# Data Privacy Act: Awareness, Compliance, and Challenges of Nurses of Government Hospitals in Northern Philippines

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**ABSTRACT:**

**Introduction**: Privacy is a fundamental right that is crucial in healthcare in order to protect sensitive patient information. This study assessed the extent of nurses' compliance with RA 10173 (Data Privacy Act) in Level II government hospitals in Region I, Philippines, addressing privacy challenges and insider threats in safeguarding personal data amidst modern technological advancements.

**Objectives**: This study explored nurses' awareness, compliance, and challenges with the Data Privacy Act, emphasizing their responsibility to protect patient data.

**Methods**: This descriptive-correlational study surveyed 469 nurses in 5 government hospitals across Region I, Philippines, assessing their socio-demographic profile, awareness, compliance, and challenges encountered in adhering to the provisions of RA 10173.

**Results**: The nurse respondents are highly aware and strictly adhere to protecting patients' privacy. They, likewise, agree that they are facing substantial challenges in complying with the Data Privacy Act. Moreover, there is a significant relationship between employment status and awareness of RA 10173, number of training and compliance, and between awareness, compliance, and challenges, with varying significance across demographic factors.

**Conclusions**: Nurses' awareness significantly influenced compliance with RA 10173, with challenges like lack of training and administrative support impacting implementation.

## 1. Introduction

In the digital age, privacy—a fundamental human right—is becoming more and more significant, particularly in the healthcare industry. Protecting patients' private and sensitive information is a legal and ethical obligation for healthcare workers, especially nurses. Modern technologies have made gathering and sharing personal information easier, but they have also made privacy protection much more difficult. As a result, nations like the Philippines have passed data protection legislation, such as the Data Privacy Act (RA 10173) of 2012, to control how personal information is processed [9].

The introduction of electronic health records (EHRs) and other digital tools transformed healthcare by streamlining data administration and enhancing patient outcomes. However, these developments also introduce new hazards to patient confidentiality. Nurses, who frequently act as the primary custodians

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of patient data, confront unique hurdles in reconciling technological benefits with ethical privacy requirements. This dynamic environment emphasizes the importance of ongoing education and institutional support in ensuring compliance with privacy regulations and fostering a culture of accountability and data protection within healthcare settings.

Data breaches are becoming a major global problem with several occurrences affecting healthcare facilities. Examples include hacking events that target hospitals and instances of sensitive information being shared on social media without authorization. The healthcare sector is especially susceptible to data breaches, as both internal and external attacks exacerbate security concerns. According to research, a considerable percentage of data theft events are the result of insider threats, including breaches committed by healthcare workers like nurses [10].

In addition to protecting health information, the Philippines' Data Privacy Act of 2012 holds healthcare professionals—particularly nurses—responsible for protecting patient privacy. Insider threats and data breaches are still common and dangerous even after the law was passed. This study aims to evaluate nurses' adherence to the Data Privacy Act and increase knowledge of the significance of safeguarding patient information in medical settings.

### Objectives

This study aimed to determine the awareness, extent of compliance, and perceived challenges among nurses working in government hospitals in Region I in the Philippines to Data Privacy. Specifically, it examined: 1) the profile of the respondents, which included age, gender, civil status, educational attainment, the status of employment, length of service, and the number of training/ conferences/ seminars attended related to the Data Privacy Act; 2) their level of awareness in terms of general provisions, processing of personal information, data subjects rights and penalties; 3) the extent of compliance as to ethical obligations in upholding patients right to privacy and confidentiality and collecting and processing of information and perceived challenges in the compliance to Data Privacy Act.; 4) the challenges and problems experienced by the respondents; 5) the significant differences in the level of awareness were also determined based on their profile; and 6) the relationship between the respondents' level of awareness and perceived challenges encountered with their extent of compliance on Data Privacy Act.

## 2. Methods

***Research Design.*** The study employed a quantitative research design that included descriptive-evaluative, descriptive-comparative, and descriptive-correlational designs to assess nurses' awareness, compare responses, and explore relationships between variables.

***Research Locale.*** The study was conducted in five Level II government hospitals in Region I in the Philippines, distributed across the provinces of Ilocos Norte, Ilocos Sur, La Union, and Pangasinan. These hospitals provide comprehensive services and handle significant volumes of patient data, making them ideal for examining compliance with the Data Privacy Act.

***Population of the Study.*** This study involved 620 nurses, with 469 completing the survey (75.64% response rate). Respondents had over six months of tenure; nurses with shorter tenure or on leave were excluded.

***Research Instrument.*** The data in the study were gathered using a survey questionnaire developed and validated by experts. The questionnaire on challenges was adapted from the study of Warkentin in

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20028. The reliability of the whole questionnaire was piloted-tested among nurses (not included in the study) and yielded a Cronbach alpha reliability of 0.95, indicating a high reliability.

***Data Analyses.*** Data gathered in this study were subjected to data computation using Statistical Package for Social Sciences version 25. The following statistical tools were used: percentage and frequency distribution, weighted mean, Mann-Whitney U test, and Spearman Rank Correlation.

## 3. Results and Discussion

### 3.1. Demographic Profile of the Respondents

The research findings provide a thorough demographic and professional overview of the nursing workforce, with important implications for data privacy compliance. The predominance of younger nurses (ages 26-30) highlights the profession's dynamic nature, which is shaped by high turnover rates and the Philippines' position as a top exporter of nursing talent. The employment structure, with 59.5% in contractual jobs and only 25.2% in permanent positions, indicates an insecure workforce, which may influence long-term adherence to organizational standards, such as data protection regulations.

The gender breakdown, with 64.2% female, 33.5% male, and 2.3% identifying as LGBT, maintains historical gender patterns in nursing while also indicating small but growing inclusivity. Educational attainment data show that 84.9% of respondents have a BSN, whereas advanced degrees remain underrepresented. This pattern could imply systemic impediments, such as limited institutional support for further study and the widespread belief that BSN qualifications are sufficient for most clinical professions.

A noteworthy concern is professional development, with 30.9% of respondents reporting that they do not participate in relevant training programs. This lack of training, despite the crucial role of professional development in improving clinical competency and regulatory compliance, indicates organizational issues such as heavy workloads, limited administrative assistance, and financial constraints.

These demographic and professional factors suggest systemic weaknesses in the nursing profession that may impede full compliance with the Data Privacy Act. The findings highlight the importance of focused interventions, such as strong support networks, ongoing education, and structural reforms, in developing a compliant and resilient nursing workforce.

### 3.2.Level of Awareness on Data Privacy Act

The findings in Table 1 provide a complete grasp of respondents' knowledge of the Data Privacy Act. The respondents are highly aware of the Data Privacy Act, which indicates a thorough understanding of the law's essential components, including its general provisions, personal information processing, and data subjects' rights. These high levels of awareness indicate that these components are effectively disseminated and integrated into professional practice.

However, they are not highly aware of the consequences of not knowing about the penalties for not adhering to the Data Privacy Act. This disparity may indicate a lower emphasis on enforcement implications during training or less exposure to compliance failures in practice. Understanding

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sanctions is critical because it directly promotes adherence to data protection procedures, promoting accountability and discouraging breaches [13].

Table 1

Respondents' Level of Awareness on Data Privacy Act

| DATA PRIVACY ACT | WM | QD |
|---|---|---|
| General Provisions | 3.57 | Very High |
| Processing of Patients' Personal Information | 3.53 | Very High |
| Data Subjects' Rights | 3.55 | Very High |
| Penalties | 3.40 | High |
| General Weighted Mean | 3.51 | Very High |

*Statistical Norm: 1.00-1.49 Very Low, 1.50-2.49 Low, 2.50-3.49 High, 3.50-4.00 Very High*

High levels of awareness are critical for building a compliance culture, as privacy-conscious individuals are more likely to engage in privacy-preserving behaviors. Nonetheless, the variation between components found indicates the necessity for tailored training measures to improve gaps in specific areas, particularly in terms of sanctions. Future treatments could include scenario-based training and real-world case studies to improve overall comprehension and application of DPA guidelines.

### 3.3. Perceived Extent of Compliance

Table 2 highlights the respondents' strict adherence to the Data Privacy Act (DPA), particularly their ethical obligations and responsibilities when managing patient data. The overall weighted mean of 3.54 indicates that respondents always follow legal and ethical standards, with high scores in both protecting patient privacy and collecting and processing information responsibly.

This high level of compliance demonstrates a professional culture based on the ethical ideals of patient autonomy and confidentiality, which are fundamental to healthcare practice. Maintaining patient privacy creates trust, a vital component of high-quality care. As patient data becomes more important in healthcare delivery, it is critical to balance privacy and access. The literature emphasizes privacy as an essential component of personal identity and dignity, highlighting its developing importance in meeting both ethical and practical objectives in health data management [7], [16].

Table 2

Respondents' Extent of Compliance to Data Privacy Act in terms
of Ethical Obligations and Responsibilities

| Ethical Obligation and Responsibilities | WM | QD |
|---|---|---|
| Ethical Obligations in Upholding Patients' Right to Privacy and Confidentiality | 3.51 | Very High |
| Responsibilities in Collecting and Processing of Information | 3.56 | Very High |
| **General Weighted Mean** | **3.54** | **Very High** |

*Statistical Norm: 1.00-1.49 Very Low, 1.50-2.49 Low, 2.50-3.49 High,, 3.50-4.00 Very High*

Despite the promising findings, the modest difference between ethical obligations and data processing responsibilities may reflect varying levels of institutional support or clarity in implementing these aspects. This emphasizes the importance of ongoing education and organizational reinforcement in

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maintaining high compliance levels across all domains. Future research should look into contextual elements that influence compliance, such as workload, company culture, and technical infrastructure, to provide more tailored interventions.

### 3.4. Challenges and Problems Encountered

Table 3 presents a more detailed picture of the challenges that nurses experience in complying with the Data Privacy Act (DPA). The total weighted mean of 3.03 suggests that respondents agree to face substantial challenges. Notably, the highest-rated problem highlights the need for accessible information, as many respondents wish they could counsel someone about the DPA. This emphasizes the significance of clear and direct communication lines in healthcare facilities.

Table 3

Respondents' Challenges and Problems Encountered in Compliance to Data Privacy Act

| Challenges and Problems Encountered | WM | QD |
|---|---|---|
| 1. I find inadequacy of my organization's financial resources to support our compliance as nurses to the provisions of the Data Privacy Act. | 3.19 | Agree |
| 2. I find that my colleagues lack cooperation and sincerity in our compliance as nurses to the provisions of the Data Privacy Act. | 2.85 | Agree |
| 3. I find insufficiency of trained personnel to assist us in our compliance as nurses to the provisions of the  Data Privacy Act. | 3.01 | Agree |
| 4. I find inadequacy of technology and equipment to support our compliance to Data Privacy Act. | 3.10 | Agree |
| 5. I find inadequacy of posted materials for dissemination of information regarding Data Privacy Act. | 3.11 | Agree |
| 6. I find that my organization lack planning methods and strategies in the implementation of the Data Privacy Act. | 2.99 | Agree |
| 7. I feel as though we were given inadequate time and training to support our compliance to the provisions of  the Data Privacy Act. | 3.06 | Agree |
| 8. I wish I have someone to ask if I have questions regarding Data Privacy Act. | 3.23 | Agree |
| 9. I am not comfortable complying with the provisions of the Data Privacy Act. | 2.76 | Agree |
| 10. I find inadequacy of support from the administration to us nurses in our compliance to the provisions of the Data Privacy Act. | 3.02 | Agree |
| **Grand WM** | **3.03** | **High** |

*Statistical Norm:: 1.00-1.49 Strongly Disagree(Very Low), 1.50-2.49 Disagree (Low), 2.50-3.49 Agree (High),*
*3.50-4.00 Strongly Agree(Very High)*

Financial resource deficiency appeared as a significant barrier, indicating that impoverished organizations struggle to deploy adequate resources for compliance. Similarly, gaps in technology and training time underscore the need for infrastructural and educational improvements. These issues are comparable with more significant results in healthcare systems, where low resources impair compliance efforts and jeopardize patient trust [5], [13].

Institutional support is another critical concern indicating perceived administrative shortcomings. This is consistent with research showing that organizational leadership significantly influences compliance habits [11], [19]. Inadequate information transmission and planning techniques highlight systemic flaws that impede the development of a compliance culture.

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Low cooperation among colleagues and discomfort with DPA regulations indicate psychological and cultural aspects of compliance. These findings indicate that developing a collaborative work environment and becoming familiar with data protection protocols are critical.

These issues show a complicated issue in which financial, technical, educational, and cultural variables intersect. Addressing these difficulties requires a comprehensive plan that includes more finance, effective training programs, improved administrative support, and the promotion of a culture of shared responsibility in data privacy compliance.

### 3.5. Significant Difference in the Level of Awareness of the Respondents

Table 4 shows that nurses' awareness of the Data Privacy Act (DPA) varies significantly depending on their demographic and professional backgrounds. Across the four domains—general provisions, processing of personal information, data subjects' rights, and penalties—employment status emerges as a significant factor influencing awareness. In contrast, other variables (age, gender, civil status, educational attainment, length of service, and training) show no significant differences.

Nurses in permanent employment showed considerably higher awareness of general provisions ($p = 0.047$). This shows that permanent staff should benefit from more consistent exposure to corporate policies and systematic training, which would allow them to better grasp data privacy requirements. Permanent employment is generally associated with increased institutional investment in an employee's growth, which may include targeted compliance education [3], [4].

Similarly, individuals in permanent employment demonstrated significantly better awareness of personal information processing ($p = 0.007$). This finding supports the assumption that occupational stability increases possibilities for training in sensitive areas such as personal information handling, which is consistent with best practices for protecting patient data [5]. Because healthcare practitioners frequently employ a variety of technologies, keeping a high level of awareness ensures that personal health information is collected, stored, and shared correctly.

The domain of data subjects' rights was also significantly associated with employment status ($p = 0.042$). Nurses in permanent positions displayed a better awareness of patients' rights, such as access, rectification, and consent withdrawal, which is critical for building patient confidence and achieving ethical requirements [6]. This mirrors nurses' broader professional responsibility to advocate for patient rights while upholding privacy and dignity in all care settings.

Interestingly, there were no substantial differences in penalty awareness across all profiles ($p > 0.05$). This uniformity implies that information concerning the penalties of noncompliance can be delivered consistently throughout the workforce, regardless of job type or history. However, the lower overall awareness in this area (as previously discussed) indicates a potential need to emphasize the DPA's enforcement procedures.

The findings demonstrate significant gaps in awareness regarding work stability. This gap emphasizes the need for healthcare organizations to implement inclusive training techniques that provide equitable learning opportunities for contract employees. Ensuring general comprehension of privacy requirements improves compliance and protects the institution from legal consequences.

Furthermore, establishing a compliance culture entails reinforcing information at all levels, incorporating ongoing professional development, and using a variety of means, such as digital modules and workshops, to reach a larger audience. Administrators have a critical role in defining these behaviors and resolving the gaps in organizational support mentioned previously [11], [19].

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Finally, nurses must understand the consequences of noncompliance. Focusing more on the repercussions of breaches can increase vigilance and accountability, reaffirming each healthcare worker's duty in thoroughly protecting patient privacy rights.

Table 4

Summary Results of Mann-Whitney U test on the Significant Difference
of the Level of Awareness when Grouped according to their Profile

| Level of Awareness | Profile | | | | | | |
|---|---|---|---|---|---|---|---|
| | Age | Gender | Civil Status | Educational Attainment | Status of Employment | Length of Service | Number of Trainings |
| **General Provisions** | | | | | | | |
| p-Values | 0.268 | 0.297 | 0.372 | 0.721 | 0.047 *Permanent | 0.893 | 0.609 |
| Remark | NS | NS | NS | NS | S | NS | NS |
| **Processing of Personal Information** | | | | | | | |
| p-Values | 0.341 | 0.609 | 0.061 | 0.252 | 0.007 *Permanent | 0.563 | 0.479 |
| Remark | NS | NS | NS | NS | S | NS | NS |
| **Data Subjects' Rights** | | | | | | | |
| p-Values | 0.297 | 0.200 | 0.164 | 0.410 | 0.042 *Permanent | 0.748 | 0.482 |
| Remark | NS | NS | NS | NS | S | NS | NS |
| **Penalties** | | | | | | | |
| p-Values | 0.809 | 0.283 | 0.544 | 0.713 | 0.879 | 0.802 | 0.106 |
| Remark | NS | NS | NS | NS | NS | NS | NS |

*Legend: Significant (S) at P<0.05, Not Significant (NS), *Higher Assessment*

### 3.6. Relationship between the Compliance to Data Privacy and Challenges Encountered

There is a strong link between compliance with the Data Privacy Act (DPA) and therapeutic problems (Refer to Table 5). The correlation ($r_s$ =.216, $p < 0.01$) indicates a somewhat positive association. Maintaining patients' privacy and confidentiality ($r_s$ =.228, $p < 0.01$) and information processing ($r_s$ =.165, $p < 0.01$) are key issues for nurses.

Table 5

Relationship between Compliance to Data Privacy Act as a Nurse and Challenges Encountered

| Challenges Encountered | Correlation Coefficient (r) |
|---|---|
| Compliance to Data Privacy Act as a Nurse | Overall |
| Upholding Patient's Right to Privacy and Confidentiality | .228** |
| Processing of Information | .165** |
| Overall | .216** |

**. Correlation is significant at the 0.01 level (2-tailed).

These data imply that the sense of problems increases as DPA compliance increases. This can be ascribed to the thorough nature with which privacy restrictions are implemented in healthcare. Nurses

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frequently find themselves negotiating complex systems and processes to achieve complete adherence. For example, obtaining patient consent, maintaining confidentiality, and following correct data management rules may necessitate more time, resources, and technological support. This raises the possibility of meeting challenges in contexts where operational efficiency and compliance overlap [1], [8].

The increasing difficulties could be attributed to institutional constraints such as poor technology, limited training, and resource scarcity (as previously described in Table 3). These limitations create a paradox: increased compliance efforts make it more difficult to efficiently meet DPA mandates. Furthermore, as technology progresses, telemedicine offers new challenges in protecting sensitive health data, increasing compliance obligations [14].

It is important to note that the DPA provides specific exemptions for outsourced data processing, indicating a regulatory gap for subcontracting operations [14]. This complicates compliance for healthcare providers that use outsourced systems or telemedicine platforms. Telemedicine, while improving healthcare accessibility, poses unique data security problems due to the transmission of personal health information over potentially insecure channels [1], [8]. Nurses and healthcare organizations must remain watchful since any data leak could jeopardize patient trust and violate privacy requirements.

Finally, the substantial association highlights the inherent contradiction between stringent data privacy regulations and operational constraints in clinical practice. A proactive, systems-level strategy is critical in assisting nurses to effectively negotiate these issues, promoting an environment of both legal compliance and patient confidence [2].

## Conclusions and Recommendations

The study identifies essential variables influencing nursing compliance with the Data Privacy Act (DPA), including a younger, primarily female workforce, precarious employment, and restricted professional growth possibilities. Despite high awareness of DPA rules, gaps in comprehending enforcement repercussions, as well as issues such as financial restrictions and poor training, have an impact on consistent compliance. The positive relationship between compliance and obstacles shows that tight privacy safeguards may exacerbate operational issues. A comprehensive approach, including better training, infrastructure enhancements, and institutional support, is critical for building a compliance culture and protecting patient trust.

Several critical activities are advised to improve nursing compliance with the Data Privacy Act (DPA). First, it is critical to improve training and professional development by conducting thorough, continuing education on DPA provisions and the repercussions of noncompliance. Furthermore, more substantial institutional support is required, particularly for contractual workers, to ensure consistent resources for privacy procedures. Addressing technological and financial constraints by investing in modern infrastructure and technology can make compliance easier. It is critical to foster a compliance culture emphasizing shared data protection responsibility. Furthermore, lobbying for structural improvements, such as increased job security and access to higher education, can help to ensure long-term compliance with privacy regulations.

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