

Effectiveness of Implementation and Contextual Factor Analysis of Patient Personal Data Protection

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ABSTRACT

Digitalization in healthcare services provides significant benefits but also poses challenges, particularly in protecting patients' personal data. Data stored by healthcare institutions is highly vulnerable to misuse if not managed properly. In addition, limited technological infrastructure and resources can hinder the effectiveness of patient data protection at the West Nusa Tenggara Provincial Hospital. This study aims to analyse the relationship between staff members' understanding of the Personal Data Protection Law (PDP Law) and their level of compliance, and to explore contextual factors such as technical barriers and ethical dilemmas they face. The study utilizes a mixed-methods approach with a sequential explanatory design. The population consists of medical personnel and administrative staff at the West Nusa Tenggara Provincial Hospital, with a sample of 102 respondents in the quantitative phase, followed by in-depth interviews in the qualitative phase. The results indicate that 96.1% of respondents have a good level of understanding and 84.3% demonstrate a high level of compliance, with a significant positive relationship between understanding and compliance. However, a high level of ambivalence (49%) regarding the use of secondary data was identified due to the absence of internal operational norms. Furthermore, 26.5% of respondents reported difficulty understanding the technical aspects of digital data protection. Overall, the implementation of the PDP Law is effective in terms of knowledge and moral awareness but remains weak in its legal structure and technological infrastructure, making staff compliance vulnerable because systems do not yet automatically ensure data security.

Keywords: Personal Data Protection; Healthcare Digitalization; Staff Compliance; Legal Understanding; Mixed-Methods Approach

INTRODUCTION

The development of Information and Communication Technology (ICT) over the past few decades has driven significant transformation in the health sector, particularly through the digitalization of healthcare services and the management of patient data. Digitalization offers various benefits, including increased administrative efficiency, improved accessibility to medical information, and enhanced quality of healthcare services. However, as digital systems have become more widespread, the risks to the security and confidentiality of patients' personal data have also increased. Health data constitute highly sensitive information because they are directly related to individuals' medical conditions, identities, and health histories; therefore, they require adequate legal and technical protections to prevent misuse and violations of patient privacy.

Although Indonesia has enacted various regulations governing the protection of personal data, including Law Number 27 of 2022 on Personal Data Protection (PDP Law),¹ several issues remain in its implementation within the health sector. These issues include the absence of operational technical norms in health legislation concerning digital data management, a lack of synchronization between the PDP Law and health-related regulations, as well as weak regulatory provisions regarding electronic medical records and digital consent for data use (informed consent). This condition creates legal uncertainty for medical personnel and

¹ Republik Indonesia, *Undang-Undang Nomor 27 Tahun 2022 tentang Pelindungan Data Pribadi*; Lembaran Negara Republik Indonesia Tahun 2022 Nomor 196, Tambahan Lembaran Negara Republik Indonesia Nomor 6820.

healthcare institutions and, at the same time, has the potential to undermine patients' rights to privacy and the security of their personal data.

Normatively, the protection of patients' personal data has a strong legal foundation and is closely related to the respect for human rights. This legal framework is derived from the 1945 Constitution of the Republic of Indonesia. It is further reinforced by statutory regulations in the fields of human rights, health, and medical practice, which obligate medical professionals to maintain the confidentiality of patient data.² Accordingly, the management of health data is not merely an administrative obligation but also an integral part of fulfilling human rights and the ethical principles of the medical profession.

The West Nusa Tenggara Provincial General Hospital (RSUD Provinsi Nusa Tenggara Barat), as the main referral hospital, faces challenges in optimally implementing patient data protection due to the high volume of healthcare services and the diverse social backgrounds and literacy levels of patients. Limited understanding of regulatory provisions among medical personnel, insufficient dissemination of policies, and infrastructural constraints may affect patient data management practices, leaving conditions that are not yet fully aligned with applicable legal provisions, particularly the Personal Data Protection Law.

Previous studies on patient data protection indicate that this issue has received increasing attention as digital technology has become more prevalent in healthcare services, particularly regarding policy implementation challenges and their impact on patient trust and satisfaction. Research by Smith et al. in the United States revealed that although data protection regulations have been implemented stringently, many hospitals have not yet fully complied with the applicable provisions; therefore, training for medical personnel and the dissemination of information to patients regarding data protection rights are crucial for strengthening personal data protection.³ In Indonesia, Hendrawan and Prasetyo examined medical personnel's understanding of the Personal Data Protection Law. They found that although awareness of the importance of protecting patient data is relatively high, understanding of the applicable legal provisions remains suboptimal.⁴ Challenges in implementing health policies, including patient data protection policies, indicate that limited resources, inadequate healthcare infrastructure, and low public awareness of personal data protection rights constitute major obstacles to effective policy implementation. In the context of health policy impacts, Yuliana found that the transparent and accountable implementation of patient data protection policies enhances patient trust and satisfaction.⁵

A review of previous studies indicates that research on patient data protection and the impacts of health policies has largely been dominated by general discussions and has not sufficiently addressed local contexts. Specifically, studies examining the implementation of patient data protection policies and their operational challenges at the West Nusa Tenggara Provincial General Hospital (RSUD Provinsi NTB) remain limited. Moreover, the relationship between medical personnel's understanding, policy implementation, and its implications for patient trust and satisfaction has not been comprehensively explored. This study aims to fill this gap

² Pasal 28G ayat (1) Undang-Undang Dasar Negara Republik Indonesia Tahun 1945 menjamin hak atas perlindungan diri dan privasi, sedangkan Pasal 28H ayat (1) menjamin hak atas pelayanan kesehatan. Ketentuan tersebut diperkuat dalam Undang-Undang Nomor 39 Tahun 1999 tentang Hak Asasi Manusia; Undang-Undang Nomor 36 Tahun 2009 tentang Kesehatan; serta Undang-Undang Nomor 29 Tahun 2004 tentang Praktik Kedokteran yang mewajibkan tenaga medis menjaga kerahasiaan data dan rahasia kedokteran pasien.

³ L. Smith, "Hospital Compliance with Data Protection Regulations," *American Journal of Health Law* 36, no. 3 (2020): 215–230.

⁴ R. Hendrawan and A. Prasetyo, "Pemahaman Tenaga Medis Mengenai Undang-Undang Perlindungan Data Pribadi," *Jurnal Hukum Kesehatan Indonesia* 5, no. 2 (n.d.): 120–135.

⁵ A. Yuliana, "Dampak Perlindungan Data Pribadi Terhadap Kepercayaan Pasien," *Jurnal Kebijakan Kesehatan Indonesia* 8, no. 3 (2021): 102–118.

through a case study at RSUD Provinsi NTB, thereby providing empirical contributions and practical recommendations to strengthen patient data protection in Indonesia.

Based on this background, the protection of patients' personal data at the West Nusa Tenggara Provincial General Hospital is understood as an issue that is not only related to regulatory aspects, but also to staff understanding and compliance in implementing the Personal Data Protection Law amid the complexity of legal norms, regulatory inconsistencies, and the technical and ethical challenges of patient data management. This condition highlights the need to examine the relationship between the level of staff understanding and compliance in patient data protection, as well as to explore the contextual factors that influence policy implementation. Therefore, this study aims to analyse this relationship and identify implementation barriers to formulate recommendations for strengthening patient data protection governance that align with national health policies and the needs of healthcare services in the digital era.

RESEARCH METHODS

To address the research problems comprehensively, this study employs a mixed-methods approach using a sequential explanatory design, conducted through two integrated phases of data collection and analysis.⁶ The first phase begins with a quantitative approach, followed by a qualitative approach to provide a more in-depth explanation of complex or unexpected statistical findings, such as moderate correlation coefficients or anomalies in staff compliance levels. This approach is particularly relevant in sociological (empirical) legal research, as it enables the statistical measurement of legal effectiveness while simultaneously exploring the social, technical, and ethical contexts that influence the implementation of the Personal Data Protection Law.

The study was conducted at the West Nusa Tenggara Provincial General Hospital, the main referral hospital with a digital-based patient data management system, involving medical personnel and administrative staff who directly interact with patients' personal data. The research was carried out in August 2025 in two phases: quantitative data collection through questionnaires administered to 100 respondents, selected using the Slovin formula and a stratified random sampling technique, followed by qualitative data collection through in-depth interviews with purposively selected informants. Research materials included validated questionnaires, standard operating procedures (SOPs), and internal hospital guidelines, while data collection techniques included Likert-scale questionnaires, document analysis, observation, and interviews. Data analysis was conducted sequentially, beginning with descriptive and Pearson correlation analyses in SPSS, followed by thematic analysis of qualitative data, which was strengthened through source and method triangulation to generate recommendations for enhancing patient data protection in accordance with the Personal Data Protection Law.

RESULTS AND DISCUSSION

Level of Understanding of Compliance

Respondent Characteristics

The research findings indicate that the majority of respondents were female (59.8%), aged 21-30 years (49.0%), and had a high level of education, with most holding undergraduate (S1)

⁶ Jin-Ting Lee, "Book Review: Designing and Conducting Mixed Methods Research," *HERD: Health Environments Research & Design Journal* 12, no. 1 (2019): 164–166, <https://doi.org/10.1177/1937586719832223>.

or diploma (D3) degrees (91.2%). The professional distribution—including physicians, administrative staff, and IT personnel—was relatively balanced. This demographic profile suggests that the respondents generally have sufficient intellectual capacity to understand and implement the provisions of the Personal Data Protection Law (PDP Law). These characteristics constitute an important institutional asset in effectively implementing legal protection for patient data, as educated human resources within the digital-native age group tend to adapt more easily to technology-based policies.

These findings are relevant to the challenges of digital health implementation identified in various studies. Research by Widjaja et al. and Putri emphasises that obstacles to implementing digital health regulations are often associated with limited human resources and low levels of digital literacy.^{7,8} The respondent profile in this study indicates that respondents possess the capacity to address these challenges. The high level of education among respondents is consistent with the findings of Asmarani, who demonstrated that educational background influences patients' level of understanding of medical information.⁹ This reinforces the notion that educational background is a key factor, not only for patients in understanding their rights, but also for healthcare professionals in comprehending and fulfilling their legal obligations.

From the perspective of Legal Socialization Theory, these respondent characteristics strongly support the effectiveness of the Personal Data Protection Law. This theory emphasizes that the success of law depends not only on its substantive content, but also on the extent to which legal subjects in this case, hospital staff understand and internalize its norms.¹⁰ Respondents with higher educational attainment tend to possess strong information literacy, enabling them to more easily access, comprehend, and accept the legal obligations stipulated in the Personal Data Protection Law. The process of internalizing data protection values becomes more effective when legal subjects have the intellectual capacity to understand such norms.¹¹

Furthermore, Westin's Privacy Theory highlights the importance of individual control over personal data. Respondents, who are predominantly of productive age and possess higher educational backgrounds, are likely to be more aware of privacy issues in the digital era.¹² This awareness can serve as a strong driving force for them to take patient data protection more seriously, not merely as a professional obligation, but also as a reflection of the values they uphold. This concept is supported by the Academic Paper of the Personal Data Protection Bill, which states that personal data protection is a key element of individual freedom and human dignity.¹³

The researcher's perspective on this ideal respondent profile indicates that it can serve as both a significant asset and a challenge for the West Nusa Tenggara Provincial General Hospital.

⁷ Gunawan Widjaja et al., "Perlindungan Hukum Bagi Pasien Dan Tenaga Medis Dalam Inovasi Kesehatan Digital: Tinjauan Literatur Terhadap Peraturan Perundang-Undangan Di Indonesia," *Jurnal Kesehatan* 3, no. 2 (2025): 200–210.

⁸ A. Putri, "Implementasi Telemedicine Di Indonesia: Problematika Hukum Dan Perlindungan Data Pasien," *Jurnal Hukum & Kesehatan* 8, no. 1 (2023).

⁹ Asmarani, *Faktor Yang Memengaruhi Pemahaman Pasien Terhadap Penjelasan Informed Consent Operasi Di Rumah Sakit Vita Insani Pematangsiantar Tahun 2019* (undergraduate thesis, Institut Kesehatan Helvetia, 2019), <https://repository.helvetia.ac.id/1830/>.

¹⁰ Alaiikha Annan, "Tinjauan Yuridis Perlindungan Data Pribadi Pada Sektor Kesehatan Berdasarkan Undang-Undang No. 27 Tahun 2022," *Synergy: Jurnal Ilmiah Multidisiplin* 1, no. 4 (2023): 247–254.

¹¹ Asep Mahbub Junaedi, "Urgensi Perlindungan Data Pribadi Dalam Era Digital: Analisis Undang-Undang Nomor 27 Tahun 2022 Tentang Perlindungan Data Pribadi," *KNOWLEDGE: Jurnal Inovasi Hasil Penelitian dan Pengembangan* 5, no. 2 (2025): 247–257, <https://doi.org/10.51878/knowledge.v5i2.5269>.

¹² Alan F. Westin, *Privacy and Freedom* (New York: Atheneum, 1967).

¹³ Badan Pembinaan Hukum Nasional, Kementerian Hukum dan Hak Asasi Manusia, *Naskah Akademik Rancangan Undang-Undang Tentang Perlindungan Data Pribadi* (Jakarta: Badan Pembinaan Hukum Nasional, 2016).

A high level of education and productive age constitute a strong foundation for the successful implementation of the Personal Data Protection Law. However, the diversity of professional backgrounds necessitates segmented approaches to socialization and training. IT staff must possess an in-depth understanding of cybersecurity technical aspects. In contrast, physicians and administrative staff must focus on legal, ethical, and communication aspects related to informing patients of their rights. Accordingly, effective data protection policies cannot adopt a one-size-fits-all approach. However, they must be tailored to the specific roles and responsibilities of each profession within the hospital environment.

Level of Understanding

The research findings indicate a very high level of understanding, with 96.1% of respondents demonstrating a good understanding of the Personal Data Protection Law. All respondents (100%) were aware of the existence of legal sanctions for data breaches and understood the legal and ethical consequences of such violations (97.1%). However, a gap remains, as an in-depth understanding of the content and objectives of the Personal Data Protection Law constitutes the item with the lowest percentage (86.3%). This finding indicates that staff understanding tends to be general characterized by awareness of risks and sanctions but has not fully extended to a comprehensive grasp of the regulation's substantive and philosophical aspects.

These findings differ from those of the study by Zahwani and Nasution, which indicates that public awareness of personal data protection in Indonesia remains relatively low.¹⁴ This reflects a significant gap between the level of understanding among healthcare professionals and that of the general public. The present study is consistent with Asmarani's research on informed consent, which found that the level of understanding is strongly influenced by the manner in which information is conveyed.¹⁵ The identified gap in understanding the substance and objectives of the Personal Data Protection Law in this study suggests that existing socialization efforts may place greater emphasis on sanctions rather than on data subjects' rights and transparency obligations.

Legal socialization theory provides an adequate explanation for this phenomenon. The high level of understanding indicates that the dissemination of information regarding the Personal Data Protection Law within the hospital environment has been effective. Staff members have been informed of the law and its legal consequences. However, the limited depth of understanding of its substantive provisions suggests that the internalization process has not yet been optimal, as individuals are expected not only to know but also to understand and internalize the underlying legal values. The Personal Data Protection Law mandates transparency, requiring data controllers (hospitals) to provide clear information to data subjects (patients). This obligation is difficult to fulfil if staff members themselves do not fully comprehend the objectives and content of the law.¹⁶

According to the theory of legal effectiveness proposed by Soerjono Soekanto, as cited in Noviandini, one of the five factors influencing legal effectiveness is the societal factor, namely the level of legal awareness and compliance of the regulated subjects.¹⁷ The level of

¹⁴ Syfa Tasya Zahwani and Muhammad Irwan Padli Nasution, "Analisis Kesadaran Masyarakat Terhadap Perlindungan Data Pribadi Di Era Digital," *Journal of Sharia Economics Scholar (JoSES)* 2, no. 2 (2024): 105–109, <https://doi.org/10.5281/zenodo.12608751>.

¹⁵ Asmarani, *Faktor Yang Mempengaruhi Pemahaman Pasien Terhadap Penjelasan Informed Consent Operasi Di Rumah Sakit Vita Insani Pematangsiantar Tahun 2019*.

¹⁶ Badan Pembinaan Hukum Nasional and Kementerian Hukum dan Hak Asasi Manusia, *Naskah Akademik Rancangan Undang-Undang Tentang Perlindungan Data Pribadi*.

¹⁷ Soerjono Soekanto, *Faktor-Faktor Yang Mempengaruhi Penegakan Hukum* (Ed. 1, Cet. 7; Jakarta: PT RajaGrafindo Persada, 2007); Faradiba Noviandini, *Implementasi Informed Consent Terhadap Perlindungan Hukum Bagi*

understanding among hospital staff, therefore, constitutes a crucial asset for the effectiveness of the Personal Data Protection Law. However, if such understanding focuses solely on sanctions—the deterrent aspect of law—without adequate understanding of its philosophical foundations, such as justice and the protection of rights, compliance may become merely mechanical and insufficiently adaptable to complex situations that are not explicitly regulated.

The researcher argues that this high level of understanding is positive but remains superficial. Staff members are aware of which actions are prohibited primarily out of fear of sanctions. Yet, they may not fully comprehend the underlying reasons for these prohibitions from a patient's rights perspective. This condition poses risks, particularly in situations involving grey areas, such as the use of patient data for research purposes or the sharing of information across departments. These situations require a principled understanding rather than mere rule memorization. Therefore, future training programs should focus on ethical and juridical case studies to foster a more contextual and in-depth understanding.

Level of Compliance

The level of respondents' compliance with personal data protection principles was high, with 84.3% demonstrating high compliance. This finding is supported by questionnaire results indicating that the majority of respondents (96.1%) agreed they bear moral and professional responsibility and that they have never shared patient data with unauthorized parties (97.1%). Nevertheless, this study also identified certain grey areas where compliance tends to be less consistent. A significant ambivalence was observed regarding the use of data beyond the scope of healthcare services (for example, for research purposes), with 49% of respondents expressing disagreement. Additionally, a proportion of respondents (26.5%) acknowledged experiencing difficulties in understanding the technical aspects of implementing data protection measures.

The findings of this study are consistent with Yuliana's research, which states that effective implementation of data protection policies is positively correlated with patient trust.¹⁸ The high level of compliance at the West Nusa Tenggara Provincial General Hospital, therefore, constitutes an important and positive finding. A study by Hartono and Dzikrah on the BPJS Kesehatan data breach highlights systemic weaknesses in cybersecurity and risk mitigation within Indonesia's healthcare sector.¹⁹ This indirectly indicates the existence of compliance-related issues. The technical challenges identified in this study are also in line with the observations of Widjaja et al., who note that many healthcare facilities continue to face difficulties in meeting data security and management standards as required by existing regulations.²⁰ Furthermore, disagreement regarding the use of patient data for research purposes reflects a normative conflict between health legislation, which permits such use under limited conditions, and the Personal Data Protection Law, which requires explicit consent.²¹

The high level of compliance is driven by strong moral and professional responsibility,

Dokter Dalam Tindakan Pembedahan: Studi pada Salah Satu Rumah Sakit Khusus Bedah di Jawa Timur (master's thesis, Universitas Muhammadiyah Malang, 2025), <https://eprints.umm.ac.id/id/eprint/16704/>.

¹⁸ Yuliana, "Dampak Perlindungan Data Pribadi Terhadap Kepercayaan Pasien."

¹⁹ Lara Vinka Hartono and Raihannah Dzikrah, "Analisis Dampak Kebocoran Data Kesehatan Terhadap Kepercayaan Publik Dan Efektivitas Layanan Kesehatan Digital" (manuscript, Fakultas Kesehatan Masyarakat, Universitas Indonesia, 2025).

²⁰ Widjaja et al., "Perlindungan Hukum Bagi Pasien Dan Tenaga Medis Dalam Inovasi Kesehatan Digital."

²¹ Annan, "Tinjauan Yuridis Perlindungan Data Pribadi Pada Sektor Kesehatan Berdasarkan Undang-Undang No. 27 Tahun 2022."

reflecting recognition of health data as highly confidential and sensitive information.²² This compliance is consistent with legal obligations stipulated in various regulations, ranging from the Medical Practice Law to the most recent Law No. 27 of 2022 on Personal Data Protection (Personal Data Protection Law), which classifies health information as sensitive personal data requiring stricter protection.²³ his level of compliance grounded in moral and professional responsibility as well as a commitment not to disclose patient data also reflects institutional respect for Westin's Privacy Theory, which asserts that individuals have the right to control information about themselves.²⁴

The Personal Data Protection Law emphasises the principle of accountability, which requires data controllers (hospitals) to demonstrate and assume responsibility for their compliance. A high level of compliance, therefore, constitutes a positive indication of such accountability. The technical challenges experienced by some staff members indicate a potential mismatch between policy requirements (what should be done) and available facilities (the capacity of systems to support those requirements). When IT systems are inadequate, achieving full compliance becomes difficult, even if staff members possess good intentions and adequate understanding. Compliance thus depends on supporting systems, in line with the facilities or infrastructure factor within the theory of legal effectiveness.

The researcher's view is that respondents' compliance is very strong with respect to clear and absolute rules, but tends to decline in areas that require interpretation and contextual judgment, such as the use of data for secondary purposes. This indicates that understanding and compliance have not yet fully matured to address the complexities of practical implementation. The technical difficulties encountered suggest that data protection policies at the West Nusa Tenggara Provincial General Hospital may not yet be fully supported by adequate digital infrastructure or relevant technical training. Compliance will not be optimal if it remains solely a burden on staff without system-level and managerial support to facilitate its implementation.

Correlation Analysis between the Level of Understanding and the Level of Compliance

Data analysis reveals a statistically significant positive relationship between understanding of the Personal Data Protection Law and compliance ($p = 0.003$). This finding constitutes the study's core contribution, as it quantitatively demonstrates that a higher level of understanding is directly correlated with better compliance practices. Cross-tabulation analysis further reinforces this result, showing that among the 96.1% of respondents with a good level of understanding, the majority (83.3%) demonstrated high compliance. Conversely, respondents with a moderate level of understanding tended to exhibit moderate compliance. These findings clearly support the main research hypothesis and suggest that the most effective intervention to enhance the legal protection of patient data lies in improving staff understanding.

Other studies indirectly support this correlation. Disemadi et al., in their study on legal counselling, concluded that education is a crucial measure for reducing the potential for personal data breaches.²⁵ This finding indirectly links understanding to protective behaviour. Similarly, Zahwani and Nasution associate low public awareness with increased vulnerability

²² Handryas Prasetyo Utomo, Elisatris Gultom, and Anita Afriana, "Urgensi Perlindungan Hukum Data Pribadi Pasien Dalam Pelayanan Kesehatan Berbasis Teknologi Di Indonesia," *Jurnal Ilmiah Galuh Justisi* 8, no. 2 (2020): 168–185, <https://doi.org/10.25157/justisi.v8i2.3479>.

²³ Annan, "Tinjauan Yuridis Perlindungan Data Pribadi Pada Sektor Kesehatan Berdasarkan Undang-Undang No. 27 Tahun 2022."

²⁴ Westin, *Privacy and Freedom*.

²⁵ Hari Sutra Disemadi et al., "Perlindungan Data Pribadi Di Era Digital: Mengapa Kita Perlu Peduli?," *Sang Sewagati Journal* 1, no. 2 (2023): 66–90, <https://doi.org/10.37253/sasen.v1i2.8579>.

to cybercrime, thereby supporting the argument that enhancing awareness and understanding can encourage safer and more compliant behaviour.²⁶ Asmarani's research also indicates that the completeness of information received by patients is positively associated with their level of understanding of informed consent.²⁷

This correlation can be strongly explained through Soekanto's theory of legal effectiveness, which emphasizes the crucial interaction between the legal factor itself and the societal factor.²⁸ The substance of the Personal Data Protection Law must be comprehensible to its legal subjects. When legal norms are effectively socialized and well understood by the community, particularly hospital staff, they foster legal awareness. This awareness, in turn, encourages behaviour that aligns with the law, namely legal compliance. Understanding thus serves as a bridge between formal legal rules and actual practices in the field, making it a key determinant of effective regulation.

This finding can also be explained by Icek Ajzen's Theory of Planned Behaviour.²⁹ According to this theory, behaviour (such as compliance) is influenced by intention, which is shaped by three main factors: attitudes toward the behaviour, subjective norms, and perceived behavioural control. A deeper understanding of the Personal Data Protection Law directly affects attitudes by reinforcing the belief that complying with the law is the appropriate course of action and perceived behavioural control by fostering a sense of capability to comply. When staff members understand the objectives and benefits of data protection, their attitudes become more positive. When they understand the required procedures, they feel more confident in carrying them out. Ultimately, these factors enhance their intention to comply.

The researcher argues that investment in staff education and training represents the most fundamental and effective strategy for ensuring patient data protection in healthcare facilities. This statistically significant positive correlation provides a strong rationale for hospital management to prioritise programs that enhance understanding of the Personal Data Protection Law. Nevertheless, the correlation coefficient ($R = 0.296$), which falls within the moderate range, indicates that understanding alone is not the sole determinant of compliance. Other factors, such as adequate technological infrastructure, workload, and an organisational culture that supports privacy protection, also play crucial roles. Therefore, to optimize compliance, educational programs must be combined with systemic improvements and supportive management policies.

Normative Gaps and Ethical Dilemmas in the Use of Secondary Data

This theme emerges as the primary explanation for the high level of ambivalence (49%) among staff regarding data consent for secondary purposes. Such ambivalence serves as a clear indicator of an unresolved conflict between the requirements of the Personal Data Protection Law and the hospital's internal operational policies.

This conflict stems from weaknesses in the legal structure factor.³⁰ In-depth interviews reveal that the absence of clear and distinct standard operating procedures (SOPs) governing data consent for research or claims purposes (IK-ADM-01) creates legal uncertainty for implementers. Staff members are consequently trapped in a dualism of norms, in which they must choose between strict compliance with the Personal Data Protection Law requiring

²⁶ Zahwani and Nasution, "Analisis Kesadaran Masyarakat Terhadap Perlindungan Data Pribadi Di Era Digital."

²⁷ Asmarani, *Faktor Yang Mempengaruhi Pemahaman Pasien Terhadap Penjelasan Informed Consent Operasi Di Rumah Sakit Vita Insani Pematangsiantar Tahun 2019*.

²⁸ Soekanto, *Faktor-Faktor Yang Mempengaruhi Penegakan Hukum*.

²⁹ Icek Ajzen, "The Theory of Planned Behavior," *Organizational Behavior and Human Decision Processes* 50, no. 2 (1991): 179–211, [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T).

³⁰ Soekanto, *Faktor-Faktor Yang Mempengaruhi Penegakan Hukum*.

explicit consent and prioritizing administrative efficiency.

This situation places staff members in a position where they must independently resolve ethical dilemmas (IK-OP-01). The rejection or postponement of requests for secondary data use constitutes a rational response to the risk of legal sanctions. This finding is consistent with studies that highlight that one of the main challenges in implementing the Personal Data Protection Law in healthcare facilities is the lack of clear SOPs and stringent security policies at the hospital level.³¹ Such deficiencies reflect a failure in the hospital's legal structure to regulate staff operational practices adequately.

The failure to harmonize these internal regulations violates the principles of accountability and transparency as stipulated in the Personal Data Protection Law. The 49% level of ambivalence reflects legal uncertainty that hospital management must promptly address. If the legal structure is not improved, the objective of using health data for research which is also guaranteed by regulation will continue to face obstacles due to unconstructive normative conflicts.

To address weaknesses in the legal structure, hospitals need to promptly revise and formalize clear, detailed standard operating procedures (SOPs) concerning the use of secondary data. These SOPs should include separate consent mechanisms for non-clinical service purposes and establish standardized procedures for data anonymization prior to disclosure to third parties. Such measures would provide legal clarity and help resolve the ethical dilemmas faced by operational staff.

Manual Compliance and System Support

This theme explains why the correlation between understanding and compliance is moderate ($R = 0.296$) and why staff members acknowledge technical barriers. The moderate correlation indicates that factors beyond knowledge namely, system-related factors also constrain compliance levels.

The primary obstacle lies in the factor of legal facilities and infrastructure.³² In-depth interviews reveal that the hospital's digital infrastructure is not yet capable of ensuring automated data security, particularly about data encryption and audit log functions (IK-IT-01). The level of compliance achieved by staff members (84.3%) is largely manual, making it highly vulnerable to operational errors and negligence. This vulnerability is evidenced by the need to resort to manual methods when system disruptions occur (IK-OP-01). Such practices eliminate digital audit trails and potentially result in violations of the Personal Data Protection Law.

Human resource constraints also undermine the facilities factor in terms of technical competence. Gaps in technological literacy and resistance to change (IK-SDM-01) lead to operational errors, such as misclicks or failure to log out of systems (IK-IT-01). These findings are supported by the literature, which concludes that technological and human factors are the most influential determinants of successful Electronic Medical Record implementation.³³ In addition, staff negligence resulting from insufficient training has been

³¹ Aprilia Fadila Nasir and Edi Pranoto, "Analisis Hukum Terhadap Pelaksanaan Perlindungan Data Pribadi Pasien Dalam Sistem Rekam Medis Elektronik," *Fiat Iustitia: Jurnal Hukum* 6, no. 1 (2025): 94–104.

³² Soekanto, *Faktor-Faktor Yang Mempengaruhi Penegakan Hukum*.

³³ Litriane Rispa Widhy, *Faktor Yang Mempengaruhi Kesuksesan Implementasi Rekam Medis Elektronik (RME) Di Rumah Sakit: Literature Review* (master's thesis, Universitas Indonesia, 2021), <https://lib.ui.ac.id/detail?id=20525232&lokasi=lokal>.

identified as one of the primary causes of system vulnerabilities in healthcare facilities.³⁴

The moderate correlation ($R = 0.296$) can be attributed to a mismatch between an in-depth understanding of legal substance and the suboptimal use of supporting facilities. In this study, legal facilities function as the primary barrier that diminishes legal effectiveness. This issue must be addressed through technosociological interventions that integrate improvements to technological infrastructure with social and organizational capacity-building.

To address weaknesses in legal facilities, two integrated investment priorities are required: (1) Investment in information technology infrastructure through system upgrades to ensure end-to-end data encryption and to strengthen audit log functionalities in accordance with the standards of the Personal Data Protection Law. (2) Human resource development (literacy) through the implementation of continuous technical literacy training programs that focus on hands-on security case simulations and practical use of security features, aimed at minimizing staff negligence and addressing resistance to change.

Understanding as Moral Capital

The statistical result ($p = 0.003$), indicating a significant relationship, confirms that staff awareness is a valid predictor of compliance, supported by a strong cultural factor. Informants consistently reported that the primary motivation for staff compliance stems from professional integrity, codes of ethics, and oath of office (IK-OP-01). Compliance is regarded as a reflection of professional values, consistent with professional ethics theory, which emphasizes moral responsibility over formal sanctions. This high level of morality explains why, despite facing systemic challenges, staff maintain a high level of compliance (84.3%).

This strong legal culture aligns closely with Westin's Privacy Theory (1967), which emphasizes that data protection must be supported by an organizational culture that upholds patients' privacy rights. This moral capital constitutes a strategic asset for RSUD Provinsi NTB, serving as a buffer to maintain compliance stability amid various structural and facility-related uncertainties. The importance of human resources is further highlighted by other studies, which indicate that successful implementation depends on workforce readiness, competence, and adaptability.³⁵

However, interviews revealed the vulnerability of this moral capital. Both human resources and IT personnel acknowledged that their integrity could decline if frustrations arising from facility and structural shortcomings persist (IK-SDM-01). When staff perceive that inadequate systems hinder their efforts to comply with regulations, their motivation diminishes. Therefore, management must promptly address these systemic barriers to safeguard this moral commitment.

To maintain and protect the legal culture factor, management must promptly eliminate sources of frustration arising from other factors. This recommendation is integrated and can be summarized as follows: (1) Enhance appreciation communication by providing regular formal recognition of staff professionalism in safeguarding data despite system limitations. (2) Provide systemic support by prioritizing budget and time allocation for improvements to identified structures (SOPs) and facilities (IT), so that staff morale can function optimally within a work environment that supports compliance.

³⁴ A. R. Rahma and F. Suryani, "Kelalaian Staf Medis Dan Non-Medis Dalam Konteks Keamanan Data Pelayanan Kesehatan," *Jurnal Keamanan Siber Kesehatan* (2024).

³⁵ Della Dwi Fitrianiingsih et al., "Implementasi Digitalisasi Rekam Medis Dalam Menunjang Pelaksanaan Electronic Medical Record (EMR)," *Enfermeria Ciencia* 3, no. 2 (2025): 100–112, <https://doi.org/10.56586/ec.v3i2.79>.

CLOSING

The conclusions of this study indicate that the implementation of patient personal data protection at RSUD Provinsi Nusa Tenggara Barat is generally categorized as good, as reflected by the high level of staff understanding (96.1%) and relatively high compliance (84.3%) with the provisions of the Personal Data Protection Law. Quantitative analysis revealed a positive and significant relationship between staff understanding and compliance ($p = 0.003$) with a moderate correlation strength ($R = 0.296$), indicating that normative understanding has not yet been fully translated into optimal compliance. Qualitative findings show that staff compliance is driven by moral and professional awareness, yet remains primarily oriented toward legal sanctions (100%) rather than the substantive objectives of data protection (86.3%). In addition, technical challenges in digital data management experienced by some staff (26.5%), along with high ambivalence regarding the use of secondary data for research purposes (49%), indicate limitations in internal policy clarity and the readiness of supporting systems. Overall, the results demonstrate that the effectiveness of PDP Law implementation at RSUD Provinsi NTB has been established at the level of individual awareness and compliance, but requires further strengthening in policy structure and supporting facilities to ensure that patient data protection can operate more adaptively and consistently.

Based on the research findings, strengthening patient data protection at RSUD Provinsi Nusa Tenggara Barat can be achieved through deepening the understanding and technical training of the Personal Data Protection Law tailored to staff roles, developing more detailed Standard Operating Procedures (SOPs) regarding digital data management including separate consent for secondary data use and enhancing the electronic medical record system to ensure data security. Furthermore, future research is recommended to incorporate the perspectives of patients and/or Data Protection Officers and to expand the study to other healthcare facilities in order to obtain a more comprehensive understanding of the implementation of the Personal Data Protection Law in the healthcare sector.

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