

Lived Experiences of Phlebotomists In A Level III Hospital In Bacolod City, Negros Occidental: A Basis For A Quality Improvement Plan

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ABSTRACT

This qualitative study explored the lived experiences of frontline phlebotomists at a Level III hospital in Bacolod City, Negros Occidental, to gain a deeper understanding of the complex factors influencing pre-analytical laboratory errors. Using a phenomenological approach grounded in semi-structured interviews and inductive thematic analysis, the study focused on dedicated phlebotomists managing high daily patient volumes. Findings revealed that pre-analytical vulnerabilities—such as the normalization of unsafe supply rationing and dangerous near-misses in patient identification—are predictable responses to profound systemic failures rather than individual clinical negligence. Root causes include severe cognitive overload from unsustainable staff-to-patient ratios, constricted workspaces, and disjointed interdepartmental communication. While limited to a single government-funded apex hospital and reliant on self-reported narratives, the practical implications demonstrate that sustainable quality improvement requires healthcare leadership to shift away from punitive cultures. Administrators must decisively champion systems-level interventions like dynamic staffing reallocation, workspace optimization, and formalized clinical certifications to protect diagnostic integrity and occupational welfare. Ultimately, this paper humanizes laboratory error statistics, amplifies the voice of frontline workers in resource-constrained settings, and provides an evidence-based Quality Improvement Plan.

Keywords: *Lived experiences, phlebotomists, pre-analytical errors, systemic failures, quality improvement.*

INTRODUCTION

The pre-analytical phase of laboratory testing, encompassing specimen collection to transport, is fundamentally critical to clinical decision-making but remains highly vulnerable to human and systemic errors. These errors, which account for up to 97% of all recorded laboratory discrepancies, severely compromise diagnostic accuracy and patient safety. While the epidemiology of such errors is well documented globally, the nuanced drivers in high-volume, resource-constrained environments remain underrepresented in developing healthcare systems such as the Philippines. Public Level III hospitals manage massive patient volumes and skewed staffing ratios, creating highly volatile clinical environments. This research addresses this empirical gap by exploring the lived experiences of phlebotomists in a Bacolod City Level III hospital to contextualize error statistics and inform an evidence-based Quality Improvement Plan.

Statement of the Problem

This study aimed to explore the lived experiences of phlebotomists at a selected Level III hospital in Bacolod City, focusing on the human, procedural, and environmental factors that shape practices and contribute to errors. Specifically, it sought to answer:

1. How do phlebotomists describe their lived experiences performing blood collection in a Level III hospital?
2. What meanings do they ascribe to the challenges that lead to phlebotomy errors?
3. How do they cope with or address these challenges in their daily practice?
4. What insights or recommendations do they offer to reduce errors and improve safety?

Scope and Delimitations

The investigation focused exclusively on active phlebotomists during the pre-analytical phase of laboratory testing at a single Level III hospital in Bacolod City. Limitations inherent to qualitative research suggest that findings from this public hospital may not generalize to well-resourced private facilities. The study relied on narrative data and did not quantitatively measure exact error rates or audit compliance with procedures.

Review of Related Literature

Empirical research consistently demonstrates that the pre-analytical phase accounts for 60% to 70% of all laboratory errors. Pre-analytical errors—such as patient misidentification, incorrect tube use, and specimen hemolysis—account for up to 97% of recorded laboratory discrepancies. International literature attributes these vulnerabilities to human factors like extreme cognitive fatigue, time scarcity, and cramped workspaces. Within the Philippine context, high patient volumes, skewed staffing ratios, and resource scarcity in apex hospitals create highly volatile environments that significantly increase the likelihood of these diagnostic failures.

Theoretical and Conceptual Framework

This study integrated a multidimensional theoretical framework comprising four distinct models. Phenomenology captured the emotional labor, cognitive fatigue, and subjective sense-making of the phlebotomists. Additionally, the Donabedian Model demonstrated that structural deficits directly degrade clinical processes, thereby impacting patient outcomes. The framework also incorporated Human Factors Engineering (HFE), which posited that human error is driven by systemic design flaws and environmental stressors rather than mere negligence. Finally, the Theory of Planned Behavior (TPB) was used to examine why phlebotomists engage in unsafe workarounds in response to peer norms and resource scarcity.

METHODOLOGY

Research Design and Steps

This study employed a qualitative phenomenological design to explore personal insights, coping mechanisms, and environmental factors that affect error rates. After coordinating with hospital administration for site access and ethical clearance, semi-structured

interviews were conducted. The resulting narrative data underwent rigorous thematic analysis to inform the development of an evidence-based Quality Improvement Plan (QIP).

Data Collection and Sample Selection

Purposive sampling selected twelve dedicated phlebotomists employed at the designated hospital for at least six months. Semi-structured interviews, guided by a bilingual (English/Hiligaynon) questionnaire, were conducted on-site, audio-recorded with permission, and designed to elicit context-rich insights.

Data Analysis Methods

Transcribed data underwent inductive thematic analysis utilizing Braun and Clarke's six-phase framework. Initial codes regarding clinical anecdotes were clustered into broader deductive themes, which were continuously cross-referenced against the raw dataset to ensure accurate reflection of the participants' reality.

Research Hypotheses and Validation

Data validity and trustworthiness were established using Lincoln and Guba's criteria. Credibility and confirmability were ensured by anchoring thematic analysis to verbatim transcripts, minimizing bias, and establishing a transparent audit trail through uniform recording protocols and member checking.

Study Limitations and Ethical Considerations

Strict ethical adherence included securing prior informed consent and granting the right to withdraw without consequence. Complete anonymity and confidentiality regarding participant identities and institutional data were maintained throughout the process.

RESULTS AND DISCUSSION

SOP 1-4: Narrative Findings from Lived Experiences, Challenges, and Coping Mechanisms

The rigorous thematic analysis revealed a clinical ecosystem operating under extreme duress, in which phlebotomy demands immense physical endurance and continuous systemic negotiation. Phlebotomists face severe cognitive fatigue due to operational overload, with staff-to-patient ratios reaching as high as 1:100. This immense volume forces time scarcity, directly degrading clinical focus and causing procedural lapses such as improper labeling or dispensing samples into incorrect tubes. Furthermore, spatial constraints and infrastructural decay compound these challenges; the lack of ergonomic equipment, such as proper phlebotomy chairs, combined with navigating crowded wards, leads to unstable needle insertions and mechanical hemolysis. Missing fundamental sanitation infrastructure, such as handwashing sinks, also creates ongoing biosafety hazards. This environment fosters a sense of institutional devaluation, as basic occupational welfare is neglected through inadequate rest areas, poor ventilation, and a lack of professional recognition or performance incentives. Administratively, the workforce is burdened by inadequate IT onboarding, laggy digital hospital information systems, and administrative scope creep. Asynchronous electronic tagging by different departments results in repeated patient

extractions and breeds a toxic, blame-centric interdepartmental culture. Clinically, phlebotomists routinely absorb intense emotional labor when handling highly volatile patient watchers and executing complex draws for fragile neonates and oncology patients, drastically increasing procedural anxiety. Consequently, chronic supply scarcities create latent threats and normalize deviance through dangerous heuristic workarounds, such as adjusting required blood volumes or splitting cotton balls. The extreme operational pacing simultaneously increases the latent risk of near-misses of catastrophic patient misidentification. To survive these demanding conditions, the staff relies heavily on an underground economy of resilience, utilizing *pakikisama* (camaraderie) to lighten the burden. However, they uniformly recognize that peer task-sharing is not a viable substitute for formalized clinical elevation, prompting them to urgently advocate for structured certification in arterial puncture and advanced training.

SUMMARY

The synthesis of the lived experiences of twelve medical technologists reveals a pre-analytical ecosystem in a state of chronic systemic friction. High rates of vulnerabilities are not symptoms of individual clinical negligence, but the predictable output of a macro-system operating beyond its structural, technological, and human capacities. The normalization of deviance is sustained by cultural resilience, which serves as a psychosocial coping mechanism masking a profound gap in institutional infrastructure. Frontline staff continuously act as human shock absorbers for failing digital systems and disjointed hospital communications.

CONCLUSIONS

The pre-analytical phase at this Level III apex hospital balances precariously between extreme workload management and the unsustainable adaptability of its staff. Diagnostic errors in this setting originate from severe structural deprivation and systemic friction rather than practitioner incompetence. Achieving meaningful quality improvement requires abandoning punitive reprimands in favor of aggressive, systems-level advocacy. Leadership must address these vulnerabilities by overhauling digital infrastructures, allocating rational human resources, optimizing physical workspaces, and harmonizing interdepartmental communication to safeguard diagnostic integrity and workforce well-being.

RECOMMENDATIONS

- **Expansion to Multi-Center Studies:** Conduct comparative studies including well-resourced private facilities to determine if the normalization of deviance is universal across the healthcare system or localized.
- **Integration of Mixed-Methods Approaches:** Triangulate qualitative narratives with objective observational methodologies, such as time-and-motion studies or direct procedural floor audits.
- **Correlation with Quantitative Clinical Outcomes:** Statistically correlate factors like 1:100 staffing ratios and asynchronous digital tagging with precise metrics like specimen rejection percentages and turnaround times (TAT).
- **Targeted Quality Improvement Implementation:** Execute the proposed Quality Improvement Plan, prioritizing dynamic staffing limits, ergonomic furniture

procurement, and the institutionalization of advanced clinical training and arterial puncture certifications.

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AI DECLARATION STATEMENT

Gemini was utilized to assist in spelling checks, initial grammar, transcription, and translation during the creation of this manuscript. The generated outputs were carefully reviewed, edited, and contextualized by the researcher to align with the study objectives, thereby improving the manuscript's clarity and academic tone while ensuring academic integrity.

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