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Workload Analysis in the Medical Record Assembling Unit at RSUD Patut Patuh Patju Using the WISN Method

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ABSTRACT

Determining staffing requirements in hospitals is a crucial aspect of maintaining service quality. The Workload Indicators of Staffing Need (WISN) method, developed by the World Health Organization (WHO), is applied to assess the alignment between the number of staff and the actual workload. This study aimed to examine staffing needs in the medical record assembling unit at RSUD Patut Patuh Patju in 2024. . The research employed a quantitative descriptive design, with subjects consisting of medical record assembling officers and the head of the medical record unit. Data were collected through direct observation of assembling activities, document review, and patient visit statistics. The average number of documents during this period (four-month period) was 495. The findings revealed that the available working time amounted to 116,760 minute per year, with an average of 315 documents completed per day. WISN analysis indicated an ideal requirement of three officers, whereas the actual number was only one. This condition highlights a shortage of two staff members, which adversely affects the effectiveness of medical record services. The findings of this study are consistent with previous research conducted at RSUD NTB and RS PHC Surabaya. The conclusion underscores the importance of workload-based staffing planning to ensure the quality of hospital services.

Keywords: workload, medical records, assembling, WISN, staffing

1. BACKGROUND

Hospitals are healthcare institutions that serve a strategic function in providing comprehensive services, including curative, preventive, and rehabilitative care. They also act as centers for health workforce training and medical research to improve service quality [1]. In Indonesia, hospitals are regulated under various legal frameworks, such as Government Regulation No. 47 of 2021, which emphasizes the delivery of comprehensive healthcare services [2]. RSUD Patut Patuh Patju is a type C hospital in West Lombok Regency that achieved full accreditation in 2018. It employs 650 staff, comprising 400 medical and 250 non-medical personnel. However, there is only one staff member responsible for medical record assembling, who processes an average of 315 to 495 documents daily [3]. This indicates a potentially high workload.

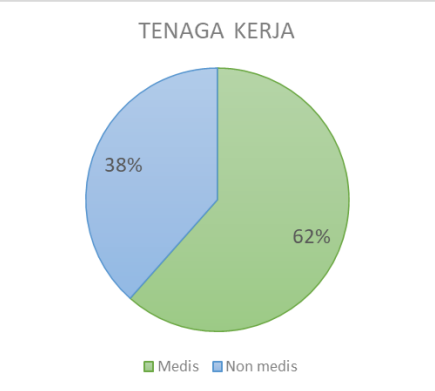

Figure 1. Employee of RSUD patut patuh patju 2023

Healthcare workers are a crucial component in service delivery. Law No. 36 of 2014 defines healthcare workers as individuals dedicated to the field of health with specific knowledge and skills [4]. Medical record and health information officers play a vital role in collecting, managing, and presenting patient data. Assembling is one of their critical tasks, which involves arranging and checking the completeness of documents before coding [5].

Completeness of medical records is an indicator of hospital service quality. Previous studies have shown that incomplete records can disrupt healthcare services and reduce patient data accuracy [6]. The assembling process is essential in ensuring records are complete and ready for use in both clinical services and research.

In practice, the workload of assembling officers can be very high when staffing levels are inadequate compared to the volume of records processed. Staff shortages may result in extended waiting times, as highlighted by Yulianti & Yanti (2022), who reported outpatient waiting times exceeding Ministry of Health standards [7].

To address staffing distribution issues, the World Health Organization (WHO) developed the Workload Indicators of Staffing Need (WISN) method. This method calculates staffing needs based on available working time, workload standards, allowance standards, and core activities. Its advantages lie in its simplicity, realism, and applicability across various healthcare settings [8].

A previous study at RSUD NTB found that the ideal number of assembling officers was three, while the actual number was two, suggesting the need for additional staff [9]. Similar findings at RS PHC Surabaya demonstrated the importance of workload-based staffing assessments to ensure efficiency [10].

Therefore, this study was conducted to assess staffing needs in the medical record assembling unit at RSUD Patut Patuh Patju in 2024 using the WISN method. The findings are expected to provide a basis for hospital management in planning human resources to optimize medical record services.

2. RESEARCH METHODS

This study employed a quantitative descriptive approach. The subjects were the medical record assembling officer and the head of the medical record unit at RSUD Patut Patuh Patju. Data were collected through direct observation of assembling activities, review of medical record documents, and patient visit data. Instruments used included interview guides, observation sheets, and research guidelines. Data analysis was performed using the WISN formula, which involves calculating available working time (AWT), workload standards (WS), allowance standards (AS), and the total number of core activities.

3. RESULTS AND DISCUSSION

Berdasarkan penelitian yang dilakukan di RSUD Patut Patut Patju diperoleh data pada bulan Desember 2024 – Maret 2025.

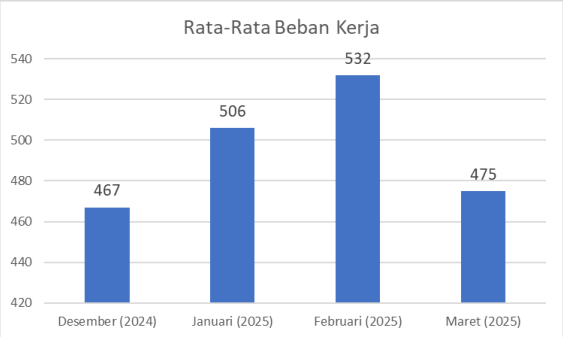

Figure 2. workload in assembling unit

3.1 RESULTS

The research conducted at RSUD Patut Patuh Patju covered the period from December 2024 to March 2025. The highest number of documents was recorded in February (532), while the lowest was in December 2024. The average number of documents during this four-month period was 495.

The medical record assembling workflow consists of the following steps:

1. Checking the completeness of patient documents from each clinic.
2. If forms are incomplete, the assembling officer confirms with the clinic or responsible staff.
3. Sorting medical record forms in order.
4. Marking the outpatient daily census as proof that the record has been assembled.
5. Submitting the completed medical records to the coding officer.

The WISN-based workload and staffing calculation results are summarized as follows:.

Table 1. workload calculation

Component	Calculation Results
Available Working Time (AWT)	1,946 hours (116,760 minutes)
Average Time per Document	125 seconds (2.08 minutes)
Workload Standard (WS)	56.135 minutes/year
Allowance Standard (AS)	0,082 minutes
Total Core Activities	136.620 documents/year

The analysis indicates that the workload significantly exceeds the capacity of a single staff member. The WISN calculation shows that three assembling staff members are required, while the hospital currently has only one, indicating a shortage of two staff members.

Calculation Results	
Human resource needs based on the WISN method	3 people
Current human resources	1 people
Lack	2 people

3.2 DISCUSSION

The calculation revealed that the available working time for the assembling officer at RSUD Patut Patuh Patju is 116,760 minutes annually, accounting for effective working days, annual leave, training, national holidays, and absences. According to WHO (2010), AWT is a crucial parameter in WISN as it forms the basis for workload standards [1]. The calculated workload standard was 56,135 minutes/year, indicating the maximum capacity of one officer. With 136,620 documents annually, the workload exceeds the ideal capacity by more than twofold. The allowance standard was 0.082 minutes, covering non-core activities

such as meetings, breaks, and prayers. This small allowance shows that non-productive time is within a reasonable limit, consistent with Anggareni et al. (2020) [10].

The average time required to complete one document is 125 seconds (2.08 minutes), including document verification, sorting, census marking, and submission to coding. This is significantly shorter compared to Fatuhu et al. (2021), who reported 17.5 minutes per document at RSUD NTB [9]. Variations may be due to administrative systems, form counts, and staff compliance.

The shortage of staff has direct implications for service quality. A single officer handling approximately 495 documents per day faces an excessive workload, which may reduce accuracy, prolong waiting times, and increase burnout risk. These findings align with Yulianti & Yanti (2022), who reported extended patient waiting times due to limited medical record staff [7].

In conclusion, the WISN method effectively highlights the gap between actual and required staffing, supporting the need to recruit additional officers to optimize medical record services and maintain efficiency.

4. CONCLUSION

The available working time of the medical record assembling officer at RSUD Patut Patuh Patju is 116,760 minutes (1,946 hours). The calculated workload standard was 56,135 minutes (935.6 hours), while the allowance standard was 0.082 minutes per year. Based on the average workload of 495 documents per day and the WISN method, the required number of assembling officers is three. The current staffing level of one officer indicates a shortage of two staff members. Therefore, it is recommended that the hospital management increase staffing in the assembling unit to ensure optimal service delivery.

5. THANKS

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