



## Strategy for improving pharmaceutical services based on SNARS edition 1 at the "X" hospital pharmacy installation in tomohon city

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### ABSTRACT

Accreditation is a process of evaluating a hospital by KARS to improve patient safety and evaluate the quality of a hospital. This research was conducted at the "X" Hospital Pharmacy Installation in Tomohon City. To find out the level of conformity of the seven Pharmaceutical Services and Drug Use standards against the 1st Edition of 2018 National Hospital Accreditation Standards and problem solving strategies using a priority scale with the matrix method. The research design is non-experimental research, analyzed descriptively quantitative and qualitative. The research data were processed in tabular form and repaired with a priority scale of problems using the matrix method. The conformity level of Pharmaceutical Services and Drug Use in the "X" Hospital Pharmacy Installation has not fully met the National Hospital Accreditation Standards. Improvement strategy based on priority scale of problems using the matrix method: Pharmaceutical Services and Drug Use Point 5 Preparation and delivery, Point 4 Prescription and copying, Point 3 Storage, Point 7 Monitoring drug effects, Point 6 Drug Administration, Point 1 Organizing and Point 2 Selection and procurement. Pharmaceutical services in the Pharmacy Installation as a whole are good but there are several points that have not met the standards and must be improved.

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## 1. Introduction

Hospital is a health service facility that offers inpatient, outpatient and emergency services to the public[1]. To obtain a hospital operational permit, a number of requirements are required including site selection requirements, environmental impact analysis studies, and operating permits, so that the hospital must comply with facilities and infrastructure, availability of resources, supporting facilities, as well as management and information systems. For type or classification of Hospital A, B, C, you must first pass the hospital certification carried out by the Hospital Accreditation Committee. Accreditation is intended to determine compliance with standards designed to optimize safety and quality of service and reflects the hospital's genuine commitment to improving the quality of patient care [2]. Pharmaceutical Services and Drug Use are service standards set out in the National Hospital Accreditation Standards Edition I which came into effect on January 1, 2018. These standards focus on patient care and risk management to improve patient quality and safety [3].

The quality of physical facilities, medicines, medical devices and other supporting facilities affect the quality of hospital health services [4], [5]. In addition, the increase in workload and the number of human resources also affects the improvement of service quality in hospitals [6]

Therefore, hospitals also need to carry out human resource management to achieve organizational goals, namely improving quality and patient safety [7]. Hospital "X" is a hospital under development, aiming to improve service quality in competition between hospitals in Tomohon City. The matrix method is suitable for this study because it is a tool for determining priority issues with various levels of importance [8], [9]. This study aims to determine the suitability of the seven standards for Pharmaceutical Services and Drug Use in the "X" Hospital Installation against the National Hospital Accreditation Standards Edition 1 of 2018 and problem solving strategies using a priority scale with the matrix method.

## 2. Method

The research was conducted in March 2021 at the "X" Hospital Pharmacy Installation in Tomohon City and it was a non-experimental study and was analyzed descriptively quantitatively and qualitatively. Data collection used a self-assessment questionnaire and interviews with the Head of Installation and Pharmacist as well as observation to support the questionnaire. The subjects in this study were all employees of the "X" Tomohon Hospital Pharmacy Installation. The research data were processed in tabular form and repaired with a priority scale of problems using the matrix method. The materials used in this study were data from questionnaires and the tools used in this study were paper questionnaires containing a structured list of 74 questions taken from the assessment elements of the 1st edition of the National Hospital Accreditation Standard.

## 3. Results and Discussion

### 3.1. Characteristics of Respondents

Table 1. Characteristics of respondents status of pharmacy personnel

No.	Pharmacy Personnel Status	Total Persons
1.	Pharmacist	2
2.	Pharmaceutical Technical Staff	7
3.	Administration	11
	<b>Total</b>	<b>20</b>

Table 2. Characteristics of respondents length of pharmacist work

No.	Length of Working	Total Persons
1.	< 1 year	-
2.	1 – 5 year	12
3.	> 5 year	8
	<b>Total</b>	<b>20</b>

Based on Tables 1 and 2, it is known that this research was conducted on 20 respondents with different statuses of pharmacists and most of the pharmacists had worked at “X” hospital for 1-5 years.

### 3.2. Conformity of Pharmaceutical Services

Table 3. Conformity level of pharmaceutical services

No.	Pharmaceutical Service Standards	Hospital Pharmacy Installation Score (%)
1.	Organizing	87,92
2.	Selection and Supply	92,50
3.	Storage	77,50
4.	Prescribing and Copying	76,56
5.	Preparation and Submission	65,50
6.	Drug administration (administration)	81,94
7.	Monitoring	79,06
	<b>Average Achievement Accreditation Score</b>	<b>80,14</b>

The assessment score for the level of conformity of pharmaceutical services is stated to be good, if a score is > 80% or it can be stated that the score is completely fulfilled, if the assessment elements get a score of 20-79% then the score is stated to have not been completely fulfilled or partially fulfilled, this is because compliance with National Hospital Accreditation Standards was not found consistently in each assessment element. If the assessment element only gets a score of <20%, it is stated that the score has not been fulfilled and service improvements need to be made.

Based on Table 3 it is known that those that have not met the standards according to the National Hospital Accreditation Standards Edition 1 of 2018, namely Pharmaceutical Services and Drug Use Point 3 Storage, point 4 Prescribing and Copying, Point 5 Preparation and Delivery and Point 7 Monitoring. While those that have met the standards are Pharmaceutical Services and Drug Use Point 1 Organizing, Point 2 Selection and Procurement and Point 6 Drug Administration.

Based on the results of the research, Pharmaceutical Services and Drug Use Point 3 Storage has not met the standards because only some of the drugs are labeled with the name of the drug, the expiration date is also not yet available for storage locations for emergency drugs. Even though the purpose of drug storage is to maintain drug quality, prevent damage due to improper storage, facilitate the search for storage warehouses, prevent loss, facilitate stocktaking and monitoring, and prevent losses due to improper drug storage.

Pharmaceutical Services and Drug Use Point 4 Prescribing and copying have not met the standards because there is no SOP on prescription writing and medication reconciliation is not carried out. Based on research conducted by Alviolina Desi (2018) at the Pharmacy Installation of RSU Aulia Lodoyo Blitar, this is because the implementation of recording drugs given to patients in the medical record has not been carried out in accordance with the regulations set by the hospital. In addition, pharmacists also have not carried out drug reconciliation [10]. Pharmacists should coordinate and monitor the drug reconciliation

process effectively because drug reconciliation aims to protect patients from irrational drug use [11].

Based on research from Sabarudin (2018) Pharmaceutical Services and Drug Use Point 5 Preparation and Delivery at the Konawe Hospital BLUD Pharmacy Installation obtained a value that did not meet the standard because at the Konawe Hospital BLUD Pharmacy Installation mixing sterile preparations, intravenous and epidural preparations and nutritional products was carried out by nurses not by TTK or Pharmacist, apart from that, at the Konawe Hospital BLUD Pharmacy Installation, chemotherapy drugs have not been provided because the room for mixing chemotherapy drugs is not full [12]. This is also the same as what happened at the "X" Hospital in Tomohon City.

Pharmaceutical Services and Drug Use Point 7 Monitoring does not meet standards because monitoring and reporting of drug side effects have not been carried out. This is because the hospital has not appointed a pharmacist who focuses on clinical pharmacy services so the drug monitoring process in patients has not been carried out optimally.

### 3.3. Matrix Method

Table 4. Matrix method for prioritizing problems

Pharmaceutical Services and Drug Use Point	1	2	3	4	5	6	7	Total	Ordinal
1	5	5	1/10	1/10	1/10	1/5	1/5	5,6	VI
2	1/5	5	1/10	1/10	1/10	1/10	1/10	0,7	VII
3	10	10	5	1/5	1/10	5	5	30,3	III
4	10	10	5	5	1/10	5	5	35,1	II
5	10	10	10	10	5	10	10	60	I
6	5	10	1/5	1/5	1/10	5	1/5	15,7	V
7	5	10	1/5	1/5	1/10	5	5	20,5	IV

Explanation:

1 = equally important

5 = significantly more important

10 = much more important

1/5 = significantly less important

1/10 = very less important

Problem priority order based on the matrix method, namely Pharmaceutical Services and Drug Use Point 5 Preparation and submission as the main problem priority with a total score of 60; problem priority order two, namely Point 4 Prescribing and copying with a value of 35.1; problem priority order of three, namely Point 3 Storage with a value of 30.3; problem priority order of four namely Point 7 Monitoring with a value of 20.5; problem priority order of five namely Point 6 Giving with a value of 15.7; the sixth priority problem, namely Point 1 Organizing with a value of 5.6; and the seventh priority problem, namely Point 2 Selection and procurement with a value of 0.7.

### 3.4. Service Improvement Strategy

The recommended strategy for improving pharmaceutical services is based on the matrix method, namely priority I Pharmaceutical Services and Drug Use Point 5 (preparation and delivery of drugs). Pharmacists and Pharmaceutical Technical Personnel participate in preparation and mixing of sterile preparations so that the mixing of sterile preparations is carried out and centralized in the Pharmacy Installation. According to the Hospital, it must

make regular education and training programs in the Hospital Pharmacy Installation, reports on the implementation of activities as well as evaluation notes and certificates [13]. In addition, the drug is given a complete label including patient identity, drug name, drug dosage, method of use, time of administration, date prepared and date of expiration. Pharmacists carry out administrative, pharmaceutical and clinical studies, increase the number of pharmacy staff so that drug delivery is faster and drugs are delivered on time and can also reduce medication errors (drug administration errors) [14].

Priority II Pharmaceutical Services and Drug Use Point 4 (prescribing and copying) Pharmacists are added so that they can carry out drug reconciliation when patients enter, move service units and before patients go home. The addition of competent and professional pharmacists also guarantees the use of drugs that are safe and effective in improving the quality of life of patients [15]. Prevention of errors in prescribing is by applying rational prescribing, namely the right indication, the right drug selection, the right dose, the right time of administration, and the right route and method of administration. This is also influenced by the correct prescription writing format, so there are no transcribing errors [16].

Priority III Pharmaceutical Services and Drug Use Point 3 (storage) All drugs and chemicals are labeled with the drug name, date and special warning, all concentrated electrolytes are labeled as high alert and pharmacists must carry out routine supervision.

Priority IV Pharmaceutical Services and Drug Use Point 7 (monitoring) Pharmacists work with doctors and other health workers to monitor drug side effects. It is also necessary to evaluate the monitoring of patients [17].

Priority V Pharmaceutical Services and Drug Use Point 6 (drug administration) Pharmacists and TTK perform double checks on high alert drugs, Pharmacists and TTK work together with other health workers to monitor patient treatment in outpatient and inpatient installations. Priority VI Pharmaceutical Services and Drug Use Point 1 (organization) Pharmacists carry out supervision. Pharmaceutical installations should have appropriate and up-to-date sources of drug information available. Priority VII Pharmaceutical Services and Drug Use Point 2 (selection and procurement) monitor new drugs included in the hospital formulary.

#### **4. Conclusion**

Based on the research, it can be concluded that the overall level of pharmaceutical services at the "X" Hospital Pharmacy Installation is good, but there are several elements of Pharmaceutical Services and Drug Use Points that have not met the standards and must be improved. The suggestion is that the Hospital improves the Pharmaceutical Services and Drug Use Point elements that do not meet the National Hospital Accreditation Standards Edition 1 based on the suggested strategy.

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