



## Implementation of the 5S Work Attitude Using the Lean Six Sigma Method to the Performance Productivity of Medical Records Unit Officers of Arifin Achmad Hospital, Riau Province

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### A B S T R A C T

5S (Simplify, Straighten, Scrub, Stabilize, Sustain) is a simple system that can increase employee productivity. The application of the 5S work attitude in the storage unit of the Arifin Achmad Hospital medical record unit has not been implemented properly. The general purpose of this study is to determine the application and relationship of 5S work attitudes using the lean six sigma method to the productivity of the medical record unit officer. This study uses a qualitative approach with other data analysis models according to the type and purpose of the study. Data analysis in this study used the DMAIC (Define, Measure, Analyze, Improve, and Control) cycle which was adapted to the 5S work attitude method. DMAIC is a performance improvement cycle process based on data collected. The results of the problem analysis using the FMEA (Failure Mode & Effect Analysis) method show that there were 3 problems / defects that frequently occur, namely incorrect stacking with an RPN (Risk Priority Number) value of 147 (17%), delays in returning medical record documents from inpatients ward with an RPN (Risk Priority Number) value of 112 (30%), and distribution errors of medical records to another outpatient department with an RPN value of 70 (38%). The results of observations and in-depth interviews showed that the overall 5S work attitude has not been applied properly to the officer of medical record unit storage section. The application of 5S work attitudes related to 3 priority problems that occur in the storage section has a relationship with employee productivity.

## INTRODUCTION

The healthcare sector is the largest and fastest growing industry in the world (Bhat et al., 2020). The situation of health services in Indonesia, especially during this pandemic, shows an assessment of the capacity of health services, especially from 4 important elements, namely staff or human resources, goods (such as supplies), structure (hospital beds and medical waste treatment) and systems (such as referrals and essential health services) are in an inadequate condition (Mahendradhata et al., 2021). In addition, problems of efficiency and effectiveness are found in hospitals in Indonesia (Iswanto, 2019).

Hospitals act as a health service subsystem that organizes two types of services for the community, which is health administration services and health services. Those included medical services, medical support services, medical rehabilitation and nursing services. These services carried out through emergency department, inpatient ward and outpatient department (Suhartina & Fransiskus, 2018). Integral to the hospital services is the medical record unit. The medical record unit is support the service evaluation, operational financing with stationery types is quite high, so it plays a very important role in hospital quality control (Suhartina & Fransiskus, 2018).

According to information from one of the officers in the medical record unit at Arifin Achmad Hospital, Riau Province, the most problematic is the storage section. The problem is related to the shortage of workers, especially the medical record graduates. This finding is in line with research from Suhartina & Fransiskus (2018), the lack of human resources who have educational backgrounds that are appropriate or not suitable for work, for example a lack of special personnel to carry out retention, media transfer and destruction. Observation for the preliminary study showed that the condition of the medical record storage room was not clean and quite messy. In addition, there are quite a lot of document folders that are located on the floor and under the document shelves.

The storage section for the medical record unit at Arifin Achmad Hospital has a shortage of facilities and infrastructure, such as the Inactive file which is only tied and placed on a shelf. These findings are also in accordance with the problems encountered in previous studies such as items or documents that are not needed on the officer's desk which can interfere with the officer's activities, there is food waste on the officer's desk which makes the room dirty, there is a discrepancy in the return of medical record files with the SOP (Standard Operating Procedure) for discharge which can be causing difficulties in borrowing and searching for the required medical record files (Natasha, 2020). 5S activities have been routinely applied to medical record file processing activities unintentionally, or this 5S method has not been formally applied as the quality standard. 5S is originating from Japanese abbreviation, namely: Seiri (Sorting), Seiton (Organization), Seiso (Cleanliness), Seiketsu (Standardization), and Shitsuke (Discipline). 5S is a system that aims to reduce waste and optimize productivity through routine maintenance of workspaces and implementing the use of visual instructions to obtain more consistent operational results (Iswanto, 2019). The purpose of this study is to determine the application of the 5S work attitude using the lean six sigma method to the productivity of medical record unit officers at the Arifin Achmad Regional General Hospital.

## **METHOD**

This research was a qualitative research using other data analysis models that depend on the type and purpose of the research (Nursalam, 2016). Data analysis used the DMAIC (Define, Measure, Analyze, Improve and Control) cycle which adapted to the 5S work attitude method (Furterer, 2014). Qualitative analysis consisted of few stages, sorting and organizing data collected from field notes (document study), observation, in-depth interviews, and documentation for constructive analysis (Nursalam, 2016). The selection of informants used purposive sampling technique. The selection of sampling techniques based on the main topic of research on 5S work attitudes and work productivity. The subject was the officers involved either directly or indirectly in the storage unit of the medical record unit. The informants were 8

officers, consisted of the head of the medical record room, the coordinator of the storage and destruction of medical records, and the officers of medical record storage unit. The selection of informants determined from the informant's knowledge and work experience in the medical record unit, especially in the storage section. Data collection used several techniques starting from document studies, observations, interviews, and documentation. Below were the questions asked during the interview process:

Table 1. List of Main Interview Questions

No	Question
1.	Has the 5S / 5R Work Attitude Method (Brief, Neat, Diligent, Clean, Treat) been applied or performed in the medical record unit storage section at RSUD Arifin Achmad?
2.	Is the performance appraisal for the officers in the medical record unit routinely performed?
3.	How is the 5S / 5R work attitude implemented in the medical record storage management activities?
4.	How to evaluate the performance of medical record unit officers? (What method is used as well as the results of the officer's performance appraisal)
5.	What problems do you often encounter (related to medical record file management) in the medical record unit storage section?
6.	Are there problems with the medical record unit, especially in the storage section that cannot be resolved?
7.	How do you solve problems that occur in the medical record unit, especially in the storage section? (For example: labor shortage problem)
8.	Are there regulations or policies from the hospital that help to increase the productivity of medical record unit officers?
9.	What is your role as Head of Installation / Head of Room / Coordinator in helping to increase the work productivity of medical record unit officers?
10.	What is the Cleanliness Condition of the work area of the medical record unit storage section?

## RESULT

Based on the results of the interviews, a total of 16 types of problems grouped in the medical record unit storage section at Arifin Achmad Hospital. The problems analyzed using the FMEA (Failure Mode and Effect Analysis) method. This method was a structured methodology for identifying and analyzing failures that have occurred or may occur, with the aim of preventing these failures from having a negative impact on the results of a process (Soemohadiwidjojo, 2017).

(Failure Mode & Effect Analysis) method show that there are 3 problems/defects that most often occur, namely stacking errors of 18%, delays in returning medical record documents from hospitalization of 31% and errors in distributing medical record documents to other outpatient department by 39%. The results of measurement and analysis of the 3 dominant problems in the medical record unit storage section using the FMEA method are based on the largest number of RPN values described in the following table.

**Table 2. Problem Priority Table**

No	Mode of Failure (Defect)	Potential Cause of Failure Potential Effect of Failure	Potential Cause of Failure Potential Effect of Failure	RPN
1.	Wrong stack	The clerk misplaced it when compiling the document	Documents could not be found and could not be delivered to the outpatient department and resulted in longer patient waiting times	147
2.	Delay in returning medical record documents	The doctor has not filled out the medical record status, the room attendant/nurse is late in returning the document, the treatment process for inpatients ward is longer than for outpatients	Delays in delivery of medical record documents to department	112
3.	Error in distributing medical record documents to department	Lack of accuracy by officers, there are still old tracers that are no longer used/ have passed the patient's treatment date in the documents	Extend patient waiting time	70

## DISCUSSION

The results of in-depth observations and interviews showed that the application of the 5S work attitude had not been implemented properly by the staff in the medical record unit storage section. Especially in the 3 aspects with the lowest level of implementation, namely aspects: Standardize / Seiketsu / Treat (Strengthening), Shine / Seiso / Neat and Straighten / Seiton / Neat (Organization) aspects. Among these three aspects, the aspect with the lowest level of implementation is the Standardize / Seiketsu / Treat (Strengthening) aspect. The officer productivity section there are several problems in the aspects of personal factors and system factors. The problem with the personal factor aspect is that the average officer has never received a 5S work attitude briefing even though the storage room has visual media for the 5S work attitude. While on the aspect of system factors (procedures implemented by the hospital / SOP) and leadership: there are no specific regulations and implementation regarding the awarding of rewards or awards for the best performance of officers in the medical record unit. The regulations applied in the hospital are in the form of awards for services. Based on the problem analysis using the FMEA method, there are 3 problems that are top priority to be addressed immediately. These three priorities directly become factors causing the implementation of the 5S work attitude not to be implemented properly.

The description of the problem is assisted by using a root diagram as shown below:

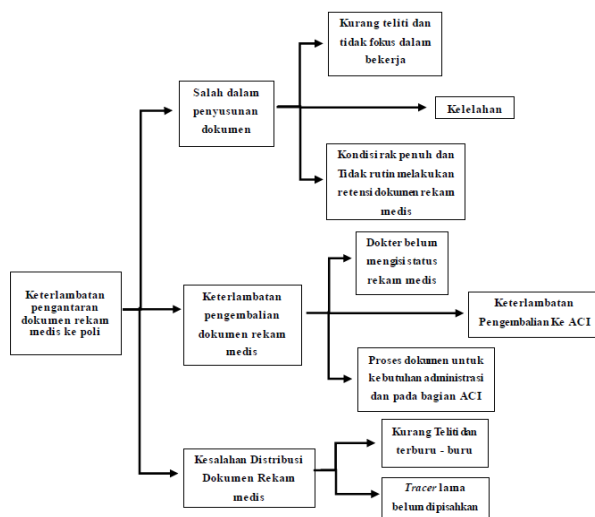


Figure 1. Root Diagram: Priority Problems in the medical record unit storage section

The priority problem is the arrangement of documents on storage shelves, then followed by the problem of returning documents from the inpatient ward.

#### 1. Error in preparing documents.

This error often occurs when staff return a document and made stacking error in the shelves, the error found out when officers performed Searching for documents on shelves to be delivered to outpatient department. This stacking error is a form of people-type waste that is generated from the activities of officers. The impact of the wrong arrangement of documents can be seen when the Officer searches for medical record documents on the storage shelves. There are 3 factors that cause the wrong problem in preparing medical record documents on the shelves, namely, Inaccurate, and unfocused at work, Fatigue, the shelf is full, and officers have not preformed routine document retention.

#### 2. The condition of the shelves is full, and the officers have performed routine document retention.

The problem that often occurs in the storage department and disrupts the process of distributing medical records to the outpatient department is the delay in returning documents from the inpatient ward. Information from interviewed the room coordinator that the medical record documents took 3-4 days to return to the storage department from the inpatient ward. Delays in returning medical record documents from inpatient ward caused by several factors as follows: The doctor has not completed the medical record status, Delay in returning to ACI and Processing documents for administration and at the ACI section.

### 3. Mistakes in the distribution of medical record documents.

Errors in the distribution of medical records occur when officers deliver medical records to the outpatient department, but the patient was absent. The factors that lead to errors in the distribution of medical records are as follows: Inaccurate and in a hurry and the old tracers have not been disposed of or separated.

The application of the 5S work attitude has a relationship to the results of employee performance. For example, there is no selection between items that are used and those that are not used (sort aspect) where this has an impact in the form of full shelf conditions, there are still items that are not used in the work area which can take up space, as well as other problems such as the cleanliness of the work area and the placement of medical record documents. Enviro results factors in the Standardized/Seiketsu aspect have problems in the form of damaged air-conditioning facilities which result in the room temperature becoming a bit hot and disturbing the work comfort of storage staff, besides that the medical record storage room does not have ventilation for air circulation (especially in active storage areas).

Improvement strategy design is made using the 5W + 2H method. Based on the design of the improvement strategy using the 5W + 2H method, there is an implementation of an action plan that can be carried out as follows:

1. Provide guidance on how to apply the 5S work attitude to medical record unit officers, especially in the storage section.
2. Rearrange the way medical record documents are arranged on the shelves so that they are arranged vertically and parallel to the standard order system for medical record numbers in hospitals and improve the way work equipment items are organized as shown in the picture below.



Figure 3. Example of preparing documents and organizing work equipment properly

3. Develop visual management in the work area by inspecting schedule, compiling medical record documents on shelves, and determining the rotation of officers who carry out inspection activities (for example: the work schedule for officers for the morning shift is from Monday to Friday, so that on Saturday and Sunday inspection activities this can be done by the officer on duty that day.

4. Actively develop two-way communication with all related parties.
5. Make a list of factors that trigger delays in returning medical records and carry out analysis and evaluation of previous events.
6. Improving the control and supervision stage. One way that can be used is to make a checklist sheet for the implementation of each activity.

The application for the implementation of the corrective action plan can be done by using a checklist sheet to assess the implementation of the corrective action as follows:

Table 2. Checklist of control stages

Control Stages Checklist			
No	Statement	Yes	No
For this project we have:			
1.	Make a recap of records when returning medical record documents from the outpatient department/inpatient room		
2.	Make a schedule for examining medical record documents on the shelf		
3.	Examination of the preparation of medical record documents and old tracers in the medical record documents		
4.	Compile process control sheets and develop control stages together		
5.	Make a record of evaluating issues that cannot be handled by the team of storage officers to the head of the room		
*Furthermore, it can be adjusted to the conditions and related service policy systems.			

## CONCLUSION

Based on the results of observations and interviews conducted from 02 June - 05 August 2022 in the medical record unit storage section, the conclusions are: (1) the 5S work attitude has not been properly implemented by the medical record unit storage section officers. This is shown from the results of the problem analysis using the FMEA method that there are 3 problems/defects that most often occur, namely stacking errors with an RPN value of 147 (17%), delays in returning medical record documents from hospitalization with an RPN value of 112 (30%) and Errors in distributing medical record documents to other polyclinics with an RPN value of 70 (38%). (2) There is a relationship between the implementation of the 5S work attitude related to the 3 priority issues that occur in the storage section on the productivity of priority officers that occur in the storage section on employee productivity. (3) According to the observations, the 5S Work Attitude has not been formally implemented or does not yet have regulatory standards for its implementation, but the officers in the storage department have implemented the 5S work attitude indirectly in their daily work activities.

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