

## Workload Analysis of Medical Record Officers with Electronic Medical Record Information Systems Based on the WISN Method of Registration Outpatient Registration in RSUD Muslimat Ponorogo

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**Abstract.** Workload analysis is an effort used to determine the time taken by staff to complete tasks assigned according to their respective positions, and it is expected to ascertain the proportion of staff needed in a specific work unit within an institution, including hospitals. This study aims to analyze the workload of outpatient registration officers using the RME system with the Workload Indicators of Staffing Need (WISN) method. This research is a qualitative descriptive study using data collection methods such as interviews and observations. The population of this study consists of all 5 outpatient registration officers. The sampling technique used is total sampling. The research results at RSUD Muslimat Ponorogo recommend the need for an increase in the number of workers according to the WISN analysis, which indicates a requirement of 10 people. There are currently 5 outpatient registration staff at RSUD Muslimat Ponorogo, so an additional 5 outpatient medical record registration staff are still needed. The researchers' recommendation is to increase the number of staff so that the workload does not become too high and the service remains efficient.

**Keywords:** Human Resources; Outpatient Registration; RME; WISN; Workload Analysis.

### 1. INTRODUCTION

Workload is a condition of a job according to a series of tasks that must be completed within a certain time limit. Workload can be interpreted as the amount of work that must be carried out in a position in the organization and is also the product of work volume and time rules (Diana, 2019).

Workload is a burden of physical, mental and social activities accepted by individuals that must be completed within a certain time according to the employee's physical abilities and limitations in accepting the burden. Workload is a concept that arises because of the limited amount of information processing. If the limitations that individuals have hinder the achievement of work results at the expected level, this means that there has been a gap between the expected level of ability and the level of capacity possessed (Mahawati et al., 2021).

Workload analysis is an effort used to determine the time used by officers to complete the tasks that have been given according to their respective positions and is expected to know the proportion of the number of officers needed in a particular work unit in an agency including hospitals. Workload analysis must be routinely carried out because it is to obtain training information related to the workload picture of the unit in the agency and the picture is the same as the development of performance in an organization in the agency (Pranoto, 2015).

Based on the results of the preliminary study, outpatient registration officers actually have the responsibility to complete their duties properly. SIMRS (Hospital Management Information System) is still running this year, there is no related SOP for the use of electronic medical records in outpatient registration to ensure the patient registration process runs in an orderly and efficient manner. In addition, there are often problems with the system or users often have trouble, which causes an effect on workload.

This study aims to analyze the workload of medical record officers using the electronic medical record information system for outpatient registration at the Muslimat Ponorogo General Hospital.

## **2. THEORETICAL STUDY**

Workload can be interpreted as a difference between the capacity or ability of workers and the demands of workers faced by officers. If the number of workers does not match the workload, it can cause fatigue and reduce work productivity so that it affects the quality of hospital health services (Dani & Mujanah, 2021) in (Andreya et al., 2021).

The method of calculating HR needs based on workload (WISN) is a method of calculating health HR needs on the real workload carried out by each category of HR in health care facilities (Minister of Health of the Republic of Indonesia, 2004). The following steps for calculating HR needs based on WISN are 5 steps, namely as follows:

### **Determine Available Working Time**

Determining the available working time aims to obtain the available working time for each category of human resources in the medical records unit who work in the hospital for a period of 1 year. The following are the data needed to determine the available working time.

Working days, according to the applicable provisions in the hospital or local regulations, generally in 1 week 5 working days. In 1 year 260 working days (5 days x 52 weeks). (A)

Annual leave, in accordance with the provisions of each HR has the right to leave 12 working days each year. (B)

Education and training in accordance with the provisions applicable in the hospital in order to maintain and improve professionalism in each HR category has the right to attend training courses/seminars within 6 working days. (C)

National holidays, based on a joint decree of the relevant ministers on national holidays. (D)

Absenteeism, according to the average data of absenteeism (for a period of 1 year) for reasons of illness, absence with or without notice/permission. (E)

Working time, in accordance with the provisions applicable in hospitals, generally working time in 1 day is 8 hours (5 working days/week). (F)

Based on these data, the following formula is calculated and determined

Working Time Available  $[A-(B+C+D+E)] \times F$

Notes:

A = Working Days

B = Annual Leave

C = Education and Training

D = Public Holidays

E = Work Absenteeism

F = Working Time

### **Establishing Work Units and HR Categories**

The purpose of determining work units and HR categories is to obtain work units and HR categories that are responsible for organizing individual health service activities for patients, families and communities inside and outside the hospital. The data and information needed to determine work units and HR categories are as follows: a) Hospital organizational structure chart and description of the main tasks and functions of each work unit and sub-unit; b) Decree of the hospital director on the establishment of structural and functional work units, for example, medical committee, hospital quality control committee; c) Data on employees based on education who work in each work unit in the hospital; d) Government regulation 32 of 1996 concerning health human resources; e) Laws and regulations related to the functional position of health human resources; f) Professional standards, service standards and standard operating procedures (SOP) in each hospital work unit.

### **Develop Workload Standards**

Workload standards are the volume or quantity of workload for 1 year per HR category. Workload standards used for a main activity are compiled based on the time needed to complete it (average time) and the available work time owned by each HR category.

The following is the formula for calculating workload standards:

Workload Standard = Available work time

Average time per main activity

Required data viz: a) Available work time; b) Average time to complete the main types of activities

## Developing Standard Allowance

The preparation of the standard of leeway has the aim of obtaining a leeway factor for each HR category including the type of activity and the time needed to complete an activity that is not directly related to or influenced by the high quality or number of main activities or services. The preparation of the leeway factor can be carried out through observations and interviews to each category regarding: a) Activities that are directly related to patient care, for example meetings, preparation of activity reports, compiling drug / consumable needs; b) Frequency of activities in a day, week, month; c) Time required to complete the activity

The standard allowance is calculated and there is a formula, namely:

$$\text{Standard Allowance} = \frac{\text{Average leeway time}}{\text{Available working time}}$$

## Calculation of Labor Requirements Per Unit

In calculating HR needs for each work unit, it aims to obtain the number and category of HR needed to organize mandatory health efforts and efforts to develop HR needs per work unit: Quantity = Volume of Activities x  $\sum$  Working Days in a year.

$$\frac{\text{Quantity} + \text{Standard allowance}}{\text{Workload}}$$

Required data: a) Available working time; b) Workload; c) Standard allowances for each HR category; d) Quantity of main activities for each work unit

Relevant research by Wibowo, D.S (2021) based on the results of calculations for workload, which is quite high for the medical record work unit and based on the calculation of medical record HR needs, additional officers are needed in medical records.

## 3. RESEARCH METHOD

### Type and Research Approach

This research uses a qualitative descriptive approach through interviews and observations. This study aims to analyze workload with the electronic medical record information system for outpatient registration at Muslimat Ponorogo General Hospital. This method aims to describe a problem holistically-contextually through data collection (Sugiyono, 2017). Informant research subjects in this study are those who provide relevant information regarding the research focus. That information is the outpatient registration officer of the Muslimat Ponorogo Hospital.

There are two ways to collect data in this study, namely interviews and observations to officers. Interview data is used to explore in-depth information from outpatient registration officers related to workload, types of activities, work time and also the challenges faced daily.

Observation data was collected through direct observation of activities to obtain data on working time and activity frequency. Data analysis of this research uses data analysis in the field of data presentation can be done in the form of brief descriptions, charts, relationships between categories, flowcharts and the like.

#### 4. RESULTS AND DISCUSSION OF

##### Research Results

Determining the needs of medical record officers at the outpatient registration of the Muslimat Ponorogo Hospital using the WISN method requires several steps, namely:

##### Determining Available Work Time

Determining the available working time aims to obtain the available working time in each category of human resources in the medical records unit working in the hospital during a period of 1 year.

**Table 1.** Available Working Time.

| Kode | Faktor               | Jumlah | Keterangan |
|------|----------------------|--------|------------|
| A    | Working Day          | 312    | Days/Year  |
| B    | Annual Leave         | 12     | Days/Year  |
| C    | Education & Training | 1      | Days/Year  |
| D    | Holiday National     | 23     | Days/Year  |
| E    | Absenteeism Work     | 2      | Days/Year  |
| F    | Work Time            | 7      | Hour/Day   |

*Source: (Primary Data) Research Observation and Interview Results.*

The following is the calculation of available working time using the formula:

$$\begin{aligned}
 \text{Available Working Time} &= \{A-(B+C+D+E)\} \times F \\
 &= 274 \times 7 \\
 &= 1.918 \text{ hours/year} = 115.080 \text{ minutes/year}
 \end{aligned}$$

##### Assigning Work Units

The determination of work units is used to determine the description of activities carried out within a certain period of time based on the number of human resources available.

**Table 2.** Description of Work Unit Activities.

| No | Task Description                                                                                                                                                                          | Norm Time |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1. | Calling the queue number of outpatient registration patients                                                                                                                              | 1 minute  |
| 2. | Inputting patient data                                                                                                                                                                    | 2 minute  |
| 3. | Conduct an interview with the patient                                                                                                                                                     | 5 minute  |
| 4. | Printing the SEP                                                                                                                                                                          | 5 minute  |
| 5. | Print or create KIB                                                                                                                                                                       | 1 minute  |
| 6. | Educate patients by providing information related to service facilities, tariffs, types of services, referrals as well as the rights and obligations of patients. and patient obligations | 3 minute  |

*Source: (Primary Data) Research Observation and Interview Results.*

## Developing Workload Standards

Calculation of workload standards is a main activity arranged based on the time required to complete (average time) and the available working time owned by each HR category.

**Table 3.** Calculation of Workload Standards Based on WISN Method Theory.

| No            | Task Description                                                                                                                                                                          | Time Work Available (minutes/year) | Average Time (minutes) | Standard Load Work (minutes/year) |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------|-----------------------------------|
| 1.            | Calling the queue number of outpatient registration patients                                                                                                                              | 115.080                            | 1 minute               | 115.080                           |
| 2.            | Inputting patient data                                                                                                                                                                    | 115.080                            | 2 minute               | 57.540                            |
| 3.            | Conduct an interview with the patient                                                                                                                                                     | 115.080                            | 5 minute               | 23.106                            |
| 4.            | Printing the SEP                                                                                                                                                                          | 115.080                            | 5 minute               | 23.106                            |
| 5.            | Print or create KIB                                                                                                                                                                       | 115.080                            | 1 minute               | 115.080                           |
| 6.            | Educate patients by providing information related to service facilities, tariffs, types of services, referrals as well as the rights and obligations of patients. and patient obligations | 115.080                            | 3 minute               | 38.360                            |
| <b>AMOUNT</b> |                                                                                                                                                                                           |                                    |                        | <b>372.092</b>                    |

Based on the calculations in table 3, it is known that the standard workload is 372,092 minutes/year.

## Developing Standard Allowances

The leeway factor is the time used in carrying out activities outside of the main activities. To calculate the standard allowance using the formula:

**Table 4.** Calculation of Standard Allowances Based on The WISN Method Theory.

| No            | Allowance Factor     | Average Time     | Working Time Available | Average Time minutes/year | Standard Allowance |
|---------------|----------------------|------------------|------------------------|---------------------------|--------------------|
| 1.            | Rest, prayer, eating | 30 minutes/day   | 115.080                | 9.360                     | 0,081              |
| 2.            | Istigozah            | 60 minutes /week | 115.080                | 2.880                     | 0,025              |
| <b>AMOUNT</b> |                      |                  |                        |                           | <b>0,106</b>       |

Based on the calculation in table 4 that the standard kelonggrn obtained is 0.106 with an allowance factor of rest and istigozah.

## Calculation of Labor Requirements

The calculation of labor requirements at the outpatient registration of the Muslimat Ponorogo Hospital can be determined as follows.

### Determining Quantity

To determine the quantity using the following formula:

**Table 5.** Quantity Calculation Based on WISN Method Theory.

| No | Activity                                                                                                                                                                                  | Average Time | Volume RM/day | Workload Standard | Quantity Basic Activities/year |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-------------------|--------------------------------|
| 1. | Calling the queue number of outpatient registration patients                                                                                                                              | 1 minute     | 250           | 115.080           | 68.500                         |
| 2. | Inputting patient data                                                                                                                                                                    | 2 minute     |               | 57.540            | 68.500                         |
| 3. | Conduct an interview with the patient                                                                                                                                                     | 5 minute     |               | 23.106            | 68.500                         |
| 4. | Printing the SEP                                                                                                                                                                          | 5 minute     |               | 23.106            | 68.500                         |
| 5. | Print or create KIB                                                                                                                                                                       | 1 minute     |               | 115.080           | 68.500                         |
| 6. | Educate patients by providing information related to service facilities, tariffs, types of services, referrals as well as the rights and obligations of patients. and patient obligations | 3 minute     |               | 38.360            | 68.500                         |

**Determining Labor Requirements**

Calculation of human resource needs is very important in order to find out how many human resources should be owned.

**Table 6.** Calculation of HR Needs Based on the WISN Method Theory.

| No | Activity                                                                                                                                                                                  | Needs HR (people) | Needs HR (people) |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|
| 1. | Calling the queue number of outpatient registration patients                                                                                                                              | 0,59              | 10,07 = 10        |
| 2. | Inputting patient data                                                                                                                                                                    | 1,19              |                   |
| 3. | Conduct an interview with the patient                                                                                                                                                     | 2,96              |                   |
| 4. | Printing the SEP                                                                                                                                                                          | 2,96              |                   |
| 5. | Print or create KIB                                                                                                                                                                       | 0,59              |                   |
| 6. | Educate patients by providing information related to service facilities, tariffs, types of services, referrals as well as the rights and obligations of patients. and patient obligations | 1,78              |                   |

So from the results of the calculation of human resource needs using the WISN formula, the required results are 10 outpatient registration personnel at the Muslimat Ponorogo Hospital.

**Discussion**

Based on the results of research conducted in the outpatient registration section of the Muslimat Ponorogo Hospital, the analysis of officer workload using the WISN method shows that there is an imbalance between the number of available workers and the actual workload. Based on interviews and observations conducted by researchers, the activities of outpatient registration are: calling queue numbers, inputting patient data, interviewing patients, printing SEP, making KIB and initial patient education. The electronic medical record system has been implemented but there are technical obstacles such as network disruptions and system problems. The results of the calculation of available work time for outpatient registration officers at Muslimat Ponorogo Hospital amounted to 1,918 hours / year or 115,080 minutes / year. This is the basis for calculating workload standards for each officer as well as standard allowances and determining HR needs. After calculating with the WISN method at the registration of the Muslimat Ponorogo Hospital.

Calculating the need for medical record officers is not appropriate because the number of officers at the outpatient registration of the Muslimat Ponorogo Hospital is 5 people while the results of the calculation show 10 registration officers.

## 5. CONCLUSIONS AND SUGGESTIONS

Based on the data and discussion in the previous chapter, that this study can be concluded that calculated based on the WISN method, five officers are needed, which is obtained from The available working time at the outpatient registration of the Muslimat Ponorogo Hospital is 274 days or 115.080 minutes/year, Determination of work units or main tasks at the outpatient registration of RSUD Muslimat Ponorogo consists of 6 main tasks and there are 2 time leeway activities, The volume at the outpatient registration of RSUD Muslimat Ponorogo is 250 medical records/day and the specified working hours are 7 working hours/day, Standard workload registration outpatient RSUD Muslimat Ponorogo 372,092 officers minutes/year, The number of outpatient registration officers at Muslimat Ponorogo Hospital consists of 5 officers. Meanwhile, based on the calculation results obtained using the WISN method, it shows that the need for outpatient registration officers is 10 people. Researchers suggest that there is a shortage of personnel, therefore it is advisable to increase the number of officers at the registration to balance the workload and improve service quality productivity.

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