From Training Coverage to Verifiable Competence in Indonesia's Free Nutritious Meals Programme

Wan Apriyanti Lubis, H. Henry Aspan, T.Riza Zarzani

Abstract

Training coverage is an accessible administrative indicator, but it does not establish whether personnel can perform food safety tasks competently. This paper develops a legal governance framework for verifying food handler competence in Indonesia's Free Nutritious Meals programme. It combines doctrinal analysis of Indonesian food safety governance with descriptive secondary analysis of a training recap reproduced in a related unpublished manuscript. The recap, labelled 2026, covers 653 volunteers across 14 nutrition service units in South Tapanuli; its originating agency and exact reporting date remain unconfirmed. Of these volunteers, 536 were recorded as trained and 117 as untrained, yielding weighted coverage of 82.1%. Three units accounted for 53.8% of the recorded training deficit while representing 20.7% of all volunteers. These figures support targeted follow-up but cannot establish unsafe practice, contamination, or legal liability. The proposed framework links role identification, task-specific instruction, observed assessment, authorised assignment, and documented corrective action. It distinguishes training participation from demonstrated competence and separates supervisory records from findings of legal fault. A simple arithmetic scenario shows that training the 63 untrained volunteers in the three priority units would raise recorded coverage to 91.7%, assuming unchanged staffing. This is not an estimate of health impact. The paper contributes an auditable approach to competence governance for decentralised public meal services, while identifying the operational and legal evidence required before implementation and evaluation.

***Keywords**: food handler competence; legal accountability; public meal programmes; risk-based supervision; Indonesia*

Wan Apriyanti Lubis
Master of Health Law Programme, Universitas Pembangunan Panca Budi, Indonesia
e-mail: wanapriyanti274@gmail.com

H. Henry Aspan, T. Riza Zarzani
e-mail: henryaspan@yahoo.com , rizazarzani@dosen.pancabudi.ac.id

Introduction

Public meal programmes rely on a practical chain of decisions: who receives ingredients, who prepares food, who checks a process, and who decides that meals may be distributed. The safety of this chain depends partly on personnel understanding and performing their assigned tasks. A training register can indicate participation in an educational activity, but it does not reveal whether the participant can apply the instruction under production pressures. This distinction matters for legal governance because administrators need defensible evidence that reasonable preventive arrangements were established and maintained, rather than a percentage that is detached from actual work.

Indonesia's Makan Bergizi Gratis, referred to here as the Free Nutritious Meals programme or MBG, provides a relevant setting. The related manuscript by Lubis and Aspan examines food safety supervision and legal enforcement in South Tapanuli. This paper addresses a narrower question: how should reported training gaps be translated into verifiable competence arrangements and proportionate supervisory follow-up? It reuses a limited training recap from the parent manuscript and develops a distinct analytical output. It does not present a new field survey, reproduce the parent article's general supervision analysis, or claim that the reused data are an independent empirical contribution.

The legal setting includes Indonesia's Food Law and Health Law, the government framework on food safety, and regulations governing BGN and MBG [1], [2], [3], [4], [5], [6]. These instruments provide the domestic context for identifying responsibilities. Their existence does not justify assuming that every volunteer has the same legal training requirement or that any recorded training deficit constitutes a statutory offence. The applicable obligation depends on the worker's role, the instrument in force, the operational procedure, and the circumstances. The proposed framework therefore treats competence verification as a governance design that requires alignment with the relevant legal and organisational documents.

The contribution is a proposed competence evidence framework informed by an observed distribution of recorded training gaps. It links management decisions to evidence that can be reviewed before and after a concern arises. Its international relevance is analytical: decentralised meal services may face similar difficulties when aggregate compliance indicators conceal variation between production sites. Transfer to another jurisdiction would require a separate mapping of legal duties, employment arrangements, and enforcement powers. No claim of global generalisability or uniqueness relative to all existing scholarship is made. The emphasis on evidence and coordinated governance is also consistent with WHO's global food safety strategy [7].

Literature Review

International guidance reinforces the practical relevance of this problem. WHO's Five Keys to Safer Food identifies basic controls concerning cleanliness, separation, cooking, temperature, and safe inputs [8]. FAO guidance addresses the development, delivery, and evaluation of training adapted to personnel and operational needs [9]. Research also cautions against treating educational participation as equivalent to behavioural improvement. Young et al. found stronger support for improved knowledge than for other outcomes in randomised studies [10]. These sources support a distinction between instruction and performance; they do not demonstrate the effectiveness of any intervention in South Tapanuli.

Training should be evaluated together with the conditions in which the worker must act. A person cannot apply a cleaning procedure without suitable water and equipment, and written instructions may be ineffective when terminology is inaccessible. Berglund et al. identify time and comprehension barriers in online food safety education [11]. Hasani et al. describe an accessible Codex-based toolbox while clarifying that a reference resource is not itself a training

programme [12]. These findings support practical adaptation, rather than assuming that an online module alone closes an operational competence gap.

The literature supports distinguishing training attendance, knowledge acquisition, and demonstrated task performance. The present study applies that distinction to programme oversight by asking what evidence should support assignment and corrective decisions. Its analytical focus is the connection between competence records and accountable management within the domestic legal framework.

Relevant Indonesian health-law scholarship also clarifies the role of documentary evidence. Afrila, Aspan, and Sahlepi [13] examine legal protection for medical personnel providing voluntary health services through normative juridical analysis. They identify difficulties in proving compliance with service standards and incomplete medical documentation among the barriers to operational protection. Their study concerns medical personnel rather than food-service volunteers. Its relevance here is analytical: a preventive system should retain evidence of the standards communicated, the duties assigned, and the supervision provided. Applying this insight to MBG requires identifying the separate rules governing programme personnel, rather than transferring medical protections automatically.

Pasaribu, Zarzani, and Sahlepi [14] examine the legal position of professional medical students in teaching hospitals. They identify insufficient regulatory detail concerning that position and recommend coordination to clarify the governing arrangements. This study contributes a complementary perspective on the relationship between learning, supervised practice, and role definition. Medical students and MBG volunteers have different legal statuses; nevertheless, the comparison supports examining whether an organisation clearly defines the work that personnel may perform and the supervision attached to it. The present article extends that governance question into a proposed task-based competence record for public meal services.

Research Methodology

The study combines doctrinal legal analysis with descriptive secondary data analysis. The legal component distinguishes binding domestic instruments from international technical guidance and from the authors' proposed administrative arrangements. This separation follows Aspan et al., who show that binding rules with defined sanctions and non-binding guidance perform different accountability functions [15]. Sources were selected purposively for their relevance to Indonesian programme governance, hygiene instruction, and competence assessment. This is a focused documentary inquiry, not a systematic literature review. It does not report a comprehensive database search, a PRISMA selection process, or a pooled estimate of training effectiveness.

The documentary scope includes the parent manuscript, domestic instruments [1], [2], [3], [4], [5], [6], WHO and FAO guidance [7], [8], [9], selected research on training and legal protection [10], [11], [12], [13], [14], and related Indonesian legal scholarship on accountability, professional authority, health-worker protection, and health records [16], [17], [18], [19], [20], [21]. Regulatory titles and institutional information were checked against official sources where available. The analysis does not claim an exhaustive article-by-article compliance audit. In particular, the proposed evidence items are recommendations rather than statements that each item is expressly mandated by every cited instrument. Legal evaluation of an actual event would require the operative text, dates, delegations, contracts, and procedures applicable at that time.

The empirical input is the 14-unit training table in the related unpublished manuscript. Each row records the unit name, volunteers recorded as trained, volunteers recorded as untrained, and the total. The parent manuscript labels the recap as 2026 field data but does not provide the originating agency, exact reference date, participant identifiers, or underlying

attendance records. Accordingly, 2026 is a label inherited from that document, not a verified observation date. The present study uses the category volunteer because it has not been established that every person in the denominator actively handles food.

No new interviews, workplace observations, medical records, or laboratory results were collected. The analysis does not infer individual competence from a training category and does not classify any unit as unsafe. The recap is used to illustrate how a programme could organise follow-up when training information is incomplete and unevenly distributed. The dataset was checked for internal arithmetic consistency: unit totals sum to 653 volunteers, consisting of 536 recorded as trained and 117 recorded as untrained. These checks confirm addition, not the external accuracy of the records.

For unit i, recorded training coverage is calculated as $100 \times T_i/N_i$, where T_i is the trained count and N_i is the volunteer total. Weighted programme coverage is $100 \times \Sigma T_i/\Sigma N_i$. The recorded deficit is $U_i = N_i - T_i$. Deficit concentration for a selected group G is $100 \times \Sigma U_i$ in $G/\Sigma U_i$ across all units. These are descriptive measures of the recap. The term priority refers to a proposed order of verification and support; it does not represent an estimated probability of contamination.

Units were examined by both deficit count and deficit proportion. The three highlighted units have the three largest recorded deficits and the three lowest coverage rates in this recap. An arithmetic completion scenario was then calculated by adding their 63 untrained volunteers to the trained total, holding all other counts constant. Legal interpretation subsequently considered which evidence would be required to translate these administrative categories into decisions about competence, assignment, correction, and possible accountability. No inferential tests or causal models were applied because neither sampling information nor outcome measurements were available.

Results

4.1 Concentration of the recorded training deficit

Weighted training coverage was 82.1%, calculated from 536/653 rather than from an average of rounded unit percentages. The unweighted mean of the 14 unit coverage rates was 81.7%. Although the difference is modest here, the two measures answer different questions: the weighted figure describes the share of volunteers recorded as trained, while the unweighted mean describes the average unit rate. Neither figure establishes the quality, recency, duration, or task relevance of the training received.

Arse Arse recorded 23 untrained volunteers among 40, Pasar Sipagimbar recorded 23 among 48, and Batang Toru Wek II recorded 17 among 47. Together, they accounted for 63 of the 117 recorded deficits, or 53.8%, while comprising 135 of 653 volunteers, or 20.7%. The other 11 units accounted for 54 deficits across 518 volunteers. This concentration provides a practical reason to verify training and task assignments in the three units first. It does not show that those units generated more hazards, caused incidents, or breached a legal requirement.

Table 1. Secondary analysis of recorded training deficits

Unit or group	Total	Trained	Untrained	Coverage
Arse Arse	40	17	23	42.5%
Pasar Sipagimbar	48	25	23	52.1%
Batang Toru Wek II	47	30	17	63.8%
Three-unit subtotal	135	72	63	53.3%
Other 11 units	518	464	54	89.6%
All 14 units	653	536	117	82.1%

Source: authors' calculations from the recap reproduced in the related unpublished manuscript, labelled 2026. Counts have not been independently verified; percentages are rounded to one decimal place.

4.2 What the completion scenario does and does not show

If the 63 untrained volunteers in the three priority units completed training and every other record remained unchanged, the trained count would become 599. Recorded coverage would then be 91.7%, an increase of 9.6 percentage points from the initial unrounded rate, leaving 54 volunteers untrained. This scenario demonstrates the arithmetic effect of concentrating training provision on the largest cluster of deficits. It is not a cost-effectiveness analysis because course costs, staff availability, travel requirements, and training capacity were not recorded.

The same scenario cannot predict safer handling or fewer illnesses. A person could complete training without demonstrating a particular skill; a previously trained person could need refresher instruction; and a volunteer outside food preparation might require a different curriculum. Staff turnover would also change both the numerator and denominator. The scenario is therefore useful for planning a follow-up exercise, but any performance claim must use additional evidence. Presenting it as a forecast of health improvement would exceed the dataset.

4.3 The unresolved competence evidence gap

The recap provides no task-level roster, assessment results, observation dates, or corrective action history. Consequently, the number of personnel currently competent to perform food-contact tasks cannot be calculated. This is a missing measurement, not a finding of incompetence. The distinction protects both beneficiaries and workers: beneficiaries need assurance about actual practices, while workers should not be labelled unfit solely because a summary register lacks information. A defensible follow-up begins by reconciling records with current assignments.

Discussion

5.1 Treating competence as an evidenced management decision

The proposed framework begins with role identification. A kitchen should establish which personnel receive ingredients, prepare raw foods, cook, portion, clean equipment, transport meals, and supervise release. The training relevant to each role can then be matched to its food safety tasks. This prevents a common denominator problem: reporting coverage across all volunteers may obscure whether people carrying out the most safety-sensitive tasks have received appropriate preparation. Role mapping is proposed here as a management tool and must be aligned with applicable domestic requirements.

Instruction should then be followed by observed assessment of the assigned task. A supervisor might verify whether a worker can separate raw and cooked materials, use a relevant monitoring device, or follow an escalation procedure. Passing a short written test would remain useful evidence of knowledge, but would not substitute for a task demonstration. The

assessment criteria must come from the approved procedure and relevant technical standards. The present paper does not specify a universal passing score, a legally binding refresher interval, or a new certification requirement.

Management should record the resulting assignment decision, including any supervision or restrictions. Where evidence is incomplete, the response should be proportionate to the task and the suspected risk. Supervised work, targeted instruction, reassessment, or temporary reassignment may be appropriate, subject to the governing rules and employment arrangements. The purpose is to make the basis of assignment reviewable. It is not to create a presumption that workers with incomplete files have caused harm. Alief, Rafianti, and Aspan show a comparable logic in clinical practice, where the authority to perform anaesthesia tasks and its delegation were governed by the applicable ministerial regulation and the hospital's standard operating procedures [16].

Table 2. Proposed competence evidence framework for programme operators

Decision stage	Evidence to retain	Decision supported
Identify the role	Current roster; actual food-contact tasks	Which competence requirements apply
Provide instruction	Content, provider, attendance and date	Whether relevant instruction occurred
Assess the task	Observed demonstration against approved criteria	Whether task performance was demonstrated
Assign and supervise	Authorised assignment; supervision conditions	Whether deployment matches demonstrated ability
Correct and reassess	Finding, action owner, deadline, reassessment	Whether an identified gap was resolved

Source: authors' proposed framework. This matrix is a design recommendation, not a validated instrument or a statement that every listed record is independently mandated by Indonesian law.

5.2 Linking training policy to workplace conditions

A programme could combine brief task instruction with supervised practice, local-language materials, and feedback during actual work. The specific combination should be piloted because the present study has not compared delivery modes or measured learning. The governance implication is that a training plan should document both educational provision and the resources needed to implement it. Responsibility for an unsafe practice cannot be assessed fairly without considering access to equipment, workload, conflicting instructions, and the supervisor's response to known constraints. Adrianto, Sumarno, and Zarzani similarly found that legal protection for health workers in remote areas was weakened by gaps between central rules and local implementation and by limited coordination between agencies [17].

5.3 Separating preventive governance from legal fault

The framework can support legal accountability by improving the evidence available to an authorised reviewer. A record of instruction and assessment may help reconstruct what management knew, what tasks were assigned, and what corrective steps were taken. It does not confer immunity from liability, and its absence does not automatically prove wrongdoing. Legal fault still depends on the relevant duty, conduct, applicable standard, and any required causal or mental elements. Technical guidance assists operational reasoning but does not independently create domestic criminal offences. Aspan et al. likewise find that non-binding guidance can encourage responsible conduct, whereas enforceable accountability depends on binding rules and effective monitoring [15]. In consumer-facing services, Fachrurozy, Sidi, and Zarzani show that a provider's responsibility for user safety must be analysed through the liability principles and compensation duties of the Consumer Protection Law [18].

This distinction is important where programme governance involves multiple institutions. Unit managers control day-to-day assignments, programme authorities coordinate supervision within their mandate, and health authorities exercise their own statutory functions. The party keeping a training register is not necessarily the party authorised to impose a sanction. Before implementation, each decision in Table 2 should be linked to a valid organisational assignment, delegation, contract, or regulatory power. A framework proposed by researchers cannot enlarge an institution's authority.

Preventive follow-up should therefore operate separately from the determination of an alleged offence. A substantial recorded training deficit can justify clarification and support even when no injury or proven breach exists. If an incident occurs, immediate medical care and food safety measures should proceed while evidence is preserved and competent authorities assess the facts. Individual workers should not carry the entire burden of an institutional failure, and managerial responsibility should not be inferred solely from job title. Work on corporate criminal liability similarly argues that harm arising from organisational activity may require responsibility to be assessed at the level of the entity, not only at the level of individual actors [19]. Both require evidence concerning actual duties and decisions.

Read together, the work involving Aspan [13] and Zarzani [14] supports attention to both documentary support and role clarity. For the framework proposed here, this means linking an assessment record to a specified task and an identified supervisor. This is the authors' governance inference from the two studies, not an empirical finding about MBG or an assertion that medical-law protections apply to food handlers. Such records can assist review while leaving the determination of legal fault to the applicable duties and evidence.

5.4 A feasible pilot and indicators for evaluation

A pilot could begin with the three units containing 63 recorded deficits, followed by the remaining units. Its first activity would be verification, not automatic enrolment: confirm current staffing, earlier training, and food-contact tasks. Training and assessment would then address verified needs. Reviewers should distinguish closure of a missing-record problem from completion of new instruction and from a successful practical demonstration. Maryana and Aspan's analysis of diagnostic upcoding illustrates how records that do not reflect actual practice can distort administrative decisions and expose institutions to sanctions [20]. This makes improvement visible without allowing administrative updating to be mistaken for a behavioural effect.

Four proposed indicators are role-verified coverage, task-demonstrated coverage, reassessment completion, and overdue corrective actions. Role-verified coverage would use active workers in the relevant task group as its denominator. Task-demonstrated coverage would count workers with documented satisfactory demonstrations within the locally approved review period. Reassessment completion would track whether people requiring further support were reviewed again. Overdue actions would show whether management followed through. These measures require new data and cannot be calculated from the existing recap.

Evaluation should also examine administrative burden and worker experience. A small service unit may benefit from a concise integrated record rather than several disconnected forms. Personal information should be limited to what authorised supervision requires, and public reporting should use aggregated results. The SATUSEHAT case analysed by Wau, Aspan, and Sumarno shows that digitised health records also require clear controller duties for security, incident notification, and data recovery [21]. A prospective study could compare these process indicators before and after a pilot, alongside standardised observations and suitable food safety measurements. Stronger causal claims would require a design addressing changes in staffing, facilities, production conditions, and reporting practices.

5.5 Limitations and relationship to the parent manuscript

The dataset is a secondary aggregate recap with unresolved source metadata and no person-level records. Training status, active role, competence, and health outcomes cannot be linked. There is no random sample, temporal sequence, counterfactual comparison, microbiological evidence, or independently verified compliance audit. The selection of three units is descriptive and specific to this recap; it is not a validated risk classification. The proposed framework has not undergone field testing, legal implementation review, reliability assessment, or outcome evaluation.

This paper is related to the parent manuscript through the same programme setting and training counts. Its distinct question concerns competence evidence and targeted follow-up, whereas the parent addresses broader food safety supervision and enforcement. The new contributions are the deficit concentration analysis, the explicitly conditional completion scenario, and the proposed decision-and-evidence matrix. Publication status and any further overlap must be disclosed to the receiving conference. If the parent manuscript becomes public, it should be cited formally; its data must not be described as newly collected for this paper.

Conclusion

A programme-wide training percentage cannot establish task competence or legal compliance. Secondary analysis of the South Tapanuli recap places 53.8% of the recorded training deficit in three units containing 20.7% of volunteers. This distribution supports an initial focus for verification and assistance, while providing no evidence of unsafe food, causation, or legal fault. The proposed framework makes competence governance reviewable by connecting roles, instruction, observed assessment, assignment, and corrective action.

For international public meal governance, the transferable contribution is a method of asking what evidence supports each personnel decision. Local application must respect domestic authority and operational conditions. The next step is to verify source records and pilot the framework with task-level data, rather than treating training completion as a sufficient assurance of safety. Improved documentation should support protection and fair accountability, while its effect on practice and health remains an empirical question.

6.1Data Availability and Related Work

All numerical inputs used here are reported in the related unpublished manuscript. This paper contains only aggregate counts and derived calculations; the underlying attendance and assessment records were not available. The date and originating agency of the recap require confirmation before submission. The authors should confirm data-use authority, author contributions, funding, conflicts of interest, and any applicable ethics or institutional requirements with the conference. No ethics approval, funding award, or conflict declaration is asserted without author confirmation.

References

[1] Republik Indonesia, Undang-Undang Nomor 18 Tahun 2012 tentang Pangan, sebagaimana telah diubah.

[2] Republik Indonesia, Undang-Undang Nomor 17 Tahun 2023 tentang Kesehatan.

[3] Republik Indonesia, Peraturan Pemerintah Nomor 86 Tahun 2019 tentang Keamanan Pangan, sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 1 Tahun 2026 tentang Perubahan atas Peraturan Pemerintah Nomor 86 Tahun 2019 tentang Keamanan Pangan. [Daring]. Tersedia: https://peraturan.bpk.go.id/Details/348700/pp-no-1-tahun-2026. Diakses: 24 Okt. 2026.

[4] Republik Indonesia, Peraturan Presiden Nomor 83 Tahun 2024 tentang Badan Gizi Nasional.

[5] Republik Indonesia, Peraturan Presiden Nomor 115 Tahun 2025 tentang Tata Kelola Penyelenggaraan Program Makan Bergizi Gratis. [Daring]. Tersedia: https://peraturan.go.id/id/perpres-no-115-tahun-2025. Diakses: 24 Okt. 2026.

[6] Badan Gizi Nasional, Peraturan Badan Gizi Nasional Nomor 4 Tahun 2026 tentang Sistem Penjaminan Keamanan Pangan dan Mutu Pangan di Lingkungan Badan Gizi Nasional. [Daring]. Tersedia: https://peraturan.bpk.go.id/Details/350932/peraturan-bgn-no-4-tahun-2026. Diakses: 24 Okt. 2026.

[7] World Health Organization, WHO Global Strategy for Food Safety 2022–2030: Towards Stronger Food Safety Systems and Global Cooperation. Jenewa: WHO, 2022. [Daring]. Tersedia: https://www.who.int/publications/i/item/9789240057685. Diakses: 24 Okt. 2026.

[8] World Health Organization, Five Keys to Safer Food Manual. Jenewa: WHO, 2006. [Daring]. Tersedia: https://www.who.int/publications/i/item/9789241594639. Diakses: 24 Okt. 2026.

[9] Food and Agriculture Organization of the United Nations, "Training and competence," Good Hygiene Practices and HACCP Toolbox for Food Safety, 2023. [Daring]. Tersedia: https://www.fao.org/good-hygiene-practices-haccp-toolbox/ghp/training-and-competence/. Diakses: 24 Okt. 2026.

[10] I. Young, J. Greig, B. J. Wilhelm, dan L. A. Waddell, "Effectiveness of food handler training and education interventions: A systematic review and meta-analysis," Journal of Food Protection, vol. 82, no. 10, hlm. 1714–1728, 2019, doi: 10.4315/0362-028X.JFP-19-108.

[11] Z. Berglund, S. Simsek, dan Y. Feng, "Effectiveness of online food-safety educational programs: A systematic review, random-effects meta-analysis, and thematic synthesis," Foods, vol. 13, no. 5, artikel 794, 2024, doi: 10.3390/foods13050794.

[12] M. Hasani, S. V. Camacho-Martinez, B. Zai, L. J. Warriner, C. Boesch, C. Kopko, F. Marafiotti, dan K. Warriner, "Development of an online food safety toolbox based on the Codex Alimentarius General Principles of Food Hygiene: Engaging users through mapping, chunking, and learning-by-asking," Food Quality and Safety, vol. 8, artikel fyae030, 2024, doi: 10.1093/fqsafe/fyae030.

[13] R. F. Afrila, H. Aspan, dan M. A. Sahlepi, "Legal protection of medical personnel in voluntary health services," dalam Proceedings of International Conference on Islamic Community Studies, 2025. [Daring]. Tersedia: https://proceeding.pancabudi.ac.id/index.php/ICIE/article/view/1024. Diakses: 24 Okt. 2026.

[14] A. H. Pasaribu, T. R. Zarzani, dan M. A. Sahlepi, "Legal review of the legal status of co-assistant in the teaching hospital according to Law No. 17 of 2023 concerning health," Indonesian Journal of Multidisciplinary Sciences (IJoMS), vol. 5, no. 1, hlm. 449–456, 2026, doi: 10.59066/ijoms.v5i1.2369.

[15] H. Aspan, R. Rosli, F. Fadlan, dan I. Irawati, "Legal mechanisms for business accountability: A comparison of soft and hard law in Indonesia," Law Reform, vol. 20, no. 2, hlm. 353–382, 2024, doi: 10.14710/lr.v20i2.59273.

[16] M. Alief, F. Rafianti, dan H. Aspan, "The authority of anesthesia technicians in conducting anesthesia practices reviewed in light of Minister of Health Regulation

Number 18 of 2016 regarding the licensing and implementation of anesthesia technician practices (A study at Melawi District General Hospital, West Kalimantan)," Bengkoelen Justice: Jurnal Ilmu Hukum, vol. 14, no. 1, hlm. 101–114, 2024, doi: 10.33369/jbengkoelenjust.v14i1.33661.

[17] I. Adrianto, S. Sumarno, dan T. R. Zarzani, "Legal protection for health workers working in remote areas: Research study in Kapuas Hulu Regency," International Journal of Sociology and Law, vol. 1, no. 4, hlm. 176–185, 2024, doi: 10.62951/ijsl.v1i4.187.

[18] M. Fachrurozy, R. Sidi, dan T. R. Zarzani, "Kajian hukum tanggung jawab perusahaan transportasi online terhadap keselamatan konsumen," Legalitas: Jurnal Hukum, vol. 15, no. 1, hlm. 150–157, 2023, doi: 10.33087/legalitas.v15i1.383.

[19] T. R. Zarzani, I. Ismaidar, dan M. Sihombing, "Corporate criminal liability in environmental pollution crimes," International Journal of Sociology and Law, vol. 1, no. 3, hlm. 31–40, 2024, doi: 10.62951/ijsl.v1i3.101.

[20] D. Maryana dan H. Aspan, "Juridical analysis of excessive diagnostic code writing (upcoding) reviewed from the regulation of the Minister of Health Number 16 of 2019," World Journal of Advanced Research and Reviews, vol. 23, no. 2, hlm. 1235–1240, 2024, doi: 10.30574/wjarr.2024.23.2.2429.

[21] H. S. M. Wau, H. Aspan, dan S. Sumarno, "Pelindungan hukum data pribadi pasca pembaruan aplikasi SATUSEHAT dalam perspektif pelindungan data pribadi di Indonesia," LAWYER: Jurnal Hukum, vol. 3, no. 1, hlm. 11–24, 2025, doi: 10.58738/lawyer.v3i1.772.