

Analysis of the Influence of Workload-Based Staff Requirements on the Outpatients Coding Section of BPJS with WISN Method

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ABSTRACT

Professional staffs in the coding section have an important role in doing activities in the hospital. The coding section officer is responsible for documents claimed by BPJS Health and is responsible for the claim. This study aims to determine the estimated number of workers in the outpatients coding section of BPJS needed based on the WISN (Workload Indicator Staff Need) method and to determine the competence and workload of coding officers. This is qualitative research using work time and measurements the WISN (Workload Indicator Staff Need) method. Retrieval of data from this study used observations, interviews and documentation studies. The results of this study were in the form of an estimate of the number of outpatient coding officers for BPJS patients needed to do job descriptions properly so that maximum work results were achieved. The results of the workload calculation using the WISN (Workload Indicator Staff Need) method, the minimum number of workers required was two officers, where currently there were two outpatient coding officers, so it was advisable to add two people, including one doctor as verification and one more person scanning the medical record. These additions should consider the competence of personnel in their fields so that they are able to perform well in accordance with existing standards.

Keywords: Coding, Workload, Staff Needs Analysis, WISN

INTRODUCTION

Human resource planning is the main function that must be carried out by every organization and must be the focus of attention so that the steps taken by the management become effective (Boon et al., 2019) and further ensure that within an organization the right health personnel are available in order to achieve a goal and various targets set has been established (Rawashdeh, 2018). One of the health human resources is the planning of medical record personnel (Schnelle et al., 2004; Grange et al., 2020). Medical record is a file that contains notes and documents regarding patient identity, examination, treatment, actions and other services that have been provided. The main function of the medical record is to store patient service data and information. In achieving the medical record function, the required human resources must have competence (knowledge, skills, attitudes and values). Medical records aim to support the achievement of orderly administration in the framework of efforts to improve health services in hospitals (Zhang et al., 2022), where without the support of a good and correct medical record management system, orderly administration in hospitals will not work as expected. While orderly administration is one of the factors that determine health service efforts in hospitals.

Based on the provisions regarding Health Workers, namely medical recorders as health workers who are required to have authority, namely Registration Certificates (STR), Work Permits (SIK) and Practice Permits (SIP). STR is written evidence given by the council of each health worker to registered health workers (Hemphill et al., 2018; Chegini et al., 2019), while SIK is written evidence given by the district/city regional government to health workers as the authority to carry out practice. In an effort to improve health services in hospitals, it is necessary to hold good and correct medical record processing, one of which is disease and action coding (Chen & Decary, 2020; Ghazal, 2021). Medical record coding is an activity of processing medical record data to provide code assignment using letters or numbers or a combination of letters and numbers that represent data components. For the sake of running medical record management activities properly, it needs to be supported by professional human resources and appropriate workloads

(Dirani et al., 2020).

Workload is a number of work targets or target results that must be achieved in a certain time unit. The amount of available workforce must be balanced with the workload to be carried out in order to achieve harmony in a job, this balanced state must be preceded by various series of activities called workload analysis so that we can find out quantitative workforce information, namely how many workers are available needed to complete a job. The process of administering medical records can be carried out properly and can provide complete, accurate and timely data information if supported by adequate human resources in terms of quality and quantity (Abdolkhani et al., 2019; Mitchell & Kan, 2019). Quality includes skills, knowledge and level of education, while quantity is the amount of existing workforce that must be in accordance with the workload. Workforce in accordance with the workload greatly affects the level of work efficiency and productivity. The medical record service unit is divided into two, namely: the medical record data recording unit that is outside the medical record unit (Huang et al., 2020; Barker et al., 2018), including: TPPRJ, TPPRI, TPPGD, URJ, URI, UGD and the medical record data processing unit which is inside the medical record unit is assembling, coding and indexing, filing as well as analysis and reporting. Coding and indexing are a part of the medical record unit in charge of recording and researching and establishing disease codes (Pendergrass & Crawford, 2019; Schrag et al., 2019).

Outpatient, inpatient and emergency care facilities starting from registration, distribution, processing and storage as well as services performed by medical record officers (Ikawati & Wardani, 2022). The average number of patient outpatient visits is 70 people per day with one health insurance, namely BPJS (Social Security Organizing Agency). Based on the results of initial observations in the field, that the Human Resources (HR) in the BPJS Health claim room consisted of 10 people. Officers who have competence in the field of coding are only 5 officers currently, there are 2 workers in the coding section for outpatient services at the Indonesian Workers Imelda General Hospital (RSU IPI). Based on an interview with the coding officer at the Indonesian Workers Imelda General Hospital (RSU IPI) that the workload on the coding department for outpatient services is unbalanced, the job description of the coding officer is not only coding regular claim files, but also working on pending claims and patient dispute claims outpatient care, and the officer also concurrently goes into the verification department to check the scan file of the outpatient and one of the officers also confirms the pending or dispute claim file to the doctor in charge of the patient and the other officer takes part in working on the inpatient dispute claim (Sue, 2022; Putrianda et al., 2021). Thus, causing their work to be not on time and there are working hours exceeding the available working time at the beginning of each month at the time of claim. Therefore, the number of officers must be in accordance with the amount of workload, so that the productivity of the officers can increase and be more optimal.

On May 19, 2022 the number of medical records for outpatients was 73 medical records, while the number of medical records given to the coding section was 33 medical records and the number of medical records that were not coded was 40 medical records. On the following day, May 20, 2022, the number of medical records was 56 medical records, while the number of medical records given to the coding section was 22 medical records and the number that was not coded was 34 medical records and on May 21, 2022 the number of medical records was 61 medical records. while the number of medical records given to the coding department was 21 medical records and the number that was not coded was 40 medical records. The total number of outpatient medical records in April 2022 was 1,559 and inpatient medical records were 472 medical records. Based on the initial survey above, researchers are interested in using the WISN method because this method is based on real workloads and easy to operate data comprehensively. Based on the initial survey above, the researcher is interested in taking the title "Analysis of the Effect of Workload Based on Workload in the Coding Section of BPJS Outpatient Patients with the WISN (Workload Indicator Staff Need) Method at the Indonesian Workers' Imelda General Hospital (RSU IPI) Medan".

METHODS

This type of research is qualitative research using work time measurement (time motion study) which is an activity to determine the time needed by an operator (who has average skills

and is well trained) in carrying out a work activity in conditions and tempo. To be able to understand more deeply about the phenomena that occur and are felt by the informants. In this study, it focuses on estimating the number of workers needed in the coding section at the Indonesian Workers' Imelda General Hospital (IWI General Hospital) Medan.

RESULTS

Based on the results of research conducted by researchers with the title "Analysis of the Effect of Workload Based on Workload in the Coding Section of BPJS Outpatient Patients with the WISN (Workload Indicator Staff Need) Method at Imelda General Hospital Indonesian Workers (RSU IPI) Medan", namely officers in the outpatient coding are still lacking, namely as many as 2 people, of which there will be 20,656 outpatients in 2021. The coding officer also stated that having only worked for 6 months, the coding officer not only worked according to the job description, but also worked on inpatient dispute claims after the officer does the outpatient coding and the outpatient coding officer also confirms with the doctor or nurse and also completes any files needed when claiming, including the doctor's signature on the medical resume.

An overview of the number of outpatient coding officers for BPJS patients in 2022, the number of staff in the outpatient coding section based on the results of interviews and observations totaled 2 people with the last education D-III in medical records. Job descriptions in the coding section for outpatient BPJS patients based on the results of the study of job description documentation in the outpatient BPJS patient section are: 1) Enter details of costs (billing) to INA CBG'S. 2) Enter coding into INA CBG'S. Scan medical record documents. 3) Verify documents that have been scanned according to the coding manual. 4) Check the number of scans with the total number of patients at INA CBG'S. 5) Responsible for TXT (Ensuring the number of patients from SIRS to INA CBG'S is appropriate). 6) Requesting a doctor's signature for a medical resume. 7) Recheck documents dated and made to the MMI box. 8) Working on pending claims. 9) Work on dispute claims. 10) Ask the doctor for confirmation if the patient's diagnosis is unclear.

Planning for the workforce needs of outpatient coding officers based on workload at the Indonesian Workers' Imelda General Hospital (RSU IPI). Requirements planning using the WISN (Workload Indicator Staff Need) method is as follows:

Table 1.

Available Working Hours Coding Officer at Imelda General Hospital for Indonesian Workers (RSU IPI) Medan Table 1.

Factor	Total	Description
Working day's	312	Day/Years
Annual leave	12	Day/Years
Education & Training's	3	Day/Years
National Holiday's + Joint Leave	20	Day/Years
Absences from work	3	Day/Years
Working time's	8	Hour/Day
Working Day's Available	274	Day Work/Years
Working time is available	2.192	Hour/Years
Working time is available	131.520	Minute/Years

Source: IPI RSU BPJS Outpatient Coding

The following is a description of the calculation:

$$\begin{aligned} \text{Available working days:} &= 312 - (12+3+3+20) \\ &= 312 \text{ days/year} - 38 \text{ days} \\ &= 274 \text{ working days/year} \end{aligned}$$

$$\begin{aligned} \text{Available working time:} &= 274 \times 8 \text{ hours/day} \\ &= 2,192 \times 60 \text{ minutes} \\ &= 131,520 \text{ minutes/year} \end{aligned}$$

Define Human Resources (HR) Category & Workload Standard's for Each Human Resource (HR) in the Coding Section for Outpatient BPJS Patient

Based on an initial survey at the Medan Indonesian Workers Imelda General Hospital (RSU IPI), there were 2 outpatient coding officers for BPJS patients. The standard workload for one main activity is prepared based on the time needed to complete (average time) and available

working time owned by each Human Resources (HR) category, as follows:

Table 2.

Results of Standard Workload Calculations for Coding Officers at Imelda General Hospital for Indonesian Workers (RSU IPI) Medan

Job Description	Available Working Time (Minutes)	Average Time per Main Activity (Minutes)	Standard Workload (DRM)	DRM Quantity Year 2021
Enter details of costs (billing) to INA CBG'S	131.520	1,10 Minute	119563,63	20.656
Enter coding into INA CBG'S	131.520	1,10 Minute	119563,63	20.656
Scan medical record documents	131.520	0,58 Minute	226758,62	20.656
Verify documents that have been scanned	131.520	0,40 Minute	328800	20.656
Check the number of scans with the total number of patients at INA CBG'S	131.520	6,10 Minute	21560,65	20.656
Responsible for TXT (Ensuring the number of patients from SIRS to INA CBG'S is appropriate)	131.520	7.50 Minute	17536	20.656
Asking for a doctor's signature for a medical resume	131.520	2,50 Minute	52608	10.328
Double check file is dated and created to MMI box	131.520	4,40 Minute	29890,90	20.656
Working on pending claims	131.520	4,10 Minute	32078,04	59
Work on dispute claims	131.520	5, 30 Minute	24815,09	12
Ask the doctor for confirmation if the patient's diagnosis is unclear	131.520	8,10 Minute	16237,03	8
Research	131.520	2,5 Minute	52608	4

Standard Allowance for Coding Officers at the Medan Indonesian Workers' Imelda General Hospital (RSU IPI)

The allowance standard is obtained from the allowance factor for each category of Human Resources (HR), which includes types of activities that are not directly related to or influenced by the high or low quality or number of main activities, namely as follows:

Table 3.

Calculation of Allowance Standards for Coding Officers at Imelda General Hospital for Indonesian Workers (RSU IPI) Medan

Activity	Quantity	Time	Total Time
Time off ergonomic	274 (Times/Year)	60 (Minute/Day)	16.440 (Minute/Years)
Break eat	274 (Times/Tahun)	30 (Minute/Day)	8.220 (Minute/Years)
Meeting	5 (Times/Year)	60 (Minute/Day)	300 (Minute/Year)
Morning parade	274 (Times/Year)	45 (Minute/Day)	12.330 (Minute/Year)
Sport	52 (Times/Year)	60 (Minute/Day)	3.120 (Minute/Year)
Community service	52 (Times/Year)	60 (Minute/Day)	3.120 (Minute/Year)
Working on the Index			
Performance Individual (IPI)	12 (Times/Year)	60 (Minute/Day)	720 (Minute/Year)
Flag ceremony	52 (Times/Year)	60 (Minute/Day)	3.120 (Minute/Year)
Total			47.370 (Minute/Year)

Allowance Standards at the Indonesian Worker Imelda General Hospital (RSU IPI) Medan can be calculated using the existing formula with details: = 47,370
=131,520

$$= 0.3601733577$$

$$= 0.36 \text{ Power}$$

Needs of Human Resources (HR)

HR requirements with the volume of activities in 2021 (quantity of documents) divided by the standard workload (documents) after being totaled will be added to the allowance standards, the data can be seen in the following table:

Table 4.

Calculation of the Needs of Coding Officers at Imelda General Hospital for Indonesian Workers (RSU IPI) Medan

Job Description	DRM Quantity	Standard Workload (DRM)	HR Requirements
Enter details of costs (billing) to INA CBG'S	20.656	119563,63	0,1727615664
Enter coding into INA CBGS	20.656	119563,63	0,1727615664
Scan medical record documents	20.656	226758,62	0,0910924577
Verify the scan file according to the coding manual	20.656	328800	0,0628223844
Check the number of scans with the total number of patients at INA CBG'S	20.656	21560,65	0,9580416175
Responsible for TXT (Ensuring the number of patients from SIRS to INA CBG'S is appropriate)	20.656	17536	1,177919708
Asking for a doctor's signature for a medical resume	10.320	52608	0,3926399027
Recheck files as of date and created to MIMI box	20.656	29890,90	0,1961678832
Working on pending claims	59	32078,04	0,6910464389
Work on dispute claims	12	24815,09	0,0001839264
Ask the doctor for confirmation if the patient's diagnosis is unclear	8	16237,03	0,0004835767
Research	4	52608	0,000095046
Total			3,916016074
Allowance Standard (Power)			0,36
HR Requirements			4,276016074
Total Rill after rounding			4 Power

Based on the table above, which is obtained from the quantity of main activities divided by the standard workload, the total minimum number of Human Resources (HR) requirements is 3.916016074. After that, the standard allowance is added, which is 0.36 workers. From these calculations, it can be obtained that the minimum number of Human Resources (HR) requirements is 4.276016074 and the real total after being rounded up becomes the minimum required 4 workers.

DISCUSSION

Workforce Performance of Coding Officers at the Imelda General Hospital for Indonesian Workers (RSU IPI) Medan

The performance of medical record officers is one of the determinants in supporting hospital quality including: The classification of workers according to quality is appropriate, because the workforce of outpatient coding officers is already educated and trained (Surr et al., 2020; Karan et al., 2019). Labor productivity is influenced by several things including: 1) The capabilities of coding officers are in accordance with their competence. 2) The attitude of the coding officer is high morale. 3) The situation and environmental conditions of the coding officer are inadequate because they are still constrained by inadequate facilities and infrastructure. 4) Motivation for each officer is given motivation to continue education again. 5) Wages (salaries) are in accordance with Medan city government regulations, but for officers who have excessive working hours are not given additional wages. 6) The education level of coding officers is appropriate.

Based on the results of calculating the workforce requirements for coding officers at the

Indonesian Workers' Imelda Hospital (RSU IWI) Medan, Available Working Time Setting's: 1) Working days in accordance with the provisions at the Medan Indonesian Workers Imelda General Hospital (RSU IPI) in one year is 274 working days/year. 2) Annual Leave is 12 working days each year. 3) Education and training are 3 days. 4) National Holidays in 2022, namely 20 days. 5) Absence from work according to the provisions at the Indonesian Workers Imelda General Hospital (RSU IPI) Medan, namely 3 days. 6) The working time of the coding officer at the Indonesian Workers Imelda General Hospital (RSU IPI) Medan has 8 working hours in 1 day. 7) Working time is available at the General Hospital Imelda Indonesian Workers (RSU IPI) Medan, which is 131,520 minutes/year.

Standard Workload is the workload standard for coding officers at the Medan Indonesian Workers Imelda General Hospital (RSU IPI) is based on job descriptions, including: 1) Entering details of costs (billing) to INA CBG'S is 119563.63. 2) Entering the coding into the INA CBG'S is 119563.63 (B). 3) Scanning medical record documents is 226758.62. 4) Verify documents that have been scanned according to the coding manual is 328800. 5) Checking the number of scans with the total number of patients at INA CBG'S is 21560.65. 6) Responsible for TXT (Ensuring the number of patients from SIRS to INA CBG'S is appropriate) is 17536. 7) Requesting a doctor's signature for a medical resume is 52608. 8) Re-checking the document dated and made to the MMI box is 29890.90. 9) Working on pending claims is 32078.04. 10) Working on dispute claims is 24815.09. 11) Asking the doctor for confirmation if the patient's diagnosis is unclear is 16237.03. 12) Research is 52608.

Allowance standard in table 2, the results of the calculation of the standard allowance are 0.36 coding officers. Need for Human Resources (HR). From table 4, it can be obtained the total minimum number of human resources (HR) requirements, namely the minimum required 4 workers. Based on the results of the calculation of the minimum number of labor requirements for coding officers at the Indonesian Workers Imelda General Hospital (RSU IPI) Medan, the current workforce needed to carry out all activities for outpatient coding officers is 4.2 or rounded up to 4 workers with the number of coding officers at this time as many as 2 people. From the results of these calculations, there is a shortage of coding officers at the Indonesian Workers Imelda General Hospital (RSU IPI) in Medan, namely 2 outpatient coding workers.

The minimum number needed for 4 coding staff workers is obtained from the calculation of the time needed to complete the work in the coding section, the details of this time can be seen in the calculation of the standard workload by looking at the average time per main activity (minutes). The coding officer must look at the patient's name, SEP number (Participant Eligibility Letter), carefully to avoid misunderstanding the patient's medical record number. The coding officer also has to look at several variables in the coding system before the medical records are scanned (Li et al., 2020). Variables to look at include: Name of the patient, SEP Number (Participant Eligibility Letter), Date of birth of the patient, Diagnostic examination, etc. The coding officer must double-check the patient's name and SEP number (Participant Eligibility Letter) to avoid mistakes and make it easier for officers to check and verify patient documents before going to the scan officer, as well as to avoid purify failure and pending on documents.

Competency of Coding Officers at Imelda General Hospital Indonesian Workers (RSU IPI) Medan

Based on the results of interviews with coding officers that the role of coding is very important in the medical record service for outpatients, inpatients and Emergency Installations (IGD) because coding officers are also responsible for the medical records of patients who leave the BPJS room. The coding officers have only been working for 6 months and the officers have never been given training on coding or attended seminars or workshops on coding. The competency of the coding officer workforce can be seen according to the level of education and years of service (Maassen et al., 2021; Okoroafor et al., 2019), namely with the education level of DIII Recording and Health Information and having a new working period of 6 months, but they are able to do work in accordance with the main job descriptions. Even though they are working on it already exceeds the available working time which should be 8 hours of work. So that the qualifications and competencies possessed by outpatient coding officers at the Medan Indonesian Workers Imelda General Hospital (RSU IPI) are in accordance with Minister of Health Regulation No. 55 of 2013 concerning medical record personnel.

CONCLUSION

The performance of medical record officers is one of the determinants in supporting hospital quality including: The classification of workers according to quality is appropriate, because the workforce of outpatient coding officers is already educated and trained. Labor productivity is influenced by several things including: 1) The capabilities of coding officers are in accordance with their competence. 2) The attitude of the coding officer is high morale. 3) The situation and environmental conditions of the coding officer are inadequate because they are still constrained by inadequate facilities and infrastructure. 4) Motivation for each officer is given motivation to continue education again. 5) Wages (salaries) are in accordance with Medan city government regulations, but for officers who have excessive working hours are not given additional wages. 6) The education level of coding officers is appropriate.

Based on the results of the research and discussion with the title "Analysis of the Effect of Workload Based on Workload in the Coding Section of BPJS Outpatient Patients with the WISN (Workload Indicator Staff Need) Method, Imelda Indonesian Workers Hospital (RSU IPI) Medan" it can be concluded that the minimum number of labor requirements based on the results of calculations using the WISN (Workload Indicator Staffing Need) method, there are 4 workers, while the current workforce of coding officers is 2 people, so the workforce needed as many as 2 people, of which 1 doctor is expected to act as a verifier and 1 officer for the outpatient medical record scan section. The competence of coding officers is in accordance with medical record competencies according to Permenkes No. 377 of 2007 concerning Medical Recording Professional standards and Health Information. Outpatient coding officers should receive medical records from verification, analyze and provide disease codes based on ICD 10 CM and code actions/procedures based on ICD 9 CM and enter or enter the code into the computer.

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