

Healthcare Workers' Experiences with Workflow and Workload Management in the Pharmacy Department of a Level III Government Hospital: Basis for a Pharmacy Workforce Optimization Plan

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ABSTRACT

This qualitative descriptive study examined the experiences of healthcare workers regarding workflow and workload management in the Pharmacy Department of a Level III government hospital in Quezon City and used the findings as the basis for a Pharmacy Workforce Optimization Plan. Thirty licensed healthcare workers—10 nurses, 10 medical doctors, and 10 pharmacists—were purposely selected because of their direct involvement in medication-related processes. Data were obtained through semi-structured interviews and analyzed thematically. Participants described a committed pharmacy workforce operating under high prescription volume, urgent requests, simultaneous duties, repeated clarifications, communication gaps, and equipment limitations. Nurses experienced delayed medicines and repeated follow-ups that reduced time for bedside care. Physicians reported dispensing bottlenecks and uncertainty in order status that affected treatment timing. Pharmacists experienced continuous demand and frequent task switching while maintaining accuracy and medication safety. The proposed plan emphasizes clear shift assignments, balanced task allocation, a visible priority pathway for urgent medicines, standardized communication, competency development, reliable equipment, digital tracking, and routine performance monitoring. The findings are context-specific because the study involved one hospital, but they offer a practical interprofessional basis for improving pharmacy operations and patient care.

Keywords: hospital pharmacy, workflow management, workload management, interprofessional coordination, workforce optimization

INTRODUCTION

The hospital pharmacy is central to the medication-use process. Pharmacists receive and verify orders, prepare and dispense medicines, maintain records, manage inventory, and coordinate with nurses and physicians. In a Level III government hospital, these functions occur in a high-demand environment where several routine and urgent requests may arrive at the same time. Workflow concerns therefore affect not only dispensing speed but also medication schedules, treatment decisions, patient safety, and the workload of other clinical units.

Workflow refers to the sequence through which a medication order moves from receipt and verification to preparation, dispensing, documentation, and administration. Workload includes the number, urgency, and complexity of tasks expected during a shift. When personnel must encode, verify, prepare, dispense, answer calls, clarify incomplete orders, and respond to stat requests simultaneously, interruptions and local bottlenecks may develop. Studies have

linked inadequate staffing and organizational support with burnout and turnover intention among pharmacists (Carandang et al., 2024), while unclear orders, staffing pressure, and communication problems have been associated with medication-process risks (Abunales et al., 2025; Ramos, 2024).

Medication management is an interprofessional responsibility. Nurses require timely medicines to maintain administration schedules, physicians need clear feedback for treatment decisions, and pharmacists require complete information to verify orders safely. Digital tools may improve access to order information, but their usefulness depends on reliability, usability, training, and institutional support (Berger et al., 2024). Workforce planning should likewise reflect actual demand, task complexity, and peak periods rather than fixed assignments alone (Parial et al., 2024). Despite related research on burnout, medication errors, staffing, and electronic records, limited local evidence integrates the experiences of nurses, physicians, and pharmacists within the same pharmacy workflow.

Statement of the Problem

The study explored: (1) the experiences of nurses, medical doctors, and pharmacists regarding pharmacy workflow and workload; (2) the factors affecting hospital pharmacists' work; (3) the problems encountered in managing workflow and workload; and (4) the Pharmacy Workforce Optimization Plan that could be recommended from the findings.

Scope and Delimitations

The study involved 30 licensed healthcare workers—10 nurses, 10 medical doctors, and 10 pharmacists—from one Level III government hospital in Quezon City. Participants had direct experience with medication orders, verification, preparation, dispensing, administration, documentation, follow-up, or treatment-related clarification. Patients, caregivers, administrators, interns, trainees, and workers without direct pharmacy coordination were excluded. The findings describe the selected hospital during the approved data-collection period and are not statistically generalizable to all hospitals.

Review of Related Literature

Hospital pharmacists work under conditions that demand accuracy while exposing them to interruptions, changing priorities, and emotional pressure. Flotildes et al. (2023) found that hospital pharmacists in Metro Manila continued to provide essential services despite increased responsibilities and uncertainty. Carandang et al. (2024) likewise reported a strong relationship between burnout and turnover intention among pharmacists, with inadequate personnel and limited workplace incentives contributing to dissatisfaction. Together, these studies show why a workforce plan must address both service efficiency and the human experience of the people carrying the workload.

The quality of pharmaceutical care depends on whether pharmacists have enough time, preparation, and organizational support to perform their roles. Kalalo et al. (2022) found that hospital pharmacists generally recognized the importance of pharmaceutical care, but gaps remained between expected responsibilities and actual practice. Guo et al. (2020) similarly noted that the provision of pharmaceutical care in tertiary hospitals is influenced by staffing, workflow arrangements, and institutional support. These findings suggest that assigning

additional responsibilities without reviewing workload may weaken rather than improve service delivery.

Theoretical and Conceptual Framework

The study was anchored in Systems Theory, which views an organization as interdependent parts working toward a common purpose (von Bertalanffy, 1968). A delay or information gap at one stage of the medication process can affect verification, dispensing, administration, and treatment. Using an input-process-output framework, participants' experiences, workload conditions, resources, and operational concerns served as inputs; interviews, coding, thematic analysis, and comparison of perspectives formed the process; and the themes and Pharmacy Workforce Optimization Plan constituted the outputs.

METHODOLOGY

The study employed a qualitative approach to explore the experiences of healthcare workers regarding workflow and workload management in the Pharmacy Department of a Level III government hospital. The findings served as the basis for developing a Pharmacy Workforce Optimization Plan.

Research Design

A qualitative descriptive design was used to describe the experiences and perspectives of nurses, medical doctors, and pharmacists regarding medication workflow, workload, and interprofessional coordination.

Research Steps

The study began with a review of relevant local and international literature on hospital pharmacy workflow and workload management. Research questions and semi-structured interview guides were then developed and validated by experts. After securing institutional and ethical approvals, participants were recruited through purposive sampling, and informed consent was obtained before conducting the interviews. The interviews were audio-recorded, transcribed verbatim, and analyzed using thematic analysis through coding, categorization, and theme development. The identified themes served as the basis for the proposed Pharmacy Workforce Optimization Plan.

Data Collection and Sample Selection

Purposive sampling was used to recruit 30 licensed healthcare workers (10 nurses, 10 medical doctors, and 10 pharmacists) with at least six months of service and direct involvement in medication-related activities. Data were collected through researcher-developed, expert-validated semi-structured interviews conducted in a private hospital setting. Interviews were audio-recorded with participants' consent and transcribed verbatim.

Data Analysis Methods

Data were analyzed using thematic analysis. Interview transcripts were coded, grouped into categories, and organized into themes. The responses of the three professional groups were compared to identify common and profession-specific experiences.

Research Hypotheses and Validation

No statistical hypotheses were tested because the study was qualitative. Trustworthiness was established through expert validation of the interview guide, accurate transcription, systematic coding, and comparison of findings across participant groups.

Study Limitations and Ethical Considerations

The study was limited to one Level III government hospital and 30 purposively selected participants; therefore, the findings are context-specific. Ethical approval and informed consent were obtained before data collection. Participation was voluntary, confidentiality was maintained, and all research records were securely stored.

RESULTS AND DISCUSSION

The findings showed one connected medication system experienced from three positions: nurses encountered the effects at the bedside, physicians encountered them during treatment decisions, and pharmacists encountered them while processing orders and safeguarding accuracy.

SOP 1. Experiences of Healthcare Workers

Nurses generally viewed pharmacy personnel as cooperative, but during peak periods they repeatedly called or went to the pharmacy to determine whether an order was ready, delayed, pending clarification, or unavailable. These follow-ups redirected time from medication rounds, monitoring, documentation, and bedside care. The effect was more serious for antibiotics, insulin, anticonvulsants, emergency drugs, and other time-sensitive medicines. Nurses managed delays by escalating urgent concerns, informing physicians or charge nurses, documenting the situation, and monitoring patients, but their effort often compensated for the absence of a visible order-status system.

Medical doctors regarded pharmacists as essential clinical partners. Routine coordination was usually manageable, but simultaneous admissions and medication orders created bottlenecks in encoding, verification, preparation, and dispensing. Uncertain order status and repeated clarification could delay treatment or require physicians to adjust the sequence of care. Communication was more effective for routine orders than for urgent requests, indicating the need for a dedicated and structured priority channel.

Pharmacists described work as continuous, fast-paced, and safety-critical. During one shift, they could be verifying prescriptions, encoding, preparing and dispensing medicines, answering calls, documenting transactions, checking inventory, and responding to urgent orders. They emphasized that accuracy could not be sacrificed even when queues were long. Frequent task switching made completion less predictable and increased cognitive pressure. Personal strategies—prioritizing stat orders, grouping similar tasks, and following a stepwise process—helped maintain service but could not replace organized workforce management. This pattern is consistent with evidence linking workload pressure and limited workplace support with professional strain (Carandang et al., 2024).

SOP 2 and SOP 3. Factors and Problems Affecting Workflow

The major workload drivers were high prescription volume, peak-hour demand, new admissions, discharge-related requests, stat and time-sensitive medicines, incomplete orders, repeated clarification, documentation, inventory duties, equipment interruptions, and uneven task distribution. Urgent requests required immediate reprioritization even when another safety-critical task was underway. When encoding, verification, preparation, dispensing, telephone coordination, and documentation were concentrated in one person, bottlenecks formed and multitasking increased.

Communication gaps produced a cycle of interruption. Nurses and physicians lacked timely information about order status, while pharmacists received repeated calls while following up on the same requests. Limited computers, printers, labelers, network access, and communication devices could stop several workflow stages at once. These findings support the view that medication delays and risks are system concerns involving people, information, equipment, and connected stages rather than a lack of dedication by individual workers (Abunales et al., 2025).

SOP 4. Pharmacy Workforce Optimization Plan

The recommended plan organizes available personnel and tasks before seeking resource-intensive changes. It combines role clarity with flexibility, protects safety checks, gives urgent medicines a visible route, reduces avoidable interruption, and uses measurable indicators. Implementation should begin with process mapping and baseline data, followed by a pilot of shift designations, priority tagging, and standardized communication. Equipment and digital tracking may be introduced in phases, depending on available resources.

SUMMARY

The 30 participants described a pharmacy workforce committed to patient care but working within a system strained by simultaneous demand, overlapping duties, interruptions, weak order-status visibility, and equipment limitations. Nurses lost bedside time through repeated follow-ups, physicians encountered treatment delays and uncertainty, and pharmacists balanced speed with accuracy under continuous task switching. The shared findings supported a structured optimization plan focused on assignments, prioritization, communication, competency, equipment, and monitoring.

CONCLUSIONS

Workflow and workload concerns were mainly system-related. High demand became harder to manage when duties were unclear, tasks were unevenly distributed, urgent orders lacked a visible pathway, and communication relied on repeated interruption. Multitasking helped workers respond immediately but reduced concentration and predictability. Clear assignments, reliable handoffs, standardized coordination, dependable equipment, and regular review can improve medication timeliness and safety without treating individual effort as the primary solution.

RECOMMENDATIONS

Hospital administration should support policy development, training, maintenance, and phased technology improvements. Pharmacy leaders should pilot the plan, assign primary shift duties, protect verification and dispensing from avoidable interruption, and monitor agreed indicators. Nurses and physicians should submit complete orders and use the structured communication pathway. Future studies should evaluate the plan through turnaround time, workflow interruptions, safety events, treatment delays, staff well-being, and patient satisfaction.

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AI DECLARATION STATEMENT

AI-supported tools were used only for language refinement, organization, and formatting. They were not used to recruit participants, collect data, create responses, or independently determine findings. The researcher retained full responsibility for the design, analysis, interpretation, conclusions, and final manuscript.

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