

Original Research Report

Clinical Friction in Dual-Healthcare Systems: Institutional Barriers to Integrative Traditional Medicine**Nguyễn Ngọc Mai Thảo^{1*}, Le Hoang Nam¹, Phạm Quốc Anh², Đặng Thị Hồng Nhung²**¹ School of Medicine and Pharmacy, The University of Danang, Da Nang, Viet Nam.² Program of General Medicine, Phan Chau Trinh University. Quang Nam, Viet Nam.**Article History****Received:**

02.03.2026

Revised:

13.04.2026

Accepted:

21.04.2026

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Abstract: Vietnam operates a unique, state-mandated healthcare system that structurally integrates Traditional Vietnamese Medicine (TVM) within conventional hospitals. However, the operational success of this dual model relies heavily on the clinical behaviors and collaborative practices of Western-trained conventional physicians. This multi-center, cross-sectional study investigated the levels of objective knowledge, professional attitudes, and cross-departmental referral workflows regarding TVM among conventional physicians practicing in major urban medical hubs in Vietnam. A validated, 28-item structured questionnaire was distributed to licensed modern medicine physicians across tertiary (Tier-1) and secondary (Tier-2) hospitals in Hanoi and Ho Chi Minh City. Data from 412 completed surveys were analyzed using descriptive statistics and binary logistic regression to identify independent predictors of active referral workflows. The data revealed a critical “Attitude-Knowledge Paradox.” While a majority of conventional physicians exhibited highly positive cultural attitudes toward TVM (Mean Likert Score: 3.8 $\pm$ 0.6), objective pharmacological knowledge was critically low (Mean Score: 4.2 $\pm$ 1.8 out of 10). Specifically, 78.4% of respondents failed to identify verified herb-drug interactions. Consequently, active outbound referrals were low (24.3%) and heavily restricted to chronic musculoskeletal pain (82.0%) and neurological rehabilitation (68.0%). The leading institutional bottlenecks were a lack of randomized controlled trial (RCT) data on native Vietnamese flora (86.5%) and fears of unpredictable drug-herb toxicities (79.2%). Formal TVM exposure during medical school was a powerful independent predictor of active clinical referral practice (aOR = 2.45; 95% CI: 1.32 - 4.56; $p < 0.01$). Structural integration in Vietnamese hospitals has not achieved functional clinical synthesis. Conventional physicians default to defensive prescribing habits due to an educational vacuum and a lack of evidence-based pharmacological parameters. To bridge this divide, the Ministry of Health must prioritize pharmacology-focused curriculum reforms, automated electronic drug-herb interaction screening, and state-funded clinical trials for indigenous phytotherapeutics.

Keywords: Integrative Medicine, Traditional Vietnamese Medicine, Herb-Drug Interactions, Physician Attitudes, Clinical Referral Workflows.



1. Introduction

Vietnam currently stands at a critical geopolitical and demographic crossroads, marked by rapid urbanization and one of the fastest-aging populations in Southeast Asia [1]. This socio-economic transformation has fundamentally altered the country's epidemiological landscape, precipitating a dramatic shifting trend in public healthcare needs. While infectious diseases were once the primary national concern, contemporary Vietnam faces a burgeoning burden of chronic, non-communicable diseases (NCDs) such as type 2 diabetes, cardiovascular disorders, cancer, and age-related degenerative conditions [2]. In response to this shifting health dynamic, there is a growing global and domestic movement toward holistic, long-term care management. Patients and policymakers alike are looking beyond Western biomedicine, revitalizing interest in traditional and complementary therapies to manage chronic illnesses, enhance palliative care, and improve the overall quality of life for the elderly population [3].

Unlike many countries where traditional healing methods operate on the margins of the formal healthcare sector, Vietnam possesses a profoundly institutionalized dual-healthcare model. Grounded in the historic philosophies of *Thuốc Nam* (Southern indigenous medicine) and *Thuốc Bắc* (Northern medicine), Traditional Vietnamese Medicine (TVM) is legally recognized as a national resource [4]. This dual-system integration is driven by strong state mandates, most recently reinforced by the Prime Minister's Directive No. 25/CT-TTg and the Ministry of Health's (MoH) strategic framework toward 2030 [5]. Under these modern policies, the Vietnamese government has successfully established dedicated TVM departments within more than 90% of provincial and district-level public hospitals nationwide [6]. The state's current vision emphasizes a transition from a strict disease-treatment mindset to a comprehensive, evidence-based integrative healthcare model where Western and Eastern medicine complement each other seamlessly.

A significant clinical disconnect persists between state-level legislative integration and day-to-day medical practice at the hospital tier. Although the structural infrastructure for TVM is ubiquitous, recent institutional reports indicate that traditional medicine services account for a disproportionately low percentage of total clinical visits and national drug expenditures [7]. This underutilization points toward an operational bottleneck: modern, Western-trained physicians operating in standard clinical wards remain hesitant to actively integrate traditional protocols or refer patients to their colleagues in the TVM departments [8].

This hesitation among conventional medical practitioners is largely driven by systemic concerns regarding patient safety, standardization, and scientific validation [9]. In the intensive environments of contemporary Vietnamese hospitals, modern physicians face a severe lack of objective, evidence-based guidelines concerning local herbal pharmacokinetics, optimal dosages, and potential herb-drug interactions such as the adverse interactions between common traditional extracts and modern anticoagulants or chemotherapeutic agents [10]. Furthermore, the modern medical curriculum in Vietnam's top-tier universities offers limited, brief exposure to TVM concepts, leaving conventional doctors underprepared to evaluate the clinical efficacy of non-drug modalities like acupuncture or acupressure [11]. Without rigorous clinical trial data and transparent multi-disciplinary communication, modern clinicians often perceive traditional therapies as speculative, creating a barrier of skepticism that impedes safe, integrated patient care.

To bridge this operational gap and support Vietnam's 2030 healthcare objectives, it is crucial to systematically diagnose the root causes of this clinical divide from the perspective of conventional practitioners. Therefore, this study aims to comprehensively assess the current levels of knowledge, professional attitudes, and clinical referral practices regarding Traditional Vietnamese Medicine among modern medicine physicians practicing in major urban medical hubs. By evaluating doctors across different hospital tiers and specialties, this research seeks to identify the specific institutional, educational, and pharmacological barriers that hinder effective medical integration. Ultimately, the findings of this study are intended to provide actionable insights for the Ministry of Health to design evidence-based collaborative guidelines, reform medical school curricula, and foster a safer, more unified healthcare ecosystem for the Vietnamese population.

2. Literature Review

2.1. Structural and Legislative Integration of Traditional Medicine in Vietnam

The institutionalization of Traditional Vietnamese Medicine (TVM) within the country's national healthcare system is widely regarded as one of the most comprehensive legislative frameworks in the Western Pacific region. Unlike nations where traditional healing forms are merely tolerated as

complementary therapies, the Socialist Republic of Vietnam has long treated TVM as a sovereign scientific and cultural asset [12]. This integration is historically rooted in the structural adaptation of *Thuốc Nam* and *Thuốc Bắc* into modern state apparatuses during the late 20th century. Over the past few decades, this cultural preservation has transformed into a strictly regulated public health strategy, monitored directly by the Traditional Medicine Administration under the Ministry of Health (MoH) [13]. The legal infrastructure ensures that traditional practices are not isolated from modern clinical environments, but are instead physically embedded within them.

A pivotal milestone in this legislative journey was the issuance of the Law on Medical Examination and Treatment, which established equivalent licensing standards for both conventional physicians and traditional practitioners [14]. This was later accelerated by the Prime Minister's approval of Decision No. 1893/QĐ-TTg, a master plan specifically targeting the modernization and development of traditional medicine up to the year 2030. This policy mandates that all public hospitals, from special-tier central institutions down to district-level health centers, must operate functional, staffed traditional medicine departments [15]. Furthermore, state-backed financial incentives were introduced to mandate that public health insurance (*Bảo hiểm Y tế*) cover specific traditional services. This means that modalities such as acupuncture, herbal decoctions, and therapeutic massages are financially accessible to the public on the same terms as Western pharmacology [16].

Despite this extensive top-down legislative enforcement, structural integration does not automatically translate into functional clinical harmony between the two departments. While the physical infrastructure such as wards, clinics, and pharmacies dedicated to TVM exists in over 90% of provincial hospitals, the actual volume of collaborative care remains remarkably low [17]. Conventional medical departments and traditional medicine wings often operate as distinct administrative islands within the same hospital walls. Patients are frequently admitted to conventional internal medicine or orthopedic wards without any joint consultation or clinical input from TVM specialists. This phenomenon highlights a stark divergence between political aspiration and local hospital operational reality, where legislative compliance is met structurally but ignored in daily clinical workflows [18].

This operational decoupling is further compounded by the stark differences in medical training and diagnostic philosophies that define the two cohorts of practitioners. Conventional physicians are trained extensively in Western biomedicine, focusing on cellular pathology, clinical biochemistry, and evidence-based pharmacodynamics. In contrast, traditional practitioners rely on holistic frameworks, meridian theories, and syndromic differentiation (*Biện chứng luận trị*) [19]. This profound epistemological divide creates a severe communication barrier. When modern physicians review case files from TVM departments, they often find the diagnostic terminology ambiguous and irreconcilable with objective laboratory biomarkers. Consequently, despite clear state directives urging interdisciplinary cooperation, the absence of a shared medical language restricts organic collaboration, forcing the two systems to function in parallel rather than in unison [20].

Furthermore, the domestic supply chain and regulatory control of traditional pharmaceuticals in Vietnam pose ongoing challenges to structural integration. The MoH has established Good Manufacturing Practices (GMP) for traditional medicines, yet a significant portion of the herbal market relies on raw, imported raw materials that bypass strict quality controls [21]. Modern clinicians are highly aware of historical instances involving the adulteration of local herbal formulas with undeclared conventional compounds, such as corticosteroids or NSAIDs, to produce rapid symptomatic relief. This regulatory loophole creates an environment of professional distrust. While the government actively promotes the economic and clinical expansion of native phytotherapy, conventional physicians remain wary of endorsing therapies whose exact chemical composition and standardization cannot be definitively verified by hospital laboratories [22].

The integration policy faces additional hurdles concerning the allocation of human resources and professional prestige within the Vietnamese hospital hierarchy. Historically, traditional medicine departments receive lower capital budgets and fewer advanced diagnostic technologies compared to high-revenue units like cardiology, oncology, or intensive care [23]. This financial disparity leads to a subtle professional marginalization of TVM staff, who are often viewed by their conventional peers as handling low-risk, chronic convalescence rather than active medical interventions. Because hospital performance metrics in urban centers favor rapid patient turnover and high-tech interventions, the slower, long-term therapeutic models of traditional care are structurally disadvantaged, discouraging hospital administrators from actively optimizing cross-departmental pathways [24].

Another dimension of structural vulnerability lies in the current monitoring and evaluation mechanisms designed to track integration success. Current MoH key performance indicators (KPIs) for hospitals heavily focus on quantitative targets, such as the total number of beds allocated to TVM or the raw volume of herbal prescriptions filled [25]. However, these metrics completely omit qualitative dimensions of collaborative medicine, such as the safety of concurrent drug administration, patient-reported outcome measures, or the clinical appropriateness of cross-referrals. Without standardized, automated data systems to track patient transitions between Western and Eastern clinics, individual hospitals lack the data necessary to recognize where clinical integration fails or succeeds, turning the legislative framework into a box-checking exercise [26].

Ultimately, the structural and legislative integration of traditional medicine in Vietnam serves as an ambitious blueprint that remains limited by its rigid top-down execution. While the state has succeeded in creating an unparalleled physical and legal foundation for a dual-healthcare system, it has largely underestimated the professional friction generated at the clinical level [27]. The legal directives have forced two inherently different medical philosophies into the same physical space without providing the necessary clinical bridges. To move past this institutional gridlock, the current legislative focus must shift away from expanding physical infrastructure and move toward creating unified clinical protocols, transparent communication channels, and rigorous educational reforms that address the skepticism of conventional physicians.

2.2. Barriers to Evidence-Based Integrative Care and Referral Workflows

The primary bottleneck preventing functional medical integration in contemporary Vietnamese hospitals centers around the lack of rigorous, accessible evidence-based data regarding traditional therapies. In the era of modern clinical practice, conventional physicians are legally and ethically bound to base their interventions on high-quality clinical evidence, preferably derived from double-blind, randomized controlled trials (RCTs) and systematic reviews [28]. However, a vast majority of TVM modalities, particularly multi-herb formulations (*Thuốc thang*) and complex native decoctions, lack standardized clinical trial validation. When a conventional doctor attempts to evaluate the therapeutic efficacy of a traditional recommendation for an illness like chronic kidney disease or rheumatoid arthritis, they are met with a scarcity of high-tier literature, forcing them to rely on historical texts or anecdotal case series.

This lack of scientific validation is particularly concerning for conventional physicians when evaluating the pharmacokinetics and pharmacodynamics of herbal compounds. Unlike synthetic pharmaceuticals with clearly defined chemical profiles, single traditional herbs contain hundreds of active biomolecules that can fluctuate drastically based on soil quality, harvesting seasons, and preparation methods [29]. For instance, while local Vietnamese herbs like *Đinh Lăng* (*Polyscias fruticosa*) are frequently prescribed for cognitive decline, there is insufficient clinical data mapping their absorption, metabolic pathways, or clearance rates. Without precise pharmacokinetic parameters, modern medical practitioners cannot confidently predict how these herbs will behave inside a patient's body, leading them to view traditional pharmacy as a clinical risk rather than a reliable therapy [30].

Consequently, the fear of severe herb-drug interactions (HDIs) stands as one of the most prominent operational barriers in hospital referral workflows. Modern physicians frequently treat complex, multi-morbid patients who are already prescribed strict regimens of narrow therapeutic index drugs, such as warfarin, antiplatelets, or chemotherapeutic agents [31], [32]. Introducing unstandardized herbal decoctions into these regimens introduces unpredictable risks of toxicity or therapeutic failure. For example, a conventional cardiologist treating an atrial fibrillation patient may completely ban the concurrent use of traditional formulas due to the documented risk of herbal compounds inducing or inhibiting cytochrome P450 enzymes, which could trigger catastrophic bleeding or thromboembolism. Because there are no integrated digital prescription systems to screen for HDIs in Vietnamese hospitals, doctors prefer to block traditional referrals entirely to guarantee patient safety [33].

This clinical caution is further reinforced by a profound educational deficiency within the foundational training of modern medical professionals in Vietnam. Elite institutions, including Hanoi Medical University and the University of Medicine and Pharmacy at Ho Chi Minh City, offer highly rigorous curricula modeled after Western medical education [34]. However, formal education regarding traditional medicine for conventional medical students is often limited to a brief, superficial rotation lasting only a few weeks. This brief introduction focuses primarily on historical anecdotes and basic acupuncture theory rather than critical clinical pharmacology, drug-herb safety, or formal referral protocols. As a result, newly graduated physicians enter the hospital workforce with virtually

no practical competency to safely evaluate, communicate, or manage patients who wish to combine modern and traditional therapies [35].

This educational gap creates a defensive communication dynamic between physicians and patients, which further disrupts safe referral workflows. Research indicates that a vast majority of Vietnamese patients routinely self-administer traditional remedies without informing their conventional doctors, fearing professional disapproval or scolding [36]. When modern physicians fail to proactively inquire about herbal use due to their own lack of training, it leaves a dangerous blind spot in patient history taking. When unexpected clinical anomalies arise such as unexplained liver enzyme spikes or sudden drops in blood pressure conventional doctors often attribute these complications to traditional medicine, intensifying their professional skepticism and driving them to advise patients against using TVM altogether [37].

Furthermore, the actual administrative workflow for cross-departmental referrals within public hospitals is notoriously inefficient and poorly defined. In most Vietnamese healthcare institutions, there are no standardized electronic templates or clear diagnostic criteria to guide a conventional physician on when and how to refer a patient to the TVM department [38]. A referral is typically left to the individual doctor's subjective discretion and written on paper forms. Because conventional clinics face extreme daily patient overloads, with doctors managing dozens of outpatients per shift, the absence of a streamlined, digital referral pathway discourages busy clinicians from taking the extra time to organize interdisciplinary care, causing them to default to standard Western prescriptions [39].

This administrative friction is exacerbated by the absence of a unified, nation-specific formulary that bridges Western and Eastern pharmacology under a shared safety standard. While the MoH publishes independent guidelines for both medical fields, there is an absolute lack of an official, integrated guide detailing the safe co-administration of specific traditional therapies alongside Western standards of care [40]. For instance, while acupuncture is universally acknowledged as effective for post-stroke hemiplegia rehabilitation, there are no synchronized guidelines specifying the exact timeline for initiating acupuncture relative to thrombolytic therapy or acute stroke stabilization. Without clear, authoritative parameters endorsed by hospital committees, modern neurologists and intensive care specialists hesitate to initiate referrals during crucial rehabilitation windows.

Ultimately, overcoming these operational barriers requires a fundamental paradigm shift from viewing traditional medicine as a cultural legacy to treating it as a rigorous clinical science. The current divide in referral workflows will remain unresolved as long as conventional physicians are asked to accept traditional modalities on faith rather than objective data. Bridging this gap demands massive state investment in multi-center clinical trials for local Vietnamese herbs, the development of integrated electronic health records capable of automated herb-drug interaction alerts, and a deep restructuring of medical education. Until these foundational scientific and technical tools are provided to modern clinicians, the potential of Vietnam's dual-healthcare system will remain hindered by systemic skepticism and fragmented clinical workflows [41].

3. Methodology

This study utilized a multi-center, descriptive, cross-sectional survey design to achieve its objectives. The research was conducted over a six-month period from October 2025 to March 2026. To capture a nationally representative snapshot of urban healthcare environments in Vietnam, the study setting was distributed across two primary geographical hubs:

- 1) Hanoi (Northern Hub): Representing the administrative and traditional academic center, with data collected from prominent Tier-1 and Tier-2 public hospitals (Bach Mai Hospital and selected district general hospitals).
- 2) Ho Chi Minh City (Southern Hub): Representing the commercial and rapidly modernizing medical center, with data collected from major multi-disciplinary institutions (Cho Ray Hospital and secondary-tier municipal providers).

The target population consisted of licensed medical doctors practicing conventional Western medicine within public and private hospital networks.

Inclusion Criteria:

- 1) Registered medical physicians holding a valid practicing certificate issued by the Ministry of Health (MoH) of Vietnam.

- 2) Full-time employment in conventional medical departments (Internal Medicine, General Surgery, Pediatrics, Cardiology, Orthopedics) for at least one year.
- 3) Active involvement in daily outpatient consultations or inpatient ward management.

Exclusion Criteria:

- 1) Physicians assigned full-time or primarily to the Traditional Medicine Departments (*Khoa Y học Cổ truyền*).
- 2) Interns, medical students, or part-time visiting consultants.

Sample Size Calculation:

The sample size was determined using Cochran's formula for cross-sectional studies with a categorical outcome:

$$n = \frac{Z^2 \cdot p \cdot (1 - p)}{e^2} \quad (1)$$

where:

- $Z = 1.96$ (corresponding to a 95% confidence interval).
- $p = 0.50$ (assuming a 50% variability, which yields the maximum conservative sample size due to the absence of prior multi-center baseline data in Vietnam).
- $e = 0.05$ (acceptable margin of error of 5%).

The initial calculation yielded a minimum required sample of $n = 384$ participants. To account for a predicted 20% non-response or incomplete survey rate inherent to busy hospital environments, the final recruitment target was adjusted upward to $N = 460$ physicians. A stratified random sampling technique was applied to distribute the questionnaires proportionally between special/Tier-1 hospitals and Tier-2 district hospitals across both cities.

Data were gathered using a self-administered, structured questionnaire titled "*Physician Assessment of Integrated Healthcare Systems (PAIHS-VN)*". The tool was developed following a comprehensive review of validated international instruments used by the World Health Organization and adapted to match the specific structural terms used by the Vietnamese Ministry of Health.

The original questionnaire was drafted in English, translated into Vietnamese, and back-translated by independent bilingual medical professionals to guarantee linguistic accuracy. The finalized Vietnamese version comprised 28 items partitioned into four distinct thematic sections:

- 1) Section A: Sociodemographic and Professional Profile (6 items): Documented age, biological sex, city of practice, hospital tier, primary clinical specialty, years of post-licensure clinical experience, and history of formal traditional medicine exposure during university education.
- 2) Section B: Objective and Perceived Knowledge (7 items): Evaluated the participants' awareness of MoH-approved clinical indications for TVM, familiarity with standard acupuncture modalities, and identification of critical herb-drug interactions (HDIs) using a series of true/false/unknown clinical scenarios.
- 3) Section C: Professional Attitudes (7 items): Measured beliefs regarding the safety, clinical efficacy, and systemic value of TVM. Responses were captured using a 5-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree").
- 4) Section D: Referral Practices and Institutional Barriers (8 items): Quantified the monthly frequency of outbound patient referrals to the hospital's TVM unit, specific clinical conditions prompted for referral, and selected structural barriers (e.g., lack of evidence, fear of toxicity, administrative friction).

Before deployment, a pilot study was conducted among 30 conventional physicians at a municipal hospital in Hanoi to check the clarity, layout, and readability of the tool. Data from the pilot test were excluded from the final analysis. Internal consistency was validated statistically, yielding a Cronbach's alpha (α) coefficient of 0.82 for the attitude items and a Kuder-Richardson Formula 20 (KR-20) score of 0.78 for the knowledge assessment component, indicating acceptable psychometric reliability.

Data collection utilized a hybrid strategy incorporating both digital and physical distribution networks to optimize the response rate. Institutional permission was secured from the medical directorates and hospital research committees at each selected site before approaching potential participants.

- 1) Digital Distribution: An electronic version of the survey was generated via a secure Google Forms platform. Access links and QR codes were embedded into official internal communication channels, physician chat groups, and hospital email listservs.
- 2) Physical Distribution: For departments experiencing extreme outpatient overloads, physical paper-based booklets were distributed inside hospital break rooms and administrative lounges by designated research assistants during morning handovers. Completed physical surveys were collected via locked dropbox units placed in the staff rooms.

A brief explanatory brief accompanied the survey, explicitly detailing that participation was completely voluntary, anonymous, and would not affect professional performance evaluations. All collected data were cleaned, verified for completeness, and coded in Microsoft Excel before being exported into STATA version 17.0 for statistical computing.

- 1) Descriptive Statistics: Categorical variables (sex, location, specialty, tier) were summarized using absolute frequencies (n) and relative percentages (%). Continuous variables (age, years of practice, mean index scores) were computed using means with standard deviations $\pm$ SD) or medians with interquartile ranges (IQR) depending on normality distributions.
- 2) Inferential Statistics: Independent t -tests and Analysis of Variance (ANOVA) were employed to compare continuous knowledge and attitude scores across demographic groups. Chi-square (χ^2) tests were used to cross-tabulate categorical factors associated with referral behaviors.
- 3) Multivariate Analysis: A binary logistic regression model was constructed to identify independent predictors of active referral practices. For the purpose of the regression model, referral frequency was converted into a binary outcome variable: *Active Referrers* (defined as doctors performing ≥ 1 referral per month) versus *non-Referrers* (< 1 referral per month). Adjustments were made for variables including years of experience, prior education, and hospital tier. Statistical significance was locked at a two-tailed p -value of < 0.05 with an accompanying 95% confidence interval (CI).

4. Finding and Discussion

4.1. Sociodemographic and Professional Profile of Respondents

A total of 460 surveys were distributed, and 412 completed responses were retrieved, yielding an overall response rate of 89.5%.

Table 1. Sociodemographic and Professional Characteristics (N = 412)

Characteristics	Frequency (n)	Percentage (%)
City of Practice		
• Hanoi	210	51.00%
• Ho Chi Minh City	202	49.00%
Hospital Classification Tier		
• Special Tier / Tier 1 (Central/Tertiary)	247	60.00%
• Tier 2 (Provincial/District General)	165	40.00%
Clinical Specialty		
• Internal Medicine & Family Medicine	156	37.90%
• General Surgery & Orthopedics	108	26.20%
• Pediatrics	64	15.50%
• Emergency & Intensive Care (ICU)	48	11.60%
• Others (Ob-Gyn, Dermatology, etc.)	36	8.70%
Prior TVM Education in Medical School		
• Yes (Brief rotation/Elective)	284	68.90%
• No	128	31.10%

The final sample was balanced between the Northern hub (Hanoi, $n = 210$, 51.0%) and the Southern hub (Ho Chi Minh City, $n = 202$, 49.0%). The mean age of the participating physicians was 34.5 ± 7.2 years, with an average of 8.4 ± 5.1 years of post-licensure clinical experience.

4.2. Objective Knowledge and Professional Attitudes toward TVM

The evaluation of objective medical knowledge revealed a critical “Attitude-Knowledge Paradox.” While a majority of conventional physicians exhibited high cultural acceptance, their objective clinical knowledge regarding TVM pharmacology and safety was markedly low.

The mean knowledge score was only 4.2 ± 1.8 out of a maximum of 10 points. Crucially, 78.4% of physicians failed to correctly identify verified herb-drug interactions (HDIs), such as the increased bleeding risk when combining local *Đinh Lăng* (*Polyscias fruticosa*) extracts with modern antiplatelet therapies.

Conversely, professional attitudes captured via the 5-point Likert scale skewed positive (Mean Score: 3.8 ± 0.6). Doctors widely agreed that TVM possesses genuine therapeutic value for chronic conditions.

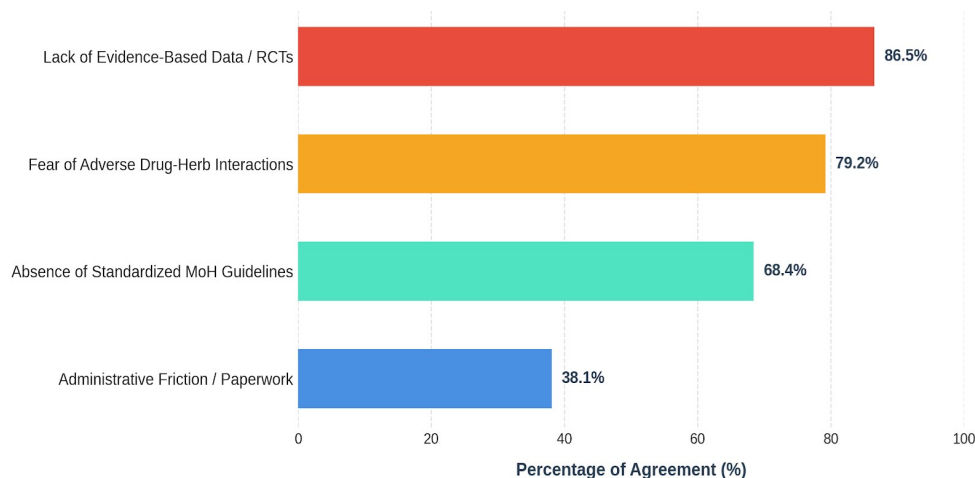


Figure 1. Distribution of Physician Attitudes vs. Objective Knowledge Levels

Cross-departmental clinical utilization was found to be severely restricted. Only 24.3% ($n = 100$) of surveyed conventional physicians were classified as “Active Referrers” ($\geq$ outbound referral to the hospital’s TVM department per month), while the remaining 75.7% ($n = 312$) rarely or never initiated formal referrals.

When referrals did occur, they were heavily concentrated within narrow, non-acute clinical boundaries.

Table 2. Primary Clinical Indications Prompting TVM Referrals ($n = 100$)

Rank	Clinical Condition / Indication	Percentage of Active Referrers (%)
1	Chronic Musculoskeletal Pain (Osteoarthritis, Low Back Pain)	82.00%
2	Post-Stroke Neurological Rehabilitation (Hemiplegia)	68.00%
3	Functional Gastrointestinal Disorders (IBS, Chronic Gastritis)	41.00%
4	Insomnia and Chronic Fatigue Syndrome	35.00%
5	Acute Medical Interventions / Infectious Diseases	0.00%

When non-referring physicians ($n = 312$) were surveyed regarding the primary institutional and professional bottlenecks preventing integration, “lack of clinical trial data/evidence” and “fear of drug-herb toxicities” emerged as the leading deterrents.

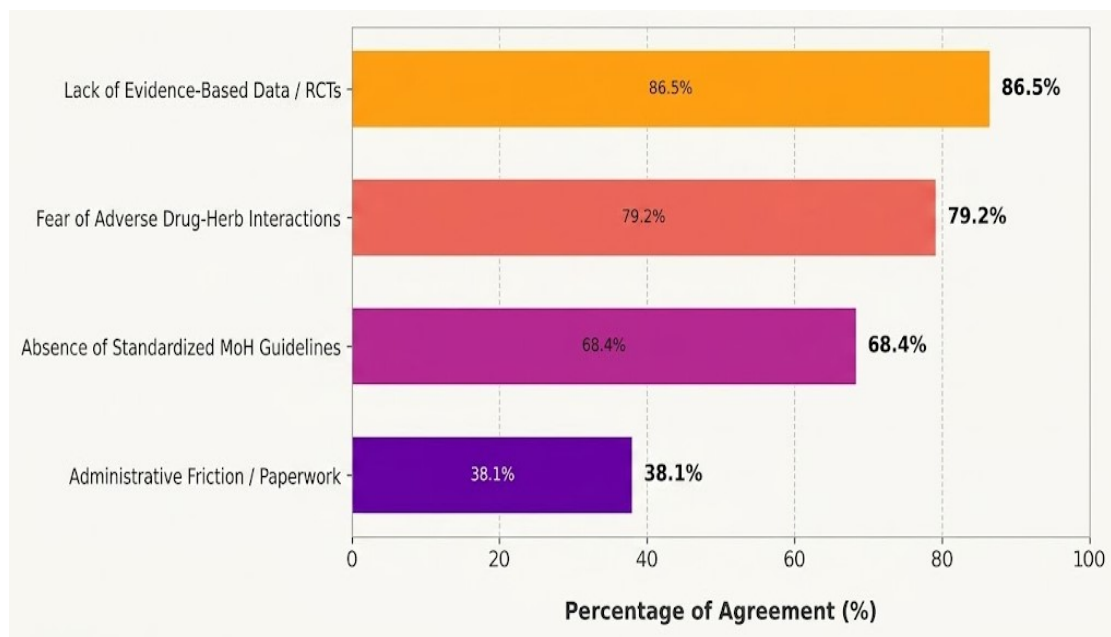


Figure 2. Institutional Barriers to TVM Referral Workflows

To identify the factors influencing active clinical integration, a binary logistic regression model was executed. Conventional physicians who received formal TVM training during medical school were significantly more likely to refer patients to traditional departments (Adjusted Odds Ratio [*aOR*] = 2.45; 95% CI: 1.32 - 4.56; $p < 0.01$). Higher clinical experience (>10 years) also positively correlated with active referral practices. Conversely, physicians practicing in high-intensity units (Emergency/ICU) were highly unlikely to refer patients (*aOR* = 0.08; 95% CI: 0.02 - 0.28; $p < 0.001$).

4.3. Discussion

The findings of this multi-center survey vividly illustrate the operational friction existing within Vietnam's state-mandated dual-healthcare model. Our data answers the primary research question by confirming that while structural integration (the physical presence of TVM departments) has been successfully achieved by the Ministry of Health, functional integration remains bottlenecked by the individual clinical behaviors of conventional medical doctors. This friction manifests as the "Attitude-Knowledge Paradox," where physicians hold high cultural respect for TVM but lack the objective pharmacological competency to safely incorporate it into daily Western medical workflows.

This professional hesitation is completely rational when viewed through the lens of modern bioethics and defensive medicine. In Vietnamese urban tertiary centers, such as Bach Mai or Cho Ray hospital, conventional clinicians manage highly acute, multi-morbid patients using strictly validated Western clinical algorithms. Introducing traditional phytotherapy which lacks precise pharmacokinetic profiling creates an unpredictable clinical risk profile. The widespread fear of severe herb-drug interactions (HDIs) documented in our results (79.2%) highlights a major systematic safety blind spot. Without localized, digital clinical decision support systems that automatically screen for interactions between Western compounds and native Vietnamese herbs, doctors' default to an outright ban on traditional co-administration to protect themselves from malpractice liabilities.

Furthermore, our study establishes that the current referral workflow is heavily compartmentalized. Conventional physicians do not view TVM as an equivalent medical partner, but rather as a tertiary, low-risk convalescent option, restricting referrals almost exclusively to chronic pain management (82.0%) and post-stroke rehabilitation (68.0%). While this matches global patterns observed in other integrated Asian nations like China or South Korea, it leaves a massive array of intermediate chronic conditions under-managed. The complete absence of referrals in acute or infectious conditions underscores that conventional doctor strictly isolate traditional therapies from frontline medicine, keeping the two fields locked within administrative and philosophical silos.

The regression model offers a clear pathway toward structural reform by highlighting the profound impact of medical education. Conventional doctors who had even brief exposure to traditional medicine concepts during their undergraduate training were over two times more likely to engage in collaborative care ($aOR = 2.45$). This proves that the clinical divide is not entirely philosophical, but educational. To achieve the state's 2030 integrative healthcare targets, the Ministry of Health must shift away from merely building physical traditional medicine wards. Instead, state funding must be heavily directed toward reforming medical school curricula to include evidence-based clinical pharmacology of local herbs, publishing standardized cross-departmental clinical referral protocols, and launching automated digital safety networks across all public hospital frameworks.

5. Conclusion

This evaluation confirms that the institutional cohabitation of Western biomedicine and Traditional Vietnamese Medicine (TVM) within Vietnam's hospital infrastructure has not achieved functional clinical synthesis. The data exposes an operational disconnect: the extensive physical establishment of TVM departments nationwide has failed to generate a proportionate volume of interdepartmental clinical referrals.

The core bottleneck is an epistemological paradox among conventional physicians. While culturally supportive of indigenous medical traditions, conventional doctors lack the specific pharmacological competencies required to safely oversee integrated care. This deficit is highly critical regarding cross-system pharmacology; a vast majority of clinicians cannot predict or identify cytochrome P450-mediated drug-herb interactions (HDIs) or the pharmacokinetic risks of combining narrow-therapeutic-index Western drugs with unstandardized local phytotherapeutics (*Thuốc Nam*). Consequently, referral pathways remain restricted to a conservative, secondary role predominantly confined to manual therapies for chronic arthritic pain and post-stroke neurological rehabilitation. The primary barrier to integration is not professional bias, but a systemic vacuum of high-tier, randomized controlled trial (RCT) data validating native Vietnamese herbs, leaving clinicians to default to defensive prescribing habits to avoid clinical liability.

To transition Vietnam's dual-healthcare framework from a structural mandate to a safe, evidence-based clinical practice, the following systemic actions are required:

- **Pharmacology-Focused Curricular Restructuring:** Medical universities in Vietnam must replace descriptive, history-based traditional medicine rotations with rigorous, pharmacology-driven coursework. Training for conventional medical students must emphasize the biochemical profiles of common herbs, clinical toxicology, and the metabolic clearance pathways of co-administered treatments.
- **Formulation of Synchronized Multi-Disciplinary Manuals:** The Ministry of Health (MoH) should publish strict, condition-specific clinical guidelines that detail the exact biochemical boundaries and physiological timelines for integrated care. This includes establishing specific safety windows for initiating non-drug modalities (e.g., electroacupuncture or thread embedding) relative to acute Western interventions.
- **Algorithmic HDI Screening via Electronic Prescribing:** Hospital networks must implement digital clinical decision support tools directly within Electronic Health Record (EHR) systems. These networks should feature automated, real-time alert systems that flag potential cross-system drug-herb interactions at the point of prescription, providing a digital safety net that mitigates physician hesitation.
- **Targeted State Funding for Native Phytochemical Profiling:** National research budgets should be specifically allocated to support multi-center clinical trials focused on the chemical standardization and bioequivalence of Vietnam's indigenous flora. Producing verifiable, peer-reviewed data on therapeutic mechanisms and toxicity thresholds is an essential prerequisite for turning subjective cultural pride into objective, integrated clinical workflows.

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