



International Journal of Health and Business Analytics
Volume II, Issue 1, March 2026
<https://journal.ijhba.com>
<https://silsipress.com>
ISSN: 3116-2649 (Online)

Medical Technology Licensure Examination Outcomes in the Philippines: A Secondary Analysis of HEI Passing Rates by Region and Accreditation Status, 2018–2023

Liwanag, Ma. Cristina SJ PhD¹; Gregana, Trisha Marie F.¹; Ablola, Fatima Marie C.¹; Ancheta, Pearl Ethel R.¹; Bargo, Jinalyn L.¹; Binag, Loraine Anne A.¹; Lajada, Alfredo RR R.¹; Maraña, Ezra L.¹; Pacayra, Maria Angel-LA E.¹; Peñalosa, Lyka Mariony S.¹

¹Centro Escolar University-Manila

Corresponding Author: ¹ mliwanag@ceu.edu.ph

Abstract

The Medical Technology Licensure Examination (MTLE) is a key national mechanism for assuring entry-level competence in medical technology practice in the Philippines, and institutional MTLE outcomes are frequently interpreted as indicators of program quality among Higher Education Institutions (HEIs). This study examined MTLE performance patterns of selected Philippine HEIs from March 2018 to August 2023, with emphasis on geographic location and accreditation/recognition status as institutional differentiators. A retrospective quantitative secondary-data design was used, drawing HEI overall MTLE performance data from the Professional Regulation Commission (PRC) and accreditation/recognition information from PACUCOA, PAASCU, CHED designations, and institutional sources. HEIs were included based on offering BS Medical Technology/BS Medical Laboratory Science and consistently producing examinees across the MTLE administrations within the study window. One-sample t-tests were applied to compare aggregated HEI performance against national passing percentages, and independent-samples t-tests were used to compare accredited/recognized versus non-accredited institutions. Across the study period, the selected HEIs posted a collective mean passing rate of 54.9% relative to a national average of 65.05%, falling below the national benchmark in most examination periods. Regional comparisons showed higher mean performance in the Visayas (65.4%) and NCR (60.9%) than in Luzon (54.1%) and Mindanao (42.6%). Accredited/recognized HEIs also demonstrated higher performance than non-accredited HEIs across periods. These findings suggest that institutional MTLE outcomes vary systematically by geography and accreditation/recognition status, with implications for quality assurance, targeted program support, and policy-driven capacity-building across regions.

Keywords: *Medical Technology Licensure Examination (MTLE); Professional Regulation Commission (PRC); higher education institutions (HEIs); passing rate; regional disparities; accreditation; quality assurance; PACUCOA; PAASCU; Commission on Higher Education (CHED); Philippines*

1. Introduction

Medical technologists play a central role in contemporary healthcare systems by generating laboratory evidence that supports clinical decision-making. Their work—ranging from specimen collection to the analytical processing and interpretation of laboratory findings—directly influences diagnostic accuracy, treatment planning, and patient safety. Given this high-stakes function, professional entry mechanisms must ensure that aspiring medical technologists possess the minimum competencies required for safe and effective practice. In the Philippine context, the Medical Technology Licensure Examination (MTLE) serves as the formal evaluative process used to screen and validate the technical

competence, knowledge base, and practical readiness of graduates prior to professional registration (Arcilla, 2023). Consistent with the regulatory intent of the Philippine Medical Technology Act of 1969 (Republic Act 5527), the MTLE functions as a gatekeeping instrument for public protection by requiring applicants to demonstrate readiness to practice under standardized national assessment conditions (Nucum, 2022).

Beyond its role as an individual credentialing mechanism, MTLE performance has been widely treated as an outcome indicator for educational quality and institutional effectiveness. Licensure results are often interpreted as reflecting not only student capability but also the adequacy of curricular delivery, instructional quality, learning



resources, and institutional support systems within Higher Education Institutions (HEIs) (Rosales et al., 2014). As such, patterns in institutional MTLE performance can carry implications for quality assurance, program evaluation, and policy decisions related to capacity-building in health professions education. In practical terms, consistently strong performance can enhance institutional reputation and perceived program credibility, while persistently low outcomes may point to structural constraints in teaching-learning processes, academic support mechanisms, or broader system-level disparities affecting program delivery.

Although scholarly interest in licensure examination performance has increased, the evidence base remains uneven in terms of what factors are emphasized and what levels of analysis are prioritized. In the Philippine context, existing discussions of licensure outcomes have tended to highlight individual-level determinants of examination success, including study habits, engagement in review activities, time allocation for reading and task preparation, and participation in structured review programs (Cabalza, 2019). Other studies similarly suggest that prior academic performance—often operationalized through general weighted average or course grades—may predict licensure outcomes (Estrada, 2021). While such findings are important for understanding student readiness and for designing learner-focused interventions, they do not sufficiently address how institutional characteristics shape performance outcomes at the program or school level. This limitation is consequential because institutions vary widely in their educational resources, instructional ecosystems, student support services, and quality assurance maturity—factors that may collectively influence graduate preparedness even when student-level predictors are held constant.

Two institutional differentiators warrant particular attention in examining MTLE outcomes: geographic location and accreditation/recognition status. Geographic location may reflect contextual differences in educational infrastructure, access to clinical laboratory training networks, faculty supply, and regional resource constraints that can shape program delivery capacity. Accreditation and formal recognition mechanisms, meanwhile, are typically designed to assess and incentivize educational quality through external evaluation standards. In the Philippine higher education environment, accreditation bodies such as the

Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) and the Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU), as well as Commission on Higher Education (CHED) recognition designations, provide institutional markers that are often interpreted as proxies for quality assurance maturity and program robustness. However, the extent to which these institutional differentiators are reflected in longitudinal MTLE performance patterns across HEIs remains underexplored in the current literature focus.

Against this backdrop, the present research examines MTLE performance outcomes of selected HEIs in the Philippines across the examination periods from March 2018 to August 2023, focusing on institutional variation by region and by accreditation/recognition status. Specifically, the study determines the accreditation/recognition profiles of selected HEIs based on PACUCOA, PAASCU, and CHED-related classifications; examines collective institutional performance in the MTLE according to geographic region (Luzon, Visayas, Mindanao, and the National Capital Region); compares aggregated HEI performance against national passing percentages; evaluates differences in MTLE performance between accredited/recognized and non-accredited institutions; and derives evidence-based recommendations aligned with the observed patterns. By shifting analytic emphasis toward institutional and contextual determinants, the study contributes to a more policy-relevant understanding of MTLE performance variation in the Philippines and supports quality assurance initiatives that aim to strengthen medical technology education and, ultimately, the production of competent healthcare professionals.

2. Review of Related Literature

Licensure examination pass rates are a ubiquitous and high-stakes metric in health professions and teacher education. They serve as a primary public indicator of program quality, influencing institutional reputation, accreditation status, and student recruitment. This review synthesizes current literature to analyze licensure exam outcomes not as a simple product of student ability, but as a complex construct shaped by a hierarchy of institutional, regional, and pedagogical factors. The evidence reveals that while pass rates are a valid proxy for quality, their interpretation requires careful consideration of external



assurances, systemic disparities, academic foundations, and clinical preparation.

2.1 Licensure Examination Outcomes as Quality and Accountability Indicators

Research consistently affirms that first-time pass rates on exams like the NCLEX-RN for nursing and the NAPLEX for pharmacy are treated as key indicators of program effectiveness. However, scholars caution against their isolated use. Studies note significant reporting inconsistencies for metrics like NCLEX pass rates across U.S. states, complicating direct comparisons (Eisenhauer, 2025). Furthermore, declining pass rates, as observed in pharmacy, may signal concerns but are often conflated with external factors such as changes in exam content, scoring, and administration (Brown, 2024; Brandon et al., 2024, 2025). Research on NAPLEX outcomes suggests program maturity is a factor, with older, traditionally structured programs tending to outperform newer or accelerated ones (Ried et al., 2022; Williams et al., 2018). Crucially, evidence demonstrates that pass rates are modifiable through targeted academic support and remediation programs, indicating they reflect a program's capacity for student development as much as its incoming student quality (Kim et al., 2019; Mansour & Gouda, 2025). Therefore, while indispensable for accountability, licensure exam outcomes are most informative when contextualized within a broader framework of quality indicators.

2.2 Accreditation and External Quality Assurance Mechanisms

A strong, cross-national consensus exists on accreditation as a foundational external quality assurance (EQA) mechanism correlated with superior licensure performance. This relationship is observed across diverse contexts: international medical schools with recognized accreditation show higher USMLE pass rates (Van Zanten et al., 2022), while in China, accreditation processes have helped lower-tier medical schools improve licensing exam performance (You et al., 2023). A specific study on pharmacy programs in Saudi Arabia provides direct empirical support, finding that colleges with national or international accreditation had significantly higher average scores on the Saudi Pharmacists Licensure

Examination (SPLE) than non-accredited colleges (Almaghaslah, 2024). The study concluded that national accreditation alone was sufficient for this positive impact, with international or dual accreditation not providing a statistically significant additional benefit in this context. The mechanism is attributed to accreditation's role in standardizing curricula, resources, and faculty qualifications, thereby creating a structured environment conducive to student success (Alenezi et al., 2023; Frank et al., 2020).

2.3 Geographic and Regional Disparities in Educational Performance

Beyond formal accreditation, systemic inequalities in resources create significant regional disparities in licensure outcomes. Research from the Philippines provides a clear case study, demonstrating that exam performance varies significantly by region, institution type (public vs. private), and access to qualified faculty and adequate facilities (Abao et al., 2023; Matusalem et al., 2024).

These geographic and institutional resource gaps are not limited to physical infrastructure but extend to pedagogical strategy and digital equity, influencing how programs prepare students for licensure (Atento, 2025). Furthermore, disparities manifest even at the local level, where community knowledge outcomes—a proxy for foundational readiness—vary significantly by locality and education level (Temporada et al., 2025), suggesting that the inequities affecting licensure performance are deeply embedded in the broader socio-educational ecosystem.

While some elite private institutions produce top performers, public schools in several regions demonstrate higher overall passing rates, a pattern linked to greater government resource allocation and institutional stability (Laguador & Refozar, 2020). These disparities are reinforced by studies linking effective local supervision and higher levels of program accreditation within regions to better exam outcomes (Salendab, 2021; Olvido et al., 2024). This body of work confirms that geographic and institutional resource gaps are powerful predictors of licensure performance, highlighting that equity in educational outcomes is inextricably linked to equity in institutional support.



2.4 Academic and Instructional Determinants at the Program/Institution Level

At the program level, the alignment between curriculum, instruction, and licensure competencies is a critical determinant of success. Research in teacher education strongly links curriculum alignment, attainment of course objectives, and instructor performance to performance on the Licensure Examination for Teachers (LET) (Angeles, 2020; Repuya, 2025). This is further supported by findings that grades in specific, competency-aligned courses are significant predictors of exam success (Dionio et al., 2025). In nursing, studies identify course grades in key subject areas (e.g., adult health, family health) and standardized exit exam scores as significant predictors of NCLEX-RN success (Kim et al., 2019). Similarly, multi-institutional analyses in pharmacy confirm that pre-admission metrics and performance in core pharmacotherapy courses predict NAPLEX outcomes (Maerten-Rivera et al., 2021). These findings underscore that robust, well-sequenced curricula delivered by qualified faculty, coupled with integrated formative and summative assessments, are essential academic drivers of licensure readiness.

In the Philippine context, these academic and clinical determinants are compounded by systemic pressures. A thematic review of health professions education identifies the pervasive 'licensure examination culture' alongside 'clinical placement scarcity' and 'curriculum-practice misalignment' as interconnected challenges that strain program viability and student readiness (Bermido et al., 2025). This is further exacerbated by competency gaps in specific, high-need areas such as long-term care and digital literacy within the national workforce pipeline (Atento et al., 2025), highlighting a disconnect between training, assessment, and practice requirements.

2.5 Experiential Learning and Internship Preparation for Licensure Readiness

Finally, high-quality, structured experiential learning acts as the essential bridge between theoretical knowledge and clinical competence assessed by licensure exams. Empirical evidence demonstrates that targeted internship preparation can dramatically impact outcomes. A quasi-experimental study in Saudi Arabia evaluated a structured 6-week preparation program for Medical Laboratory Science interns, which resulted

in a 100% first-attempt pass rate on the Saudi Laboratory Licensure Examination, alongside significant gains in knowledge and high clinical performance ratings (Mansour & Gouda, 2025). Conversely, literature also identifies that poorly structured internships—characterized by inadequate supervision, misaligned goals, or resource limitations—can hinder competency development and exam readiness (Yoshany et al., 2025; Villena, 2025). Therefore, the duration, structure, supervision quality, and integration of exam-focused preparation within the clinical placement are significant modifiable factors influencing final licensure success (Rowland & Trueman, 2024).

2.6 Synthesis of the Literature

Across health professions and allied licensure systems, examination pass rates function as a high-stakes accountability indicator that shapes institutional legitimacy, market positioning, and regulatory standing. The literature converges on the view that licensure outcomes are consequential precisely because they are publicly visible, comparable across institutions, and readily interpreted by stakeholders as a proxy for program effectiveness. At the same time, contemporary scholarship consistently cautions that pass rates are not a “pure” reflection of student ability. Instead, they emerge from layered influences that include external quality assurance regimes, systemic inequities across regions, program-level academic architecture, and the structure and fidelity of experiential preparation.

First, licensure outcomes are widely used as a quality signal but are also methodologically and interpretively fragile when treated in isolation. Evidence from nursing and pharmacy demonstrates that pass-rate metrics may be affected by reporting variability across jurisdictions and changes in exam design, scoring, or administration, which complicate trend interpretation and cross-program comparisons (Eisenhauer, 2025; Brown, 2024; Brandon et al., 2024, 2025). In this context, licensure outcomes remain indispensable for accountability, yet their meaning is amplified when embedded in a broader quality framework that recognizes program maturity, cohort characteristics, and institutional capacity for student development. The finding that older or traditionally structured programs often outperform newer or accelerated programs suggests that institutional learning curves, systems stability, and curricular



routinization can shape outcomes over time (Ried et al., 2022; Williams et al., 2018). Importantly, the literature underscores that pass rates are modifiable: targeted academic support and remediation interventions can improve licensure performance, implying that outcomes reflect the capacity of programs to diagnose learning gaps and deploy effective supports—not merely the quality of incoming students (Kim et al., 2019; Mansour & Gouda, 2025). Taken together, this stream positions licensure performance as a consequential but “context-dependent” institutional outcome.

Second, accreditation and related external quality assurance mechanisms are consistently associated with stronger licensure performance, providing a structural explanation for why some institutions achieve sustained advantage. Cross-national evidence indicates that accreditation is not merely symbolic; it operates as an institutional governance mechanism that standardizes curriculum expectations, resource thresholds, faculty qualifications, and continuous improvement routines (Frank et al., 2020; Alenezi et al., 2023). Studies spanning international medical schools and national systems show that recognized accreditation correlates with improved licensure outcomes (Van Zanten et al., 2022; You et al., 2023). In the pharmacy context, accreditation status has been empirically linked to higher licensure examination scores, with evidence suggesting that national accreditation may be sufficient to yield measurable benefits in certain settings (Almaghaslah, 2024). Collectively, these findings justify treating accreditation/recognition status as a plausible institutional differentiator in licensure performance analyses, particularly in contexts where institutions vary widely in quality assurance maturity.

Third, the literature highlights that geographic and regional disparities constitute a major explanatory layer that can overshadow program-level intentions and even formal accreditation status. Philippine evidence demonstrates that licensure-related performance varies by region, institution type, and access to qualified faculty and adequate facilities, with resource gaps extending beyond infrastructure into pedagogical strategies and digital equity (Abao et al., 2023; Matusalem et al., 2024; Atento, 2025). The observation that some public institutions in certain regions can outperform private institutions—potentially due to government

resource allocation and institutional stability—signals that regional and sectoral dynamics shape performance in non-linear ways (Laguador & Refozar, 2020). The literature further indicates that local supervision, governance capacity, and regional quality assurance ecosystems (including accreditation density) may contribute to the observed regional performance gradients (Salendab, 2021; Olvido et al., 2024). Even broader socio-educational inequities appear to matter: locality-level variations in community knowledge outcomes may reflect underlying disparities that cascade into tertiary readiness and, ultimately, licensure performance (Temporada et al., 2025). This stream therefore frames licensure performance as partially an equity issue—where the institutional environment is shaped by regional opportunity structures and constraints.

Fourth, academic and instructional determinants at the program level provide a more proximal pathway from institutional structures to licensure success. Evidence from teacher education, nursing, and pharmacy converges on the centrality of curriculum alignment, attainment of competency-linked objectives, and instructor performance. Studies in teacher education show that alignment between curriculum and licensure competencies, along with instructional effectiveness, predicts licensure performance outcomes (Angeles, 2020; Repuya, 2025), and that grades in specific competency-aligned courses may serve as meaningful predictors (Dionio et al., 2025). Parallel findings in nursing and pharmacy demonstrate predictive relationships between performance in key subject areas and standardized exit examinations, and later licensure outcomes (Kim et al., 2019; Maerten-Rivera et al., 2021). Within the Philippine context, these determinants are embedded in systemic pressures that include a pervasive licensure examination culture, scarcity in clinical placements, and curriculum–practice misalignment (Bermido et al., 2025). The presence of competency gaps in priority domains such as long-term care and digital literacy further supports the notion that misalignment between training, assessment, and evolving practice needs can weaken licensure readiness (Atento et al., 2025). Overall, this literature locates licensure performance within the design integrity of the academic program and its coherence with competency standards.



Fifth, experiential learning and internship preparation constitute a final, critical bridge between academic training and performance in competency-based licensure examinations. Empirical work indicates that structured internship preparation programs can yield substantial gains in first-attempt licensure pass rates and knowledge outcomes (Mansour & Gouda, 2025). Conversely, poorly structured clinical placements—marked by inadequate supervision, misaligned goals, and resource limitations—can undermine competency development and exam readiness (Yoshany et al., 2025; Villena, 2025). This evidence strengthens the interpretation of licensure outcomes as products of institutional capacity, because experiential learning quality is often determined by institutional partnerships, supervision systems, and the ability to integrate exam-focused preparation into clinical training (Rowland & Trueman, 2024).

Synthesizing across these streams suggests a layered model of licensure performance: (a) licensure pass rates remain a legitimate accountability indicator, (b) accreditation functions as an external quality assurance scaffold that can elevate performance, (c) regional disparities shape the resource and opportunity environment in which programs operate, and (d) program-level curriculum alignment and experiential learning quality serve as proximal drivers of readiness. This synthesis supports the analytic value of examining licensure outcomes at the institutional level and comparing performance patterns by region and accreditation/recognition status, particularly in contexts characterized by heterogeneous institutional capacity and uneven resource distribution.

2.7 Research Gaps

Despite substantial evidence linking licensure outcomes to multi-level determinants, several gaps remain that justify an institutional, comparative, and policy-relevant examination of MTLE outcomes across Philippine HEIs.

Gap 1: Overconcentration on individual-level predictors rather than institutional-level patterns.

A large share of licensure research emphasizes student study habits, review participation, and academic metrics as determinants of exam success (Cabalza, 2019; Estrada, 2021). While valuable, this focus can obscure institutional and contextual drivers—particularly accreditation maturity and regional resource ecosystems—that

the literature identifies as consequential (Alenezi et al., 2023; Abao et al., 2023; Matusalem et al., 2024).

Gap 2: Limited longitudinal, multi-administration institutional analyses of licensure outcomes within the Philippine context.

Cross-national evidence links accreditation to better licensure outcomes (Van Zanten et al., 2022; You et al., 2023; Almaghaslah, 2024), but the Philippine literature more commonly appears as single-institution or cross-sectional snapshots. There remains a need for analyses that evaluate institutional licensure performance across multiple examination administrations to discern persistent patterns versus period-specific fluctuations, particularly given known reporting and exam-administration issues that can affect interpretation (Eisenhauer, 2025; Brandon et al., 2024, 2025).

Gap 3: Under-specification of how accreditation/recognition categories translate into licensure performance differentials.

Although accreditation is treated as a quality assurance mechanism, the literature indicates that the marginal benefit of different forms of accreditation (national versus additional international recognition) may vary by context (Almaghaslah, 2024). Within the Philippine setting, there is limited consolidated evidence that explicitly compares accredited/recognized and non-accredited institutions on licensure outcomes using consistent classification schemes and comparable metrics (Salendab, 2021; Olvido et al., 2024).

Gap 4: Insufficient integration of regional inequity explanations into institutional licensure analytics.

Philippine evidence points to regionally patterned resource disparities, sectoral differences, and contextual constraints affecting licensure performance (Abao et al., 2023; Laguador & Refozar, 2020; Atento, 2025). However, these insights are not consistently operationalized in institutional licensure analyses that directly compare performance across macro-regions and interpret disparities as potentially reflecting systemic inequities rather than isolated institutional shortcomings (Temporada et al., 2025).

Gap 5: Need to align licensure performance interpretation with modifiable institutional levers.

The literature indicates that licensure outcomes can improve through remediation, academic support systems, stronger curriculum alignment, and structured internship preparation (Kim et al., 2019; Mansour & Gouda, 2025; Angeles, 2020; Repuya, 2025; Rowland & Trueman, 2024). Yet many institutional discussions of licensure results remain descriptive, without linking observed performance patterns to actionable quality assurance and program-development levers. A structured institutional comparison by accreditation status and region is necessary to inform targeted interventions that are both feasible and equity-sensitive.

Collectively, these gaps support a study design that examines MTLE outcomes at the institutional level across multiple examination administrations, and that tests whether systematic differences are observable by geographic region and by accreditation/recognition status. This approach responds directly to the need for policy-relevant evidence on institutional performance disparities and quality assurance implications within Philippine medical technology education.

3. Methodology

3.1 Research design

A retrospective, descriptive-comparative secondary data design was used to examine institutional trends in Medical Technology Licensure Examination (MTLE) performance among selected Philippine Higher Education Institutions (HEIs) over multiple examination administrations. The unit of analysis was the HEI/program, not individual examinees.

3.2 Study period and MTLE administrations covered

The analysis covered MTLE administrations from March 2018 to August 2023, specifically: March 2018, September 2018, March 2019, September 2019, January 2021, March 2021, January 2022, March 2022, August 2022, March 2023, and August 2023.

3.3 Sample selection and inclusion criteria

Schools were selected using a criterion-based approach. An HEI was included if it:

- offered BS Medical Technology or BS Medical Laboratory Science; and
- consistently produced examinees (i.e., had reported school performance) across

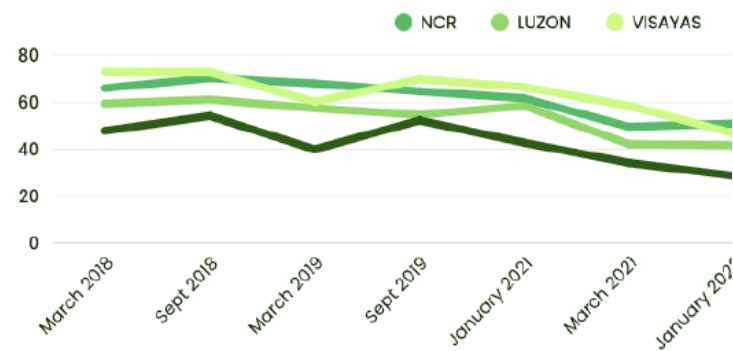


Figure 1. Performance of Selected Schools Across Examination Administrations

all MTLE administrations within the defined study period.

3.4 Data sources and variables

MTLE performance data (outcome).

Institutional “overall ratings” (treated in the study as school-level passing performance/percentage) were obtained from the official Professional Regulation Commission (PRC) postings for each MTLE administration. The national passing percentage per administration was also recorded for benchmarking.

Accreditation/recognition status (grouping variable).

Accreditation profiles were compiled from the official sources of:

PACUCOA (program accreditation levels),

PAASCU (program accreditation levels), and

CHED designations (Centers of Excellence/Development),

supplemented by the official websites of the selected HEIs when needed to verify institutional status.

Geographic location (grouping variable).



HEIs were categorized by location into Luzon, Visayas, Mindanao, and NCR for regional comparisons.

accredited/recognized and non-accredited HEIs.

3.5 Data analysis

Analyses were conducted to describe trends and test institutional comparisons:

3.6 Ethical considerations

The study relied on publicly available,

*Table SEQ Table * ARABIC 1 Performance by Region and Examination Period (2018-2023)*

	Overall mean		NCR		Luzon		Visayas		Mindanao	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
March Year 2018	60.3	26.8	66.0	26.8	59.4	27.0	72.8	21.3	47.8	25.7
Sept Year 2018	63.4	27.7	70.3	25.4	61.1	27.2	72.7	31.1	54.1	29.0
March Year 2019	57.2	28.6	68.0	26.0	57.4	28.7	60.1	27.6	39.9	26.4
Sept Year 2019	58.3	27.9	64.6	26.2	54.6	29.2	69.8	26.4	52.2	26.9
January Year 2021	57.1	27.8	61.6	21.6	58.4	28.0	66.4	29.2	42.7	31.5
March Year 2021	44.2	27.9	49.5	24.0	42.1	30.2	58.4	21.0	34.1	27.8
January Year 2022	42.2	27.2	50.9	27.0	41.7	26.6	46.7	31.4	28.6	23.2
March Year 2022	51.0	54.5	48.8	21.5	55.9	74.4	66.2	56.4	35.0	21.5
August Year 2022	41.7	24.2	49.2	28.1	39.6	21.9	53.0	21.0	30.0	20.2
March Year 2023	64.0	25.2	66.8	25.6	63.9	23.8	79.7	25.9	52.1	23.7
August Year 2023	64.0	23.0	74.5	18.9	60.6	22.9	73.3	20.5	52.2	23.5
Overall Mean Passing %	54.9		60.9		54.1		65.4		42.6	

- Descriptive statistics (means and standard deviations) were computed to summarize MTLE performance overall and by region across administrations.
- A one-sample t-test approach (“one t-test sampling” in the original wording) was used to compare the collective performance of the selected HEIs against the national passing percentage for each MTLE administration and for the overall period summary.
- An independent-samples t-test approach (“independent t-test sampling”) was used to compare MTLE performance between

aggregate institutional results and publicly accessible accreditation/recognition information. No individual-level or identifiable personal data were collected or processed.

4. Results and Discussion

4.1 Accreditation profile of selected medical technology HEIs

The accreditation mapping across the selected institutions indicated substantial variation in external quality assurance standing. Under PACUCOA, the set included a concentration of institutions at Level II and a smaller subset at the highest Level IV; the description also noted upward

movements over time (including cases progressing from Level I to Level II and from Level III to Level IV), alongside at least one instance of downgrading.

For PAASCU, the distribution was confined to two levels, with institutions classified either as Level I or Level II.

average (65.05%), with the comparison reported as statistically significant ($p = 0.001$).

By examination period, the mean passing rates of the selected schools were reported as significantly lower than national passing percentages in 10 of 11 periods, with p-values typically at 0.001. The lone exception was March

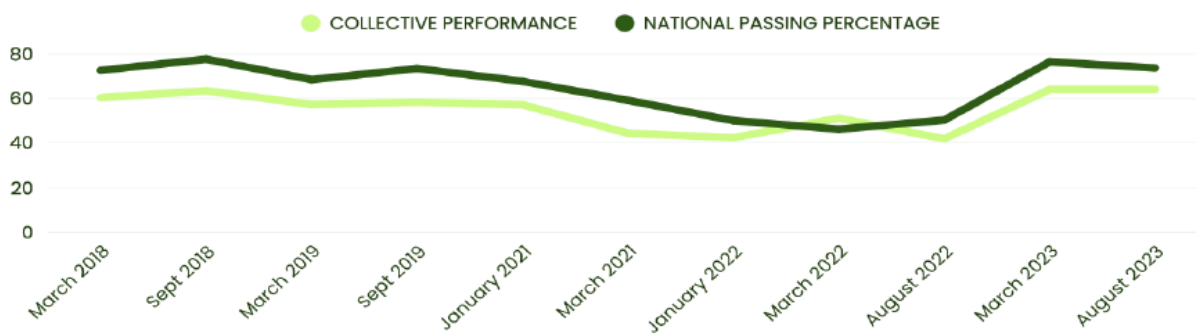


Figure 2. Overall Performance of Selected Schools in comparison to the National Passing Percentage

CHED recognitions included the designation of the University of Santo Tomas as a Center of Excellence (COE) in Medical Technology and the identification of two institutions as Centers of Development (COD) in the same field. However, the named COD institutions were inconsistently stated across sections and require verification before finalization.

4.2 Passing rate patterns by region and examination period (2018–2023)

Across the 2018–2023 window, the selected schools posted an overall mean passing rate of 54.9%. Disaggregation by region showed the Visayas with the highest mean passing rate (65.4%), followed by NCR (60.9%), Luzon (54.1%), and Mindanao with the lowest mean (42.6%).

Across examination periods, the highest mean passing rate was recorded in March 2023 and August 2023 (both 64.0%). The lowest mean passing rate occurred in August 2022 (41.7%), closely followed by January 2022 (42.2%), indicating a pronounced trough during 2022 relative to adjacent periods.

4.3 Comparison with national passing percentages

When benchmarked against national passing percentages, the selected schools' overall mean passing rate (54.9%) was lower than the national

2022, where the selected schools' mean (51.0%) exceeded the national percentage (46.08%) but the difference was not statistically significant ($p = 0.393$).

4.4 Differences by accreditation status

Across licensure examination periods from March 2018 to August 2023, institutions with program or institutional accreditation—covering PACUCOA- and PAASCU-accredited schools and CHED-recognized COE/COD institutions—were described as consistently achieving higher passing rates than non-accredited institutions. COE/COD institutions were further characterized as frequently yielding the highest passing percentages, including multiple periods exceeding 90%.

4.5 Discussion of Findings

The results indicate that MTLE outcomes among the selected Philippine HEIs exhibit systematic variation across time, geography, and quality assurance standing. Consistent with the broader licensure literature, these patterns support the interpretation of licensure passing rates as consequential institutional indicators, but also reinforce the need to read them as context-dependent outcomes shaped by multi-level determinants rather than as straightforward reflections of student ability alone (Eisenhauer, 2025; Brown, 2024; Brandon et al., 2024, 2025). Taken together, the observed performance gradients

across regions and accreditation/recognition categories align with a layered explanatory model: external quality assurance structures appear to differentiate institutional performance, while regional disparities suggest the presence of structural constraints and unequal opportunity environments that may condition program delivery capacity (Alenezi et al., 2023; Frank et al., 2020; Abao et al., 2023; Matusalem et al., 2024; Atento, 2025).

Collective underperformance relative to the national benchmark

the national passing percentage but without a statistically significant difference—further reinforces the importance of period-level context. Rather than contradicting the overall pattern, this exception suggests that performance differentials are not fixed and may fluctuate depending on cohort readiness, institutional support intensity during specific periods, and broader systemic conditions. This is consistent with evidence that licensure outcomes can be modified through targeted support and remediation, indicating that institutional responsiveness and student development mechanisms can meaningfully

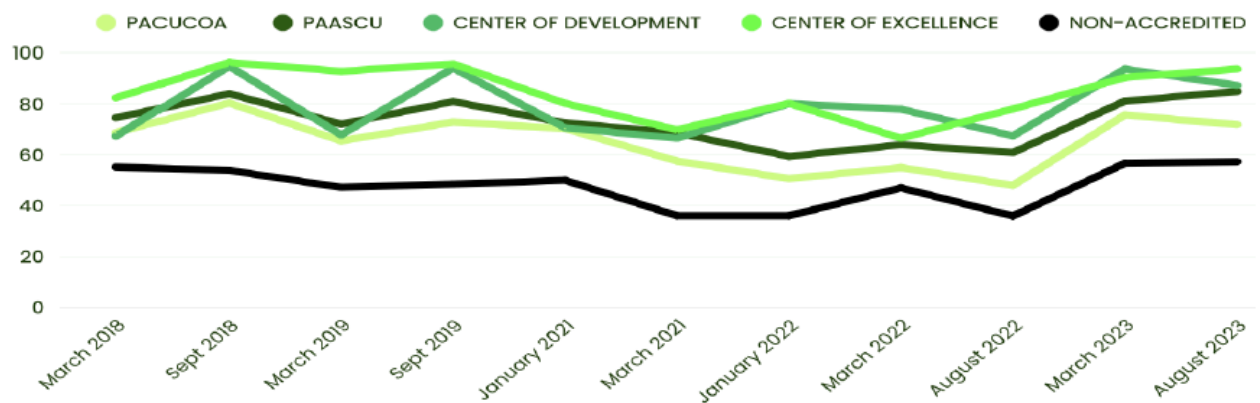


Figure 3. Performance of Selected Schools According to Accreditation Status

Across the study window, the selected HEIs registered an overall mean passing rate below the national average, with most examination periods reflecting statistically significant gaps. This finding can be interpreted in two complementary ways. On one hand, it supports the use of licensure outcomes as a performance signal capable of discriminating between institutional cohorts and benchmarking them against national performance. On the other hand, it cautions against simplistic institutional attributions because national passing rates themselves may reflect shifts in examination structure, difficulty, or administration practices that influence trend comparability across periods (Brown, 2024; Brandon et al., 2024, 2025). The literature indicates that declines in licensure outcomes may be conflated with exam-level changes and reporting variation (Eisenhauer, 2025), underscoring that the observed gap should be interpreted as an outcome of both institutional preparedness systems and the wider testing environment.

The period-specific exception in March 2022—where the selected HEIs slightly exceeded

influence results (Kim et al., 2019; Mansour & Gouda, 2025).

Regional gradients and the plausibility of structural inequities

Regional disaggregation revealed a clear gradient: Visayas and NCR demonstrated higher mean passing rates than Luzon and Mindanao, with Mindanao consistently lowest. This pattern is consistent with Philippine research emphasizing that licensure performance differs across regions due to uneven distributions of qualified faculty, facilities, training resources, and institutional stability (Abao et al., 2023; Matusalem et al., 2024). The implication is that geographic location may operate as a proxy for institutional opportunity structures, including clinical partnership density, supervision quality, and differential access to academic supports and digital learning infrastructure (Atento, 2025). In this reading, regional disparities are not simply “school effects” but reflect broader socio-educational ecosystems that shape the feasibility and quality of instructional and clinical preparation.



The results also align with evidence that local governance and supervision within regions may influence licensure outcomes, where stronger quality assurance ecosystems and accreditation maturity within a region can support program-level improvements (Salendab, 2021; Olvido et al., 2024). Additionally, the literature suggests that inequities may extend beyond tertiary education, as locality-level differences in foundational knowledge and educational outcomes can cascade into higher education readiness and, ultimately, licensure performance (Temporada et al., 2025). Accordingly, the regional performance gradient observed in MTLE outcomes can be interpreted as a manifestation of cumulative educational advantage and disadvantage, rather than a narrow function of short-term review practices.

Accreditation/recognition as a differentiator in licensure performance

The consistent advantage of accredited/recognized institutions over non-accredited institutions supports a central claim of the quality assurance literature: accreditation functions as an external governance mechanism that standardizes program inputs and processes in ways that plausibly translate into stronger licensure readiness (Frank et al., 2020; Alenezi et al., 2023). Cross-national evidence indicates that recognized accreditation is associated with higher licensure pass rates in medical and pharmacy education (Van Zanten et al., 2022; You et al., 2023; Almaghaslah, 2024). The present findings are congruent with this pattern, suggesting that accreditation/recognition status can be a meaningful institutional marker associated with improved MTLE outcomes.

From a mechanism perspective, accreditation is commonly understood to exert influence through curriculum standardization, improved faculty qualification structures, strengthened resource requirements, and embedded continuous improvement routines. These elements are closely aligned with the academic and instructional determinants identified in the literature, where curriculum alignment, competency-linked instruction, and robust assessment systems predict licensure success (Angeles, 2020; Repuya, 2025; Dionio et al., 2025; Kim et al., 2019; Maerten-Rivera et al., 2021). In the Philippine context, these advantages may be particularly salient given documented challenges involving curriculum–practice misalignment and clinical

placement scarcity (Bermido et al., 2025). Accredited institutions may be better positioned to mitigate such constraints through structured partnerships, faculty development systems, and more stable quality assurance governance.

The recurring high performance of COE/COD-designated institutions further supports the interpretation that formal recognition often correlates with stronger institutional capacity. However, such results should not be overstated as causal evidence because accreditation/recognition may also capture selection effects: institutions with stronger baseline resources and governance systems are more likely to secure and maintain higher accreditation status. This interpretation is consistent with findings that program maturity and structural stability can shape licensure outcomes (Ried et al., 2022; Williams et al., 2018). Therefore, accreditation/recognition is best treated as both a quality assurance mechanism and an institutional capability signal.

Temporal fluctuations and the role of modifiable preparation systems

The observed dip in 2022 (notably August 2022 and January 2022) followed by stronger performance in 2023 suggests that institutional outcomes are sensitive to disruptions and recovery dynamics. While the study did not measure causal drivers, the broader literature provides plausible contextual explanations that should be framed cautiously. In health professions education, “licensure examination culture,” clinical placement constraints, and curriculum–practice misalignment are reported as persistent pressures that can intensify under system shocks and later stabilize as institutions adapt (Bermido et al., 2025). Additionally, evidence that structured preparation interventions—particularly in the internship period—can dramatically improve first-attempt licensure success supports the view that institutional preparedness systems can buffer performance volatility when implemented consistently (Mansour & Gouda, 2025; Rowland & Trueman, 2024). The implication is that time-series fluctuations may reflect differences in how institutions sustain academic supports, bridge instruction to competencies, and integrate exam-focused preparation into experiential training.



Implications for quality assurance and equity-oriented policy

Collectively, the results suggest two policy-relevant interpretations. First, quality assurance mechanisms matter: accreditation/recognition aligns with better licensure outcomes, supporting continued strengthening of external quality assurance and internal continuous improvement systems. Second, equity-oriented interventions are necessary: the regional performance gradient implies that targeted support may be warranted for institutions operating in resource-constrained environments, particularly where clinical placement networks, faculty supply, and learning infrastructure are structurally limited (Abao et al., 2023; Matusalem et al., 2024; Atento, 2025). This implies that performance improvement strategies should not be framed solely as institutional accountability pressures; they should also be viewed as capacity-building initiatives that account for regional constraints and ecosystem disparities.

Finally, the broader licensure literature cautions that pass rates should not be treated as a single definitive quality metric. Reporting inconsistencies and examination changes can influence apparent trends (Eisenhauer, 2025; Brandon et al., 2024, 2025). Therefore, institutional licensure outcomes are most actionable when used alongside program-level diagnostic indicators (e.g., course performance in competency-aligned subjects, structured exit assessments, and clinical performance metrics), which the literature consistently links to licensure readiness (Kim et al., 2019; Maerten-Rivera et al., 2021; Angeles, 2020; Dionio et al., 2025). This framing allows licensure outcomes to be interpreted not only as evaluative endpoints but also as triggers for targeted academic and clinical preparation interventions.

5. Conclusions and Recommendations

5.1 Conclusions

The study provides institutional-level evidence that MTLE outcomes among selected Philippine HEIs vary systematically across examination administrations and are meaningfully differentiated by geography and accreditation/recognition standing. Across the March 2018 to August 2023 administrations, the selected HEIs posted an overall mean passing rate that was lower than the national benchmark, with

most administrations reflecting statistically significant gaps. This pattern supports the use of licensure outcomes as an accountability signal at the institutional level, while also reinforcing the interpretive caution emphasized in the broader licensure literature: passing rates represent a complex institutional outcome shaped by program capacity and context, rather than a narrow reflection of student ability alone. A clear regional gradient was also observed, with Visayas and NCR demonstrating higher mean passing rates than Luzon and Mindanao, and Mindanao consistently lowest. This finding is consistent with the view that regional ecosystems—through differential access to qualified faculty, instructional resources, and clinical training environments—condition institutional capacity to prepare graduates for licensure. Further, accredited/recognized institutions consistently demonstrated stronger MTLE performance than non-accredited institutions, and CHED COE/COD-designated schools were frequently among the top performers. Collectively, the findings suggest that external quality assurance status functions as a meaningful institutional marker associated with stronger licensure outcomes, and that persistent regional disparities in performance likely reflect broader inequities in educational opportunity and institutional support.

5.2 Recommendations

In light of these conclusions, several evidence-aligned recommendations are warranted for policy and practice. First, HEIs—particularly those with persistently lower MTLE outcomes—should institutionalize a licensure performance improvement system that goes beyond periodic review sessions and instead integrates competency mapping, regular formative diagnostics, targeted remediation, and exit assessments aligned with MTLE domains. Second, institutional leaders should treat accreditation and formal recognition not merely as compliance activities but as structured mechanisms for strengthening curriculum alignment, faculty development systems, learning resources, and continuous improvement cycles; non-accredited institutions should be supported to enter and sustain accreditation pathways as part of program strengthening. Third, equity-oriented regional interventions should be prioritized, especially for institutions operating in resource-constrained environments. This includes targeted faculty development support, strengthened clinical



partnership networks, and structured mechanisms for sharing best practices across regions and between higher- and lower-performing institutions. Finally, internship and clinical placement preparation should be systematized through structured, competency-based internship programs with clear supervision standards and licensure-focused preparation components, given the literature's consistent evidence that experiential training quality is a modifiable driver of licensure readiness. These recommendations position MTLE outcomes as both an accountability endpoint and a practical diagnostic trigger for strengthening institutional systems, quality assurance maturity, and equity-driven capacity-building across Philippine medical technology education.

6. References

- Abao, E., Petancio, J., Sanchez, J., & Sumalinog, G. (2023). Performance of beginning teachers in the licensure examination for teachers: A national study. *Frontiers in Education*. <https://doi.org/10.3389/feduc.2023.1240658>
- Almaghaslah, D. (2024). Accreditation of pharmacy programs and its impact on SPLE success and pharmacist readiness in Saudi Arabia. *Frontiers in Medicine*, 11. <https://doi.org/10.3389/fmed.2024.1490555>
- Angeles, M. (2020). Predictors of performance in licensure examination for teachers. *Universal Journal of Educational Research*, 8, 835-843. <https://doi.org/10.13189/ujer.2020.080314>
- Arcilla, P. (2023, August 17). The vital role of a medical technologist in healthcare. *Outsource Accelerator*. <https://www.outsourceaccelerator.com/articles/medical-technologist/>
- Atento, R. G. (2025). Exploring E-Learning for Sustainable Development: Integrating SDGs in Management Education at Philippine Higher Education Institutions. *International Journal of Health & Business Analytics*, 1(1). <https://doi.org/10.65166/2qcx561>
- Atento, R. G., Quinto, L., & Espelita, C. A. M. (2025). Bridging Global Health Workforce Gaps 2050: A Multilevel Analysis of Global Demand, Philippine Supply Fragilities, and Competency Alignment. *International Journal of Health & Business Analytics*, 1(2). <https://doi.org/10.65166/kgbpev79>
- Bermido, C., Atento, R. G. & Quinto, L. (2025). A Qualitative Thematic Review of Contemporary Challenges Affecting Health Professions Education: Implications for Higher Education Leadership. *International Journal of Health & Business Analytics*, 1(2). <https://doi.org/10.65166/yfm5w791>
- Brandon, H., Kebodeaux, C., Stallworth, S., Autry, E., Jones, M., Bosley, T., Schadler, A., & Romanelli, F. (2024). Perceptions of pharmacy faculty regarding factors contributing to declining first-time NAPLEX pass rates. *American Journal of Pharmaceutical Education*. <https://doi.org/10.1016/j.ajpe.2024.101336>
- Brandon, H., Scarduzio, J., Fogleman, L., Stallworth, S., Kebodeaux, C., & Romanelli, F. (2025). Opinions of pharmacy educators regarding declining North American Pharmacist Licensure Examination (NAPLEX) first-time pass rates. *Currents in Pharmacy Teaching & Learning*, 17(11), 102435. <https://doi.org/10.1016/j.cptl.2025.102435>
- Brown, D. (2024). Falling pass rates on the North American Pharmacist Licensure Examination signal an emerging crisis for a growing number of pharmacy schools. *Journal of the American College of Clinical Pharmacy*, 7, 1033-1041. <https://doi.org/10.1002/jac5.2015>
- Cabalza, R. (2019). Selected Factors Affecting Medical Technology Licensure Examination Results. *International Journal of Advanced Research in Management and Social Sciences*. <https://garph.co.uk/IJARMSS/Dec2018/G-2971.pdf>
- Campbell, S., Greenwood, M., Prior, S., Walkem, K., Shearer, T., Young, S., Bywaters, D., & Kim Walker. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of research in nursing*, 25(8), 652-661. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7932468/>
- Canonizado, I. C. (2018, November 11). Input-Process-Output Model. *HubPages*. <https://discover.hubpages.com/education/IPO-Model-of-Research>



- Commission on Higher Education. (2005). CHED Memo No. 1, series of 2005. Commission on Higher Education. <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.01-s2005.pdf>
- Commission on Higher Education. (2006). CHED Memorandum Order No. 14 Series of 2006. In Office of the President; Commission on Higher Education.
- Commission on Higher Education. (2006). CHED Memorandum Order No. 14, Series of 2006. Commission on Higher Education. <https://nlpdl.nlp.gov.ph/CH01/MO/2006/CH0MO0014s2006.pdf>
- Commission on Higher Education. (2006). CHED Memorandum Order No. 17, Series of 2006. Commission on Higher Education. <https://nlpdl.nlp.gov.ph/CH01/MO/2006/CH0MO0017s2006.pdf>
- Commission on Higher Education. (2019). CHED Memorandum Order No. 03, Series of 2019. Commission on Higher Education. <https://fs2.mapua.edu.ph/2020QS/Other%20Evidences/CQIO/BSCS%20Certificates/CHED-CMOs/CMO-No.-03-Series-of-2019.pdf>
- Commission on Higher Education. (2020). Guidelines for the Prevention, Control and Mitigation of the Spread of Coronavirus Disease 2019 (COVID-19) in Higher Education. chedro3. <https://chedro3.ched.gov.ph/wp-content/uploads/2020/10/CHED-COVID-19-Advisory-No.-6.pdf>
- Commission on Higher Education. (n.d.). Centers of Excellence and Centers of Development (COES&CODS). Commission on Higher Education. Retrieved May 5, 2024, from <https://ched.gov.ph/centers-excellence-centers-developmentcoescods/>
- Cosper, S., Callan, R., & Anderson, L. (2023, July). Investigating student and faculty perspectives related to predictors of NCLEX-RN success: A mixed methods approach, *Teaching and Learning in Nursing*, 8(3), 360-365. https://www.sciencedirect.com/science/article/pii/S1557308723000240?ref=pdf_download&r=RR-2&rr=81b8faf7ccd60f1c
- Delfino, A. (2019, May 30). STUDENT ENGAGEMENT AND ACADEMIC PERFORMANCE OF STUDENTS OF PARTIDO STATE UNIVERSITY. ERIC. Retrieved October 26, 2023, from <https://files.eric.ed.gov/fulltext/EJ1222588.pdf>
- Dionio, B., Dagpin, A., Cabillas, A., Edullantes, J., & Baluyos, G. (2025). Predictors of graduates' performance in the licensure examination for teachers (LET). *EduLine: Journal of Education and Learning Innovation*. <https://doi.org/10.35877/454ri.eduline3535>
- Eisenhauer, E. (2025). A cross-sectional analysis of reporting NCLEX pass rates by nursing program in the United States. *Policy, Politics, & Nursing Practice*, 26, 188-194. <https://doi.org/10.1177/15271544251326944>
- Estrada, M. R. (2021). Academic Performance as a Predictor of Success in Licensure Examinations Among Bachelor in Medical Laboratory Science Graduates | 8ISC Abstract Proceedings. Unklab Ejournal System. <https://ejournal.unklab.ac.id/index.php/8ISCA/BS/article/view/742>
- Far Eastern University. (2021). Bachelor of Science in Medical Technology • Far Eastern University. Far Eastern University. Retrieved November 22, 2023, from <https://www.feu.edu.ph/institute-of-health-sciences-and-nursing/bachelor-of-science-in-medical-technology/>
- Filcil. (n.d.). Medical Technologist Licensure Board Exam (MTLE): Application Requirements, Coverage, and Schedule. Filcil. <https://filcil.com/medical-technologist-licensure-board-exam-mtle-application-requirements-coverage-schedule/>
- Frank, J., Taber, S., Van Zanten, M., Scheele, F., & Blouin, D. (2020). The role of accreditation in 21st century health professions education: Report of an International Consensus Group. *BMC Medical Education*, 20. <https://doi.org/10.1186/s12909-020-02121-5>
- Hallmark Education Consultant Int'l. (2017). Bachelor of Science in Medical Technology. HALLMARK EDUCATION CONSULTANTS INT'L. <https://www.hallmarksconsultancy.com/news/bachelor-of-science-in-medical-technology#:~:>



- ext=BS%20in%20Medical%20Technology%20in,prevention%2C%20and%20treatment%20of%20diseases.
- Hani, A. (2021, September 1). Philippine Government to Enhance Development of MedTech. OpenGov Asia. <https://opengovasia.com/philippine-government-to-enhance-development-of-medtech/>
- Hernandez, G., Dela Cruz, R., & Marucot, E. (2020). Board Examination analytics for pamantasan ng cabuyao, laguna. JPAIR Multidisciplinary Research Journal, 42(1), 1. <https://ejournals.ph/article.php?id=15656>
- Holy Angel University. (2023). Bachelor of Science in Medical Technology. Holy Angel University. <https://www.hau.edu.ph/programs/school-of-nursing-and-allied-medical-sciences/33>
- Islam, M., Poly, T. N., & Li, Y.-C. J. (2018, Aug). Recent Advancement of Clinical Information Systems: Opportunities and Challenges. Yearb Med Inform, 27(1), 83-90. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6115226/>
- Jaji, J., & Russell, R. (2025). A study of the Philippine licensure examination for professional teachers: Secondary level ratings under the enhanced table of specifications. Asian Journal of Education and Social Studies. <https://doi.org/10.9734/ajess/2025/v51i92346>
- Jeyaraju, M., Linford, H., Mendes, T., Caufield-Noll, C., & Tackett, S. (2022). Factors leading to successful performance on U.S. national licensure exams for medical students: A scoping review. Academic Medicine, 98, 136-148. <https://doi.org/10.1097/ACM.00000000000004877>
- Kim, H., Nikstaitis, T., Park, H., Armstrong, L., & Mark, H. (2019). Predictors and students' perceptions of NCLEX-RN success in a BS program. Journal of Nursing Education and Practice, 9(6). <https://doi.org/10.5430/jnep.v9n6p32>
- Laguador, J., & Refozar, R. (2020). Five-year declining performance of private and public schools in the Philippine certified public accountant licensure examination. European Journal of Educational Research, 9, 995-1007. <https://doi.org/10.12973/eu-jer.9.3.995>
- Lorenzo, D. J., Chua, K. D. L., Nicolas, M. S. G., Putungan, D. S., Quinto, P. M. B., Ramirez, A. R. T., Valdez, M. A. C., & Malana, J. T. (2022). Coping with COVID-19: The lived experiences of Medical Technology students from a university in Manila. International Journal of Arts, Sciences and Education, 3(4), 34-76. <https://ijase.org/index.php/ijase/article/view/201>
- Maerten-Rivera, J., Park, S., Fiano, K., Pavuluri, N., Phillips, J., Lebovitz, L., & Zhao, Y. (2021). Multi-institutional analysis of student and program variables as predictors of performance on the NAPLEX. American Journal of Pharmaceutical Education, 86. <https://doi.org/10.5688/ajpe8635>
- Mansour, A., & Gouda, E. (2025). Evaluating the effectiveness of the Saudi laboratory specialist licensure examination preparation program for the medical laboratory sciences interns: A quasi-experimental study. BMC Medical Education, 25, 687. <https://doi.org/10.1186/s12909-025-07288-3>
- Matusalem, N., Bandoy, M., Buama, C., Manaig, K., & Yazon, A. (2024). Board performance of fisheries graduates: Logistic regression analysis for curriculum enhancement. Applied Quantitative Analysis. <https://doi.org/10.31098/quant.2620>
- Mayo Clinic College of Medicine and Science. (2021). Medical Laboratory Scientist - Explore Health Care Careers - Mayo Clinic College of Medicine & Science. Mayo Clinic College of Medicine and Science. <https://college.mayo.edu/academics/explore-health-care-careers/careers-a-z/medical-laboratory-scientist/>
- MTLE RESULT: MedTech Board Exam January 2021 Performance of Schools. (2021). PRC Board. <https://prcboard.com/mtle-result-medtech-board-exam-january-2021-performance-of-schools/>
- Nucum, K. N. (2022, April 5). The Ultimate Guide To The Medical Technologist Licensure Exam In The Philippines. Bukas.



- <https://bukas.ph/blog/the-ultimate-guide-to-the-medical-technologist-licensure-exam-in-the-philippines/>
- Nuffic. (n.d.). Educational institutions and study programmes - Philippines. Nuffic. <https://www.nuffic.nl/en/education-systems/philippines/educational-institutions-and-study-programmes>
- Oducado, R. M. F., Cendaña, D. P., & Delariarte, R. G. B. (n.d.). Institutional Competency Assessment And Other Factors Influencing The Nurse Licensure Examination. *International Journal of Scientific & Technology Research*, 8(12), 268-270. <https://files.eric.ed.gov/fulltext/ED603045.pdf>
- Okanga, A., Ogur, J., & Arudo, J. (2017, May). Institutional Characteristics Influencing Bachelor of Science Nursing Student Performance in the Nursing Council of Kenya Licensure Examinations in Kenya. *Journal of Education and e-Learning Research*, 4(1), 28-36. <https://files.eric.ed.gov/fulltext/EJ1148429.pdf>
- Olvido, M., Dayagbil, F., Alda, R., Uytico, B., & Rodriguez, K. (2024). An exploration of the quality of graduates of Philippine teacher education institutions. *Frontiers in Education*. <https://doi.org/10.3389/educ.2024.1235261>
- Orlanda-Ventayen, C. (2020). Academic predictors of the licensure examination for teachers: A thematic review of studies investigating students performance. *Asian Journal of Multidisciplinary Studies*, 3, 35–40.
- Ozcan, Z., Kulakiene, I., Vaz, S. C., Garcia Garzon, J. R., & Boubaker, A. (n.d.). Challenges and possibilities for board exams in the Covid-19 era: experience from the Fellowship Committee of European Board of Nuclear Medicine. *European Journal of Nuclear Medicine and Molecular Imaging*. 10.1007/s00259-022-05716-w
- PACUCOA. (2023, September 29). About Accreditation. Google Sites. Retrieved May 5, 2024, from <https://sites.google.com/ceu.edu.ph/pacucoa/accreditation>
- PACUCOA. (n.d.). PACUCOA Accreditation | PACUCOA. [pacucoa](https://www.pacucoa.com). Retrieved May 5, 2024, from <https://www.pacucoa.com/copy-of-about-accreditation>
- Pangayngay, J. J., Merza, C. A. R., & Almojuela, M. L. R. (2023). Academic Predictors of Performance in the Board Licensure Examination for Psychometricians. *Philippine Social Science Journal*, 6(1), 74-84. <https://philssj.org/index.php/main/article/view/633>
- Park, S. K., Philips, J., & Pavuluri, N. (2021, November). Systematic Review of Predictors of Success for the North American Pharmacist Licensure Examination. *Am J Pharm Educ*, 85(10). 10.5688/ajpe8591
- Philippine Accrediting Association of Schools Colleges and Universities. (n.d.). About Us. PAASCU. <https://paascu.org.ph/index.php/about-2/#>
- Philippine Association of Colleges and Universities Commission on Accreditation. (2022). About | PACUCOA. [pacucoa](https://www.pacucoa.com/about). <https://www.pacucoa.com/about>
- Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA, INC.). (2024, July 6). Certified levels July 2024. PACUCOA - Accredited Programs/Institutions. <https://www.pacucoa.com/accredited-institutions-programs>
- Pittman, P., Ziemann, M., Pillai, D., & Bass, E. (2022). Variation in state education regulations for RNs. *The Journal of Nursing Education*, 61(5), 242–249. <https://doi.org/10.3928/01484834-20220303-06>
- PRC Board News. (2022, August 26). LIST OF PASSERS: August 2022 Medtech board exam MTLE result. PRC Board News. <https://www.prcboardnews.com/2022/08/list-of-passers-august-2022-medtech-board-exam-mtle-result.html>
- Professional Regulation Commission. (1969). Republic Act No. 5527. Professional Regulation Commission. https://www.prc.gov.ph/sites/default/files/Medical%20Technology%20-%20Board%20Law_0.PDF



- Professional Regulation Commission. (2020). Rescheduling the Postponed March and August 2020 Medical Technologists Licensure Examinations on January 21-22, 2021. Professional Regulation Commission. <https://www.prc.gov.ph/article/rescheduling-postponed-march-and-august-2020-medical-technologists-licensure-examinations>
- Professional Regulation Commission. (2023, August 17). August 2023 Medical Technologists Licensure Examination Results Released in Four (4) Working Days. Professional Regulation Commission. <https://www.prc.gov.ph/article/august-2023-medical-technologists-licensure-examination-results-released-four-4-working-days>
- Professional Regulation Commission. (n.d.). Mandate. Professional Regulation Commission. <https://www.prc.gov.ph/mandate>
- Professional Regulation Commission. (n.d.). Medical Technology. Professional Regulation Commission. <https://www.prc.gov.ph/medical-technology>
- Rahme, D., Saade, D., Sacre, H., Haddad, C., Tawil, S., Merhi, S., Aoun, R., Hajj, A., Sakr, F., Safwan, J., Akel, M., Zeenny, R., & Salameh, P. (2025). Perceived effects of accreditation on education quality and health-related job outcomes: Scales validation and correlates in Lebanon. *BMC Medical Education*, 25. <https://doi.org/10.1186/s12909-025-07448-5>
- Republic Act No. 5527. (1969). Professional Regulation Commission. https://www.prc.gov.ph/sites/default/files/Medical%20Technology%20-%20Board%20Law_0.PDF
- Repuya, C. (2025). Predicting licensure examination for teachers (LET) outcomes: A regression analysis of mathematics teacher graduates' course performance and LET results. *Participatory Educational Research*. <https://doi.org/10.17275/per.25.54.12.4>
- Ried, P., Hunter, P., Bos, A., & Ried, D. (2022). Association between accreditation era, North American Pharmacist Licensure Examination testing changes, and first-time pass rates. *American Journal of Pharmaceutical Education*, 87. <https://doi.org/10.5688/ajpe8994>
- Rolf, M., Kroposki, M., & Watson, S. (2019). Quantitative evaluation of variables to student success in a mastery learning baccalaureate nursing programme. *Nursing Open*, 6, 959–965. <https://doi.org/10.1002/nop2.278>
- Rosales, A., Arugay, Y., Divingracia, & Castro-Palaganas. (2014). Analytical study of the nurses licensure examination performance of graduates of Philippine Colleges of Nursing. *Philippine Journal of Nursing*, 84(1), 4-23. https://www.researchgate.net/publication/318300380_Analytical_study_of_the_nurses_licensure_examination_performance_of_graduates_of_Philippine_Colleges_of_Nursing
- Roush, K., Opsahl, A., & Ferren, M. (2021). Developing an internship program to support nursing student transition to clinical setting. *Journal of Professional Nursing*, 37(4), 696–701. <https://doi.org/10.1016/j.profnurs.2021.04.001>
- Rowland, E., & Trueman, H. (2024). Improving healthcare student experience of clinical placements. *BMJ Open Quality*, 13. <https://doi.org/10.1136/bmjopen-2023-002504>
- Rubright, J. D., Jodoin, M., & Barone, M. A. (2019, March). Examining Demographics, Prior Academic Performance, and United States Medical Licensing Examination Scores. *Academic Medicine*, Vol. 9(No. 3). 10.1097/ACM.0000000000002366
- Salendab, F. (2021). Performance of private higher education institutions and the school heads' supervision in South Central Mindanao. *Ponte Academic Journal*, 58(3), 3980–3997. <https://doi.org/10.17762/pae.v58i3.4603>
- September 2019 Medical Technologist Licensure Examination Performance of Schools in Alphabetical Order. (2019). Professional Regulation Commission. <https://drive.google.com/file/d/1dBGmDrdtNKxw3dagafk0kywB164DTpKA/view>
- Spohn, R., Schweinle III, W., Berg-Poppe, P., South-Winter, C., & DeJong, D. (2021, Fall). FACTORS FOR SUCCESSFULLY PASSING CERTIFICATION EXAMS: A SYSTEMATIC



- REVIEW. Perspectives in Health Information management, 18(4).
- Supreme Court. (2019). REPUBLIC ACT NO. 5527, June 21, 1969. Supreme Court E-Library.
<https://elibrary.judiciary.gov.ph/thebookshelf/howdocs/2/7439>
- Temporada, K., Quinto, L., Tarraya, D. A., Sison, F. C., Marfil, J. F., Ramirez, C., & Ng, W. J. (2025). Awareness and Preventive Practices on Leptospirosis in Flood-Prone Communities of Marikina City, Philippines. *International Journal of Health & Business Analytics*, 1(1).
<https://doi.org/10.65166/x71zvx65>
- University of Santo Tomas. (2023). UST produces most number of new RMTs in August 2023 medtech boards. University of Santo Tomas.
<https://www.ust.edu.ph/ust-produces-most-number-of-new-rmts-in-august-2023-medtech-boards/>
- University of Santo Tomas. (n.d.). Bachelor of Science in Medical Technology. University of Santo Tomas.
<https://www.ust.edu.ph/academics/programs/bachelor-of-science-in-medical-technology/>
- University of West Florida. (2019, March 9). Medical Lab Scientists: The Hidden Profession That Saves Lives. University of West Florida. Retrieved October 25, 2023, from <https://onlinedegrees.uwf.edu/articles/how-medical-lab-science-impacts-our-lives>
- University of Wisconsin Oshkosh. (2023). What Is A Medical Technologist? - Medical Laboratory Science University of Wisconsin Oshkosh. UW Oshkosh.
<https://uwosh.edu/medical-lab-science/students/medical-technologists/>
- USC Libraries. (2023). Research Guides: Organizing Your Social Sciences Research Paper: Types of Research Designs. USC Libraries.
<https://libguides.usc.edu/writingguide/researchdesigns>
- Valdez, A. P., Panganiban, C. A., Lumanglas, K. R. L., Calingasan, K. A., Divino, R. S., Guico, P. J. P., Montalbo, G. S., & Pronobe, J. M. (2012). The Six-Month Internship Training Program for Medical Laboratory Science Education: An Initial Evaluation. *JPAIR Multidisciplinary Research*, 9.
<https://research.lpubatangas.edu.ph/wp-content/uploads/2014/04/PAIR-The-Six-Month-Internship-Training-Program-for-Medical-Laboratory.pdf>
- Van Zanten, M., Boulet, J., & Shiffer, C. (2022). Making the grade: Licensing examination performance by medical school accreditation status. *BMC Medical Education*, 22.
<https://doi.org/10.1186/s12909-022-03101-7>
- Villena, J. (2025). Clinical internship experience of medical technology students: A case study. *International Journal For Multidisciplinary Research*.
<https://doi.org/10.36948/ijfmr.2025.v07i02.41181>
- Webster, K. E. (2020). Student Perceptions of Barriers to Professional Exam Success. *Internet Journal of Allied Health Sciences and Practice*, Vol. 18(No. 1).
- Williams, J., Spivey, C., Hagemann, T., Phelps, S., & Chisholm-Burns, M. (2018). Impact of pharmacy school characteristics on NAPLEX first-time pass rates. *American Journal of Pharmaceutical Education*, 83.
<https://doi.org/10.5688/ajpe6875>
- Yoshany, N., Mahmoodabad, S., Moradi, L., & Sharma, M. (2025). Beyond traditional training: A comprehensive CIPP evaluation of medical internships: Assessing program design, implementation, and clinical competency outcomes. *BMC Medical Education*, 25.
<https://doi.org/10.1186/s12909-025-07404-3>
- You, Y., Li, M., Xie, A., & Wang, W. (2023). First-round accreditation and pass rates on licensing examination at different medical schools in China: Closing the performance gap. *Medical Education*, 58, 247–257.
<https://doi.org/10.1111/medu.15158>



International Journal of Health and Business Analytics

Volume II, Issue 1, March 2026

<https://journal.ijhba.com>

<https://silsipress.com>

ISSN: 3116-2649 (Online)