



## EVALUATION OF PHARMACEUTICAL SERVICES BASED ON STARKES 2024 STANDARDS

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### ABSTRACT

The 2024 STARKES accreditation standards emphasize the importance of safe, effective, and quality pharmaceutical services and medication use (Pharmaceutical Services and Rational Drug Use - PKPO). Private hospitals often face challenges in meeting these standards, particularly concerning the storage of medicines and medical consumables. This study aims to evaluate the implementation of PKPO at Hospital X in Demak Regency based on STARKES 2024 standards and to identify priority areas for improvement. A mixed methods approach was employed. Quantitative data were collected through a structured questionnaire based on seven key PKPO indicators. Qualitative data were obtained via direct observations and in-depth interviews with the head of the pharmacy department and related staff. Quantitative data were analyzed using percentage compliance calculations, while qualitative data were analyzed thematically. Priority problems were determined using the Hanlon method. The overall PKPO implementation score at Hospital X was 70.15%, below the minimum accreditation threshold of 80%. The highest scoring indicator was PKPO 1 (Organization) at 87.5%, while the lowest scores were observed in PKPO 5 (Dispensing) at 52.5% and PKPO 3 (Storage) at 60%. The main priority issue identified was the security of pharmaceutical and medical consumable storage (PKPO 3, item 1).

Keywords: accreditation; hospital; pharmaceutical services; rational drug use; STARKES 2024

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## INTRODUCTION

Pharmaceutical services and rational drug use (PKPO) are essential components of the hospital healthcare system, directly contributing to improvements in patient safety, therapeutic effectiveness, and resource use efficiency. According to the World Health Organization (WHO, 2022), good pharmacy governance in healthcare facilities must encompass quality, safety, affordability, and accountability. At the national level, the Indonesian Ministry of Health Regulation No. 31 of 2022 concerning Clinical Management Guidelines mandates that pharmaceutical services be evidence-based, integrated within clinical care teams, and oriented toward quality and patient safety. In this context, hospital pharmacy units play a central role—from drug selection and needs planning, procurement, secure storage, rational distribution, to drug therapy monitoring conducted collaboratively with other healthcare professionals (Ministry of Health of the Republic of Indonesia, 2020).

As part of comprehensive efforts to enhance hospital service quality, the Ministry of Health of the Republic of Indonesia has implemented new regulations through the 2024 Hospital Accreditation Standards (STARKES), which serve as the principal framework for assessing healthcare quality, including PKPO. Chapter 5 of STARKES stipulates 7 assessment elements, 29 implementation indicators, and 85 observation/documentation items that hospitals must evaluate systematically and continuously (Ministry of Health of the Republic of Indonesia, 2024).

Several studies have documented that challenges in implementing PKPO standards remain considerable, especially within regional and private hospitals. Common issues identified include noncompliant drug storage, suboptimal medication reconciliation, minimal adverse drug reaction reporting, and limited pharmacist involvement in therapy monitoring (Mistikah et al., 2023; Pratiwi & Yuliasih, 2022; Wulandari & Sari, 2020). Research by Sabarudin et al. (2020) also highlights that inadequate documentation and staff training are major barriers to accreditation standards implementation. Susiyarti et al. (2022) emphasize that the quality of pharmaceutical services largely depends on integrated documentation systems, resource availability, and consistent monitoring of service standards. Meanwhile, Nurul et al. (2023) underscore the necessity of pharmacists' active roles in systematic drug selection, planning, and therapy monitoring. Pakingki et al. (2023) further affirm the importance of combined structural interventions, clear standard operating procedures (SOPs), and ongoing training to support efforts in enhancing pharmaceutical service quality. Moreover, Samur et al. (2023) note that integrating PKPO development with accreditation policies can strengthen patient safety systems and optimize medication efficiency.

On the regulatory front, mandates such as Government Regulation No. 47 of 2021 and Ministry of Health Regulation No. 12 of 2020 require hospitals to undergo periodic accreditation to ensure good governance, patient safety, and clinical service quality (Ministry of Health of the Republic of Indonesia, 2022). Consequently, hospitals are expected not only to comply with documentation requirements but also to develop evaluative, data-driven strategies for continuous improvement. To assist hospitals in objectively and measurably identifying priority issues, systematic approaches like the Hanlon method are necessary. This method provides a quantitative formula for prioritizing problems based on the magnitude of the issue, its seriousness, intervention effectiveness, and feasibility of implementation (PEARL factors) (Hanlon et al., 1972). To date, there has been no specific study assessing the achievement of PKPO indicators based on STARKES 2024 within hospitals in Demak Regency, both public and private. This region has several referral hospitals but still faces challenges related to documentation, training, and supervision (Mulyati et al., 2024).

To address this gap, this study aims to evaluate the implementation of pharmaceutical service indicators based on STARKES 2024 at the Pharmacy Unit of Hospital X, identify key problems using the Hanlon method, and formulate improvement strategies through Focus Group Discussions (FGD) involving internal hospital stakeholders. This approach is expected to contribute both theoretically and practically and provide a foundation for strengthening the quality implementation of hospital pharmaceutical services in other regions with similar characteristics.

## **METHOD**

This study employed a mixed methods approach. Quantitative data were collected through a structured questionnaire based on the seven main PKPO indicators outlined in STARKES 2024. The respondents comprised hospital pharmacists involved in pharmaceutical services. Compliance percentages were calculated for each indicator. Qualitative data were gathered through direct observation of the pharmacy unit and in-depth interviews with policymakers, including the head of the pharmacy unit and all relevant hospital stakeholders. Quantitative data were analyzed using scoring and tabulation techniques. Qualitative data processing involved thematic analysis of the in-depth interviews and observations focused on pharmacists and the pharmacy unit head who were directly involved in the accreditation process.

Prioritization of issues was conducted using the Hanlon method, which considers four criteria: magnitude of the problem (A), seriousness of the problem (B), and effectiveness or ease of intervention (C). Accurate data were essential to assign objective scores to each criterion.

Subsequently, PEARL factors were evaluated, encompassing five elements: propriety (appropriateness), economic feasibility, acceptability, resource availability, and legality.

## RESULT

Table 1.  
Summary of PKPO result

No.	PKPO Standard (STARKEs 2024)	Result at Hospital X, Demak Regency (%)
1.	Organization	87,50
2.	Selection, Planning, and Procurement	75,00
3.	Storage	60,00
4.	Prescription	78,57
5.	Dispensing	52,50
6.	Drug use	75,00
7.	Drug Therapy Monitoring	62,50
	Average score	70,15

Source: Primary Data from Questionnaire, 2024

The data indicate that technical practice aspects, particularly dispensing and storage, pose the main challenges to achieving standard compliance. Qualitative analysis also revealed several common issues, including the lack of routine temperature recording for rooms and storage cabinets, the mixing of pharmaceutical supplies with food and beverages, and the absence of beyond-use date labeling following package opening. The prioritization of key pharmaceutical service problems was conducted using the Hanlon method. This assessment considered four main components: magnitude (A), seriousness (B), effectiveness of the solution (C), and feasibility of implementation based on PEARL factors. The final score was calculated as the Overall Priority Rating (OPR). The results of this scoring are presented in Table 2 below.

Table 2.  
Top Three Priority Issues in Pharmaceutical Services and Drug management (PKPO) Based on the Hanlon Method

No.	Code	PKPO Problem Description Based on STARKEs 2024	A (0-10)	B (0-20)	C (0-10)	BPR = $\frac{(A+B) \times C}{3}$	PEARL (0/1)	OPR = $\frac{BPR \times PEARL}{PEARL}$	Priority Rank
1.	PKPO 3-1	Inadequate security in storage of pharmaceuticals and medical consumables	9	18	9	81	1	81	1
2.	PKPO 7-4	Lack of a systematic and continuous medication error reporting system	9	17	9	78	1	78	2
3.	PKPO 4-2	Incomplete and inconsistent documentation of patient medication reconciliation	8	17	9	75	1	75	3

Source: Primary Data, Hanlon Method Analysis, 2024

Academic Notes:

1. Score A reflects the magnitude of the problem in the field, considering its frequency and distribution.
2. Score B represents the clinical impact, patient safety, and service efficiency.
3. Score C indicates the likelihood that interventions or solutions can be implemented with available resources.
4. PEARL factors are scored as 1 if feasible (appropriate to implement) and 0 if not feasible for this hospital.

Based on the Overall Priority Rating (OPR) scores, the highest priority issue for immediate intervention is PKPO 3, item 1, which concerns the security of pharmaceutical and medical consumable storage. The high score reflects a combination of the problem's magnitude, its impact on patient safety, the effectiveness of possible solutions, and feasibility of implementation. These findings form the basis for developing quality improvement strategies focused on pharmaceutical storage systems and logistics supervision.

## **DISCUSSION**

The results of this study indicate that the implementation of pharmaceutical service indicators based on STARKES 2024 at Hospital X in Demak Regency has yet to achieve optimal outcomes. With an average score of 70.15%, the hospital has not met the national accreditation threshold, which requires a minimum score of 80%. The two indicators with the lowest scores—PKPO 5 (dispensing) at 52.5% and PKPO 3 (storage) at 60.0%—represent the primary issues requiring urgent improvement. The low score on the PKPO 3 indicator (storage) suggests suboptimal adherence to the principles of Good Storage Practices (GSP) as outlined by the World Health Organization (WHO, 2022) and the STARKES 2024 guidelines. Identified challenges include the continued mixing of pharmaceutical products with food and beverages in refrigerators, the absence of Beyond Use Date (BUD) labeling, and irregular temperature monitoring of rooms and refrigeration units. These issues pose risks to drug stability and patient safety within the hospital setting.

These findings are consistent with those reported by Pratiwi and Yuliasih (2022), who noted that most private hospitals, particularly in regional areas, lack well-documented and validated storage systems. Additional barriers include insufficient infrastructure and limited staff competency, which further impede compliance with established storage standards. Regarding PKPO 5 (dispensing), identified weaknesses include limited sterile space, lack of standardized procedures for high-dose preparation, and insufficient regular training for pharmacy staff on aseptic techniques. Wulandari and Sari (2020) emphasized that errors in drug preparation significantly contribute to medication errors and reduce therapeutic effectiveness in hospitalized patients.

Furthermore, PKPO 7 point 4 (medication error reporting) and PKPO 4 point 2 (medication reconciliation activities) also yielded low scores. The hospital currently lacks a systematic and integrated medication error reporting system, resulting in underreporting of minor incidents and absence of data to inform system improvements. Sabarudin et al. (2020) highlighted the critical importance of conducting medication reconciliation from patient admission throughout the care process until discharge to prevent drug interactions and therapeutic duplications. However, practical challenges such as the absence of standardized forms and poor interprofessional coordination remain.

Using the Hanlon method, PKPO 3 point 1 (security of pharmaceutical and medical consumable storage) was identified as the top priority, with an Overall Priority Rating (OPR) score of 81. This high score reflects both the magnitude of the problem and the feasibility of intervention, making this indicator the focal point for immediate quality improvement initiatives by the hospital. Recommended interventions include revising and upgrading storage SOPs in line with GSP principles, procuring automated temperature monitoring equipment for rooms and refrigerators, continuous calibration of temperature measuring devices, training pharmacy staff, and conducting regular internal audits by the hospital quality team, considering that basic infrastructure is already in place. The implementation of a pharmacy management system focused on quality and patient safety must be integrated and involve top management, the Quality and Patient Safety Committee, and all related service

units. According to WHO (2021), the success and optimization of hospital pharmaceutical services depend on strengthening the system, human resources, and the use of information technology to support clinical decision-making.

## **CONCLUSION**

The implementation of pharmaceutical services and rational drug use (PKPO) at Hospital X in Demak Regency has not yet reached optimal standards, with an average compliance score of 70.15%. The lowest scores were observed in the areas of dispensing and storage. Based on the Hanlon method analysis, storage (PKPO 3, point 1) was identified as the highest priority issue to be addressed for improvement by the hospital.

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