al., 2021).

Many pharmacists, despite having clinical training in their education, still lack the practical experience required for advanced clinical roles, partly due to limited administrative support and insufficient collaboration among healthcare teams (Gonzales & Bautista, 2020; Santos et al., 2023). Outdated protocols and the lack of standardized workflows further hinder progress. On the positive side, ongoing reforms, professional development programs, and the adoption of electronic health records and clinical decision support systems offer promising avenues for improvement.

As a practicing hospital pharmacist, I have seen both the impact and the frustrations of CPS firsthand. These lived experiences reinforce the importance of strategic planning, policy development, and technology adoption in strengthening clinical pharmacy. This study aims to analyze the challenges and opportunities of clinical pharmacy services in DOH-retained general tertiary hospital in Cebu City as a basis for an Operational Development Plan. Specifically, the study aims to:

1. Assess the current status of clinical pharmacy services in selected DOH-retained general tertiary hospital in Cebu City.
2. Identify the challenges faced by pharmacists directly involved in clinical pharmacy services in selected DOH-Retained General Tertiary Hospital in Cebu City.
3. Explore potential opportunities for strengthening clinical pharmacy services in selected DOH-Retained General Tertiary Hospital in Cebu City.
4. Develop recommendations and strategies for an operational development plan aimed at improving the delivery and sustainability of clinical pharmacy services in DOH-Retained General Tertiary Hospital in Cebu City.

## 2. Methodology

**Research Design.** This study took a qualitative descriptive approach to deeply explore the real-life challenges and opportunities faced by clinical pharmacists in a major government tertiary hospital in Cebu City. Instead of just collecting numbers, the researcher designed an open-ended survey, reviewed by field experts, so pharmacists could honestly share their experiences in their own words.

**Research Site.** The research took place at a leading public hospital in Cebu City, a regional teaching and referral center with advanced facilities and a large, diverse patient base. This hospital, operating under Department of Health guidelines, is an ideal setting to analyze how clinical pharmacy services work in practice, especially in the public sector.

**Sample and Sampling Design.** Participants were selected purposefully: only pharmacists directly involved in clinical pharmacy services (such as medication management, patient counselling, and stewardship programs) were invited. The final group consisted of ten (10) pharmacists, each with at least two years' experience in the hospital. This mix, representing different specialties and wards, ensured a range of perspectives, which is vital for understanding the bigger picture and informing operational improvements. Those who weren't actively working in clinical pharmacy, had too little experience, or were unavailable were excluded to keep the data focused and relevant. A sample size of ten (10) is well accepted in qualitative research, big enough to cover a range of experiences, small enough for in-depth analysis. The goal wasn't to generalize to all hospitals, but to richly describe the lived realities of clinical pharmacists in this particular setting.

**The Research Instrument.** The main tool for gathering data was a self-administered, researcher-designed questionnaire made up of open-ended questions. This survey was based on existing research and validated by qualitative experts, making sure it would capture meaningful, detailed responses about the ups and downs of clinical pharmacy practice in the hospital.

**Ensuring Data Trustworthiness.** To make sure the data was credible, the survey was reviewed and pilot-tested with a small group of pharmacists, and adjustments were made based on their feedback. Confidentiality was guaranteed to encourage honest responses. The sample included pharmacists from a variety of backgrounds to capture a wide range of experiences (triangulation). For analysis, the study followed Braun and Clarke's six-step thematic analysis, using the Delve qualitative analysis tool to code responses and validate emerging themes. To check accuracy, some findings were shared with participants (member checking), ensuring their perspectives were genuinely represented.

**Data Gathering Process.** After obtaining proper approvals, pharmacists were contacted by email and invited to participate. Each received full information about the study and consented before taking part. The surveys were sent out electronically, giving pharmacists time to answer thoughtfully. Responses were collected and stored securely, with all identities kept confidential. The entire data collection phase spanned about five weeks.

**How the Data Was Analyzed.** The researcher started by thoroughly reading all the responses, becoming familiar with the unique experiences described by each pharmacist. They then systematically coded the data, tagging important points like "staffing shortage," "policy inconsistency," or "technology barriers." These codes were grouped into broader themes, like operational gaps, the evolving role of pharmacists, and ethical commitment. Themes were reviewed and refined to ensure they accurately reflected what participants were saying. Once finalized, the themes were clearly named and defined to make them easy to understand, especially for hospital leaders and policy makers. The final report weaves together these themes using real quotes from pharmacists, grounding recommendations in authentic experiences.

**Software Support.** The Delve tool supported the organization, coding, and accuracy of the analysis, helping to ensure the findings were systematic and reliable.

**Table 1. Comprehensive Thematic Analysis Based on Braun and Clarke's (2006) Six-Step Framework**

Step	Description/Activity	Application to this Study	Examples from Respondent Data
<b>1. Familiarization with Data</b>	Reading and re-reading transcripts, field notes, and written responses to gain holistic understanding.	Researchers reviewed all interview transcripts, written questionnaires, and field notes from multiple pharmacists and hospital staff. Initial observations were documented regarding the range of challenges, successes, and perceptions.	<p>"The roles of clinical pharmacists are now more well-defined and patient-centered."</p> <p>"Sometimes, our interventions are ignored due to workload or lack of support."</p>
<b>2. Generating Initial Codes</b>	Systematically highlighting recurring phrases, ideas, or issues; creating short labels ("codes").	Codes were generated inductively by marking repeated ideas about roles, staffing, collaboration, policy, technology, and outcomes. Codes were collated in a spreadsheet for comparison and refinement.	<p>Examples of codes:</p> <p>"Staffing shortages", "Interprofessional collaboration", "Lack of digital tools", "Policy gaps", "Need for ongoing training", "Positive patient outcomes", "Ignored interventions", "Ethical responsibilities", "Role validation", "Technology as enabler"</p>
<b>3. Searching for Themes</b>	Collating codes into potential overarching themes and subthemes that reflect the data's main patterns.	Similar codes were grouped to form broader themes representing core issues and opportunities in clinical pharmacy practice in the hospital.	<p>Themes identified:</p> <p>Evolving Role of Clinical Pharmacists; Staffing Shortages &amp; Resource Gaps; Interprofessional Collaboration; Administrative &amp; Policy Support; Technology Constraints &amp; Opportunities; Professional Development Needs; Ethical Responsibilities; Impact &amp; Value of CPS; Opportunities for Growth; Lived Experiences and Learning</p>
<b>4. Reviewing Themes</b>	Refining and validating themes against all coded data, the research objectives, and participant input.	Each theme was checked for internal consistency and uniqueness. Overlapping themes were merged or redefined for clarity. Themes were cross-referenced with research questions and, where possible, reviewed with participants for validation.	<p>Example: "Technology as a barrier" and "Technology as an enabler" were merged into <b>Technology Constraints &amp; Opportunities</b> after checking multiple respondent views. Every theme was grounded in data from more than one respondent, confirming credibility and coverage of the study's objectives.</p>
<b>5. Defining and Naming Themes</b>	Writing clear, concise definitions for each theme; ensuring each has a distinct focus and explanatory value.	Finalized theme definitions were written up and illustrated with representative quotes, making each theme easy to interpret for readers.	<p>Example definitions:</p> <p><b>Staffing Shortages &amp; Resource Gaps:</b>            "Insufficient personnel, heavy workloads, and resource constraints limit effective CPS delivery."</p> <p><b>Interprofessional Collaboration:</b>            "Pharmacists' teamwork with physicians</p>

			and nurses is critical but sometimes hindered by hierarchy or unclear roles.”
<b>6. Producing the Report</b>	Synthesizing findings into a coherent narrative or table, using direct quotes to illustrate each theme.	Findings were summarized in the results and discussion sections, using quotes and examples to highlight key points. Thematic table and narrative provide the foundation for operational recommendations.	<p>Example report entries:</p> <p>“Strengthening CPS can improve patient safety and reduce costs, but requires more administrative support and better integration of technology.” (Summary from multiple respondents)</p> <p>Quotation: “When my recommendation was accepted, it validated my role as a clinical pharmacist.”</p> <p>“Technology makes our work efficient—if only we had full access.”</p>

### 3. Summary of Findings

This study set out to take a closer look at both the challenges and opportunities faced by clinical pharmacy services (CPS) in a DOH-retained general tertiary hospital in Cebu City, all with the aim of creating a practical operational development plan. By analyzing the self-administered questionnaires completed by pharmacists, several important themes and insights emerged about how CPS is currently being practiced and where there’s room for growth.

One of the clearest messages from the participants was that clinical pharmacists are increasingly recognized as an essential part of patient-centered care. Pharmacists described their active roles in monitoring patients’ therapies, reviewing and reconciling medications, participating in antimicrobial stewardship, and watching out for adverse drug reactions. These activities echo what is seen in hospitals around the world, where pharmacists are moving beyond just dispensing medicines to being truly involved in direct patient care. However, in this hospital, just how much pharmacists are able to participate still varies widely, and often depends on systemic and institutional factors.

Staffing emerged as one of the biggest hurdles. Many pharmacists are stretched thin, expected to juggle both clinical duties and traditional logistical roles, which can affect the quality of care they provide. This problem isn’t unique to this hospital; it’s also seen in other countries where there simply aren’t enough clinical pharmacists to go around. In addition, the study brought out stories of resistance from some physicians and nurses. Sometimes this is due to misunderstandings or a lack of clarity about what clinical pharmacists can offer to the healthcare team, highlighting the ongoing need for interprofessional collaboration and education.

Another significant obstacle identified was the lack of strong institutional support and clear, up-to-date policies for clinical pharmacy services. While some guidelines exist, they are often outdated or not strictly followed. Basic infrastructure is also an issue, with pharmacists mentioning cramped workspaces and a shortage of up-to-date reference materials, making it harder to do their jobs well.

Technology came up repeatedly, both as a current limitation and as a real opportunity for improvement. The lack of Electronic Health Records (EHR) and Clinical Decision Support Systems (CDSS) makes day-to-day tasks more cumbersome, but respondents also expressed hope that investing in these tools could make their work much more efficient, accurate, and collaborative. International experience suggests that digital integration does, in fact, make a real difference by improving productivity and reducing errors.

Even with these challenges, the pharmacists in this study showed a lot of drive and commitment to growing in their roles. Many expressed a desire for ongoing training, advanced certifications, and opportunities to specialize in clinical fields such as infectious diseases, critical care, or medication safety. This supports the idea that public hospitals should invest in formal training and competency-building programs for their clinical pharmacy teams.

Most importantly, all respondents shared a common belief in the positive impact of clinical pharmacy services on both patient safety and hospital efficiency. They spoke about preventing unnecessary treatments, ensuring correct dosing, and reducing the risk of drug-related problems, results that align with global evidence showing that CPS can lead to better health outcomes and lower healthcare costs.

**Table 2. Thematic Analysis of Responses by Research Objectives**

Research Objective	Theme	Key Points/Findings	Representative Respondent Quote
<b>1. Assess the current status of</b>	Evolving Role of Clinical Pharmacists	Clinical pharmacists’ roles are shifting from product-focused to patient-centered, involving direct patient care, medication therapy	“Clinical pharmacists are more patient-centered. Our role now includes daily rounds, patient counseling, and monitoring drug therapy.

<b>clinical pharmacy services in the hospital</b>		management, and stewardship.	
		CPS implementation is ongoing but not yet fully established in some departments.	
	Implementation Gaps	Existing policies and procedures guide CPS, but enforcement and support are inconsistent.	“Clinical pharmacy service is not yet fully developed and so further improvement can still be made.”
	Policy and Administrative Support		“There is a manual of policies, but support and enforcement are inconsistent.”
<b>2. Identify challenges faced by clinical pharmacists</b>	Staffing Shortages & Resource Gaps	Chronic understaffing, high workload, and reassignment impede effective CPS delivery.	“Staffing shortages make it hard to cover all wards.”
	Interprofessional Collaboration	Some physicians and nurses do not fully accept or understand the clinical pharmacist’s role. Pharmacists’ teamwork with doctors, nurses, and others is essential but sometimes met with resistance or unclear roles.	“Sometimes our interventions are ignored by other professionals.”
		Lack of EHR/CDSS, reliance on paper-based processes, and limited digital access hinder workflow.	
	Technology Constraints	Some departments have unclear or insufficient CPS policies.	“Lack of EHR means we rely on paperwork, which slows us down.”
	Inconsistent Policy Implementation		“Lack of standard policies makes implementation difficult.”
<b>3. Explore opportunities for strengthening clinical pharmacy services</b>	Technology as Opportunity	Technology (EHR, CDSS, telepharmacy) can streamline work, improve safety, and enable more proactive care if implemented.	“Technology makes our work efficient—if only we had full access.”
	Professional Development & Training	There is strong demand for ongoing training, specialization, and postgraduate education.	
		Calls for clearer policies, plantilla positions, funding, and standardized	“We need more opportunities for external training and routine updates.”

		practice to expand CPS.	
	Administrative & Policy Reform		"We need plantilla positions, more funding, and clear protocols."
<b>4. Develop recommendations and strategies for an Operational Development Plan</b>	Policy and Administrative Support	Formalize and standardize CPS roles and protocols across hospital departments. Policy structures and admin support exist but are often inconsistent or under-resourced.	"Dedicated clinical pharmacist positions within patient care teams would enhance CPS."
	Invest in Technology and Resources	Allocate funding for EHR/CDSS, training, and staffing to support sustainable CPS implementation.	"The budget must be allocated to acquire these technologies and provide training."
	Foster Collaboration and Recognition	Encourage interprofessional teamwork and recognize pharmacist contributions in patient care decisions.	"When my recommendation was accepted, it validated my role as a clinical pharmacist."
		Use metrics to assess CPS impact and guide continuous improvement.	"Outcome monitoring helps secure funding and support from administration."
	Monitor and Evaluate Outcomes		

## 4. Conclusion and Recommendations

### Conclusion

Therefore, the results of this study highlighted the expanding role of clinical pharmacists as essential members of the healthcare team, with a direct impact on patient safety, medication management, and overall healthcare quality. For the pharmacy profession, these findings reinforced the need for advocacy, continuous professional development, and a collaborative mindset. Each group, hospital leaders, government agencies, educators, and researchers, can help ensure that clinical pharmacy services were not only strengthened but were able to deliver safer, more effective, and patient-centered care across the healthcare system.

Moreover, the delivery of effective clinical services was a dynamic process constantly navigating a complex interplay of challenges and opportunities. While resources constraints, evolving healthcare landscapes, and technological integration presented significant hurdles, innovative approaches, collaborative partnerships, and commitment to continuous improvement offered pathways to overcome these obstacles. Embracing technological advancements, fostering interprofessional collaboration, and prioritizing patient-centered care were crucial for enhancing the quality, accessibility, and sustainability of clinical services, leading to improved health outcomes.

On a personal level, completing this research had been both challenging and rewarding. It deepened the researcher's understanding of the complexities and possibilities within clinical pharmacy, strengthened their commitment to advancing the profession, and affirmed the importance of listening to the lived experiences of colleagues in shaping practical solutions for better patient care.

### Recommendations

The findings from this study had offered practical guidance not only for hospital administrators, but also for government agencies, pharmacy schools, and the wider healthcare community. Each stakeholder has a unique role to play in making clinical pharmacy services (CPS) a strong and sustainable part of patient care. Specifically,

**For Hospital Administration**, one of the clearest implications was the need for thoughtful workforce planning. Hospitals will be encouraged to establish permanent, well-defined positions for clinical pharmacists in every major ward, ensuring that their roles are recognized, supported, and integrated into daily practice. Beyond hiring, it was important for hospitals to create and circulate standardized protocols for clinical pharmacy services so that every department will be on the same page and patients receive consistent care. Perhaps most importantly, hospital leadership has the opportunity to nurture a culture where the expertise of pharmacists is not just respected but sought out in clinical decision-making, fostering true teamwork.

**For the Department of Health (DOH)**, the study's findings pointed to the value of making clinical pharmacy services a national standard. The DOH can help drive this by integrating CPS into the required services in all government hospitals and using it as a key measure in hospital accreditation and quality checks. This also meant setting aside dedicated funding, not just for hiring, but for

ongoing training and upgrading the technologies that pharmacists need to do their jobs well. Developing national guidelines and training modules tailored for tertiary hospitals will also help ensure that CPS is delivered consistently and at a high standard across the country.

**For Pharmacy Education and Training Institutions**, pharmacy schools and training centers will have an important part to play in preparing future clinical pharmacists. This will start with curriculum updates that give more emphasis to clinical skills, interprofessional teamwork, and technology used in patient care. Strengthening partnerships with DOH hospitals can provide students with valuable hands-on experience through preceptorships and mentorship. Beyond graduation, schools and training bodies can offer advanced certifications in specialized fields, like antimicrobial stewardship or critical care, so that government pharmacists can keep developing their expertise as the profession evolves.

Finally, **for Future Research**, the study highlighted the need for ongoing research. Similar studies should be conducted in other DOH-retained hospitals to see how common the challenges and opportunities are, and to refine the operational development plan further. Future research could also focus on measuring the real-world impact of CPS, such as improvements in patient health outcomes or hospital cost savings, after these services are more fully implemented.

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