

The Implementation of the Waste Management Practices of the Government and the Private Hospitals in the Province of Albay

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ABSTRACT

Hospital waste management is a critical public administration and health-systems concern because healthcare facilities generate materials that may affect patients, workers, communities, and the environment. This manuscript examined the implementation of waste management practices among government and private hospitals in the Province of Albay for Fiscal Year 2025. The manuscript therefore emphasizes synthesized findings, comparative statistical results, and policy implications directly stated in the available files. The study focused on five dimensions of waste management implementation: segregation efficiency, waste generation rate, treatment and disposal compliance, occupational safety, and environmental impact monitoring. These domains represent both operational and regulatory aspects of hospital waste management. They also capture the extent to which hospitals institutionalize safe handling, treatment, monitoring, and environmental accountability. In the public administration context, the domains reflect the interface between institutional compliance, regulatory governance, and service quality. The study further examined challenges encountered by hospitals in implementing waste management practices. These challenges were organized along staff awareness, active monitoring and evaluation, collaborative external support, regulating compliance, and financial constraints. The inclusion of these domains enabled the study to go beyond implementation ratings and identify residual institutional barriers. This distinction is important because a system may report high compliance while still requiring continuous strengthening in knowledge management, monitoring, financing, and inter-agency coordination. Methodologically, the study utilized descriptive-evaluative-inferential methods of research. The respondents consisted of 20 waste officers and 50 waste collectors from government and private hospitals in Albay. Data were gathered using a self-made questionnaire and statistically treated using weighted mean, frequency count, percentage, rank, and the Wilcoxon Signed-Rank test. The level of significance was pegged at 0.05. Findings showed that the overall extent of waste management practices was very much practiced across all five domains. Treatment and disposal compliance obtained the highest mean of 4.97, followed by environmental impact monitoring at 4.96. Waste generation rate and occupational safety both obtained 4.94, while segregation efficiency obtained 4.93. These results indicate a strong institutionalization of hospital waste management systems among the participating hospitals. The test of significant difference on the rank orders of waste management practices showed no significant difference between government and private hospitals. Segregation efficiency, waste generation rate, treatment and disposal compliance, occupational safety, and environmental impact monitoring all recorded probability values greater than 0.05. The null hypotheses were therefore accepted for these five domains. This indicates that both hospital groups demonstrated comparable implementation patterns in the rated waste management practices. In relation to implementation challenges, all challenge domains were rated fairly challenging. Active monitoring and evaluation obtained the highest challenge mean of 1.98, followed by collaborative external support at 1.75 and staff awareness at 1.62. Financial constraints obtained 1.56, while regulating compliance obtained 1.55. These results suggest that although implementation practices were rated highly, system-level attention is still needed in monitoring, staff awareness, external coordination, financing, and compliance support. The comparative test on challenge domains revealed no significant differences for active monitoring and evaluation, collaborative external support, regulating compliance, and financial constraints. However, staff awareness emerged as the exception, indicating a significant difference between the

two groups of respondents. This finding implies that awareness-related concerns may vary by hospital type, staffing structure, or institutional orientation systems. Staff awareness therefore requires targeted rather than uniform intervention. Policy recommendations emphasized standardized training, refresher courses, national reporting formats, digital monitoring tools, performance-based incentives, financial support, risk management planning, modern waste treatment technologies, compliance committees, internal audits, and stronger external partnerships. These recommendations align with the study findings because they address both the strong implementation baseline and the remaining operational vulnerabilities. The recommendations also underscore that healthcare waste management is not solely a technical function but an inter-institutional governance responsibility. Sustained improvement depends on aligning hospital administration, regulatory oversight, financing, personnel development, and environmental accountability. The manuscript concludes that government and private hospitals in Albay demonstrate very high levels of waste management implementation, with generally low but still relevant implementation challenges. The exception on staff awareness suggests that training, orientation, and compliance culture must remain central components of policy action. The findings imply that future hospital waste governance should focus less on establishing basic compliance and more on sustaining, measuring, financing, and institutionalizing continuous improvement.

1. Introduction

Healthcare institutions perform an essential role in protecting human life, but their operations inevitably generate wastes that require careful governance. Hospitals produce waste streams that may include infectious, hazardous, recyclable, biodegradable, and non-biodegradable materials. The management of these wastes is not a peripheral administrative task; it is part of patient safety, worker protection, public health, and environmental stewardship. Effective hospital waste management therefore requires institutional discipline, regulatory compliance, and continuous monitoring.

In public administration, waste management in hospitals can be understood as a governance function that links service delivery with risk control. Hospitals do not operate in isolation because their waste-related decisions affect communities, waste transporters, treatment providers, regulatory agencies, and local governments. A weak waste management system may expose personnel and the public to avoidable hazards. A strong system, by contrast, reflects policy enforcement, operational planning, resource allocation, and accountable leadership.

Hospital waste management practices are commonly evaluated through the operational sequence of segregation, generation monitoring, treatment, disposal, occupational safety, and environmental impact assessment. Each component performs a distinct function in reducing risk. Segregation prevents hazardous and non-hazardous waste from being mixed. Treatment and disposal compliance ensures that waste is handled using appropriate and approved methods. Occupational safety protects the workers directly involved in waste handling. Environmental monitoring examines whether hospital waste practices remain consistent with broader sustainability and ecological protection goals.

Segregation efficiency is the entry point of effective healthcare waste governance. When segregation is performed correctly, subsequent processes such as storage, transport, treatment, and disposal become safer and more efficient. Segregation requires color-coded bins, clear labeling, accessible placement of containers, staff training, audit mechanisms, and collaboration with accredited waste collectors. The findings showed that these elements were very much practiced, suggesting a mature institutional approach to segregation.

Waste generation rate is another important indicator because it reflects how hospitals monitor the volume and type of waste produced across departments. Tracking the daily waste volume and distinguishing hazardous from non-hazardous waste allow administrators to identify areas for reduction, resource efficiency, and operational improvement. Waste generation data also support environmental performance reporting and procurement decisions. In this study, waste generation practices were rated very much practiced, indicating strong documentation and awareness of waste production patterns.

Treatment and disposal compliance represents a central compliance dimension in hospital waste management. It requires adherence to national and local regulations, contracts with accredited waste treatment providers, records of treatment and disposal, staff training, and periodic evaluation. The study found this domain to have the highest summary mean among the waste management practices. This suggests that participating hospitals gave strong priority to the end-stage processes that directly determine whether healthcare waste is rendered safe and disposed of properly.

Occupational safety is equally important because waste officers, waste collectors, and other hospital personnel face direct exposure to risks during waste handling. Safety practices include provision of personal protective equipment, orientation on proper handling procedures, infection control protocols, vaccination programs, health monitoring, incident reporting, and hazard signage. A hospital waste management system cannot be considered effective if it protects the environment but neglects the people who handle waste daily. The strong rating in occupational safety indicates that hospitals recognized the protection of waste-handling personnel as part of institutional responsibility.

Environmental impact monitoring extends the concern of hospital waste management beyond internal compliance. It examines whether waste treatment and disposal practices affect air, water, soil, emissions, and long-term ecological conditions. Hospitals that conduct environmental audits, integrate waste data into environmental reports, and collaborate with environmental agencies

demonstrate a more comprehensive form of accountability. The high rating of environmental impact monitoring in the study indicates that hospitals were not merely disposing of waste but also evaluating its broader environmental consequences.

However, high implementation ratings do not automatically mean that challenges are absent. Complex institutional systems may maintain strong compliance while still experiencing concerns in staff awareness, monitoring quality, external support, regulation, and financing. The summary shows that challenges were rated fairly challenging, which suggests that the barriers were present but not severe. Such findings are valuable because they point to areas where policy attention can sustain and improve an already functional system.

Staff awareness emerged as a particularly important challenge because it was the only challenge domain with a significant difference between respondent groups. Awareness is not limited to knowledge of waste categories or segregation rules. It includes the internalization of waste management as part of patient care, environmental responsibility, and institutional culture. Differences in staff awareness may arise from uneven orientation systems, varying levels of worker exposure, or differences in employment arrangements across hospital types.

Active monitoring and evaluation was the highest-rated challenge domain, even though it remained only fairly challenging. This points to the continuing need for accurate documentation, timely internal transport, staff training coverage, regulatory adherence, and facility adequacy. Monitoring and evaluation are often more difficult than policy declaration because they require systematic data collection, validation, interpretation, and corrective action. In hospital waste management, data quality and timeliness directly influence the credibility of compliance claims.

Collaborative external support also remains essential because hospitals depend on accredited treatment providers, regulatory agencies, local governments, and external technical assistance. Waste management is an interdependent process. Even hospitals with strong internal practices may experience difficulty if external service providers are limited, funding mechanisms are weak, or coordination channels are unclear. The study's recommendations therefore emphasized communication, accreditation expansion, and external support mechanisms.

Regulating compliance was the lowest challenge mean, suggesting that hospitals generally experienced relatively manageable regulatory compliance conditions. However, compliance must still be actively maintained through internal committees, checklists, audits, reporting systems, and management scorecards. A low challenge rating should not be interpreted as permission for complacency. It indicates that existing compliance structures are functioning but still require institutional reinforcement to remain stable over time.

Financial constraints were also rated fairly challenging, implying that financial limitations existed but did not dominate the waste management system. Hospital waste management requires funds for storage facilities, transport, treatment, emergency response, technologies, staff training, and external service providers. Even when current practices are strong, future sustainability may depend on whether hospitals can finance modernization and contingency preparedness. This explains the policy emphasis on subsidies, grants, loans, procurement planning, and public-private arrangements.

The study contributes to the discourse on hospital governance by showing that government and private hospitals in Albay exhibited comparable and very high waste management implementation. This finding suggests that institutional standards may have been internalized across hospital types. It also implies that policy interventions should no longer focus solely on introducing basic waste management practices. Instead, policy should strengthen sustainability, monitoring systems, staff awareness, digital reporting, financing, and external coordination.

The central argument of this manuscript is that hospital waste management in Albay appears institutionally strong but still requires continuous governance reinforcement. High compliance ratings across waste management practices are encouraging, but the persistence of fairly challenging domains reveals the need for proactive policy action. The significant difference in staff awareness further shows that not all implementation issues are uniform across hospital groups. Thus, a differentiated, evidence-based, and institutionally coordinated policy response is necessary to sustain and improve hospital waste management systems.

2. Methodology

The original study utilized descriptive-evaluative-inferential methods of research. The descriptive component documented the extent to which waste management practices were implemented in government and private hospitals. The evaluative component interpreted the level of implementation and the degree of challenges encountered. The inferential component tested whether significant differences existed in the rank orders between the two groups of respondents.

The respondents of the original study consisted of 20 waste officers and 50 waste collectors from government and private hospitals in the Province of Albay. These respondents were appropriate to the topic because they were directly involved in the implementation, handling, monitoring, and operational execution of hospital waste management practices. Waste officers represented personnel responsible for supervision, documentation, and compliance oversight. Waste collectors represented personnel directly exposed to the routine handling and movement of hospital waste.

The original study used a self-made questionnaire as its principal data gathering instrument. The questionnaire covered two major domains: the extent of waste management practices and the challenges encountered in implementing such practices. The practice domains included segregation efficiency, waste generation rate, treatment and disposal compliance, occupational safety, and environmental impact monitoring. The challenge domains included staff awareness, active monitoring and evaluation, collaborative external support, regulating compliance, and financial constraints.

The summary identified weighted mean, frequency count, percentage, rank, and Wilcoxon Signed-Rank as the statistical tools employed. Weighted mean and rank were used to describe the extent of implementation and the level of challenges across

indicators. Frequency count and percentage supported respondent profiling and descriptive interpretation. The Wilcoxon Signed-Rank test was used to determine whether differences in rank orders were statistically significant at the 0.05 level.

In preparing this article, the summarized weighted means were reorganized into journal-style tables. The first set of tables presents the summary of waste management implementation and the corresponding significance test results. The second set of tables presents the summary of challenges and the corresponding significance test results. A policy matrix was also prepared to synthesize the recommendations into actionable governance areas.

The analytical discussion was developed by linking the summarized results to public administration, hospital governance, operational compliance, and institutional policy implications. The results were not treated as isolated numerical outputs but as evidence of hospital systems performance.

The analysis focuses on the extent of waste management practices, comparative tests between government and private hospitals, challenges encountered in implementation, comparative tests on challenges, and policy recommendations. Since only the summary chapter was used, the tables below consolidate the available domain-level results and the reported inferential statistics.

3. Results

Table 1. Summary of the Extent of Waste Management Practices of Government and Private Hospitals

Waste Management Domain	Mean	Interpretation	Rank
Treatment and Disposal Compliance	4.97	Very Much Practiced	1
Environmental Impact Monitoring	4.96	Very Much Practiced	2
Waste Generation Rate	4.94	Very Much Practiced	3.5
Occupational Safety	4.94	Very Much Practiced	3.5
Segregation Efficiency	4.93	Very Much Practiced	5

Table 1 shows that all five waste management domains were rated very much practiced. This indicates that the participating government and private hospitals had strongly institutionalized waste management procedures across the operational chain. The highest domain, treatment and disposal compliance, reflects a strong commitment to ensuring that hospital waste is treated and disposed of according to required procedures. The results also show that environmental impact monitoring was nearly equal to treatment and disposal compliance, suggesting that hospitals were attentive not only to disposal but also to environmental accountability.

The close range of means from 4.93 to 4.97 is analytically significant because it suggests consistency across the practice domains. No domain appeared weak or even moderately implemented. Segregation efficiency, despite being the lowest in rank, still obtained a very high mean of 4.93. This implies that even the relatively lowest domain remained strongly practiced and should be interpreted as an area for maintenance rather than remediation.

Treatment and disposal compliance being ranked first is consistent with the regulatory sensitivity of hospital waste. Hospitals are likely to prioritize this area because non-compliance may directly affect licensing, accreditation, worker safety, environmental standards, and public trust. The high score also suggests that training, contracts with accredited providers, and record keeping were embedded in hospital operations. Such a finding indicates that compliance systems were not merely aspirational but operationally visible.

Environmental impact monitoring ranked second, which strengthens the interpretation that hospital waste management in the study sites went beyond internal procedural compliance. Monitoring emissions, ecological risks, waste treatment outcomes, and environmental reporting connects hospital operations with broader sustainability objectives. For public administration, this suggests that hospitals function as regulated institutions whose responsibilities extend outside their immediate premises. Sustaining this domain requires continued collaboration with environmental agencies and regulatory bodies.

Table 2. Test of Significant Difference on the Rank Orders of Waste Management Practices

Domain	Computed z	Probability	Decision on H0	Interpretation
Segregation Efficiency	0.13	0.4483	Accepted	Not Significant
Waste Generation Rate	0.00	0.5000	Accepted	Not Significant
Treatment and Disposal Compliance	0.30	0.3821	Accepted	Not Significant
Occupational Safety	0.22	0.4129	Accepted	Not Significant
Environmental Impact Monitoring	0.00	0.5000	Accepted	Not Significant

Table 2 shows that no significant difference was found between government and private hospitals in all five waste management practice domains. The probability values were all greater than 0.05, leading to the acceptance of the null hypotheses. This means that the rank orders of implementation were statistically comparable between the two hospital groups. The finding is important because it suggests that waste management standards were practiced consistently regardless of hospital ownership type.

The absence of significant difference may indicate the effect of shared regulatory environments and common institutional expectations. Both government and private hospitals operate under healthcare and environmental compliance requirements that shape their waste management systems. When rules, audits, and compliance expectations are similar, hospitals may develop parallel practices even if their internal resources differ. Thus, the statistical results point to a relatively harmonized waste management culture across hospital types.

The result also means that policy interventions can be designed at the provincial or sectoral level without assuming a major implementation gap between government and private hospitals. However, this does not mean that hospital-specific needs should

be ignored. Comparable rank orders indicate similar patterns, not necessarily identical internal capacities. Administrators should still use internal audits and facility-level monitoring to identify localized issues in space, equipment, staffing, documentation, and treatment arrangements.

From a governance perspective, the non-significant results strengthen the case for province-wide coordination mechanisms. Joint workshops, benchmarking, shared reporting formats, common compliance checklists, and coordinated technical assistance may be appropriate because both groups demonstrate similar implementation patterns. Instead of fragmented approaches, Albay may benefit from a unified hospital waste governance framework. Such a framework can sustain high compliance while allowing hospital-specific adaptation.

Table 3. Summary of Challenges Encountered in Implementing Waste Management Practices

Challenge Domain	Mean	Interpretation	Rank
Active Monitoring and Evaluation	1.98	Fairly Challenging	1
Collaborative External Support	1.75	Fairly Challenging	2
Staff Awareness	1.62	Fairly Challenging	3
Financial Constraints	1.56	Fairly Challenging	4
Regulating Compliance	1.55	Fairly Challenging	5

Table 3 indicates that all challenge domains were rated fairly challenging. This means that the hospitals encountered implementation issues, but these were not perceived as severe barriers. Active monitoring and evaluation ranked highest, indicating that the most evident challenge was not the performance of waste management activities themselves but the consistent documentation, reporting, evaluation, and feedback needed to sustain them. This finding is important because mature systems often struggle less with basic execution and more with data-driven oversight.

Collaborative external support ranked second among the challenges. This suggests that hospitals still require stronger coordination with accredited waste treatment providers, local government units, environmental regulatory bodies, funding agencies, and external training providers. Hospital waste management is not fully controllable within hospital walls. Its success depends on the availability, reliability, and responsiveness of external partners that handle treatment, disposal, technical assistance, compliance validation, and emergency support.

Staff awareness ranked third, but it later emerged as statistically significant in the comparison of challenge rank orders. This means that although its mean was not the highest, it carried a distinct group difference that requires specific attention. Staff awareness includes orientation of new employees, motivation, accountability, visual reminders, updated policy dissemination, and compliance even during workload pressure. These concerns are central because waste management protocols are only as strong as the daily practices of personnel who implement them.

Financial constraints and regulating compliance ranked fourth and fifth, respectively, and were still interpreted as fairly challenging. These lower means should not be dismissed because waste management requires continuous financing for facilities, treatment services, technologies, training, and monitoring systems. Regulating compliance likewise requires documentation, licensing, audits, and adherence to occupational health and environmental rules. The overall pattern suggests that hospitals are functioning well but still need sustained resource planning and compliance support.

Table 4. Test of Significant Difference on the Rank Orders of Challenges Encountered

Challenge Domain	Computed z	Probability	Decision on H0	Interpretation
Staff Awareness	1.77	0.0307*	Rejected	Significant
Active Monitoring and Evaluation	0.044	0.4840	Accepted	Not Significant
Collaborative External Support	0.927	0.1788	Accepted	Not Significant
Regulating Compliance	0.839	0.2033	Accepted	Not Significant
Financial Constraints	0.044	0.4840	Accepted	Not Significant

Table 4 shows that four challenge domains had no significant difference between the two respondent groups, while staff awareness was reported as the exception. Active monitoring and evaluation, collaborative external support, regulating compliance, and financial constraints all had probability values greater than 0.05. These results imply that most challenges were experienced similarly across government and private hospitals. Therefore, many improvement strategies can be addressed through common institutional and provincial mechanisms.

The reported exception on staff awareness is highly relevant for policy design. A significant difference suggests that awareness-related concerns may not be equally distributed across hospital groups. This may reflect differences in employee onboarding, contractual worker orientation, internal supervision, training coverage, availability of signage, feedback practices, or compliance culture. Because the difference is localized to staff awareness, interventions should be more targeted than generic.

Staff awareness is a foundational component of waste management because it connects written policy with actual behavior. Even when a hospital has proper bins, treatment contracts, safety equipment, and reporting systems, poor staff awareness can lead to cross-contamination, improper handling, incomplete documentation, or inconsistent compliance. The finding therefore suggests that the human dimension of hospital waste management must remain a priority. Training, mentoring, signage, feedback, and accountability systems are necessary to translate standards into daily routines.

The non-significant findings for the remaining challenge domains suggest that hospitals can benefit from shared solutions in monitoring, external collaboration, regulatory compliance, and financing. Standardized templates, digital tools, monitoring committees, funding support, and inter-agency coordination can address these common concerns. However, the significant staff awareness result requires differentiated diagnostics. Hospitals should assess which personnel groups, shifts, employment categories, or departments need more intensive awareness-building interventions.

Table 5. Policy Recommendation Matrix

Policy Area	Recommended Action	Primary Actors
Capacity building	Standardized training modules, mandatory orientation, refresher courses, and mentor assignment for new or contractual personnel.	Waste officers, HR officers, DOH training units
Monitoring and reporting	Digital monitoring systems, standardized national reporting formats, dedicated compliance personnel, and internal audits.	Hospital administrators, DOH officers, waste management officers
Financing and technology	Subsidies, grants, low-interest loans, phased procurement of modern waste treatment technologies, and alternative financing partnerships.	National government, hospital finance officers, LGUs, NGOs
External coordination	Open communication with accredited waste treatment partners, expanded accreditation coverage, technical assistance, and geographic distribution monitoring.	DOH, LGUs, accredited providers, hospital waste officers
Regulatory accountability	Compliance committees, checklists, scorecards, performance-based incentives, and pre-inspection gap analysis.	Hospital administrators, DOH/DENR/LGU regulators

Table 5 organizes the policy recommendations into five governance areas. The first area, capacity building, responds directly to the significant concern on staff awareness. Standardized modules, mandatory orientation, refresher courses, and mentoring systems are necessary to ensure that all personnel understand waste segregation, handling, disposal, and reporting protocols. These interventions should apply not only to permanent staff but also to contractual workers and newly assigned personnel.

The second area, monitoring and reporting, addresses the highest challenge domain of active monitoring and evaluation. Digital monitoring systems and standardized reporting formats can reduce inconsistencies and improve data comparability. Dedicated compliance personnel and internal audits can also strengthen institutional accountability. These actions are particularly useful because high implementation ratings must be supported by verifiable records and timely corrective action.

The third and fourth areas concern financing, technology, and external coordination. Modern waste treatment technologies, emergency preparedness funds, grants, loans, and public-private arrangements can help hospitals sustain compliance while improving efficiency. External coordination with accredited providers and regulatory agencies ensures that hospitals are not isolated in managing waste streams. These measures recognize that hospital waste management requires both internal discipline and external system support.

The fifth area, regulatory accountability, strengthens the translation of findings into enforceable institutional practice. Compliance committees, scorecards, checklists, internal audits, and performance-based incentives can make waste management part of routine hospital governance. These mechanisms also help prevent complacency in a context where practices are already rated very highly. Policy action should therefore focus on sustaining excellence, closing awareness gaps, and improving long-term resilience.

4. Conclusions and Implications

4.1 Conclusions

The study concludes that waste management practices among government and private hospitals in the Province of Albay were very much practiced. This conclusion is supported by high means across segregation efficiency, waste generation rate, treatment and disposal compliance, occupational safety, and environmental impact monitoring. The consistently high ratings indicate that waste management was embedded across multiple operational and regulatory domains. The finding reflects a strong institutional baseline for safe and accountable hospital waste governance.

Treatment and disposal compliance emerged as the highest-rated waste management practice. This shows that hospitals gave strong attention to proper handling, approved treatment procedures, contractual arrangements with accredited service providers, regulatory compliance, and documentation. In hospital waste management, this domain is particularly critical because it determines whether hazardous and infectious materials are rendered safe. The finding suggests that the participating hospitals recognized the regulatory and safety importance of compliant treatment and disposal.

Environmental impact monitoring was also very strongly practiced. This conclusion indicates that hospitals were attentive to the broader ecological consequences of healthcare waste. The inclusion of environmental audits, risk assessments, emissions monitoring, ecological collaboration, and environmental performance reporting reflects a sustainability-oriented view of waste management. Hospital waste systems therefore appear to have moved beyond narrow disposal concerns toward environmental accountability.

No significant difference was found in the rank orders of waste management practices between government and private hospitals. This conclusion implies that both types of hospitals demonstrated comparable implementation patterns. The similarity may be attributed to shared regulatory expectations, common healthcare standards, and institutionalized waste management procedures. It also suggests that policy support can be designed for both hospital groups without assuming a major difference in baseline compliance.

The challenges encountered by hospitals were rated fairly challenging. This means that although hospitals demonstrated strong implementation, they still faced operational and administrative concerns requiring continued attention. The most evident challenge

was active monitoring and evaluation, followed by collaborative external support and staff awareness. The result shows that improvement efforts should focus on sustaining quality, strengthening oversight, and ensuring that personnel consistently internalize waste management standards.

There was no significant difference in most challenge domains between the two groups of respondents. Active monitoring and evaluation, collaborative external support, regulating compliance, and financial constraints were experienced in statistically comparable ways. This conclusion suggests that these challenges may be addressed through shared institutional mechanisms. Province-wide templates, digital monitoring tools, common reporting systems, and joint capacity-building programs may therefore be appropriate.

Staff awareness was the exception in the test of significant difference. This conclusion is important because it identifies a specific human-resource and organizational culture issue that may vary between hospital groups. Staff awareness is essential in ensuring that policies are translated into routine behavior. The result calls for targeted orientation, refresher training, mentoring, and accountability systems designed according to the actual needs of each hospital context.

The policy recommendations were appropriately formulated from the study findings. They emphasized training, financing, digital monitoring, standardized reporting, performance incentives, risk management, modern technologies, compliance committees, internal audits, and stronger external partnerships. These recommendations address both implementation maintenance and challenge reduction. The study therefore provides actionable guidance for hospital administrators, waste officers, DOH officials, LGUs, and provincial policy makers.

Overall, the study establishes that hospital waste management in Albay is already strong but must be continuously sustained. High practice ratings should not result in complacency because healthcare waste systems operate in changing institutional, environmental, financial, and regulatory conditions. Continuous improvement is necessary to preserve compliance, protect workers, reduce environmental risks, and maintain public trust. The most strategic next step is to deepen monitoring systems and address staff awareness gaps through targeted governance mechanisms.

4.2 Implications

The findings imply that hospital administrators should shift from basic compliance establishment to compliance sustainability. Since waste management practices are already very much practiced, the priority should be maintaining consistency, documenting performance, and preventing deterioration. Regular audits, management reviews, and quality improvement cycles should become standard administrative functions. This will ensure that high ratings translate into long-term institutional performance.

For waste officers, the findings imply a need to strengthen monitoring and evaluation systems. Active monitoring and evaluation emerged as the highest challenge domain, which means that data accuracy, timely reporting, and internal feedback processes require continued improvement. Waste officers should be supported with digital tools, standardized forms, and dedicated time for documentation. Strong monitoring systems can help detect small compliance gaps before they become major risks.

For hospital human resource offices, the significant finding on staff awareness implies the need for structured and mandatory personnel development systems. New employees, contractual workers, and personnel assigned to waste-related tasks should undergo orientation before assuming relevant duties. Refresher training should be periodic rather than occasional. Mentoring arrangements can also help translate formal training into actual practice in hospital units.

For the Department of Health and environmental regulatory agencies, the findings imply the value of standardized reporting and technical assistance. Hospitals may be practicing waste management well, but comparability and evidence quality depend on uniform reporting systems. Clear templates, digital submissions, technical training, and routine inspections can make compliance more transparent. Performance-based incentives may also encourage hospitals to sustain proactive practices.

For local government units and provincial policy makers, the findings imply that hospital waste management should be treated as a shared public responsibility. Local governments can support hospitals through waste disposal coordination, emergency assistance, environmental monitoring partnerships, and policy ordinances. Because hospital waste affects public health and the environment beyond hospital boundaries, provincial coordination is necessary. Albay can develop a more integrated hospital waste governance framework across public and private institutions.

For hospital finance officers, the findings imply that waste management must have dedicated and protected budget lines. Even when financial constraints are only fairly challenging, hospitals still need resources for treatment services, training, storage facilities, safety equipment, technologies, and emergency response. Financial planning should include risk management and sustainability projections. Alternative financing through grants, subsidies, donors, and public-private collaboration may help support modernization.

For accredited waste treatment providers and external partners, the findings imply the need for more reliable and transparent coordination with hospitals. Collaborative external support was the second highest challenge domain, showing that hospitals depend on external systems for effective waste treatment and disposal. Service delays, limited provider availability, or weak communication may affect compliance. Stronger partnership agreements, feedback channels, and contingency plans can reduce these vulnerabilities.

For future researchers, the findings imply a need to examine the qualitative dimensions of staff awareness and compliance culture. Since staff awareness was the only domain with a significant difference, future inquiry should explore why awareness varies and how training programs affect behavior. Studies may investigate attitudes, workload, employment status, supervision, signage, and organizational culture. Such research can provide deeper explanations that summary statistics alone cannot capture.

For policy implementation, the findings imply that recommendations should be translated into formal, monitored, and enforceable instruments. Research-based recommendations become meaningful only when embedded in hospital guidelines, provincial

ordinances, DOH circulars, or administrative protocols. Each recommendation should have responsible actors, timelines, indicators, and evaluation mechanisms. This will transform the study from an academic output into a practical tool for improving healthcare waste governance.

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