

## Analysis Of Registration Workforce Needs Based On The Wisn Method At Assalam Gemolong General Hospital

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**ABSTRACT:** There are 8 officers at the registration section of the Assalam Gemolong General Hospital. Activities in one shift not only serve the registration of RJ, RI and IGD patients but also find and retrieve medical record documents to the filing rack, after that officers still submit medical record documents to the polyclinic and ER. On Mondays, Tuesdays, Thursdays and Saturdays many patients go to Assalam Gemolong General Hospital for treatment, so that the registration officer has difficulty in patient registration services. As a result, patient queues will pile up because there are only 3 registration counters. The method used is the WISN method with available working time stages, workload standards, allowance standards and labor requirements. The research sample was 8 registration officers. Research instruments in the form of observation guidelines, interview guidelines, stopwatches, calculators, stationery. The results showed that the available working time was the morning shift for registration of RJ, RI and IGD 117,600 minutes, the afternoon shift for registration of RJ, RI and IGD 100,800 minutes and the night shift for registration of the IGD and RI 194,700 minutes for hospitalization. The registration officer's work unit consists of 3 high school graduates and 5 medical record graduates. The standard workload of registration for morning shifts is RJ and IGD 10,556.55 minutes/year and registration for RI 7,829.56 minutes/year, registration for evening shifts for RJ and IGD is 9,048.47 minutes/year and registration for RI 6,711.05 minutes/year and registration for night IGD shifts 17,447.55 minutes/year and RI Registration 12,962.71 minutes/year. The standard allowance for the morning shift is 1.146, the day shift is 1.4 and the night shift is 0.23. The need for labor requires additional registration personnel on the afternoon shift as many as 1 officer from 3 existing officers.

**Keywords:** Labor Needs, Officer Registration, Workload Indicator Methods Personnel Needs (WISN)



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## INTRODUCTION

Outpatient registration and emergency department registration are scientific services that serve outpatients, but emergency registration provides offers to patients for twenty-four hours in emergency or non-emergency, or non-emergency or emergency and emergency cases (Anggraeni and Destra 2023; van Oosterhout et al. 2023; Pardhan et al. 2023a; Wang 2023). Inpatient Registration is an interest that serves patients in the reception or registration of patients who will be hospitalized in a hospital(Rafiqoh 2021). Registration officers are required to carry out their duties quickly and responsively, so it is very important to know the workload carried out by each registration officer and can be calculated using the workload indicator of staffing need (WISN) (Asres 2023; Aytona et al. 2022; Qamar et al. 2023; Tabatabaee and Daghighbin 2022; Yulliswandi, Megawati, and Nuraini 2022).

WISN) is a technique for calculating health human resource needs based on the real workload carried out by each category (Ary Denggan Syahputra Lubis et al. 2022; Khumaira 2022; et al. 2019). WISN can be used to examine one simplest category of workforce in one or more exceptional healthcare facilities and can also be used to examine many categories of staff at the same time.

Based on an initial review carried out by the author, there were 8 people in the patient registration unit at RSU Assalam Gemolong. The working hours group for registration unit workers is divided into 3 shifts, namely morning shift 07.00 – 14.00 WIB, afternoon shift 14.00 – 20.00 WIB, and night shift 20.00 – 07.00 WIB. The consistent range of outpatient and emergency patient visits per day reaches 215 patients, with a range of registration unit officers on the morning shift, three afternoon shifts, 1 night shift and 1 person without work, to effectively serve the registration of affected people. operating time is 7 hours for the morning shift, effective running time is 6 hours for the afternoon shift and effective time is 11 hours for the night shift. Activities in one shift no longer only serve the registration of outpatient, inpatient and emergency patients but also try to find and retrieve medical record documents to the filing rack behind the registration, after which the officers still distribute or promise clinical report documents to the polyclinic and emergency department(Pardhan et al. 2023b). Emergency situations on Monday, Tuesday, Thursday and Saturday during the morning shift at 08.00-10.00 WIB and the afternoon shift at 14.00-15.00 WIB, many sufferers seek treatment at RSU Assalam Gemolong, so that registration officers can have fun dealing with problems in registration services affected people. As a result, the queue of affected people will pile up because there are only 3 registration counters.

The aim of this research is to determine overall personnel needs based on the WISN approach at the registration stage for the Assalam Gemolong RSU health facility.

## **METHOD**

This type of research is quantitative research(Creswell and David 2018; Sugiyono 2018). The approach used is the WISN technique with available running time levels, workload standards, allowance requirements and hard work requirements. The research pattern was eight registration officers. The research tools include statement instruments, interview instructions, stopwatches, calculators, and writing tools. data collection method with the help of observation, interviews and measurements.

## **RESULT AND DISCUSSION**

Calculation of Manpower Needs for Registration Officers at Assalam Gemolong General Hospital

Registration Officer

Assalam Gemolong RSU has eight officers divided into three shifts, namely three morning shift officers, 3 afternoon shift officers, 1 night shift officer and 1 leave officer. Operational hours for

## Analysis Of Registration Workforce Needs Based On The Wisn Method At Assalam Gemolong General Hospital

Novratilova, Pradista, Widiyanto

each shift include morning shift 07:00 - 14:00 WIB, afternoon shift 14:00 - 20:00 WIB, and night shift 20:00 - 07:00 WIB (Smith 2022). The following are the steps for calculating the workload and staff requirements for TPPRJ, IGD and TPPRI officers:

Set available work hours

Based on the results of interviews conducted with the help of researchers with Assalam Gemolong medical records staff, statistics obtained to determine the operational hours available from TPPRJ, IGD and TPPRI officers for the morning shift, afternoon shift and night shift are:

Morning shift

**Table 1. Working hours available TPPRJ, TPPRI and ER at Assalam Gemolong General Hospital Morning Shift**

Factor	HR Category
Working days available (A)	312 days
Leave (B)	12 days
Education and Training (C)	2 days
National Holidays (D)	15 days
Permission (E)	3 days
Working time (F)	7 hours
Working hours available $= \{A - (B + C + D + E)\} \times F$	$= \{312 - (12 + 2 + 15 + 3)\} \times 7$ hours
Amount (Hours)	1,960 hours
Amount (Minutes)	117,600 minutes

Day shift

**Table 2. Working hours available for TPPRJ, TPPRI and IGD at Assalam Gemolong General Hospital Day Shift**

Factor	HR Category
Working days available (A)	312 days
Leave (B)	12 days
Education and Training (C)	2 days
National Holidays (D)	15 days
Permission (E)	3 days
Working time (F)	6 hours

# Analysis Of Registration Workforce Needs Based On The Wisn Method At Assalam Gemolong General Hospital

Novratilova, Pradista, Widiyanto

Working hours available	$= \{312 - (12+2+15+3)\} \times 6 \text{ hours}$
	$= \{A-(B+C+D+E)\} \times F$
Amount (Hours)	1,680 hours
Amount (Minutes)	100,800 minutes

Night shift

**Table 3. Working hours available TPPRJ, TPPRI and IGD at Assalam Gemolong General Hospital Night Shift**

Factor	HR Category
Working days available (A)	312 days
Leave (B)	12 days
Education and Training (C)	2 days
National Holidays (D)	0 days
Permission (E)	3 days
Working time (F)	11 hours
Working hours available	$= \{295 - (12+2+0+3+)\} \times 11 \text{ hours}$
	$= \{A-(B+C+D+E)\} \times F$
Amount (Hours)	3,245 hours
Amount (Minutes)	194,700 minutes

Determine Work Units

**Table 4 Work units and HR categories for Assalam Gemolong RSU registration officers**

Work unit	HR Category	Number of Officers
Registration Officer	D3 Medical Records	5
	SENIOR HIGH SCHOOL	3
Amount		8

Develop workload standards

Based on the results of observations carried out by researchers on TPPRJ, TPPRI and IGD officers, the following morning, afternoon and evening shift activity data were obtained:

The main activities of TPPRJ, TPPRI and IGD officers

**Table 5. Average main activities for registering old patients in TPPRJ and IGD**

No	Main activities	Average (minutes)
1	Register patients	2.15
2	Takes DRM	2.25
3	Write down in the expedition book	1.19
4	Distributing DRM	2.11
5	Print SEP	1.87
6	Check the completeness of the guarantee	1
Amount		10.57

**Table 6. Average main activities for TPPRJ and IGD registration**

No	Main activities	Average (minutes)
1	Register patients	2.76
2	Create a new DRM	2.06
3	Make KIB & KIUP	1.27
4	Write down in the expedition book	1.01
5	Distributing DRM	2.02
6	Print SEP	2
7	Check the completeness of the guarantee	1
Amount		11.63

**Table 7. Average main activities for registering new TPPRI patients**

No	Main activities	Average (minutes)
1	Registering patients / Registration	3.02
2	Takes DRM	2.27
3	Looking for Vacant Wards in	1.28
4	Explain the ward facilities and costs each day	1.26

# Analysis Of Registration Workforce Needs Based On The Wisn Method At Assalam Gemolong General Hospital

Novratilova, Pradista, Widiyanto

5	Explain the inpatient consent letter form	3.02
6	Distributing DRM	2.23
7	Print SEP	1.9
Amount		15.02

In table 5, the general free time for registration of old patients at TPPRJ and ER is 10.57 minutes. Table 6 The average main activity for registering new patients at TPPRJ and ER is 11.63 minutes. while in table 7 the most common free time from TPPRI registration is 15.02. So the average of TPPRJ and IGD main activities is  $(10.57 + 11.63) / 2 = 11.14$  and the average of TPPRI is 15.02 .

Workload standards

**Table 8. Standard workload for TPPRJ and IGD officers**

Shifts	WKT (Minutes/year)	Average main activities of TPPRJ, IGD (number of new patients+number of old patients)/2	Standard workload (WKT/average main activity) (minutes/year)
Morning	117,600	11.14	10,556.55
Afternoon	100,800	11.14	9,048.47
Evening	194,700	11.14	17,447.55

**Table 9. TPPRI officer workload standards**

Shifts	WKT (Minutes/year)	Average main activities of TPPRI	Standard workload (WKT/average main activity) (minutes/year)
Morning	117,600	15.02	7,829.56
Afternoon	100,800	15.02	6,711.05
Evening	194,700	15.02	12,962.71

Develop allowance standards

The leeway factors for TPPRI, TPPRI and Emergency Room officers at Assalam Gemolong General Hospital are as follows:

**Table 10. Leisure Standards at Assalam Gemolong General Hospital**

No	Allowance Factor	Frequency	Time	Average per year	Minutes/Year
1	Seminar	1x/Year	4 hours	4 Hours/Year	240 Minutes/Year
2	Rest	1x/Day	1 hour	365 Hours/Year	21,900 Minutes/Year
3	Training (In house training)	1x/Year	4 hours	4 Hours/Year	240 Minutes/Year
4	Meeting	3x/Year	2 hours	6 Hours/Year	360 Minutes/Year

**Table 11. TPPRJ, TPPRI and IGD morning shift allowance standards**

No	Looseness factor	Allowance standard (average allowance factor/time)
1	Seminar	0.002
2	Rest	0.186
3	Training (In house training)	0.002
4	Meeting	0.003

The standard allowance for registration officers for TPPRJ, TPPRI and IGD activities at RSU Assalam Gemolong for one year was obtained by  $((0.002 \times 2 \text{ officers}) + (0.186 \times 3 \text{ officers}) + (0.002 \times 3 \text{ officers}) + 0.003) \times 2 = 1.146$ .

**Table 12. TPPRJ, TPPRI and IGD day shift allowance standards**

No	Looseness factor	Allowance standard (average allowance factor/time)
1	Seminar	0.002
2	Rest	0.22
3	Training (In house training)	0.002
4	Meeting	0.003

# Analysis Of Registration Workforce Needs Based On The Wisn Method At Assalam Gemolong General Hospital

Novratilova, Pradista, Widiyanto

The standard allowance for registration officers for TPPRJ, TPPRI and IGD activities at RSU Assalam Gemolong for one year is obtained by  $((0.002 \times 2 \text{ officers}) + (0.22 \times 3 \text{ officers}) + (0.002 \times 3 \text{ officers}) + 0.003) \times 2 = 1,4$ .

**Table 13. TPPRI and IGD night shift allowance standards**

No	Looseness factor	Allowance standard (average allowance factor/time)
1	Seminar	0.001
2	Rest	0.11
3	Training (In house training)	0.001
4	Meeting	0.002

The standard allowance for registration officers for TPPRI and IGD activities at RSU Assalam Gemolong for one year was obtained  $((0.001 \times 1 \text{ officer}) + (0.11 \times 1 \text{ officer}) + (0.001 \times 1 \text{ officer}) + 0.002) \times 2 = 0.23$ .

## Labor Needs

In calculating the need for the number of employees, you must know the basic amount of activities that have been determined through the hospital in 1 year, but if the statistics determined are less than 1 year or at best 2 months then the calculation method is as follows(Essuman et al. 2023; Valencia-Arias et al. 2023) :

Quantity of basic morning shift activities

**Table 14. Quantity of main activities in the Morning Shift**

Work unit	Main Activities	Quantity			
		A	B	C	D
Registration Officer	Outpatients and ER	3,405	1,702.5	17,025	20,430
	Inpatients	384	192	1,920	2,304

Information:

A: Number of service activities for 2 months.

B: Average service activities per month.

C: Number of services in the next 10 months (B x 10)

D: Cumulative number of service activities for 1 year (A+C)

morning shift workers

$$= \frac{\text{Quantity of Main Activities}}{\text{Standard Workload}} + \text{Standard Allowance}$$



$$= \left( \frac{\text{quantity of activities principal RJ and IGD}}{\text{standard load work RJ and IGD}} + \frac{\text{standard load principal RI}}{\text{standard load RI work}} \right) + \text{standard allowance}$$

$$= \left( \frac{18.570}{10.556,55} + \frac{2.304}{7.829,56} \right) + 1,146$$

$$= (1,7+0,3)+1,146$$

$$= 3,115 = 3$$

day shift activities

**Table 15. Quantity of main day shift activities**

Work unit	Main Activities	Quantity			
		A	B	C	D
<b>Registration Officer</b>	Outpatients and ER	3,048	1,524	15,240	18,288
	Inpatients	372	186	1,860	2,232

Information:

A: Number of service activities for 2 months.

B: Average service activities per month.

C: Number of services in the next 10 months (B x 10)

D: Cumulative number of service activities for 1 year (A+C)

day shift registration officers

$$= \frac{\text{Quantity of Main Activities}}{\text{Standard Workload}} + \text{Standard Allowance}$$

$$= \left( \frac{\text{quantity of activities principal RJ and IGD}}{\text{standard load work RJ and IGD}} + \frac{\text{standard load principal RI}}{\text{standard load RI work}} \right) + \text{standard allowance}$$

$$= \left( \frac{18.288}{9.048,47} + \frac{2.232}{6.711,05} \right) + 1,4 = (2,02+0,3)+1,4$$

$$= 3,72 = 4$$

Quantity of main night shift activities

Table 16. Quantity of Night Shift Main Activities

Work unit	Main Activities	Quantity			
		A	B	C	D
Registration Officer	IGD	1,186	593	5,930	7,116
	Inpatients	257	178.5	1,785	2,042

Information:

A: Number of service activities for 2 months.

B: Average service activities per month.

C: Number of services in the next 10 months (B x 10)

D: Cumulative number of service activities for 1 year (A+C)

night shift registration officers

$$\begin{aligned}
 &= \frac{\text{Quantity of Main Activities}}{\text{Standard Workload}} + \text{Standard Allowance} \\
 &= \left( \frac{\text{quantity of activities principal RJ and IGD}}{\text{standard load work RJ and IGD}} + \frac{\text{standard load principal RI}}{\text{standard load RI work}} \right) + \text{standard allowance} \\
 &= \left( \frac{7.116}{17.447,55} + \frac{2.042}{12.962,71} \right) + 0,23 \\
 &= (0,41 + 0,15) + 0,23 \\
 &= 0,79 \\
 &= 1
 \end{aligned}$$

There is a duration objective to obtain working time for each category of HR working in the hospital for 365 days. The results of the calculation of available operating time in the morning shift at the Assalam Gemolong public health facility for outpatient and emergency room registration are 117,600/12 months and inpatient registration is 117,600 minutes/12 months with a working time of 7 hours, available operating time in the afternoon shift At RSU Assalam Gemolong the outpatient and emergency department registration is 100,800 minutes/12 months and inpatient registration is 100,800 minutes/year with a running time of 6 hours, while the running time is night shift time at the RSU Assalam Gemolong health facility, the ER registration phase is 194,700 minutes / year and inpatient registration 194.7 hundred minutes / 12 months with an operating time of eleven hours. This has noted various statutory regulations 35 of 2021 concerning Specific Time Work Agreements, Outsourcing, Working Time and Rest Time, and Termination of Employment Relations, namely the next 7-10 working hours. However, the night shift at RSU Assalam Gemolong is not in accordance with Government Regulation Number 35 of 2021.

There are eight registration officers at RSU Assalam Gemolong with educational backgrounds from high school graduates, 3 officers and 5 officers from D3 RMIK. According to (undang undang RI 2014) that health workers must have a minimum qualification of Diploma three. This shows that

the widespread RSU Assalam Gemolong is not always in accordance with Law no. 36 of 2014 concerning health workers .

The usual workload is completed with the help of researchers at RSU Assalam Gemolong in the registration section, there are 6 running days with 7 working hours in the morning shift for outpatient registration, inpatient treatment and the consequences of the ER in one year 1960 hours, day shift 6 hours(de Menezes et al. 2022). Hours for outpatient registration, inpatient and emergency room consequences earned in 12 months 1680 hours and night shift 11 hours for emergency room consequences earned in a year 3,245 hours. The usual workload in calculating WISN with the existing working time components divided by the average of the main activities, the standard workload at RSU Assalam Gemolong in the morning shift for outpatient and emergency room registration officers is 10,556.55 minutes/year and inpatient registration is 7,829.56 minutes/12 months, the same day shift workload for outpatient and ER registration officers is 9,048.47 minutes/year and inpatient registration is 6,711.95 minutes/year and the standard night shift workload for ER registration officers is 17,447.55 minutes/year and inpatient registration is 12,962.71 minutes/year. According to (Pemerintah 2021)the popular correct workload is strong working hours over six working days, especially 7 hours per day or 40 hours per week. If you apply 3 shifts during the day, the maximum operating hours for each shift are 7 hours consistent with the day, for night shifts 9-10 hours. So it is not in accordance with Government Regulation no. 35 of 2021.

The concession components in the registration stage at RSU Asalam Gemolong are seminars, education, meetings and rest. The seminar is held once a year for 4 hours, the consequence is four hours/12 months. Education is carried out once every 12 months for four hours, the effect is 4 hours/12 months. The conference is held three times a year for two hours, resulting in 6 hours/year. Rest step by step is done 1 time/day for 1 hour. The effect of calculating using the WISN method on the same old allowance registration officers at RSU Assalam Gemolong, namely the morning shift is 1,146, the afternoon shift is 1.4 and the night shift is 0.23.

The need for registration officers at RSU Assalam Gemolong using WISN on the morning shift is 3,115 rounded up to 3, the number of registration officers for the morning shift is 3 so it is appropriate(Hipp et al. 2023). The day shift is 3.72 rounded up to 4, the range of registration officers for the day shift is four officers so it is not always correct and the night shift is 0.79 rounded to 1, the range of registration officers for the night shift is 1 officer so it is appropriate. So at RSU Assalam Gemolong it is very important to display registration officers on the afternoon shift, especially 1 officer.

## **CONCLUSION**

Based on the results of research regarding the analysis of labor needs based on the WISN method at RSU Assalam Gemolong, it can be concluded that the available working hours for morning, afternoon and evening shifts are 117,600, 100,800 and 194,700 (Percia David et al. 2023). The standard workload for the morning, afternoon and evening shifts of TPPRJ, TPPRI and IGD is (10,556.55 minutes/year; 7,829.56 minutes/year), (9,048.47 minutes/year; 6,711.95 minutes/year),

(17,447, 55 minutes/year; 12,962.71 minutes/year). The relaxation factors at RSU Assalam Gemolong are seminars, training, meetings and breaks.

The effect of calculating available working time, workload requirements, allowance standards means that there is a great need to collect data on groups of workers on the afternoon shift, especially 1 officer where previously there were eight officers (Dimiri et al. 2022).

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