

Original Research

ANALYSIS OF THE NEEDS OF GENERAL PRACTITIONERS IN PUBLIC HEALTH CENTERS USING HEALTH WORKLOAD METHOD

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ABSTRACT

Background: The availability of general practitioners in the public health center is still an important spotlight regarding the uneven distribution.

Objective: The purpose of this study is to find out the total needs of general practitioners at public health centers, specifically at the Public Health Center of Tampo and Wapunto in Muna District.

Methods: This study used a descriptive approach using health workload method analysis. Observation sheets were used for collecting data. Workload burden analysis was used by establishing health facilities and types of health human resources, setting available work time, setting workload components and time norms, calculating workload standards, supporting task standards and supporting task factors, and also calculating the needs of general practitioners.

Results: The Public Health Center of Tampo lacked two general practitioners, and the Public Health Center of Wapunto lacked one general practitioner.

Conclusion: The Public Health Centers of Tampo and Wapunto in Muna district need additional general practitioners in the efforts of providing optimal service particularly in preventive, promotive, curative and rehabilitative to the community.

Keywords: needs, analysis of health workload, general practitioners, health centers

BACKGROUND

The national health system states that improving the status of public health must be supported by human health resources in order to realize the highest degree of public health. Based on the Presidential Regulation of the Republic of Indonesia Number 72 of 2012 concerning the national health system efforts to meet the need for health human resources, it is indicated that there is less attention to condition of the number, type, quality and distribution. One way to realize the degree of good health through adequate health services is to provide quality human resources. Health personnel planning must pay attention to the type of service needed, health facilities, as well as the appropriate type and amount. Planning

of human resources for health needs as a whole must be prepared as a reference in determining the needs which include education and training of human resources for health, utilization of human resources for health, including improving their welfare (Dewi, 2013).

The public health center is as one of the first-level health service facilities has an important role in the national health system. The availability of general practitioner is still becoming an important spotlight related to the uneven distribution, of which from 106,370 general practitioners, there are only 17,507 general practitioners work at the public health center (Suharmiati, Handayani, &

[Kristiana, 2015](#)). Data show that, until 2018, there were still many public health centers with a shortage of health workers, namely 25.14% public health centers lack general practitioners ([Ministry of Health, 2018](#)). The general practitioner crisis occurs because the increase in fulfillment of general practitioners has not yet become an opportunity in an effort to improve the quality of basic services. In the national health insurance era, the problem of lack of doctors in the public health center will be more complex because the public health center acts as a gatekeeper in the health service system so that adequate human resources for health are needed. According to [Mujiati and Yuniar \(2017\)](#), this is related to the performance of program achievements in public health center.

Based on data from the Central Statistics Agency of Southeast Sulawesi Regency (2018), the total population of Muna is 284,997 inhabitants. With a doctor ratio of 13 per 100,000 populations, the need for general practitioners is 129 general practitioners to reach the national ratio standard of 45 for 100,000 populations. Data show that there are 15 general practitioners in the public health centers in Muna district consisting of 4 treatment centers and 23 non-care centers ([Health Service of Southeast Sulawesi, 2018](#)). A study states that to be able to see the quantity and quality of health services that have been given, the influence of health workers is the point of success of a service, to be able to control the quantity and quality of basic health services at public health center ([Shofiah, Prihatini, & Viphindartin, 2019](#)). The results of other studies conclude that it is necessary to increase health human resources so that services at the public health centers are more excellent and the public feel more satisfaction in the services provided ([Guspianto, 2013](#)).

The workload of health human resources at the public health center is also an important issue that cannot be continuously ignored. Excessive workload can affect the quality of one's work. Health human resource needs planning based on analysis of health workload method is a method of calculating health human resource requirements based on workload carried out by each type of health human resource in each health service facility in accordance with its main tasks and functions ("[Regulation of the Minister of Health of the Republic of Indonesia Number 33 in 2015 Concerning Guidelines for the Preparation](#)

[of Health Human Resource Planning," 2015](#)). This method is used to calculate the needs of all types of health human resources. The aim of this study was to analyze the needs of general practitioners in the Public Health Center of Wapunto (non-care) and the Public Health Center of Tampo (care) in Muna District.

METHODS

Study Design

This study used a descriptive approach using the workload analysis method issued by the Ministry of Health in 2015. The data source is through direct observation of the main activities and supporting activities undertaken by general practitioners.

Sample

Determination of public health center was done by purposive sampling, which the samples were selected based on certain considerations made by the researchers themselves, and characteristics of the population that have been previously known ([Notoadmodjo S, 2006](#)). Public Health Center of Tampo (Caring public health center) and Public Health Center of Wapunto (Non-caring public health center).

Instrument

Instruments used to collect primary data were observation sheets, stationery, and watches or stopwatch and computers (Microsoft Office Excel). The observation sheets were developed from the Health Community Resource Needs Planning Manual in 2015.

Data Analysis

Data were analyzed using workload analysis by establishing health facilities and types of health human resources, determining available work time, workload components and time norms, calculating standards of workload, standards of supporting tasks and supporting task factors, and calculating the needs of general practitioners.

RESULTS

The Calculation of Human Resources for General Practitioners at Public Health Center of Tampo

The analysis of Health workload method can be calculated as follows:

Step 1: Determining health care facilities and types of health human resources. The health human facility is public health center, and the health human resources is general practitioner.

Step 2: Establishing working time available
Determination of available working time refers to Presidential Decree number 68 of 1995 that the working hours of government agencies 37 hours 30 minutes per week, both for those who work 5 days or those who work 6 days in accordance with the provisions of the regional head. The number of working days in Muna Regency is 6 working days. Available Working Hours of 1200 hours / day or 72000 minutes / year (Minister of PA-RB Regulation No. 26 of 2011 and National Health Agency Regulation No. 19 of 2011)

Step 3: Establishing workload components and time norms

Step 4: Calculating the standard workload

$$\text{Standard workload (SWL)} = \frac{\text{Available working time (AWT)}}{\text{The time norm for each activity}}$$

Table 1 Activity Components and Norms of Time, Working Time and Standards of Workload in Public Health Center of Tampo

Component of the main activity	Time	AWT (Minutes)	SWL 3/2
1	2	3	4
1. Patient service	4	72000	18000
2. Consultation	6	72000	12000
3. Medical action	25	72000	2880
4. Emergency action	20	72000	3600
5. Visit patient	15	72000	4800
6. Counseling	15	72000	4800

Step 5 Calculating Supporting Task Standards (STS) and Supporting Task Factors (STF)

$$\text{STF} = \frac{\text{Working time}}{\text{available working time}} \times 100$$

$$\text{STS} = \frac{1}{(1 - \frac{\text{STF}}{100})}$$

Table 2 Types of Activities, Working Time, Available Working Time (AWT) and Standards for Supporting Tasks in Public Health Center of Tampo

Supporting activity	Working time (minutes/year)	AWT (minutes/year)	STF %
1	2	3	4
1. Meeting (meeting routine of public health center)	1440	72000	2.0
2. Visiting home	1440	72000	2.0
3. Immunization of school's children	1440	72000	2.0
4. Surveying	2160	72000	3.0
5. Counseling	1440	72000	2.0
6. Posyandu	2160	72000	3.0
7. Conference / training / workshop	2160	72000	3.0
8. Additional administration	3960	72000	5.5
Supporting Task Factors (STF) in %			22.5
Supporting Task Standards (STS) = (1/(1-STF/100))			1.29

Step 6: Calculating needs of public health resources

$$\text{Need of public health resources} = \frac{\text{Achievement (1 tahun)}}{\text{Workload standard}} \times \text{STS}$$

Table 3 Recapitulation of Calculation of Needs of General Practitioners

Activity	Achievement 1 year	WLS	Needs
1. Patient services	4018	18000	0.22
2. Consultation	4018	12000	0.33
3. Medical action	2645	2800	0.92
4. Emergency action	1284	3600	0.36
5. Visit patient	49	4800	0.01
6. Counseling	618	4800	0.13
TW = Total Worker Main activity (general practitioner)			1.97
Supporting activity	Standard of supporting activity		1.29
Total needs of public health resources (general practitioner)	(TW X SSA)		2.54
Rounding off			3

The Calculation of Human Resources for General Practitioners at Public Health Center of Wapunto

The analysis of health workload method was used in the following steps:

Step 1: Determining health care facilities and types of health human resources. The health human facility is public health center, and the health human resources is general practitioner.

Step 2: Establishing working time available

Determination of available working time refers to Presidential Decree number 68 of 1995 that the working hours of government agencies 37 hours 30 minutes per week, both for those who work 5 days or those who work 6 days in accordance with the provisions of the regional head. The number of working days in Muna Regency is 6 working days. Available Working Hours of 1200 hours / day or 72000 minutes / year (Minister of PA-RB Regulation No. 26 of 2011 and National Health Agency Regulation No. 19 of 2011)

Step 3: Establishing workload components and time norms

Step 4: Calculating the standard workload

$$\text{Standard workload (SWL)} = \frac{\text{Available working time (AWT)}}{\text{The time norm for each activity}}$$

Table 4 Activity Components and Norms of Time, Working Time and Standards of Workload in Public Health Center of Wapunto

Component of the Main Activity	Time	AWT (Minutes)	SWL
			3/2
1	2	3	4
1. Patient services	4	72000	18000
2. Consultation	5	72000	14400
3. Medical action	30	72000	2400
4. Emergency action	30	72000	2400
5. Counseling	15	72000	4800

Step 5 Calculating Supporting Task Standards (STS) and Supporting Task Factors (STF)

$$\text{STF} = \frac{\text{Working time}}{\text{available working time}} \times 100$$

$$\text{STS} = \frac{1}{(1 - \frac{\text{STS}}{100})}$$

Table 5 Types of Activities, Working Time, Available Working Time (AWT) and Standards for Supporting Tasks in Public Health Center of Wapunto

Supporting activity	Working time (minutes /year)	AWT (minutes /year)	STF %
1	2	3	4
1. Meeting (meeting routine of public health center)	2160	72000	3.0
2. Visiting home	1440	72000	2.0
3. Immunization of school's children	2160	72000	2.0
4. Surveying	2160	72000	3.0
5. Counseling	1440	72000	2.0
6. Posyandu	2160	72000	3.0
7. Conference / training / workshop	2160	72000	3.0
8. Additional administration	2640	72000	3.7
Supporting Task Factors (STF) in %			22.7
Supporting Task Standards (STS) = (1/(1-STF/100))			1.29

Step 6 Calculating needs of public health resources

Table 6 Recapitulation of Calculation of Needs of General Practitioners

Activity	Achievement 1 year	WLS	Needs
1. Patient services	3081	18000	0.17
2. Consultation	3081	14400	0.21
3. Medical action	1184	2400	0.49
4. Emergency action	564	2400	0.24
5. Counseling	486	4800	0.10
TW = Total Worker Main activity (general practitioner)			1.21
Supporting activity	Standard of supporting activity		1.29
Total needs of public health resources (general practitioner)	(TW X SSA)		1.57
Rounding off			2

Table 7 The Gap of General Practitioners in Public Health Center in Muna District

No	Kind of Public Health center	Name of Public Health center	Total of general practitioner now	Reality of general practitioner	Gap of general practitioner
1	Caring Public Health Center	Public Health Center of Tampo	1	3	-2
2	Non- caring Public Health Center	Public Health Center of Wapunto	1	2	-1

DISCUSSION

Public health center is as a health service facility is the spearhead of development in the health sector. To be able to see the quantity and quality of health services that have been provided, the influence of human resources is the point of success of a service. According to [Suryanto \(2020\)](#), to be able to control the quantity and quality of basic health services at public health center, it is necessary to analyze the workload of health workers. The method that suits these conditions is the method of calculating human resources needs based on workload ([Efendy, Suprihanto, & Widiastuti, 2019](#)). Analysis of health workload method is a method of calculating the needs of health workers those results in the availability, needs, and gaps of the type and amount of health human resources in health service institutions / facilities (hospitals, health centers, other service work units). ("[Regulation of the Minister of Health of the Republic of Indonesia Number 33 in 2015 Concerning Guidelines for the Preparation of Health Human Resource Planning](#)," 2015).

This research found that Public Health Center of Tampo and Public Health Center of Wapunto in Muna district experienced a shortage of general practitioners as important medical personnel in providing health services. This was obtained from the results of the calculation of needs using the analysis of health workload reduced by the number of doctors currently in the health center. Currently, Public Health Center of Tampo has 1 general practitioner and Public Health Center of Wapunto has 1 general practitioner. However, based on the results of research using the analysis of health workload, Public Health Center of Tampo should have 3 general practitioners and Public Health Center of Wapunto have 2 general practitioners. It means that the Public Health

Center of Tampo lacks 2 general practitioners and the Public Health Center of Wapunto lacks 1 general practitioner. This is a result of the high workload held by general practitioners who currently work in Public Health Centers of Tampo and Wapunto.

The shortage of general practitioners in Public Health Centers of Tampo and Wapunto have an impact on the workload of general practitioners who have to serve a large number of patients so that the services provided are not optimal. Inadequate service indicates that there is still a lack of general practitioners so that public health centers need additional general practitioners.

In line with research in Namibia, it was found that there was a shortage of doctors and pharmacists, and the distribution was not evenly distributed because it tended to work in ([McQuide, Kolehmainen-Aitken, & Forster, 2013](#)). The results of research conducted in the United States stated that the distribution of doctors in public health centers is uneven because doctors are concentrated in urban and suburban areas ([Shivam et al., 2014](#)).

[Gultom and Sihotang \(2019\)](#) explained that workloads greatly affect the efficiency, effectiveness and productivity of the workforce. So, there needs to be a match between the numbers of workers with the workload in a service unit. Workload has also a significant impact on worker performance.

Health workers who are not productive in working will provide health services that are not optimal for patients at the public health center, so that preventive, primitive, curative and rehabilitative efforts will not run well and have a bearing on not increasing the degree of public health. [Wardanis \(2018\)](#) explains that if the

workforce is not in accordance with the existing workload, the work will result in work fatigue and can result in a decrease in work productivity that affects the quality of health services.

Public health center is as the spearhead in providing basic health services (primary health care) to the community in the form of preventive, sustainable, and certainly accessible services for the entire community. Therefore public health centers of Tampo and public health centers of Wapunto in Muna district still need additional general practitioners to provide optimal services, not only serving within the public health center building, but also a general practitioner must be able to provide primary services in promoting and preventive efforts to the community. [Husein \(2013\)](#) explained that general practitioner health workers were the determining factor in the success of health services in the public health center which had the biggest role (influence) in public health center services. Medical health workers available at the public health center will determine the ability of services that can be provided by the public health center because health workers are the key to service. The number of suitable and competent medical health personnel allows public health center to have excellent service handling capabilities ([Ali, 2015](#)).

[Mujiati and Yuniar \(2017\)](#) found that there are still many public health centers that do not have general practitioners, as a result many public health centers, especially in remote areas, are only served by nurses or other health workers. Data on the distribution of general practitioners in Indonesia shows gaps between regions. Problems will be seen when looking at the availability of general practitioners at the public health center because the public health center is a health facility that is at the forefront of community health development. Therefore, the quality and quantity of health workers in Muna district health centers, especially general practitioners, still need to be improved by the policies of the local government.

Research of [Dharmayuda \(2015\)](#) states that since 2010 the Indonesian government has made various efforts in the context of strengthening the planning of health human resource needs in

Indonesia. Currently, the Ministry of Health has created a new program to meet the needs of health workers in Indonesia with the Nusantara Sehat program. The archipelago healthy program is a program launched by the Ministry of Health to meet the needs of health human resources to strengthen primary health services through improving access and quality of basic health services in providing health services and conducting preventive and promotive efforts. But, in fact the Nusantara Sehat program was unable to answer the shortage of general practitioners in Muna Regency because this program was not much in demand by general practitioners because of its placement reaching remote areas in Indonesia. The results of the the study in Thailand also revealed that a number of strategies could be carried out in an effort to solve the problem of a shortage of general practitioners such as one-year rural service prerequisites for special training for all new doctor graduates and setting a special salary level for rural doctors.

CONCLUSION

In conclusion, the Public Health Centers of Tampo and Wapunto in Muna district still need additional general practitioners in order to be able to provide primary services in promoting and preventive efforts, as the health center as the spearhead in providing primary health care. General practitioners become determinants of health services in the success of health services in public health centers which have the biggest role in public health center services. It is suggested that the use of health workload is necessary to do especially in planning health workers in the future, especially the needs of general practitioners, as well as the use of regional policy strategies to solve the problem of general practitioner shortages. It is also recommended for medical workers especially general practitioners to always provide more optimal services to improve the degree of public health.

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Declaration of Conflicting Interest

None.

References

- Ali, F. A. (2015). Analisis pelaksanaan rujukan rawat jalan tingkat pertama peserta program Jaminan Kesehatan Nasional (JKN) di Puskesmas Siko dan Puskesmas Kalumata Kota Ternate tahun 2014. *Jikmu*, 5(3).
- Dewi, S. L. (2013). Kebijakan untuk daerah dengan jumlah tenaga kesehatan rendah. *Jurnal Kebijakan Kesehatan Indonesia: JKKI*, 2(1).
- Dharmayuda, A. A. N. G. (2015). *Analisis beban kerja dokter umum menggunakan metode workload indicators of staffing need (WISN) di Puskemas se-Kota Denpasar*. Universitas Udayana, Bali.
- Efendy, M., Suprihanto, J., & Widiastuti, N. (2019). *Evaluasi beban kerja perawat puskesmas Jogorogo di Kabupaten Ngawi tahun 2018*. STIE Widya Wiwaha.
- Gultom, S. P., & Sihotang, A. (2019). Analisa kebutuhan tenaga rekam medis berdasarkan beban kerja dengan metode wisn di bagian pendaftaran Rumah Sakit Umum Haji Medan Tahun 2018. *Jurnal Ilmiah Perkam dan Informasi Kesehatan Imelda*, 4(1), 524-532.
- Guspianto. (2013). Analisis penyusunan rencana kebutuhan sumber daya manusia (SDM) kesehatan di Kabupaten Muaro Jambi. In *Prosiding Seminar Nasional Kesehatan: Jurusan Kesmas FKIK Unsoed*.
- Health Service of Southeast Sulawesi. (2018). Southeast Sulawesi Health Profile. Kendari Sulawesi Tenggara: Health Service of Southeast Sulawesi
- Husein, R. (2013). Studi evaluasi ketersediaan tenaga kesehatan di puskesmas pada kabupaten/kota daerah tertinggal, perbatasan dan kepulauan terhadap capaian indikator kinerja standar pelayanan minimal kabupaten/kota. Jakarta: Fakultas Kesehatan Masyarakat Universitas Indonesia.
- McQuide, P. A., Kolehmainen-Aitken, R.-L., & Forster, N. (2013). Applying the workload indicators of staffing need (WISN) method in Namibia: challenges and implications for human resources for health policy. *Human Resources for Health*, 11(1), 64.
- Ministry of Health. (2018). *Indonesian Health Profile for 2017*. Jakarta: Ministry of Health.
- Mujiati, M., & Yuniar, Y. (2017). Ketersediaan sumber daya manusia kesehatan pada fasilitas kesehatan tingkat pertama dalam era Jaminan Kesehatan Nasional di delapan Kabupaten-Kota di Indonesia. *Media Penelitian dan Pengembangan Kesehatan*, 26(4), 201-210.
- Notoadmodjo S. (2006). *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- Peraturan Presiden Republik Indonesia Nomor 72 tahun 2012 tentang sistem kesehatan nasional, (2012).
- Regulation of the Minister of Health of the Republic of Indonesia Number 33 in 2015 concerning guidelines for the preparation of health human resource planning, (2015).
- Shivam, S., Roy, R. N., Dasgupta, S., Bhattacharyya, K. D., Misra, R. N., Roy, S., & Saha, I. (2014). Nursing personnel planning for rural hospitals in Burdwan District, West Bengal, India, using workload indicators of staffing needs. *Journal of Health, Population, and Nutrition*, 32(4), 658.
- Shofiah, R., Prihatini, D., & Viphindartin, S. (2019). Perencanaan sumber daya manusia kesehatan (SDMK) puskesmas di Kabupaten Jember. *BISMA*, 13(3), 181-188.
- Suharmiati, S., Handayani, L., & Kristiana, L. (2015). Faktor-faktor yang memengaruhi keterjangkauan pelayanan kesehatan di puskesmas daerah terpencil perbatasan di Kabupaten Sambas (Studi kasus di Puskesmas Sajingan Besar). *Buletin Penelitian Sistem Kesehatan*, 15(3 Jul).
- Suryanto, H. (2020). Analisis beban kerja dan kebutuhan sumber daya manusia petugas rekam medis Puskesmas Adan-adan Kabupaten Kediri. *Jurnal Rekam Medis dan Informasi Kesehatan*, 3(1), 29-35.
- Wardanis, D. T. (2018). Analisis beban kerja tenaga rekam medis rumah sakit bedah Surabaya menggunakan metode FTE. *Jurnal Administrasi Kesehatan Indonesia*, 6(1), 53-60.

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