

## Analysis of Medical Personnel Needs at Public Hospital



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**ABSTRACT:** According to the Regulation of the Minister of Health of the Republic of Indonesia No. 33 of 2015, institutions can use Health Workload Analysis to plan for their health human resource needs. The aim of this study is to analyze the current number of medical personnel at Al-Ihsan Hospital in Bandung and compare it to the required number of personnel based on the regulation. Additionally, the study uses SWOT analysis to devise a strategy to bridge the gap between the available and required number of medical personnel. The research used a descriptive quantitative method. The findings reveal that the hospital lacks enough medical personnel with civil servant status based on the calculation of health workload analysis. The SWOT analysis suggests that the hospital needs to take proactive measures and adopt an SO strategy that utilizes its internal strengths and opportunities to compete with other hospitals regarding health human resources.

**KEYWORDS:** Management of Health Human Resource; Minister of Health Regulations No. 33 of 2015; Health Workload Analysis; Hospital Human Resource Needs Planning; SWOT Analysis.

### I. INTRODUCTION

According to WHO, hospitals are an integral part of social and health organizations with the function of providing plenary (comprehensive), curative and preventive services to the community. Effective hospital human resource management involves the process of strategically planning, organizing, directing, and controlling the procurement, development, compensation, maintenance, integration, and termination of employment with human resources. The ultimate goal is to achieve individual, hospital, and community targets. It is crucial to maintain human resource management and ensure that its needs are met properly, as it is a valuable investment for any hospital organization.

The factor that affected medical personnel to seek employment include the sense of gain, family support, remuneration and development, job responsibility and internal and external construction of healthcare. Job responsibility include workload, working intensity, working stress, and working hours (Jia et al, 2022). The activity component of the ER doctor during the pandemic experienced an increase in productive activities compared to before the pandemic. Where productive activities will be used for calculating energy requirements based on Workload. The available working time for emergency room doctors is 117,180 minutes/year. The standard Workload of ER doctors obtained 16 main task items which were calculated as standard workloads (Nurul et al., 2022). On other research, the shortage of the required number of workers leads to high workload conditions, which can lead to a decrease in productivity that will trigger job stress and this will impact on patient's safety. The WINS tool is not intended for one-off use. By design, it is hoped that countries or facilities will mainstream the tool into the management processes for health workforce planning and implementation (Richa et al., 2020). From the results of research conducted that pharmaceutical workers use 85.3% of their working time with productive activities. Of the productive activities as much as 40.2% are direct productive activities while the rest are indirect productive activities, and as much as 23.8% of indirect productive activities are administrative activities, because in this study 8.7% were obtained as nonproductive activities and personal activities with the results of work sampling with the WINS method, it turns out that the number of pharmacists installed (Ary et al., 2022). Analysis of the number needs for general practitioners using the health analysis method, it was found that the result of calculations using the workload analysis case method showed that there was a shortage of 3 general practitioners (Ruth et al., 2021).

According to the Guidelines for Preparing Health Human Resources Needs Planning, as stated in the Minister of Health Regulation Number 33 of 2015 in the Republic of Indonesia, there are two groups of health human resources planning methods: institutional-based methods and region-based methods. The institutional-based methods are further divided into two categories, namely Health Workload Analysis and Minimum Staff Standards.

According to the Minister of Health Regulation number 33 of 2015, Health Human Resources planning at institutional level can be done using the Health Workload Analysis method for government and private healthcare facilities that are already in operation.

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These facilities include hospitals, health centers, district or city health offices, clinics and other healthcare service facilities. The government policy dictates a five or six-day work week and 1200 working hours per year.

Since this research was conducted during the period of 2020-2021, it was observed that the number of medical personnel at Al Ihsan Hospital increased, resulting in a greater average number of patient visits in 2021 as compared to the previous year. However, it was also found that there is a discrepancy in the number of general practitioners and specialist medical staff at Al Ihsan Hospital, which does not adhere to the regulations mentioned in Minister of Health Regulation number 33 of 2015.

Given the issues mentioned above, it is crucial to develop a plan to improve the allocation of Health Human Resources within the department, in order to adequately fulfill healthcare requirements. In light of this, it is deemed essential to conduct an analysis of health human resources, particularly medical personnel, at Al Ihsan Hospital in Bandung.

## II. LITERATURE REVIEW

### Health Human Resource Planning Method

Law number 36 of 2009 regarding health states that health development aims to increase public health to the highest possible level. This can be achieved by raising awareness, encouraging individuals to adopt healthy lifestyles, and investing in human resources that are more productive both economically and socially. It is important to comprehensively fulfill health requirements so that these conditions can be realized, with the support of qualified health human resources. By having qualified health human resources, it is possible to meet the needs of the population and distribute resources fairly and evenly. This will ensure that health development is implemented effectively and efficiently, leading to significant improvements in public health (Peraturan Menteri Kesehatan Indonesia, 2015).

Planning for human resource needs is carried out in a periodic manner, namely a short term of one year and a medium term of five or ten years. The methods for planning HR are:

1. By Institution
  - a. Workload analysis
  - b. Minimum manpower standard
2. By Region

Using the population ratio method. Is the ratio of the number of health workers to the population of an area.

### Health Workload Analysis

Planning for health human resources needs is carried out from the institutional level because it is in accordance with responsibility and authority. The "Health Workload Analysis" method is used to prepare health human resources integrity planning at the institutional level for facilities such as community health centers, clinics, hospitals, and private and government-owned health offices (Peraturan Menteri Kesehatan Indonesia, 2015). The data required for the health workload analysis method are:

1. Data on health service institutions and facilities.
2. Number of health human resources and type data for the last year at the institution concerned.
3. The government determines the number of working days, namely five to six working days per week, so that during a year the number of working days is 260 days or 5x52 weeks and 312 days or 6x52 weeks.
4. Working time of 1200 hours or 72,000 minutes per year.
5. The average time used to attend training is based on applicable provisions, namely referring to Law No. 36 of 2014 concerning health containing information on groups and types of health workers.
6. Service standards and operational procedures in each health institution.
7. The main task and results of the job description are analyzing positions in the institution or established service standards.

The steps that need to be taken in determining Health HR needs based on the guidelines of Minister of Health Regulation No. 33 of 2015, namely:

1. Determination of health facilities and types of health human resources
2. Determining Available Working Times (AWT)

To carry out HRK duties and activities, available work time is required which is carried out within one year.  $AWT = [A - (B+C+D+E) \times F]$ , where:

A= possible working days in a year

B= annual leave

C= Education, training and official duties by the regulations of Al-Ihsan Hospital Bandung

D= national holiday

E = absent from work due to permission, illness, etc.

F= working time in a day

3. Determination of Workload Components and Time Norms
4. Calculating Workload Standard (WS)

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Workload Standard (WS) is the quantity or volume of work carried out for each type of health human resources during one year. The standard workload calculation formula is the main activity divided by the main activity time.

### 5. Calculate Supporting Task Standards

Supporting tasks aim to complete activities that are directly or indirectly related to all SDM with their main tasks and functions. Calculation steps:

#### a. Activity Time

Average time x 264 days (if the time unit is per day), x 52 weeks (if the time unit is per week), x 12 months if the time unit is per month), x 2 (if the time unit is per semester).

#### b. Supporting Task Factors (STF)

$$STF = \frac{\text{Activity time}}{AWT \times 100}$$

#### c. Supporting Task Standards (STS)

STS =  $(1/(1-STF/100))$ , as a multiplying factor.

### 6. Calculate health human resources needs

$$HHR \text{ needs} = \frac{\text{Achievement (1 year)}}{\text{Workload standard}} \times STS$$

## Health Human Resources Management

In Human Resource Management in the Education Sector (Ulfatin, 2016) there is an understanding of HR management according to experts. Dessler said human resource management is a series of processes of obtaining, providing training, assessing, and providing compensation to employees, and managing work relations. HR management is all activities to achieve organizational success through goals and challenges from within and outside, through regulations, practices and systems that influence employee behavior, attitudes, and performance. Flippo states that human resource management is planning, organizing, directing and supervising activities in the form of integrating, procuring, providing compensation, maintaining, developing and releasing human resources in the hope that individual, organizational, and societal goals are achieved. According to French, HR management is the process of attracting, selecting, developing, using and maintaining human resources carried out by an organization. The goal of HR management is for the organization to receive an effective work unit.

According to Boone & Kurtz (Larasati, 2018), human resource management is the function of recruiting, developing, and retaining employees who meet the qualifications to carry out the necessary tasks in the hope of achieving organizational goals. There are four HR management goals, namely social goals, organizational goals, functional goals and individual goals (Larasati, 2018). Meanwhile, according to Schuler et al. (Sutrisno 2017) there are three main objectives of HR management are productivity levels are better, the quality of work life is better, and the company or organization is sure that it has fulfilled the legal aspects.

There are two functions of HR management, namely managerial and operational functions. Managerial functions include directing, planning, controlling, and organizing. Then the operational function includes providing compensation, integrating, procuring human resources, disciplining, providing protection, and carrying out layoffs (Larasati, 2018). HT operational function (Catio, 2020) namely procurement, development, compensation, integration, maintenance, discipline, and termination.

According to Dessler (Ulfatin, 2016) planning involves setting goals, making planning estimates, reviewing alternative courses of action, evaluating the best options, and then selecting and implementing a plan. Planning is an activity of looking at the future in determining policies, priorities, costs and activities by considering existing realities. HR planning is a process of selecting activities that will be determined as a decision about a job that must be done, when, how, and who does it. According to Stephen P. Robbins and Mary Coulter (Catio 2020), planning is a process that involves determining the goals or objectives of activities, including developing an overall strategy to achieve the targets that have been set. According to Donnelly, Gibson, and Ivancevich, planning is an activity of coordinating, preparing for change, developing performance standards and developing managers, which then produces detailed documents taking into account all aspects and can be a determinant of organizational productivity which also includes creativity and innovation.

The goal of HR planning (Snell, 2016) is to help managers deploy their human resources as effectively as possible, wherever and whenever they are needed to achieve organizational goals. Apart from that, there are several main objectives of HR planning, namely:

1. Help determine organizational or company goals, including planning, recording, equal employment opportunities for employees, and affirmative action goals.
2. To see the influence of alternative HR programs and policies, suggest implementing alternatives that support each other for organizational effectiveness and efficiency.

According to Siagian (Ulfatin, 2016), there are four benefits of HR planning, namely maximizing the use of existing human resources in the organization, increasing work productivity from HR, HR planning is related to determining future workforce needs, both in number and qualifications to fill various positions, handling employment information required by each work unit, benefits of research, and as a basis for preparing work programs for the HR department.

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According to (Mondy, 2016) HR planning has two components: need and availability. Needs forecasting involves determining the number, skills, and locations of employees an organization will need in the future to meet its goals. The determination of whether a company will be able to secure employees with the necessary skills, and from what sources, is called availability forecasting. When employee needs and availability have been analyzed, the company can determine whether it will experience a surplus or shortage of employees. If a worker shortage is expected, the company must obtain the right number and quality of workers from outside the organization. In this case, external recruitment and selection is necessary. According to (Noe and Hollenbeck, 2021) the first stage in HR planning is forecasting. Forecasting is an attempt to determine supply and demand for various types of human resources to predict areas within an organization where there will be a shortage or surplus of labor.

### Hospital

According to WHO, hospitals are an integral part of social and health organizations with the function of providing plenary (comprehensive), curative and preventive services to the community. According to Minister of Health Regulation Number 30 of 2019, a hospital is a health service agency that provides comprehensive individual health services that provide inpatient, outpatient and emergency services. According to (Raziansyah and Melinda, 2021) every hospital must have different characteristics. The characteristics that differentiate each hospital lie in the hospital's vision and mission, organizational structure, human resources, available technology and equipment, hospital policies, and others. A hospital vision is something that the hospital hopes to have in the future. An effective vision is a vision that inspires. Meanwhile, the hospital mission is the form the hospital hopes to take in the future. A mission is a statement that confirms the vision through an outline of the steps that will be taken to arrive at the vision that has previously been formulated. Every decision taken by a hospital manager will affect the planning and utilization of human resources. The higher the strategic value of a decision, the higher its impact on human resources.

Based on Minister of Health Regulation no. 30 of 2019 concerning Classification and Licensing of Hospitals, Human Resources for General Hospitals in the form of permanent personnel include:

1. Medical personnel
2. Clinical psychology staff
3. Nursing staff
4. Midwifery staff
5. Pharmaceutical staff
6. Public health workers
7. Environmental health workers
8. Nutritional energy
9. Physical therapy staff
10. Medical technicians
11. Biomedical engineering personnel
12. Non-health workers

The medical personnel referred to consist of doctors, dentists, specialist doctors, specialist dentists, and/or subspecialist doctors. Specialist doctors consist of specialist doctors or specialist dentists for basic specialist medical services, specialist medical support, and medical specialists other than basic specialists (specialists in internal medicine, pediatrics, surgery, and obstetrics and gynecology). Specialist doctors for specialist medical support services include specialist doctors in anesthesia, radiology, clinical pharmacology, clinical pathology, anatomical pathology, clinical microbiology, parasitology, physical medicine and rehabilitation, clinical acupuncture, clinical nutrition, radiation oncology, nuclear medicine, and specialist medical support services other. Specialist doctors for other specialist medical services include ophthalmologists, nerves, ENT, heart and blood vessels, skin and genitals, mental medicine, orthopedics and traumatology, urology, surgery, orthodontics, periodontics and other specialists. Subspecialist doctors include subspecialist doctors in the specialties of surgery, internal medicine, pediatrics, obstetrics and gynecology, intensive therapy anesthesia, psychiatry, eyes, ENT, lungs, nerves, and other subspecialties. The number and qualifications of human resources are adjusted to the results of workload analysis as well as the needs and capabilities of hospital services (Peraturan Menteri Kesehatan Indonesia, 2019).

General hospitals and special hospitals are classified based on the criteria of buildings and infrastructure, service capabilities, human resources, and equipment, namely class A, B, C, and D general hospitals. Class D general hospitals are divided into class D general hospitals and houses. general illness class D pratama. Class A and B general hospitals have specialist and subspecialist medical service capabilities. Meanwhile, class C and D general hospitals have specialist medical service capabilities. Class D Pratama public hospitals are organized by statutory provisions.

Class A general hospitals are special hospitals that have facilities and capabilities for specialist and subspecialist medical services according to their specialty as well as basic medical specialist and other specialist services that support their specialty in full. Class B general hospitals are special hospitals that have facilities and capabilities for specialist and subspecialist medical services

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according to their specialty as well as basic medical specialist services and other specialists that support their limited specialty. Class C general hospitals are special hospitals that have facilities and capabilities for specialist and subspecialist medical services according to their specialty as well as basic medical specialist services and other specialists that support their minimal specialty.

### **Hospital Human Resource Management**

Hospital human resource management is the activity of planning, organizing, directing and controlling labor procurement, development, compensation, maintenance integration, and termination of employment with human resources to achieve individual, hospital, and community targets. Human resource management where humans can be useful as an investment in a hospital organization whose needs must be maintained and met properly (Raziansyah, Melinda 2021). Every hospital must face various kinds of challenges both from outside and within the hospital itself. Challenges from outside the hospital are called external hospital challenges, and challenges from within the hospital are called internal hospital challenges. Hospital external challenges are challenges outside the hospital that influence the growth and development of hospital HR management, both positively and negatively (Sondang P. Siagian, 2016).

Hospital human resource planning is planning human resources to suit the needs of the hospital and be effective and efficient in helping the realization of the hospital (Sondang P. Siagian, 2016), the benefits of human resource planning related to hospital human resources are as follows:

1. Hospitals can make maximum use of existing human resources
2. Increase the work productivity of human resources in the hospital
3. Determining human resource needs from the quantitative and qualitative resources needed in the future
4. Handling hospital human resources information
5. Benefits of research
6. Preparing work programs

### **Workload Of Medical Personnel**

In the Workload and Work Productivity Analysis (Mahawati, 2021), workload is the volume of work imposed on workers, both physical and mental, for which they are responsible. In general, the relationship between workload and work capacity is influenced by various very complex factors, both internal and external factors. These factors are, namely:

1. External factors
  - a. Tasks, both physical such as tools and work equipment, and mental such as the level of work difficulty.
  - b. Work organization that can influence workload such as length of work time, work system, rest time, etc.
  - c. Work environments that play a role in workload such as physical work environments (temperature, radiation, noise, etc.), biological work environments (bacteria, viruses and other biological agents), chemical work environments (dust, gases and other chemicals) , psychological work environment (e.g. selection and placement of workers, relationships between workers, etc).
2. Internal Factors

Internal factors are factors that come from within the worker himself. Internal factors include somatic factors (gender, age, health condition, etc.) and psychological factors (motivation, perception, beliefs, satisfaction, etc).

Health workers are individuals who have knowledge and skills through health education to dedicate themselves to the health sector and need the authority to act in health efforts. Health efforts are a series of activities or all activities that are integrated, integrated and related to maintain and increase the level of public health in the form of preventing disease, improving health, treating disease and providing health restoration by the community and the government. Hospitals that are considered effective and efficient have one of these indicators, namely that the available human resources are of high quality and are professional in their personal functions and duties. Calculating workload is one method for planning the needs of agencies related to health workers (UU No. 36 Tahun 2014).

Workplaces that have activities that are vulnerable to work stress are hospitals (Salcha, Juliani 2021). Workers need to pay attention to their workload so that they do not have an excess workload which has an impact on work stress and can reduce the performance of health workers. Individuals who have a high workload have an impact on performance which is affected by work stress (Hakman, Suhadi, and Yuniar, 2017).

Health care professionals who are on the front lines are at higher risk of infection, their work has extreme pressure, excessive workload, high stress levels, no PPE and no proper training, longer working hours, and the possibility of discrimination. . Sometimes they have to face situations they have never experienced, such as a lack of resources faced with patients who are equally in need, limited availability of care within resources and a shortage of medicines, with an imbalance in the needs of nurses and patients (Greenberg, Docherty, Gnanapragasam, & Wessely, 2020; Kang et al., 2020).

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### III. RESEARCH METHOD

The research method used in this study is descriptive quantitative, which describes phenomena quantitatively without testing hypotheses. The aim of this approach is to explain the situation being studied with a literature review to support the researcher's analysis in making a conclusion. The data source used is Health Human Resources at Al-Ihsan Regional Hospital in Bandung. The data will be analyzed to determine the health human resources needs and identify any gaps between the existing health human resources at Al-Ihsan Regional Hospital and those recommended by the health workload analysis provisions. Additionally, HR staff will be interviewed to obtain information on how Health HR planning is conducted at Al-Ihsan Regional Hospital. Apart from that, a strategy analysis was also carried out to meet the needs of health human resources at Al-Ihsan Regional Hospital, Bandung. The analysis used is a SWOT analysis which will be poured into a matrix to determine the planning strategy for meeting HRK needs at the Al-Ihsan Hospital in Bandung at this time.

The types of data sources used in this research are primary sources and secondary sources. Primary sources are data sources obtained directly by data collectors through observation and in-depth interviews with resource persons and documentation related to the standard health human resource requirements at Al Ihsan Regional Hospital, Bandung. Secondary sources are indirect data sources obtained from reviewing documents in the form of a list of medical workers at Al-Ihsan Regional Hospital since the 2020-2021 period and analysis data on workforce needs used at Al-Ihsan Hospital in Bandung, as well as the profile of Al-Ihsan Regional Hospital in Bandung, annual reports, and literature used to calculate health workforce needs.

SWOT analysis is analyzing a situation by identifying systematic factors regarding strengths and weaknesses in an organization and opportunities or opportunities, threats or threats from outside to create a strategy for the organization. SWOT analysis is an analysis with output to direct a problem. This direction helps maintain strength and increase profits through opportunities, and then reduce shortcomings and avoid threats (Fatimah, 2016). The purpose of SWOT analysis is to direct strategy analysis by focusing on strengths, weaknesses, opportunities and threats that are considered critical to the success of the strategy. The purpose of SWOT analysis is to justify the external and internal factors that have been analyzed. If mistakes occur, it is necessary to utilize opportunities well and still know weaknesses to use as strengths in facing threats into opportunities in the hope that the strategy can work well. (Salim & Siswanto, 2019).

### IV. RESULT AND DISCUSSION

#### A. Analysis of the Need for Medical Personnel Based on Minister of Health Regulation No. 33 of 2015 at Al-Ihsan Hospital Bandung

From the results of the review of Health Human Resources documents at Al-Ihsan Hospital in Bandung, the distribution of medical personnel was obtained as follows:

**Table 1: Number of Medical Personnel at Al-Ihsan Regional Hospital in 2021**

Profession	Education	Number	Type		%
			PNS	Non PNS	
Medic	Specialist Doctor	49	25	24	53.8
	General Doctor	39	20	19	42.8
	Dentist	3	3	-	3.4
	<b>Number</b>	91	48	43	100

**Source:** Recapitulation of Human Resources at Al-Ihsan Hospital Bandung in 2021

Based on table 1 above, the total number of medical personnel at Al-Ihsan Hospital Bandung is 91 people consisting of 49 specialist doctors, 39 general practitioners and 3 dentists.

**Table 2: Specialist's Description**

Description	Number in Hospital	Number based on Minister of Health Regulation number 30 of 2019
Pediatric	3	4
Anaesthetist	4	3
General Surgeon	4	4
Pediatric Surgeon	1	Available/not
Oral Surgeon	1	Available/not
Oncologist Surgeon	1	Available/not
Endocrinologist	1	Available/not
Hemato-oncologist	1	Available/not
Ophtalmologist	2	2
Urologist	3	Available/not

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Cardiologist	4	1
Psychiatry	1	1
Oncology Radiotherapy	1	Available/not
Obgyn	6	4
Orthodontist	1	Available/not
Orthopaedist	1	2
Clinical Patologist	2	2
Internist	4	4
Radiologist	1	2
Medical Rehabilitation	2	1
Neurologist	3	2
ENT	2	2
<b>Number</b>	<b>49</b>	

**Source:** Recapitulation of Human Resources at Al-Ihsan Hospital Bandung in 2021

Table 2 above compares the number of permanent specialist doctors at Al-Ihsan Hospital with the number of specialist doctors that should be at type B hospitals according to Minister of Health Regulation No. 30 of 2019 concerning Hospital Classification and Licensing. From this comparison, it can be seen that the number of pediatricians, orthopedics and radiology specialists at Al-Ihsan Regional Hospital still does not meet the criteria according to the Minister of Health Regulation.

Meanwhile, based on Regulation of the Minister of Health No.33 of 2015, the position of doctor follows the provisions of Minister of PAN-RB Regulation No.139/KEP/M.PAN/11/2003 and for dentists follows the provisions of Minister of PAN-RB Regulation No.141/KEP/M .PAN/11/2003. In the PAN-RB Minister's regulations, doctor positions are classified into First Doctor, Junior Doctor, Intermediate Doctor and Main Doctor. Likewise, dentist positions are classified into First Dentist, Junior Dentist, Intermediate Dentist, and Primary Dentist.

**Table 3: Description of Doctor and Dentist (Government Employees)**

Description	Title	Type		Number
		General	Specialist	
Doctor	First Doctor	10	1	11
	Young Doctor	5	18	23
	Intermediate Doctor	3	5	8
	Main Doctor	-	3	3
Dentist	First Dentist	-	-	0
	Young Dentist	2	1	3
	Intermediate Dentist	-	-	
	Main Dentist	-	-	

**Source:** Recapitulation of Human Resources at Al-Ihsan Hospital Bandung in 2021 (data is processed)

The positions of doctors and dentists in accordance with the PAN-RB Ministerial Regulation only apply to doctors and dentists who have Civil Servant status. Table 3 above presents the number of civil servant doctors and dentists at Al-Ihsan Hospital Bandung in 2021 according to the classification stated in the PERMENPAN-RB. The total number of civil servant doctors is 45 people and the total number of civil servant dentists is 3 people. The analysis of medical personnel needs that will be carried out in this research refers to the number of available civil servant doctors and dentists at Al-Ihsan Regional Hospital, Bandung, in accordance with the guidelines for calculating health human resource needs in Minister of Health Regulation No. 33 of 2015.

### *Available Working Time (AWT)*

Available working time is obtained from the result interviews with various informants and a study of the data available at RSUD Al-Ihsan Bandung.

**Table 4: Working Hours Available**

Code	Component	Amount (GP)	Amount (Dentist)	Amount (Specialist)	Note
A	Working days	312	260	260	Day/year
B	Annual leave	12	12	12	Day/year
C	Education and training	14	14	14	Day/year
D	National holiday	15	15	15	Day/year

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E	Absence	14	14	14	Day/year
F	Working time	37.5	37.5	37.5	Hour/week
	Working Days Available	257	205	205	Day/year
		1204	1153	1153	Hour/year
	Total Minutes (average)	7200			Minute/year

**Source:** Recapitulation of Human Resources at Al-Ihsan Hospital Bandung in 2021 (data is processed)

Table 4 shows that AWT for general practitioners who work at emergency room is 1204 hours/year, and AWT for specialist doctors and dentists who work at poly and inpatient room are 1153 hours/years. If the AWT is averaged and rounded, we get AWT of 1200 hours/year or the equivalent of 7200 minutes/year.

### Calculating Standard Workload (SW)

The calculation of the standard workload was taken from the productive activity component of main tasks.

#### 1. First Doctor

**Table 5: Standard Workload of First Doctor**

Workload Component	Time Norm (hour)	AWT	SW (AWT/Time norm)
Perform first level outpatient general medical services	1	1200	1200
Perform first level outpatient specialist services	2	1200	600
Carrying out special procedures by a simple GP	2	1200	600
Carrying out special procedures by a mid-level GP	5	1200	240
Carry out simple level specialist actions	5	1200	240
Carry out moderate level specialist actions	2	1200	600
Carry out simple emergency/first aid measure	2	1200	600
Perform simple level physical recovery	2	1200	600
Make level I physical recovery	5	1200	240
Collect data in the context of observing disease epidemiology	5	1200	240
Carry out medical counseling	5	1200	240
Conduct visits inpatient	5	1200	240
Make outpatient medical record	1	1200	1200
Make medical records for inpatients	1	1200	1200
Serving or receiving consultation from the outside in	1	1200	1200
Serve or receive consultation from within	1	1200	1200
Carrying out a simple post mortem et repertum	1	1200	1200
Carrying out guard duties at the premises/hospital	8	1200	150
Carrying out on-call guard duty	8	1200	150
Carrying out community cadre formation in the first level health sector	0,5	1200	2400

**Source:** Primary Data, 2021

#### 2. Young Doctor

**Table 6: Standard Workload of Young Doctor**

Workload Component	Time Norm (hour)	AWT	SW (AWT/Time norm)
Perform first consul general medical services	5	1200	240
Perform first consul specialist services	5	1200	240
Carrying out special action by a level I complex	1	1200	1200
Carry out complex specialist action level I	1	1200	1200
Carry out moderate level emergency/first aid measure	2	1200	600
Perform simple level physical recovery	5	1200	240
Perform Complex physical recovery level I	5	1200	240
Conduct medical education	2	1200	600
Conduct visits to inpatients	5	1200	240
Create medical records for outpatients	1	1200	1200
Create medical record for inpatients	2	1200	600
Serving or receiving consultation from the outside in	2,5	1200	480
Serving or receiving consultation fro within	2,5	1200	480
Perform on-call duty	8	1200	150
Carrying out guard duties at the premises/hospital	8	1200	150

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Carrying out a simple post mortem et repertum	2,5	1200	480
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Source: Primary Data, 2021

### 3. Intermediate Doctor

**Table 7: Standard Workload of Intermediate Doctor**

Workload Component	Time Norm (hour)	AWT	SW (AWT/Time norm)
Carrying out special complex level II procedures by GP	20	1200	60
Perform specialist consultant services	1	1200	1200
Carrying out complex specialist actions level II	1	1200	1200
Carry out specialist consultant action	2	1200	600
Carry out level I complex emergency medical/first aid measures	5	1200	240
Conduct visits to inpatients	5	1200	240
Make outpatient medical records	2	1200	600
Make medical records for inpatients	2	1200	600
Serving or receiving consultations from the outside in	3	1200	400
Serving or receiving consultations from within	3	1200	400
Perform on call guard duty	8	1200	150
Carrying out guard duties at the premises/hospital	8	1200	150
Supervision of the health sector	1	1200	1200

Source: Primary Data, 2021

### 4. Main Doctor

**Table 8: Standard Workload of Main Doctor**

Workload Component	Time Norm (hour)	AWT	SW (AWT/Time norm)
Carrying out special complex level III procedures by a GP	1	1200	1200
Perform specialist consultant services	1	1200	1200
Carrying out complex specialist actions level III	1	1200	1200
Carry out specialist consultant action	2	1200	600
Carry out level II complex emergency medical/first aid measures	5	1200	240
Conduct visits to inpatients	5	1200	240
Conduct medical education	2	1200	600
Make outpatient medical records	1	1200	1200
Make medical records for inpatients	2	1200	600
Serving or receiving consultations from the outside in	0,5	1200	2400
Provide or receive consultation from within	0,5	1200	2400
Perform on call guard duty	8	1200	150
Carrying out guard duties at the premises/hospital	8	1200	150
Carrying out a medium level post mortem et repertum	0,5	1200	2400
Become a member of a certain disease/outbreak management team (as chair)	0,5	1200	2400
Become a member of certain disease/outbreak management team (as a member)	0,5	1200	2400

Source: Primary Data, 2021

### 5. First Dentist

**Table 9: Standard Workload of First Dentist**

Workload Component	Time Norm (hour)	AWT	SW (AWT/Time norm)
Perform first level outpatient general dental and oral medical services	2.1	1200	571.4
Perform first level outpatient specialist dental and oral medical services	3	1200	400
Carrying out special dental and oral medical procedures at a simple level by a general dentist	4	1200	300
Make visit to in patient	3	1200	400
Restoring simple dental and oral function	6	1200	200
Collect data for epidemiological observations of dental and oral disease	5	1200	240
Provide dental and oral health education	20	1200	60

## Analysis of Medical Personnel Needs at Public Hospital

Make dental and oral medical records for outpatient	1	1200	1200
Serving or receiving consultations from outside	4	1200	300
Serving or receiving consultation from within	3	1200	400
Carrying out guard duties at the place/hospital	8	1200	150

Source: Primary Data, 2021

### 6. Young Dentist

**Table 10: Standard Workload of Young Dentist**

Workload Component	Time Norm (hour)	AWT	SW (AWT/Time norm)
Performs first consul dental and oral medical services	2.1	1200	571.4
Performs specialist dental and oral medical services as the first referral consul	3	1200	400
Carrying out special level II complex dental and oral medical procedures by general dentist	6	1200	200
Make visit to inpatients	3	1200	400
Restoration of moderate level dental and oral function	6	1200	200
Carrying out data analysis in the context of observing the epidemiology of dental and oral disease	20	1200	60
Provide dental and oral health education	20	1200	60
Make dental and oral medical records for outpatients	1	1200	1200
Serving or receiving external consultation	4	1200	300
Serving or receiving consultation from within	3	1200	400
Carrying out guard duties at the place/hospital	8	1200	150

Source: Primary Data, 2021

Table 10 show the standard workload of the Available Working Time (AWT) compared to the time norm for each item of the main activity. The result of the workload standard shows how many times the main task can be completed in one working year. The workload of workers varies across different work units. However, the standard value of the workload does not necessarily have to be followed, as workers also perform various other activities that consume their available working hours (Nurul et al., 2022).

### Calculating Supporting Task Standard (STS)

**Table 11: STS of Doctor and Dentist**

Task	Average Time	Unit	Task (hour/year)	hour	Supporting Task Factor (STF %)
Teaching/training in employee education and training	0	Hour/year	1200		0
Participate as delegate	2	Hour/week	1200		1.16
Attend seminars/workshops	0	Hour/week	1200		0
Become a member of a medical professional organization	2	Hour/month	1200		2.0
Become a member of the assessment team every year	0	Hour/year	1200		0
Supporting Task Factor (STF) in %					3.16
Supporting Task Standarad (STS)= $(1/(1-STF/100))$					1.03

Source: Primary Data, 2021

The activites tasks as stated in table 11 are based on Indonesia Regulation, after which interviews were conducted with doctors who have civil servant status to find out the types of activities and times of activites carried out in supporting tasks.

### Calculation the Number Need for Medical Personnel

#### 1. First Doctor

**Table 12: Personnel Needs of First Doctor**

Workload Component	1-year Achievement	Work Result	SW (norm)	(AWT/Time)	Personnel Need
Perform first level outpatient general medical services	2200	Patient	1200		1.83
Perform first level outpatient specialist services	2200	Patient	600		3.67

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Carrying out special procedures by a simple GP	1100	Patient	600	1.83
Carrying out special procedures by a mid-level GP	1300	Patient	240	5.42
Carry out simple level specialist actions	2100	Patient	240	8.75
Carry out moderate level specialist actions	1200	Patient	600	2
Carry out simple emergency/first aid measure	800	Report	600	1.33
Perform simple level physical recovery	240	Patient	600	0.4
Make level I physical recovery	360	Patient	240	1.5
Collect data in the context of observing disease epidemiology	3600	Report	240	1.5
Carry out medical counseling	360	Report	240	1.5
Conduct visits inpatient	150	5	240	0.625
Make outpatient medical record	2200	Patient	1200	1.83
Make medical records for inpatients	240	Patient	1200	0.2
Serving or receiving consultation from the outside in	80	Case	1200	0.067
Serve or receive consultation from within	80	Case	1200	0.067
Carrying out a simple post mortem et repertum	73	Time	1200	0.0625
Carrying out guard duties at the premises/hospital	150	Time	150	1
Carrying out on-call guard duty	150	Time	150	1
Carrying out community cadre formation in the first level health sector	3200	Time	2400	1.33
Number of Personnel Needs				35.91
Supporting Task Standard (STS)				1.03
Total Personnel Need			(Number of Personnel Need x STS)	36.9
Rounding Numbers				37

Source: Primary Data, 2021

Based on calculation in table 12 above, it is found that the number of first doctors who should be at Al-Ihsan hospital is 37 people.

### 2. Young Doctor

**Table 13: Personnel Needs of Young Doctor**

Workload Component	1-year Achievement	Work Result	SW (AWT/Time norm)	Personnel Need
Perform first consul general medical services	3500	Patient	240	14.58
Perform first consul specialist services	2200	Patient	240	9.16
Carrying out special action by a level I complex	920	Patient	1200	0.76
Carry out complex specialist action level I	920	Patient	1200	0.76
Carry out moderate level emergency/first aid measure	9500	Patient	600	15.83
Perform simple level physical recovery	240	Patient	240	1
Perform Complex physical recovery level I	360	Patient	240	1.5
Conduct medical education	360	Patient	600	0.6
Conduct visits to inpatients	150	Patient	240	0.625
Create medical records for outpatients	2200	Patient	1200	1.83
Create medical record for inpatients	240	Patient	600	0.4
Serving or receiving consultation from the outside in	80	Patient	480	0.167
Serving or receiving consultation fro within	80	Case	480	0.167
Perform on-call duty	150	Case	150	1
Carrying out guard duties at the premises/hospital	150	Time	150	1
Carrying out a simple post mortem et repertum	75	Time	480	0.15
Number of Personnel Need				49.53
Supporting Task Standard (STS)				1.03
Total of Personnel Need			(Number of Personnel Need x STS)	51.01
Rounding Numbers				51

Source: Primary Data, 2021

### Analysis of Medical Personnel Needs at Public Hospital

Based on calculation in table 13 above, it is found that the number of young doctors who should be at Al-Ihsan hospital is 51 people.

#### 3. Intermediate Doctor

**Table 14: Personnel Need of Intermediate Doctor**

Workload Component	1-year Achievement	Work Result	SW (AWT/Time norm)	Personnel Need
Carrying out special complex level II procedures by GP	800	Patient	60	13.3
Perform specialist consultant services	2200	Patient	1200	1.83
Carrying out complex specialist actions level II	45	Patient	1200	0.0375
Carry out specialist consultant action	6	Patient	600	0.01
Carry out level I complex emergency medical/first aid measures	700	Patient	240	2.92
Conduct visits to inpatients	150	Patient	240	0.625
Make outpatient medical records	3500	Patient	600	5.83
Make medical records for inpatients	500	Patient	600	0.83
Serving or receiving consultations from the outside in	250	Case	400	0.625
Serving or receiving consultations from within	250	Case	400	0.625
Perform on call guard duty	150	Time	150	1
Carrying out guard duties at the premises/hospital	150	Time	150	1
Supervision of the health sector	24	Time	1200	0.02
Number of Personnel Need				28.65
Supporting Task Standard (STS)				1.03
Total of Personnel Need			Total of Personnel Need	29.5
Rounding Numbers				30

Source: Primary Data, 2021

Based on calculation in table 14 above, it is found that the number of intermediate doctors who should be at Al-Ihsan hospital is 30 people.

#### 4. Main Doctor

**Table 15: Personnel Need of Main Doctor**

Workload Component	1-year Achievement	Work Result	SW (AWT/Time norm)	Personnel Need
Carrying out special complex level III procedures by a GP	45	Patient	1200	0.037
Perform specialist consultant services	3500	Patient	1200	2.92
Carrying out complex specialist actions level III	45	Patient	1200	0.0375
Carry out specialist consultant action	6	Patient	600	0.01
Carry out level II complex emergency medical/first aid measures	30	Patient	240	0.125
Conduct visits to inpatients	150	Patient	240	0.625
Conduct medical education	20	Report	600	0.03
Make outpatient medical records	3250	Patient	1200	2.71
Make medical records for inpatients	150	Patient	600	0.25
Serving or receiving consultations from the outside in	40	Case	2400	0.0167
Provide or receive consultation from within	150	Case	2400	0.0625
Perform on call guard duty	150	Time	150	1
Carrying out guard duties at the premises/hospital	150	Time	150	1
Carrying out a medium level post mortem et repertum	10	Corpse	2400	0.004
Become a member of a certain disease/outbreak management team (as chair)	1	Time	2400	0.0004
Become a member of certain disease/outbreak management team (as a member)	1	Time	2400	0.004

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Number of Personnel Need	8.83
Supporting Task Standard (STS)	1.03
Total of Personnel Need	Total of Personnel Need 9.1
Rounding Numbers	9

Source: Primary Data, 2021

Based on calculation in table 15 above, it is found that the number of main doctors who should be at Al-Ihsan hospital is 9 people.

### 5. First Dentist

**Table 16: Personnel Need of First Dentist**

Workload Component	1-year Achievement	Work Result	SW (AWT/Time norm)	Personnel Need
Perform first level outpatient general dental and oral medical services	350	Every cases	10 571.4	0.6125
Perform first level outpatient specialist dental and oral medical services	230	Every cases	10 400	0.575
Carrying out special dental and oral medical procedures at a simple level by a general dentist	250	Every cases	10 300	0.83
Make visit to in patient	1	Every cases	10 400	0.0025
Restoring simple dental and oral function	220	Every cases	10 200	1.1
Collect data for epidemiological observations of dental and oral disease	5	Report	240	0.021
Provide dental and oral health education	12	Report	60	0.2
Make dental and oral medical records for outpatient	100	Every cases	10 1200	0.083
Serving or receiving consultations from outside	70	Every cases	10 300	0.23
Serving or receiving consultation from within	10	Every cases	10 400	0.025
Carrying out guard duties at the place/hospital	48	8 hours	150	0.32
Number of Personnel Need				3.99
Supporting Task Standard (STS)				1.03
Total of Personnel Need			Total of Personnel Need	4.12
Rounding Numbers				4

Source: Primary Data, 2021

Based on calculation in table 16 above, it is found that the number of first dentist who should be at Al-Ihsan hospital is 4 people.

### 6. Young Dentist

**Table 17: Personnel Need of Young Dentist**

Workload Component	1-year Achievement	Work Result	SW (AWT/Time norm)	Personnel Need
Performs first consul dental and oral medical services	350	For patients	10 57.4	0.6125
Performs specialist dental and oral medical services as the first referral consul	230	For patients	10 400	0.575
Carrying out special level II complex dental and oral medical procedures by general dentist	250	For 10 cases	200	1.25
Make visit to inpatients	1	For patients	10 400	0.0025
Restoration of moderate level dental and oral function	220	For patients	10 200	1.1
Carrying out data analysis in the context of observing the epidemiology of dental and oral disease	5	Report	60	0.083
Provide dental and oral health education	12	Report	60	0.2
Make dental and oral medical records for	100	For 10 cases	1200	0.083

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outpatients				
Serving or receiving external consultation	70	For 10 cases	300	0.23
Serving or receiving consultation from within	10	For 10 cases	400	0.025
Carrying out guard duties at the place/hospital	48	8 hours	150	0.32
Number of Personnel Need				4.48
Supporting Task Standard (STS)				1.03
Total of Personnel Need			Total of Personnel Need	4.6
Rounding Numbers				5

Source: Primary Data, 2021

Based on calculation in table 17 above, it is found that the number of young doctors who should be at Al-Ihsan hospital is 5 people.

*The Gap Between the Current Number of Medical Personnel and the Number Based on Regulation*

**Table 18: Medical Personnel Need based on Health Workload Analysis in Al-Ihsan Hospital**

Medical Personnel	Available	Recommendation	Gap
First doctor	11	37	-26
Young doctor	23	51	-28
Intermediate doctor	8	30	-22
Main doctor	3	9	-6
First dentist	-	4	-4
Young dentist	3	5	-2
Intermediate dentist	-	-	-
Main dentist	-	-	-

Source: Primary Data, 2021 (processed)

Based on table 18 above, the number of medical personnel, both doctor and dentist at Al-Ihsan Hospital Bandung is still insufficient when calculated based on the Health Workload Analysis method accordance with Regulation. This is because the regulation only divides the main tasks and supporting duties for doctors and dentists based on class or rank status for doctors and dentists who have civil servant status. Non-civil servant medical personnel were not included in this research because there are no clear regulation. So for the analysis of the workload of doctors with non-civil servant status it is returned to the policies of each hospital.

Previous publications also show that analysis of the number needs for general practitioners using the health analysis method, it was found that the result of calculations using the workload analysis case method showed that there was a shortage of 3 general practitioners (Ruth et al., 2021). Most previous publication did not differentiate between civil servants and non-civil servant medical personnel, and only focused on one work space (e.g. Emergency room only), other studies were conducted more in first-level health care facilities than in hospitals, and still a few researched for doctors and dentist especially using this regulation.

### B. Strategy to Meet the Needs of Medical Personnel using SWOT Analysis

To maximize the performance of health human resources, especially existing medical personnel, a SWOT analysis is needed to determine a strategy to meet the needs of existing medical personnel lacking and knowing the strategic position of Al-Ihsan Hospital in order to determine the next steps in competing with other hospitals and being able to provide the best service.

**Table 19: Internal Factor**

Number	Strength	Weakness
1	Human resources are competent in their respective fields. Having quite a long work experience, only a few do practice outside so they spend more time working at Al-Ihsan.	Punctuality in coming to the clinic was an issue.
2	Have good interpersonal skills so that patients like and trust their doctors.	Late registration system which also affects delays in service, scheduling of operations because the room is full, etc.
3	Has four superior specialties such as Heart, Cancer, Stroke, and Radiotherapy.	Managerial administration is still lacking, because every job cannot be separated from administration (correspondence).
4	There are more young medical personnel so they have high work enthusiasm and are diligent in developing their knowledge.	There are still medical personnel who have not met their needs, one example is the Oral Surgery division which should need two doctors but still has one

## Analysis of Medical Personnel Needs at Public Hospital

5	Diligently take part in training according to your respective field of specialization and comparative studies to other hospitals.	doctor. The number of civil servant medical personnel is still insufficient when calculated by the health workload analysis according to the regulation.
6	Recruitment of employees is faster because the hospital already uses the regional public service agency system.	Subspecialists are still lacking and must be added because we are heading towards type A hospitals.

Source: Interview with Human Resource Personnel

**Table 20: External Factor**

Number	Opportunities	Threat
1	The largest hospital in surrounding area until now and will become the only type A hospital in the area so that as a regional hospital there need to be additional civil servant medical personnel in number that is in accordance with the calculation of the health workload analysis.	Reduced public trust in hospital due to delay in the service process due to a shortage of medical personnel.
2	Medical personnel can improve their knowledge because their patients are diverse.	The workload is high in the ER, especially during the Covid-19 pandemic.
3	Collaborating with many educational institution.	There is an increase in the public's critical thinking power regarding medical services and actions.
4	Become a referral national hospital.	Geographical conditions make it difficult for medical personnel to access hospitals during floods, thus hampering medical service time and there is no direct access to toll roads (jammed).
5	Quality service for BPJS patients.	Many private hospitals will be built around the Al-Ihsan Hospital area.

Source: Interview with Human Resource Personnel

**Table 19: Calculation of SWOT Analysis Weight and Rating**

Factor	Rating	Weight	Score (RxW)
<b>Strength</b>			
Human resources are competent in their respective fields. Having quite a long work experience, only a few do practice outside so they spend more time working at Al-Ihsan.	3	0.08	0.24
Have good interpersonal skills so that patients like and trust their doctors.	3	0.09	0.27
Has four superior specialties such as Heart, Cancer, Stroke, and Radiotherapy.	4	0.13	0.52
There are more young medical personnel so they have high work enthusiasm and are diligent in developing their knowledge.	2	0.07	0.14
Diligently take part in training according to your respective field of specialization and comparative studies to other hospitals.	1	0.06	0.06
Recruitment of employees is faster because the hospital already uses the regional public service agency system.	2	0.07	0.14
<b>Total score</b>		<b>0.5</b>	<b>1.37</b>
<b>Weakness</b>			
Punctuality in coming to the clinic was an issue.	2	0.09	0.18
Late registration system which also affects delays in service, scheduling of operations because the room is full, etc.	3	0.075	0.225
Managerial administration is still lacking, because every job cannot be separated from administration (correspondence).	4	0.065	0.26
There are still medical personnel who have not met their needs, one example is the Oral Surgery division which should need two doctors but still has one doctor.	2	0.09	0.18
The number of civil servant medical personnel is still insufficient when calculated by the health workload analysis according to the regulation.	2	0.09	0.18
Subspecialists are still lacking and must be added because we are heading towards type A hospitals.	2	0.09	0.18
<b>Total score</b>		<b>0.5</b>	<b>1.205</b>
<b>Total (Strength + Weakness)</b>		<b>1</b>	<b>2.575</b>
<b>Opportunities</b>			

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The largest hospital in surrounding area until now and will become the only type A hospital in the area so that as a regional hospital there need to be additional civil servant medical personnel in number that is in accordance with the calculation of the health workload analysis.	4	0.12	0.48
Medical personnel can improve their knowledgge because their patients are diverse.	2	0.08	0.16
Collaborating with many educational institution.	3	0.09	0.27
Become a referral national hospital.	3	0.09	0.27
Quality service for BPJS patients.	4	0.12	0.48
<b>Total Score</b>		<b>0.5</b>	<b>1.66</b>
<b>Threat</b>			
Reduced public trust in hospital due to delay in the service process due to a shortage of medical personnel.	2	0.14	0.28
The workload is high in the ER, especially during the Covid-19 pandemic.	2	0.08	0.16
There is an increase in the public's critical thinking power regarding medical services and actions.	3	0.06	0.18
Geographical conditions make it difficult for medical personnel to access hospitals during floods, thus hampering medical service time and there is no direct access to toll roads (jammed).	2	0.08	0.16
Many private hospitals will be built around the Al-Ihsan Hospital area.	2	0.14	0.28
<b>Total score</b>		<b>0.5</b>	<b>1.06</b>
<b>Total (Opportunities + Threat)</b>		<b>1</b>	<b>2.72</b>

**Source:** Interview

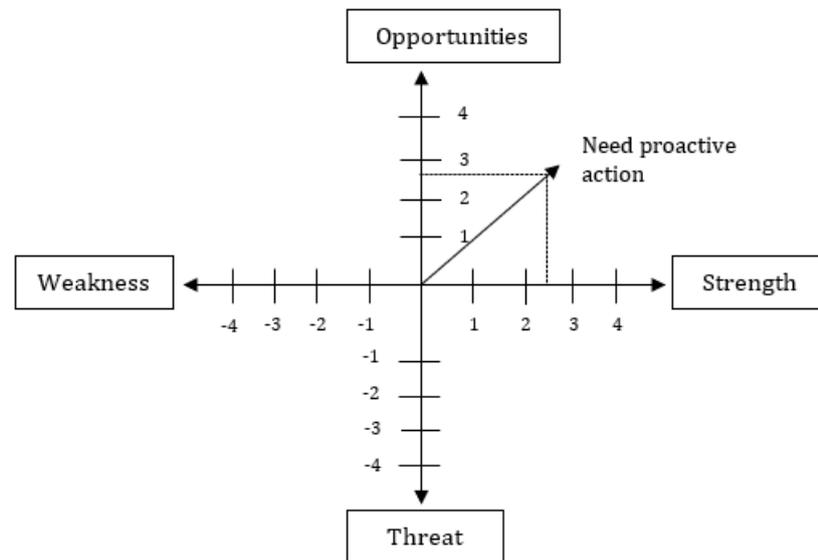
Table 19 above is an external strategic factor analysis summary (EFAS) and internal strategic factor analysis summary (IFAS) to determine the weight and rating of each factor, both internal and external. This matrix is useful for drawing conclusion at the next stage. Giving a rating for a weakness indicator is the opposite of giving a strength rating, so that a value can be -1 to -4. Rating is an analysis of the possibilities that will occur in the short term. The weighting is based on the possibility of each factor influencing the organization's strategic position. The weighting and ratings were given with relevant sources at Al-Ihsan Hospital. The total score show how the hospital react to its internal and external strategic factors.

Based on table 19 above, the strength factors possessed by Al-Ihsan Hospital are greater than the weakness factors. Likewise, the opportunity factor is also greater than the threat factor. Therefore, the condition of Al-Ihsan hospital should be sufficient to be able compete with other hospitals in the area. After looking at the table, there are four alternative strategies for hospitals to implement. The alternative strategies are:

1. Strength-Opportunity Strategy
  - a. Expanding superior specialization by recruiting more well-qualified doctors to be better prepared to become a type A hospital and by utilizing existing health human resources to be included in candidates for civil servants.
  - b. Increasing collaboration with educational institutions, especially with medical faculties, in order to help the performance of medical personnel by having medical personnel education student.
  - c. Improving interpersonal relationship with patients so that the quality of service becomes better so that it becomes a hospital that is in great demand.
2. Weakness-Opportunity Strategy
  - a. Improve the registration system to make it more practical or start implementing online registration.
  - b. Recruit more medical personnelso that they can meet the needs according to the health workload anlysis regulation in order to provide better service to patients.
  - c. Provide soft-skill training to the medical personnel in communication, technology, and also management.
3. Strength-Threat Strategy
  - a. Maximize the competence of health human resources and regulate the rhythm of health services provided by medical personnel so that patients feel satisfied and do not have to wait long.
  - b. Arrange the rotation of medical personnel in the ER so that the workload is not excessive.
  - c. Routinely conduct satisfaction surveys with patients in order to improve the quality of services and medical procedures.
  - d. Utilizing and studying the diversity of patients illness well, coupled with taking part in training that is appropriate to each individual's skills, to develop knowledge for medical personnel so that they are able to compete with other hospitals.
4. Weakness-Threat Strategy
  - a. It is recommended for medical personnel to take time to arrive before service hours.
  - b. Speed up the patient registration process so it doesn't pile up.
  - c. Improving the quality of human resources and service systems, especially administration, so that they can compete with private hospitals.

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Involve medical personnel in candidate for civil servant or immediately recruit new medical personnel, both civil servant and non-civil servant, with good experience and expertise so that they can meet the needs of medical personnel in accordance to the health workload analysis.



**Fig.1 Strategic Position WOT Analysis Calculation Result**

$$X = S+W = 1.37 + 1.205 = 2.575$$

$$Y = O+T = 1.66 + 1.06 = 2.72$$

Based on figure 1 above, internal analysis coordinate is X and external analysis coordinates is Y. So the X:Y coordinates is 2.575:2.72. So based on the figure 1 above, Al-Ihsan hospital is at quadrant I position, means that Al-Ihsan hospital need proactive action. The best strategies for the hospital is using SO strategy by taking advantage of external opportunities with the internal strength they have.

## CONCLUSIONS

This research was conducted with the aim of analyzing the needs of medical personnel at Al-Ihsan Hospital based on Minister of Health Regulation Number 33 of 2015 and a SWOT analysis of medical personnel to determine the hospital's strategy. Based on the results of the data analysis and the discussion that has been explained, the conclusions are the number of medical personnel at Al-Ihsan hospital currently does not meet the number in accordance with the Human Resource need based on Minister of Health Regulation so there is a gap. From the results of the SWOT analysis it was found that the current position of Al-Ihsan hospital is in quadrant I where the hospital needs to take proactive action by utilizing internal strengths and existing opportunities.

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