

School health service delivery and workforce capacity in four northern provinces of Viet Nam: a cross-sectional study of 46 schools, 2024–2025

Nguyen Thi Thao Ngan^{1*}, Nguyen Thi Bich Thuy¹, Nguyen Anh Huy²

¹National Institute of Occupational and Environmental Health, Hanoi, Viet Nam

²SNA Marianapolis International School, Dong Nai, Vietnam. Email: huynguyen041209@gmail.com

*Corresponding author. E-mail: nguyenthaongannoeh@gmail.com

ABSTRACT: School health services are the operational core of health-promoting schools, yet in many low- and middle-income countries their delivery is constrained less by missing structures than by an under-qualified workforce. This cross-sectional study assessed the enabling conditions, workforce and delivery of school health services in 46 schools in four northern provinces of Viet Nam (Lang Son, Bac Giang, Hung Yen, Thai Binh) during the 2024–2025 school year. Data were obtained from document review, structured interviews with a school board representative and with the staff member responsible for school health at each school (n = 44), and on-site inspection of health rooms, classrooms, water and sanitation facilities and kitchens. Each school was scored and graded against Joint Circular No. 13/2016/TTLT-BYT-BGDDT; analyses were descriptive (SPSS 20.0). Organisational prerequisites were near-universal: 97.8% of schools had a Student Health Care Board, 100% issued an annual plan with an allocated budget, and 89.1% had a dedicated health room, although only 78.3% held the complete equipment set. Workforce capacity was the weakest domain: 58.7% of schools employed a dedicated health worker, 37.0% relied on a dual-role staff member and 4.3% had none; only 61.4% of the 44 staff held a health-professional qualification; and although 93.2% had attended in-service training within five years, knowledge was adequate in just 54.5% for the eight mandated content areas and 63.6% for the five mandated tasks. Delivery was nevertheless strong, with 93.5% of schools conducting annual health checks and 100% providing first aid and coordinating with commune health stations. Overall, 56.5% of schools were graded Good and 43.5% Fair, with none rated lower.

Keywords: school health services; health workforce; health-promoting schools; primary health care; cross-sectional studies; Viet Nam

1. INTRODUCTION

Schools reach children daily, over more than a decade of development, and remain the single most cost-effective platform for delivering preventive health interventions to school-aged children and adolescents [1]. Systematic evidence assembled around the World Health Organization (WHO) Health Promoting School framework shows that whole-school approaches improve nutritional status, physical activity, tobacco use and bullying outcomes, although effects are conditional on the fidelity and completeness of implementation rather than on the existence of a policy [2,3]. In 2021, WHO and UNESCO consolidated this evidence into eight global standards for health-promoting schools and issued a companion guideline that, for the first time, recommends comprehensive school health services (SHS) as a distinct, provider-delivered component of the school system [4,5]. A systematic review of systematic reviews found that services delivered by a qualified health provider — rather than by teachers alone — produced the most consistent gains in immunisation coverage, screening uptake and adolescent health outcomes [6].

The global picture of that provider workforce is uneven. School health services are reported in more than 100 countries, but staffing models, professional qualifications and scope of practice differ enormously, and in most European systems the service is delivered by nurses or physicians employed by the health sector [7,8]. Recent commentary describes a global shortage of school nurses driven by weak system integration, discriminatory salary scales and an absence of outcome data with which to argue for investment [9]; integrative reviews of school nursing similarly conclude that the evidence base linking staffing to student outcomes remains thin [10]. Where a qualified provider is absent, the school health function tends to default to teachers or administrative staff, and the clinical components of the mandate — screening, chronic disease follow-up, referral and emergency care — are the first to erode.

Asia illustrates this tension. A regional policy mapping across eight Asian countries found a broad shift towards the health-promoting school framework at policy level but persistent implementation gaps, particularly for mental health and for services requiring clinical competence [11]. A systematic review of school health programmes in South-East Asia reached similar conclusions, and the WHO South-East Asia Region has since adopted a roadmap to revitalise health-promoting schools [12,13]. Country-level studies reinforce the pattern: in Thailand, policy implementation depended on district-level supervision and staff capability rather than on the policy

text [14]; in Indonesia, principal leadership determined whether the school health unit functioned [15]; and in India, school health services remain fragmented across ministries with limited dedicated staffing [16].

Viet Nam has an unusually explicit regulatory framework. Joint Circular No. 13/2016/TTLT-BYT-BGDDT specifies the infrastructure, equipment, environmental, food-safety and service requirements for school health and provides a scoring instrument for annual grading [17], and the School Health Programme for 2021–2025 (Decision No. 1660/QĐ-TTg) sets national targets, including 80% of schools meeting school health conditions and 85% conducting start-of-year health checks [18]. Implementation, however, has repeatedly been reported as constrained by the number and qualification of school health staff, by funding and by facilities [19–22]. A provincial survey in Quang Tri identified infectious disease control as the highest training priority of school health staff and health promotion as among the lowest, indicating a workforce oriented to reactive rather than preventive tasks [23]. A more recent assessment in Quang Ninh found that 82.7% of schools had a dedicated health worker [24], a figure that may not generalise across regions. These constraints matter because the conditions this workforce is meant to detect are common: pooled prevalence of refractive error among Vietnamese schoolchildren is 37.6% [25], idiopathic scoliosis confirmed radiographically affects 3.6% of children screened in school settings [26], and one in seven schools worldwide still lacks a basic drinking-water service [27].

What is missing is a multi-province, standard-referenced description that separates *whether the structures exist* from *whether the people staffing them are qualified*. This study therefore assessed the enabling conditions, human resources and delivery of school health services in 46 schools across four northern provinces of Viet Nam during the 2024–2025 school year, and graded each school against the national instrument.

2. METHODS

2.1 Study design and setting

A descriptive cross-sectional study was conducted from September 2024 to May 2025 in 46 schools in four northern provinces of Viet Nam. Provinces were selected to represent the two dominant geographical and socio-economic settings of the region: Lang Son and Bac Giang for the northern midland and mountainous area, and Hung Yen and Thai Binh for the Red River Delta.

2.2 Sampling

A two-stage convenience sampling procedure was used (Figure 1). In stage one, 8–14 schools per province were selected with the Provincial Departments of Health so as to cover the three school levels — primary, lower secondary, and upper secondary or continuing education; 46 schools consented and were surveyed (Lang Son $n = 14$; Bac Giang $n = 12$; Hung Yen $n = 8$; Thai Binh $n = 12$). In stage two, the staff member responsible for school health at each school, whether in a dedicated or a concurrent (dual-role) post, was purposively selected. Eligible staff were salaried or contracted, had been in post for at least one year and consented to participate; staff who were medically unfit or absent on full-time training were excluded. Two schools in Hung Yen had no school health staff member, giving 44 individual respondents.

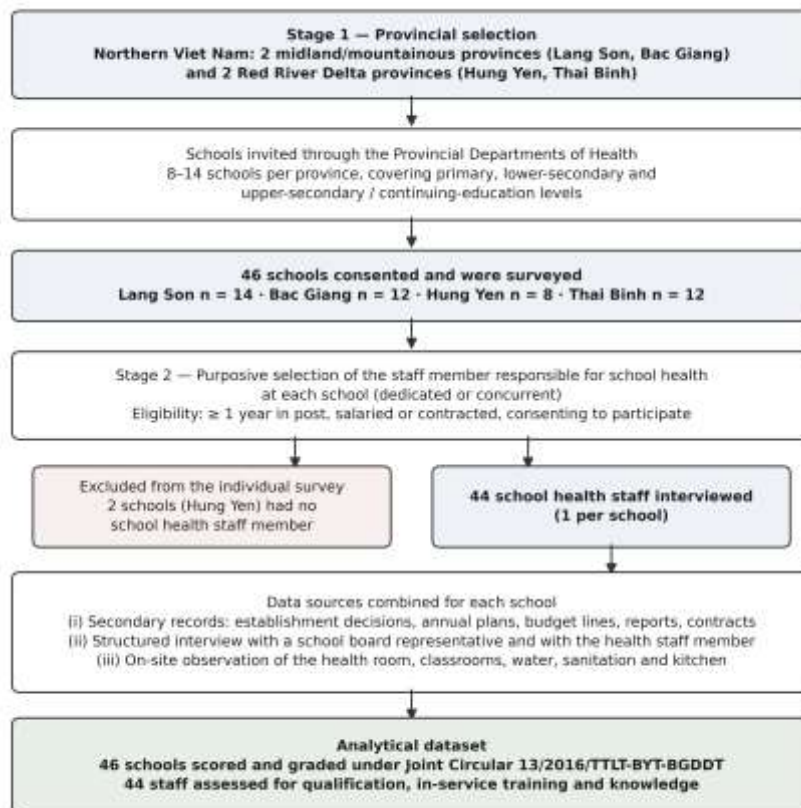


Figure 1. Flow of school and participant selection, four northern provinces of Viet Nam, September 2024 – May 2025.

2.3 Variables

Three groups of variables were collected. **Enabling conditions** comprised organisational arrangements (Student Health Care Board, board meetings, annual plan and budget, annual reporting), health-room infrastructure, medical equipment, essential medicines, first-aid supplies and health-education materials, together with the staffing model, professional qualification, in-service training and knowledge of school health staff. **Implementation conditions** followed Joint Circular No. 13/2016/TTLT-BYT-BGDDT [17] and comprised classroom standards (floor area, desk and chair dimensions, blackboard size, front-row-to-board distance, natural and artificial lighting), water and environmental sanitation, and food-safety conditions for schools operating boarding meals, with reference where applicable to Decision No. 1221/2008/QĐ-BYT on school hygiene standards [28]. **Service delivery** comprised health management and care (periodic health examination, health records, first aid and initial care, referral, coordination with local health facilities, parental notification) and health education and communication, together with the school's annual grade.

Staff knowledge was assessed against the eight mandated school health content areas and the five mandated school health tasks defined in the Joint Circular; a respondent was classified as having adequate knowledge for a domain when the required items in that domain were answered correctly.

2.4 Data collection

Data were collected through three complementary techniques. First, secondary records were reviewed at each school: establishment decisions for the Student Health Care Board, annual plans, budget allocations, activity reports, inspection and supervision records, cooperation contracts with health facilities, and health certificates of school kitchen staff. Second, a school board representative and the school health staff member were interviewed using pre-designed structured questionnaires derived from the Joint Circular [17]: the school board instrument covered organisation, human resources, financing, implemented activities, and enabling and constraining factors, while the staff instrument covered service implementation, health-education modalities, training received, and perceived difficulties. Third, health rooms, classrooms, water and sanitation facilities and kitchens were inspected on site.

Field work proceeded in four steps, jointly coordinated by the National Institute of Occupational and Environmental Health and the Provincial Departments of Health: (i) an official letter setting out the purpose, content and plan of the study was sent to each Provincial Department of Health; (ii) the department identified eligible schools, notified them and introduced the investigators; (iii) each school selected eligible staff against the inclusion criteria and returned the participant list; and (iv) interviews and inspections were conducted.

2.5 Scoring and grading

Each school's overall school health performance for the 2024–2025 school year was scored and graded using the standard scoring instrument stipulated in Joint Circular No. 13/2016/TTLT-BYT-BGDDT [17], which classifies schools as Good, Fair, Average or Not achieved.

2.6 Data analysis

Data were entered and managed in Microsoft Excel and analysed in SPSS version 20.0 (IBM Corp., Armonk, NY, USA). Categorical variables are presented as frequencies and percentages, disaggregated by province where relevant. Denominators differ across tables: school-level indicators use $n = 46$, staff-level indicators use $n = 44$ (two schools had no health staff member), and food-safety indicators use $n = 12$ (schools operating boarding meals).

2.7 Ethical considerations

All participants received a full explanation of the purpose and significance of the study and provided written informed consent. Participation was voluntary and participants could withdraw at any stage. All information was kept confidential, used solely for research purposes, and accessible only to the investigators.

3. RESULTS

3.1 Schools surveyed and school health workforce

The 46 participating schools comprised 14 in Lang Son, 12 in Bac Giang, 8 in Hung Yen and 12 in Thai Binh, spanning the primary, lower-secondary and upper-secondary or continuing-education levels; one responsible staff member was interviewed at each of the 44 schools that had one (Table 1, Figure 1).

Human resources emerged as the weakest domain (Table 2). Just over half of the schools (58.7%; 27/46) employed a dedicated school health worker, 37.0% (17/46) relied on a staff member holding the role concurrently with other duties, and 4.3% (2/46) had no school health staff at all. Among the 44 staff interviewed, 61.4% held a health-professional qualification — 34.1% general assistant doctors, 25.0% nurses and 2.3% obstetric–paediatric assistant doctors — while 38.6% held a qualification outside the health field. In-service training was almost universal: 93.2% had attended at least one school health training course in the preceding five years. Knowledge, however, lagged well behind training coverage: only 54.5% of staff demonstrated adequate knowledge of the eight mandated school health content areas, and 63.6% of the five mandated school health tasks.

Table 1. School health staffing model and professional qualification, by province ($n = 46$)

Indicator	Lang Son ($n = 14$)	Bac Giang ($n = 12$)	Hung Yen ($n = 8$)	Thai Binh ($n = 12$)	Total ($n = 46$)
Staffing model					
Dedicated school health staff	14 (100.0)	10 (83.3)	2 (25.0)	1 (8.3)	27 (58.7)
Concurrent (dual-role) staff	0 (0.0)	2 (16.7)	4 (50.0)	11 (91.7)	17 (37.0)
No school health staff	0 (0.0)	0 (0.0)	2 (25.0)	0 (0.0)	2 (4.3)
Professional qualification of the school health staff member					
Health-professional qualification	14 (100.0)	10 (83.3)	2 (25.0)	1 (8.3)	27 (58.7)
Qualification outside the health field	0 (0.0)	2 (16.7)	4 (50.0)	11 (91.7)	17 (37.0)
No school health staff member	0 (0.0)	0 (0.0)	2 (25.0)	0 (0.0)	2 (4.3)

Values are n (%) of schools in the province. Percentages for professional qualification are computed over all 46 schools, so the two qualification categories and the no-staff category together account for 100%; expressed over the 44 schools that had a school health staff member, 61.4% of staff held a health-professional qualification and 38.6% a qualification outside the health field.

Table 2. Human resources for school health: staffing model, professional qualification, in-service training and knowledge

Indicator	Category	n	%
Schools by staffing model (n = 46)			
Staffing model	Dedicated staff	27	58.7
	Concurrent (dual-role) staff	17	37.0
	No school health staff	2	4.3
School health staff interviewed (n = 44)			
Professional qualification	General assistant doctor	15	34.1
	Obstetric–paediatric assistant doctor	1	2.3
	Nurse	11	25.0
	Any health-professional qualification	27	61.4
	Qualification outside the health field	17	38.6
In-service school health training in the past 5 years	Yes	41	93.2
	No	3	6.8
Knowledge of the 8 mandated school health content areas	Adequate	24	54.5
	Inadequate	20	45.5
Knowledge of the 5 mandated school health tasks	Adequate	28	63.6
	Inadequate	16	36.4

The 8 mandated content areas and the 5 mandated tasks are those defined in Joint Circular No. 13/2016/TTLT-BYT-BGDDT.

Staffing was strongly patterned by province (Table 1, Figure 2). Every school in Lang Son (14/14, 100%) had a dedicated health worker with a health-professional qualification, as did 83.3% (10/12) of schools in Bac Giang. The delta provinces showed the opposite profile: only 25.0% (2/8) of schools in Hung Yen and 8.3% (1/12) in Thai Binh had a dedicated worker, with 91.7% (11/12) of Thai Binh schools depending on dual-role staff, and the two schools without any school health staff were both in Hung Yen. In every school the person holding the post concurrently also held a non-health qualification, so the dedicated–concurrent divide and the qualified–unqualified divide coincided exactly across all four provinces.

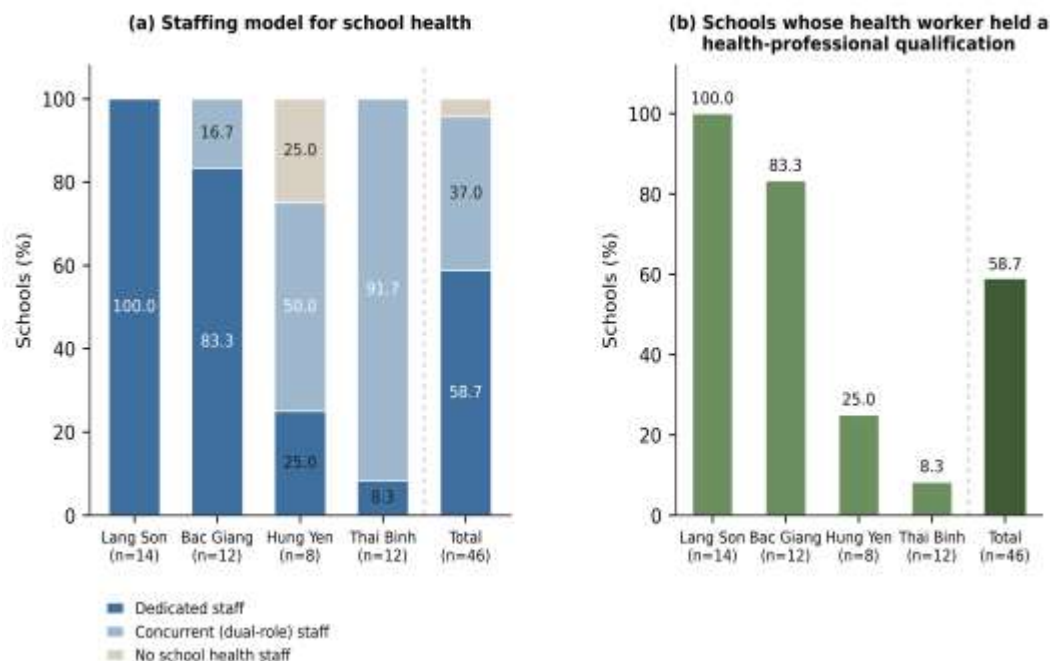


Figure 2. Staffing model (a) and professional qualification (b) of school health workers, by province (n = 46 schools). Panel (a) shows the proportion of schools with a dedicated worker, a concurrent (dual-role) worker, or no school health worker; panel (b) shows the proportion of schools whose health worker held a health-professional qualification.

3.2 Organisational conditions, health room, equipment and medicines

Organisational prerequisites were close to complete (Table 3). A Student Health Care Board had been established in 97.8% of schools and met each semester in the same proportion; all 46 schools (100%) had issued an annual school health plan with an allocated budget, and 93.5% submitted an annual activity report. A dedicated health room was available in 89.1% of schools, and 97.8% held health-education and communication materials. Material provision was less consistent: 84.8% of schools stocked essential medicines appropriate to their needs, while only 78.3% had the full complement of medical equipment and the same proportion (78.3%) maintained a first-aid cabinet and initial emergency supplies.

Table 3. Organisational arrangements, health room, equipment and essential medicines (n = 46)

Indicator	Domain	Achieved (n)	%
Student Health Care Board established	Organisation	45	97.8
Student Health Care Board meetings held each semester	Organisation	45	97.8
Annual school health plan issued with allocated budget	Organisation	46	100.0
Annual school health activity report submitted	Organisation	43	93.5
Dedicated health room meeting requirements	Facilities	41	89.1
Complete set of medical equipment	Facilities	36	78.3
Essential medicines appropriate to the school's needs	Facilities	39	84.8
First-aid cabinet and initial emergency supplies	Facilities	36	78.3
Health-education and communication materials available	Facilities	45	97.8

3.3 Classroom, water, sanitation and food-safety conditions

Compliance with the physical-environment standards was high but not uniform (Table 4). All schools (100%) met the standard for desk and chair dimensions, 97.8% for blackboard size and 95.7% for classroom and functional-room floor area, whereas the distance from the front row of desks to the blackboard met the standard in 87.0% of schools and lighting — natural and artificial combined — in 93.5%. Water and environmental sanitation performed similarly well: 97.8% of schools ensured drinking water for students, 97.8% ensured clean water for school operations, 100% collected and treated solid waste and 97.8% collected and treated wastewater, while toilets meeting the combined requirements for number, clean water, soap and cleanliness were the weakest indicator at 89.1%. Among the 12 schools operating boarding meals, menu diversity and regulation-compliant food-sample retention were universal (100% each), 91.7% had kitchen staff with health examinations and adequate personal hygiene, 83.3% met the standard for food storage, preparation and containment utensils, and 75.0% operated a one-way kitchen flow.

Table 4. Compliance with classroom, water and sanitation, and food-safety standards

Indicator	Denominator	Achieved (n)	%
<i>Classroom conditions (n = 46)</i>			
Floor area of classrooms and functional rooms adequate	46	44	95.7
Desk and chair dimensions appropriate for students	46	46	100.0
Blackboard dimensions appropriate	46	45	97.8
Distance from the front row of desks to the blackboard adequate	46	40	87.0
Lighting adequate (natural and artificial)	46	43	93.5
<i>Water supply and environmental sanitation (n = 46)</i>			
Drinking water ensured for students	46	45	97.8
Clean water ensured for school operations	46	45	97.8
Toilets meeting requirements (number, clean water, soap, cleanliness)	46	41	89.1
Solid waste collected and treated	46	46	100.0
Wastewater collected and treated	46	45	97.8
<i>Food safety, schools operating boarding meals (n = 12)</i>			
One-way kitchen flow in place	12	9	75.0
Diverse menu provided	12	12	100.0
Food storage, preparation and containment utensils hygienic	12	10	83.3
Food samples retained in accordance with regulations	12	12	100.0
Kitchen staff health-examined with adequate personal hygiene	12	11	91.7

3.4 Health management, care and health education

Service delivery was the strongest performing block (Table 5). All 46 schools (100%) provided first aid and initial health care and coordinated with the local health facility in the care and treatment of students with chronic conditions, and 97.8% notified parents or guardians of their child's health status. Periodic health examination once per school year was conducted by 93.5% of schools, and 95.7% maintained a student health monitoring and management logbook, but only 65.2% kept a medical examination book. The indicator on transfer of a student to a health facility for treatment was not applicable in the schools surveyed and was therefore not assessed.

Health education and communication had been implemented in all 46 schools (100%). Direct communication during the flag-raising assembly was the most widely used modality (95.7%), followed by integration into lessons and extracurricular activities (89.1%) and indirect channels such as loudspeakers, panels and posters (73.9%). Digital channels remained marginal: only 10.9% of schools used websites or social media platforms such as Facebook and Zalo for student health communication.

Table 5. Health management, health care and health education activities (n = 46)

Indicator	Domain	Implemented (n)	%
Periodic health examination once per school year	Management and care	43	93.5
Medical examination book maintained	Management and care	30	65.2
Student health monitoring and management logbook maintained	Management and care	44	95.7
First aid and initial health care provided	Management and care	46	100.0
Student transferred to a health facility for treatment when required	Management and care	N/A	N/A
Coordination with the local health facility for students with chronic disease	Management and care	46	100.0
Parents or guardians notified of student health status	Management and care	45	97.8
Health education and communication implemented	Health education	46	100.0
Direct communication at the flag-raising assembly	Health education	44	95.7
Integrated into lessons and extracurricular activities	Health education	41	89.1
Indirect channels (loudspeakers, panels, posters)	Health education	34	73.9
Website or social media (Facebook, Zalo)	Health education	5	10.9

N/A, not applicable: the indicator on transfer of a student to a health facility for treatment was not applicable in the schools surveyed and was therefore not assessed. The four health-education rows are modalities used by schools and are not mutually exclusive.

3.5 Overall school health performance

Applying the national scoring instrument for the 2024–2025 school year, 56.5% of schools (26/46) were graded Good and 43.5% (20/46) Fair; no school was graded Average or Not achieved (Table 6). The provincial gradient mirrored the workforce gradient (Figure 3): Bac Giang achieved the highest proportion of Good ratings (83.3%; 10/12), followed by Lang Son (71.4%; 10/14), while Hung Yen (37.5%; 3/8) and Thai Binh (25.0%; 3/12) — the two provinces most dependent on dual-role staff — had the lowest.

Table 6. Overall school health performance rating by province, 2024–2025 school year (n = 46)

Rating	Lang Son (n = 14)	Bac Giang (n = 12)	Hung Yen (n = 8)	Thai Binh (n = 12)	Total (n = 46)
Good	10 (71.4)	10 (83.3)	3 (37.5)	3 (25.0)	26 (56.5)

Rating	Lang Son (n = 14)	Bac Giang (n = 12)	Hung Yen (n = 8)	Thai Binh (n = 12)	Total (n = 46)
Fair	4 (28.6)	2 (16.7)	5 (62.5)	9 (75.0)	20 (43.5)
Average	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Not achieved	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Values are n (%). Schools were scored and graded using the instrument stipulated in Joint Circular No. 13/2016/TTLT-BYT-BGDDT.

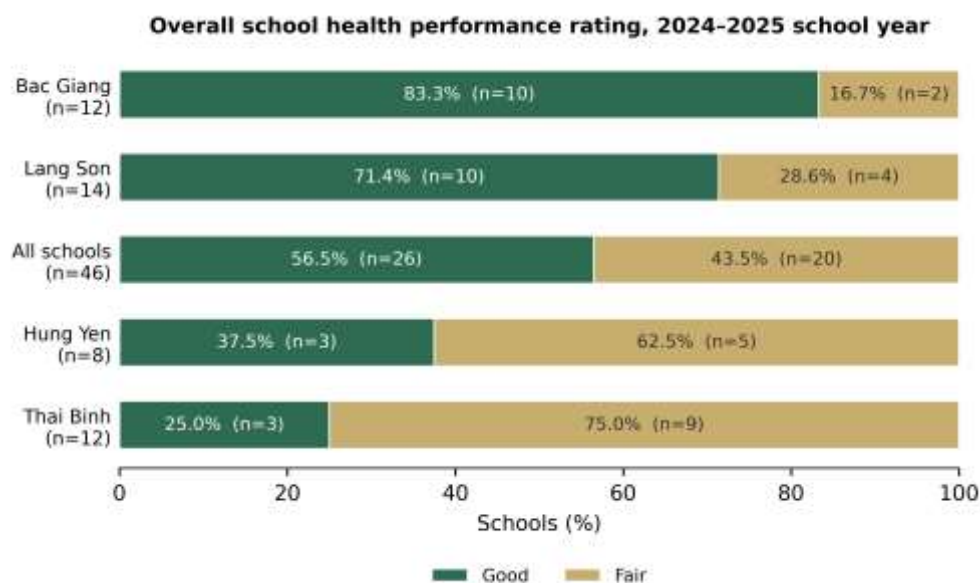


Figure 3. Overall school health performance rating by province, 2024–2025 school year (n = 46 schools), graded with the scoring instrument of Joint Circular No. 13/2016/TTLT-BYT-BGDDT. No school was rated Average or Not achieved.

4. DISCUSSION

This multi-province assessment yields a consistent asymmetry: the *structures* of school health are essentially complete, while the *capability* that gives them clinical meaning is not. Governance indicators clustered at 97.8–100%, matching or exceeding earlier Vietnamese surveys in Can Tho and Tra Vinh [29,30], and the proportion of schools with a dedicated health room (89.1%), full equipment (78.3%) and essential medicines (84.8%) is markedly higher than the 51.9% health-room coverage documented in the 2009 national assessment [19]. Two decades of regulation, most recently Decision No. 1660/QD-TTg, appear to have succeeded in institutionalising the school health function [18].

The workforce tells a different story. Only 58.7% of schools had a dedicated worker and 61.4% of staff held a health qualification — well below the 82.7% dedicated staffing reported in Quang Ninh [24] — and the shortfall was concentrated in the delta provinces, where 91.7% of Thai Binh schools relied on dual-role staff. This is the same structural problem described globally as a school nurse shortage sustained by weak integration into education systems and unfavourable salary scales [9], and it is consequential: reviews of provider-delivered school health services attribute the clearest outcome gains to services staffed by qualified health professionals [6,10]. The near-total training coverage (93.2%) alongside adequate knowledge in only 54.5% and 63.6% of staff indicates that in-service training is functioning as an attendance target rather than a competency intervention — echoing the Vietnamese training-needs analysis that found staff prioritising infectious disease control over health promotion [23], and the Asian policy mapping that identified capability, not policy, as the binding constraint [11,14].

The delivery pattern is legible in this light. Tasks that any conscientious staff member can perform were universal — first aid and initial care (100%), coordination with commune health stations (100%), parental notification (97.8%) — whereas tasks requiring clinical documentation and judgement were weaker: medical examination books were maintained in only 65.2% of schools, and referral of students to a higher-level facility could not be assessed at all, the indicator being not applicable in the schools surveyed.

That the referral limb of the care pathway is not routinely captured is itself informative, because it is precisely the function on which school-level detection depends: 37.6% of Vietnamese schoolchildren have refractive error and 3.6% radiographically confirmed scoliosis [25,26], conditions identified at school but treated elsewhere. Similarly, the reliance on assembly-based communication (95.7%) over digital channels (10.9%) reflects a communication model built around message delivery rather than the interactive, skills-based approaches associated with behaviour change [3,31].

Environmental compliance was reassuringly high and above earlier Vietnamese findings [22], although lighting (93.5%), front-row-to-board distance (87.0%) and toilets (89.1%) remain residual risks for refractive error, postural disorders and hygiene-related absence, and school toilet adequacy is a recognised global gap [27]. Food-safety performance among boarding schools was strong overall, but one-way kitchen flow at 75.0% is the weakest link in a domain where lapses produce outbreaks rather than gradual harm [32], and where food-handler capacity is a documented determinant of risk [33].

This has an immediate corollary for the 37.0% of schools relying on dual-role staff: studies of non-clinical school personnel show that objective first-aid knowledge falls well short of self-assessed confidence [34], so a defined scope of practice and periodic competency testing, rather than blanket delegation, should govern what these staff are expected to do. More broadly, the findings support reframing the school health worker from an administrative focal point into a clinical provider embedded in the primary care system [35].

Three limitations qualify these findings. Convenience sampling through provincial health departments plausibly favoured better-performing schools, so absolute proportions are likely optimistic; a single respondent per school and reliance on self-report and school-held records may inflate performance on documentation-dependent indicators; and the sample of 46 schools, with as few as eight per province, precludes inferential comparison between provinces or school levels. The consistency of the workforce gradient with the grading gradient nevertheless supports the central observation.

5. CONCLUSION

School health services in these four northern provinces of Viet Nam perform well against the national standard: 56.5% of schools were graded Good and 43.5% Fair, with none rated Average or Not achieved, and organisational, infrastructural, environmental and food-safety conditions were met by 75–100% of schools. Core services — first aid and initial care, coordination with commune health facilities, periodic health examination and health education — were delivered almost universally. The binding constraint lies elsewhere. Only 58.7% of schools employed a dedicated school health worker, 37.0% depended on staff holding the role alongside other duties, and 38.6% of staff held no health-professional qualification; despite 93.2% training coverage, fewer than two-thirds demonstrated adequate knowledge of the mandated content areas and tasks. Because the two provinces most dependent on dual-role staff also recorded the lowest proportions of Good ratings, workforce composition appears to be the pivot on which overall performance turns. Three implications follow. First, staffing norms should shift from the presence of a designated focal point to a minimum health-professional qualification, supported by salary and allowance structures capable of retaining such staff. Second, in-service training should be re-designed around competency assessment rather than attendance, with a defined scope of practice for dual-role staff. Third, the current regulatory instruments — Joint Circular No. 13/2016/TTLT-BYT-BGDDT and Decision No. 1221/2008/QĐ-BYT — warrant revision to reflect present-day medicine, equipment and staffing realities. Larger, probability-based studies linking school health staffing models to measured student health outcomes are the necessary next step.

REFERENCES

1. Bundy DAP, de Silva N, Horton S, Jamison DT, Patton GC, editors. Child and adolescent health and development. Disease Control Priorities, 3rd ed., Vol. 8. Washington (DC): World Bank; 2017. doi:10.1596/978-1-4648-0423-6
2. Langford R, Bonell CP, Jones HE, Poulou T, Murphy SM, Waters E, et al. The WHO Health Promoting School framework for improving the health and well-being of students and their academic achievement. *Cochrane Database Syst Rev*. 2014;(4):CD008958. doi:10.1002/14651858.CD008958.pub2
3. Shackleton N, Jamal F, Viner RM, Dickson K, Patton G, Bonell C. School-based interventions going beyond health education to promote adolescent health: systematic review of reviews. *J Adolesc Health*. 2016;58(4):382–96. doi:10.1016/j.jadohealth.2015.12.017
4. World Health Organization, United Nations Educational, Scientific and Cultural Organization. Making every school a health-promoting school: global standards and indicators for health-promoting schools and systems. Geneva: WHO and UNESCO; 2021.
5. World Health Organization. WHO guideline on school health services. Geneva: World Health Organization; 2021.

6. Levinson J, Kohl K, Baltag V, Ross DA. Investigating the effectiveness of school health services delivered by a health provider: a systematic review of systematic reviews. *PLoS One*. 2019;14(6):e0212603. doi:10.1371/journal.pone.0212603
7. Baltag V, Pachyna A, Hall J. Global overview of school health services: data from 102 countries. *Health Behav Policy Rev*. 2015;2(4):268–83. doi:10.14485/HBPR.2.4.4
8. Michaud PA, Vervoort JPM, Visser A, Baltag V, Reijneveld SA, Kocken PL, et al. Organization and activities of school health services among EU countries. *Eur J Public Health*. 2021;31(3):502–8. doi:10.1093/eurpub/ckaa200
9. Maughan ED, Baltag V. The global shortage of school nurses. *J Sch Nurs*. 2024;40(1):5–7. doi:10.1177/10598405231213929
10. Best NC, Oppewal S, Travers D. Exploring school nurse interventions and health and education outcomes: an integrative review. *J Sch Nurs*. 2018;34(1):14–27. doi:10.1177/1059840517745359
11. Ogasawara R, Yamanaka H, Kobayashi J, Tomokawa S, Sugita E, Hirano T, et al. Status of school health programs in Asia: national policy and implementation. *Pediatr Int*. 2022;64(1):e15146. doi:10.1111/ped.15146
12. Thakur JS, Kaur R, Rana A, Paika R, Singh S, Malhotra S. Systematic review on school health program and health-promoting schools in Southeast Asian region countries. *Int J Non-Commun Dis*. 2023;8(4):170–8. doi:10.4103/jncd.jncd_63_23
13. World Health Organization, Regional Office for South-East Asia. Roadmap for implementation of health promoting schools in the South-East Asia Region. New Delhi: WHO Regional Office for South-East Asia; 2022.
14. Tomokawa S, Kaewviset S, Saito J, Akiyama T, Waikugul J, Okada K, et al. Key factors for school health policy implementation in Thailand. *Health Educ Res*. 2018;33(2):186–95. doi:10.1093/her/cyy008
15. Sasaki H, Sari DP, Warnaini C, Andiwijaya FR, Takeuchi R, Kadriyan H, et al. Leadership of school principals for school health implementation among primary schools in Mataram, Indonesia: a qualitative study. *Trop Med Health*. 2024;52(1):5. doi:10.1186/s41182-023-00568-y
16. Jakasania A, Lahariya C, Pandya C, Raut AV, Sharma R, Sophiya K, et al. School health services in India: status, challenges and the way forward. *Indian J Pediatr*. 2023;90(Suppl 1):116–24. doi:10.1007/s12098-023-04852-x
17. Ministry of Health, Ministry of Education and Training of Viet Nam. Joint Circular No. 13/2016/TTLT-BYT-BGDDT of 12 May 2016 on school health work. Hanoi; 2016. [In Vietnamese]
18. Prime Minister of the Socialist Republic of Viet Nam. Decision No. 1660/QĐ-TTg of 2 October 2021 approving the School Health Programme for the 2021–2025 period. Hanoi; 2021. [In Vietnamese]
19. V. T. Chu, "Nghiên cứu thực trạng công tác y tế trường học ở Việt Nam hiện nay và đề xuất mô hình quản lý phù hợp," Bộ Y tế, Trường Đại học Y Hà Nội, Hà Nội, Báo cáo Tổng kết Đề tài Nghiên cứu Khoa học Công nghệ Cấp Bộ, 2009.
20. T. H. D. Nguyen, D. B. Truong, and V. T. Chu, "Status of capacity of school health staff at the grassroots level," *Vietnam Journal of Preventive Medicine*, vol. 24, no. 7, p. 225, 2014. [In Vietnamese]
21. D. T. Mac, T. T. X. Le, and V. T. Chu, "Assessment of school health work in lower secondary schools in Tuyen Quang city, Tuyen Quang province, 2016," *Vietnam Journal of Preventive Medicine*, vol. 27, 2017. (in Vietnamese).
22. T. A. Huynh, Q. A. Tran, and V. T. Ta, "The situation of school health work in primary and secondary schools in My Tho city, Tien Giang province 2017," *Ho Chi Minh City Journal of Medicine*, vol. 21, no. 6, p. 14, 2017.
23. Kim S, Lee H, Lee H, Loan BTT, Huyen LTT, Huong NTT. Prioritizing training needs of school health staff: the example of Vietnam. *Int J Environ Res Public Health*. 2020;17(15):5563. doi:10.3390/ijerph17155563
24. Nguyen Thi Thao Ngan, Nguyen Duc Son, Nguyen Thi Bich Thuy. Current professional capacity of school health staff in Quang Ninh province, 2023. *Vietnam Journal of Public Health*. 2023;69. [In Vietnamese]
25. Nguyen HTT, Ghorbani-Mojarrad N, Cufflin M, Mallen E. Prevalence of refractive errors in Vietnamese school children: a meta-analysis. *Clin Exp Optom*. 2026;109(3):473–86. doi:10.1080/08164622.2025.2551751
26. Hong KS, Van Minh P, Nguyen HT, Phan MH, Nguyen HN, Pham TP. Re-evaluation of incorrect posture as a diagnostic criterion for scoliosis in school screenings: a cross-sectional study in Vietnam. *Cureus*. 2025;17(3):e81535. doi:10.7759/cureus.81535
27. WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. Progress on drinking water, sanitation and hygiene in schools 2015–2023: special focus on menstrual health. New York: United Nations Children's Fund and World Health Organization; 2024.

28. Ministry of Health of Viet Nam. Decision No. 1221/2008/QĐ-BYT promulgating regulations on hygiene standards for classrooms in schools. Hanoi; 2008. [In Vietnamese]
29. Nguyen Thi Hong Thu. Current situation of school health work in primary schools and related factors in Can Tho city. Master's thesis in Public Health. Can Tho; 2013. [In Vietnamese]
30. D. V. Trung, "Assessment of school health work in lower secondary schools of Tra Cu and Cang Long districts, Tra Vinh province, 2017," Specialist Level II thesis, Dept. Health Management, Tra Vinh, Vietnam, 2017. [In Vietnamese].
31. World Health Organization. Global school health initiatives: achieving health and education outcomes. Report of a meeting, Bangkok, Thailand, 23–25 November 2015. Geneva: World Health Organization; 2017. WHO/NMH/PND/17.7.
32. Bujang NNA, Abd Wahil MS, Abas SA, Khairul Amin KHA, Zulkifli NI, Mohd Shah S, et al. Outbreak of foodborne disease in a boarding school, Negeri Sembilan state, Malaysia, 2021. *Western Pac Surveill Response J.* 2023;14(3). doi:10.5365/wpsar.2023.14.3.1043
33. da Vitória AG, de Souza Couto Oliveira J, de Almeida Pereira LC, de Faria CP, de São José JFB. Food safety knowledge, attitudes and practices of food handlers: a cross-sectional study in school kitchens in Espírito Santo, Brazil. *BMC Public Health.* 2021;21(1):349. doi:10.1186/s12889-021-10282-1
34. Vermonden M, Dehaerne L, Toelen J, De Coninck D. Teacher preparedness for medical emergencies in Belgian classrooms: studying objective and subjective first-aid knowledge. *Children (Basel).* 2023;10(4):669. doi:10.3390/children10040669
35. Baltag V, Saewyc E. Pairing children with health services: the changing role of school health services in the twenty-first century. In: Cherry AL, Baltag V, Dillon ME, editors. *International handbook on adolescent health and development: the public health response.* Cham: Springer; 2017. p. 463–77. doi:10.1007/978-3-319-40743-2_24