Health Workers in Samarinda City: An Examination of Their Distribution Based on Strategic Issues

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Abstract

Providers and organizers of health care in the city are health professionals. According to WHO guidelines, the number of health workers needed in Samarinda has not yet been determined. This ratio compares the number of health workers to the population. The method used in this study is a descriptive-analytical nonexperimental design (cross-sectional). Following the study's goals, research participants used secondary data from the Central Statistics Agency's report for Samarinda City in 2018/2019 in social and population data. The number of doctors in Samarinda is 1:10,249, so it does not meet the WHO minimum standard requirement of 1:2,500. The number of nurses is identical, but the standard ratio of 1:855 cannot be met. Six sub-districts failed to meet this ratio. Sungai Pinang was the most effective sub-district in achieving the nurse-population balance. Apart from Samarinda Ulu and Samarinda Kota, the distribution of pharmacists has caught the attention of almost all districts in Samarinda, a total of eight sections. Even one pharmacy in the Sungai Pinang district must serve 54,386 people. Health workers in Samarinda are not equally distributed, owing primarily to external issues.

Keywords: Distribution; Health Workers; Strategic Issue

Introduction

The need to address inequalities in the distribution of the medical workforce was in the spotlight of policy discussions for several years. Despite its importance, few initiatives aimed to improve the medical workforce's attractiveness, recruitment, and retention provided practical approaches to overcome this problem(Elisa Maria Maffioli, Thiago Augusto Hernandes Rocha, Gabriel Vivas, Carlos Rosales, Catherine Staton, 2019). The distribution of health workers in Indonesia raises an interesting discussion since Indonesia, an archipelagic country, has vast geography and challenges for fulfilling equitable health services(Agung Dwi Laksono, Ilham Akhsanu Ridlo, 2020).

According to Health Law Number 36 of 2009, a health worker has the expertise, skills, and authorization to engage in health-related activities and can dedicate himself to the community in the health field. Meanwhile, according to the Minister of Health's Regulation No. 75 of 2014, at least nine health workers in public health centers work according to labor standards. (Kemenkes RI, 2014)

Insufficient numbers and categories of health workers concerning service levels, unequal distribution of health workers, and uneven productivity for all health workers are all strategic challenges (Slamet, 2018). Health human capital is critical to achieving Universal Health Coverage (UHC). According to the World Health Organization, Indonesia is one of 57 countries with a shortage of health workers. Whereas health human capital account for 80% of the progress of healthy growth, In Indonesia, a shortage of human health resources can be viewed as either a lack of human health resources or an uneven distribution of human health resources (Nurhotimah, 2015).

One of the challenges in increasing access to health services in Indonesia is the unequal distribution of health professionals (particularly, though not exclusively, doctors and specialists). Although health workers congregate in cities, the Remote, Border, and Archipelago Areas (DTPK) are experiencing a labor shortage. The Indonesian government has attempted to address this through a variety of policies. This is a condition that does not only occur in Indonesia (Dewi, 2013).

The goal of 100,000 people served by health workers has not been reached. Specialist physicians have only reached 7.73 percent of the target of 9 percent, and general practitioners have only got 26.3

percent of the target of 30 percent. Meanwhile, nurses only made up 157.75 percent of the average of 158, while midwives only made up 43.75 percent of the target of 75 per 100,000 people. However, this issue is not isolated; it is intertwined with some variables, including geographic environments, transportation, facilities, and, most importantly, legislation governing health workers' amount, efficiency, and equal distribution. (Nurhotimah, 2015).

Regulation number 8 of 2018 of the Mayor of Samarinda relating to the Samarinda Smart City Masterplan. Intelligent living creates a decent, comfortable, and efficient living environment. Smart living goals include providing high-quality health infrastructure, such as increasing the number of health workers (doctors, nurses, and midwives) and establishing a resident health visit system (Walikota Samarinda, 2018). The equitable distribution of healthy laborers should accompany an increase in the number.

The city of Samarinda's determination of the need for health personnel falls short of WHO guidelines, one of which is the 1: 2500 doctor-to-population ratio, in which one doctor serves 2500 people. Since not all health centers have enough physicians, it is normal for doctors to work primarily in city centers with better access (geography, transportation, housing, and entertainment).To establish the standard of health worker needs that are uniformly distributed in the city of Samarinda, an analysis of the distribution of health workers is needed.

Methods

This type of research is a descriptive (nonexperimental) study method relating to analyzing some data, also known as samples, to forecast or draw conclusions about the entire parent data. The research population is the whole object of research. The people in this study are all health workers related to this study in Indonesia. The number of samples is five kinds of health professionals in Samarinda. The sampling method uses random cluster sampling. Samples will represent the distribution of health workers in the highest population in a city on the largest islands in Indonesia and as the capital province, except Java island, which has a much better distribution of health workers. Samarinda was chosen based on the highest population in the province of East Kalimantan and a picture that reflects the distribution of health workers when it became the new nation's capital. The researchers used data on the population and distribution of health workers from the city of Padang as a comparison, taking into account the number of residents who are not too far away and both are outside of Java.

The data was collected using secondary data from the Central Statistics Agency report for Samarinda City and Padang in 2018/2019 in social and population data in the health sector. Secondary data for health staff from government-owned health facilities were used in this study's data collection. Research approval (for ethics) is not needed because it uses open-source data from Central Statistics Agency. Data analysis begins with describing existing research samples, followed by analysis based on theory or journals as a guide. Then, draw conclusions, outline findings based on theory, and offer solutions.

Results

Population by Sub-District

Data on the population of Samarinda was collected based on the research findings. Based on the distribution and growth ratio in 2018, the following population data for the city of Samarinda will be shown.

Table 1. Number of the population by sub-district in Samarinda city in 2010-2018

No	District	Total Population (Thousand)			Annual population growth rate	
		2010	2017	2018	2010-2018	2017-2018
1	Palaran	49.079	60.701	62.279	0,21	0,03
2	SamarindaIlir	66.261	74.604	75.535	0,12	0,01
3	Samarinda Kota	33.052	34.653	34.734	0,05	0,00
4	Sambutan	43.651	57.434	59.443	0,27	0,03
5	Samarinda Seberang	57.532	71.156	73.006	0,21	0,03
6	Loa JananIlir	56.651	70.080	71.904	0,21	0,03
7	Sungai Kunjang	114.044	119.587	119.868	0,05	0,00
8	Samarinda Ulu	121.591	127.490	127.786	0,05	0,00
9	Samarinda Utara	90.202	120.305	124.753	0,28	0,04
10	Sungai Pinang	95.437	10.436	108.772	0,12	0,01
	Samarinda	**632.063**	**843.446**	**858.080**	**0,26**	**0,02**

Source: (BPS, 2010)

Samarinda City had an estimated 858,080 people in 2018, with 443,379 men and 414,701 women. The

population of Samarinda city has increased by 0.02 percent since the population estimate in 2017. Data on the population of Padang was collected based on

the research findings. Based on the distribution and growth ratio is 2018.

Table 2. Number of the population by sub-district in Padang city in 2010-2018

No	District	Total Population (Thousand)			Annual Population Growth Rate	
		2010	2017	2018	2010-2018	2017-2018
1	Bungus Teluk Kabung	22.896	24.926	25.174	0,10	0,01
2	Lubuk Kilangan	48.850	55.381	56.214	0,15	0,02
3	Lubuk Begalung	106.432	121.265	123.167	0,16	0,02
4	Padang Selatan	57.718	59.748	59.962	0,04	0,004
5	Padang Timur	77.868	79.469	79.610	0,02	0,002
6	Padang Barat	45.380	46.010	46.055	0,01	0,001
7	Padang Utara	69.119	70.794	70.951	0,03	0,002
8	Nanggalo	57.275	61.110	61.559	0,07	0,007
9	Kuranji	126.729	146.709	149.307	0,18	0,02
10	Pauh	59.216	71.965	73.686	0,24	0,02
11	Koto Tangah	162.079	189.791	193.427	0,19	0,02
	Padang	**833.562**	**927.168**	**939.112**	**0,13**	**0,01**

Source: (Badan Pusat Statistik (BPS RI), 2020)

Padang City had an estimated population of 939.112 people in 2018, with 469..737 men and 469.375 women. The population of Padang city has increased by 0.01 percent since the population estimate in 2017. In 2018, the population difference between the cities of Samarinda and Padang was 81,032 people. It has been determined that the population difference between the two cities is decreasing, with approximately 201,499 people in

2010 and 83,722 people in 2017. This demonstrates

a significant increase in population in Samarinda from year to year.

Population by Sex

Meanwhile, in 2018, the male population to female population ratio was 106.92. Table 3 will display the population of Samarinda city based on gender:

Table 3. Shows the total population of Samarinda City by gender and district in 2018

No	District	Total Population by Gender		Total Population	Number of couples of reproductive age
		Men	Women		
1	Palaran	32.180	30.099	62.279	10.661
2	SamarindaIlir	39.030	36.505	75.535	13.108
3	Samarinda Kota	17.947	16.787	34.734	5.144
4	Sambutan	30.715	28.728	59.443	10.731
5	Samarinda Seberang	37.723	35.283	73.006	10.360
6	Loa JananIlir	37.153	34.751	71.904	11.695
7	Sungai Kunjang	61.937	57.931	119.868	22.073
8	Samarinda Ulu	66.030	61.756	127.786	24.525
9	Samarinda Utara	64.461	60.292	124.753	20.262
10	Sungai Pinang	56.203	52.569	108.772	16.665
	Samarinda	**443.379**	**414.701**	**858.080**	**145.174**

Source: (BPS, 2010)

Table 3 shows that the Samarinda Ulu District has the most men and women, while the Samarinda Kota District has the least. The total population of all sub-

districts is 858,080, with a male population of 443,379, which is higher than the female population of 414,701. Male compared to the female population in Padang city will display in Table 4 below

Table 4. Shows the total population of Padang City by gender and district in 2018

No	District	Total Population by Gender		Total Population
		Men	Women	
1	Bungus Teluk Kabung	12.972	12.202	25.174
2	Lubuk Kilangan	28.362	27.852	56.214
3	Lubuk Begalung	62.368	60.799	123.167
4	Padang Selatan	30.133	29.829	59.962
5	Padang Timur	39.644	39.966	79.610
6	Padang Barat	23.279	22.776	46.055
7	Padang Utara	33.711	37.240	70.951
8	Nanggalo	29.951	31.608	61.559
9	Kuranji	74.366	74.941	149.307
10	Pauh	37.259	36.427	73.686
11	Koto Tangah	97.692	95.735	193.427
	Padang	**469.737**	**469.375**	**939.112**

Source: (Badan Pusat Statistik (BPS RI) Padang City, 2018)

Table 4 shows that the Kuranji District has the most men and women, while the Bungus Teluk Kabung District has the least. The total population of all sub-districts is 939.112, with a male population of 469.737 people, which is higher than the female population of 469.375The population by gender in the cities of Samarinda and Padang differs significantly in the female gender, with a difference of 54,674 residents, while the male population is Only around 26,358. The difference is more than doubled, indicating that the female population outnumbers the male population.

Number of Health Workers

The following table will display the number of health workers distributed across all sub-districts in Samarinda City:

Table 5. Number of Health Workers by Districts in Samarinda City, 2018

No	District	Doctor	Nurse	Midwife	Pharmacist	Nutritionist
1	Palaran	15	36	35	11	4
2	SamarindaIlir	27	169	14	19	7
3	Samarinda Kota	98	181	45	44	4
4	Sambutan	13	28	24	6	3
5	Samarinda Seberang	7	21	13	4	3
6	Loa JananIlir	59	197	52	30	6
7	Sungai Kunjang	49	96	52	24	3
8	Samarinda Ulu	321	1.325	231	185	34
9	Samarinda Utara	40	60	50	19	6
10	Sungai Pinang	16	19	17	8	2
Total		**645**	**2.132**	**533**	**350**	**72**
2017		661	1.734	478	306	63
2016		668	2.155	534	338	68
2015		556	2.128	551	316	65

Source : (Dinas Kesehatan Kota Samarinda, 2016)

Table 5 shows that the prominent number of health workers in Kota Samarinda has risen year after year, in line with the population growth rate. The number of doctors declined by 16 between 2017 and 2018, but the number of nurses, midwives, pharmacists, and nutritionists rose between 2017 and 2018. Nurses increased by 398 people, midwives increased by 55 people, pharmacists increased by 44 people, and nutritionists increased by nine people.

The data above also indicates the number of physicians, nurses, midwives, pharmacists, and nutritionists in the previous three years, a decrease (in 2017) and a not-so-significant rise (in 2018).

The following table 6 will display the number of health workers distributed across all sub-districts in Padang City in 2016

Table 6. Number of Health Workers by Districts Padang City, 2018

No	Health Workers	Total
1	Doctor	669
2	Nurse	2.008
3	Midwife	592
4	Pharmacist	362
5	Nutrisionist	75

Source : (Badan Pusat Statistik (BPS RI) West Sumatera Province, 2019)

Table 6 demonstrates that the number of health workers differs little between doctors, nurses, and midwives. In 2018, the city of Padang had 669 doctors, followed by nurses with 2.008 and midwives with 592. The difference in the number of doctors, nurses, midwives, pharmacists, and nutritionists shown in tables 5 and 6 above is not statistically significant. Doctors number in the 600s, nurses in the 2,000s, midwives in the 500s, pharmacists in the 350s-360s, and nutritionists in the 70s.

Relationship Between Health Workers and Population

The following table 7 shows the relationship between the number of health workers and the population in the city of Samarinda:

Table 7. Number of Health Workers Per-Sub-District in Kota Samarinda Was Compared to The Population, 2018

No	District	Comparison of the number of health workers with the population per sub-district of Kota Samarinda, 2018				
		Doctor	Nurse	Midwife	Pharmacist	Nutritionist
1	Palaran	1: 4.152	1: 1.730	1: 303	1: 5.662	1: 15.570
2	Samarinda Ilir	1: 2.798	1: 447	1: 936	1: 3.976	1: 10.791
3	Samarinda Kota	1: 354	1: 192	1: 114	1: 789	1: 8.684
4	Sambutan	1: 4.573	1 2.123	1: 447	1: 9.907	1: 19.814
5	Samarinda Seberang	1: 10.429	1: 3.476	1: 797	1: 18.252	1: 24.335
6	Loa JananIlir	1: 1.219	1: 365	1: 225	1: 2.397	1: 11.984
7	Sungai Kunjang	1: 2.446	1: 1.249	1: 424	1: 4.995	1: 39.956
8	Samarinda Ulu	1: 398	1: 96	1: 106	1: 691	1: 3.758
9	Samarinda Utara	1: 3.119	1: 2.079	1: 405	1: 6.566	1: 20.792
10	Sungai Pinang	1: 6.798	1: 5.725	1: 980	1: 13.597	1: 54.386
	Average	**1: 1330**	**1: 402**	**1: 272**	**1: 2.452**	**1: 11.918**

Source: *Primary Data, 2021*

The distribution of health workers in Kota Samarinda is not uniformly distributed across all sub-districts, as shown in Table 7. The number of physicians, nurses, pharmacists, and nutritionists ratio value is each district's total population to the number of doctors, nurses, pharmacies, and nutritionists. Meanwhile, the number of midwives ratio is the ratio of the total female population to the number of midwives spread in each sub-district.

The number of doctors appears to be very low in the Samarinda Seberang sub-district, with a ratio of 1: 10,429, implying that one doctor serves 10,429 people, while the highest number of doctors is found in the Samarinda City District, with a ratio of 1: 354, implying that one doctor serves 354 people. In the Sungai Pinang sub-district, the number of nurses is inadequate, with a ratio of 1 to 5,725, implying that one nurse serves 5,725 patients., The highest number was 1: 96 in the Samarinda Ulu sub-district, which means that one Nurse served 96 people. The lowest number of midwives was in the Sungai Pinang sub-district, with one midwife serving 980 mothers. The highest number was in the Samarinda Ulu sub-district, 1:106 indicates that one midwife serves 106 mothers, based on the number of childbearing couples per sub-district in Samarinda. The lowest number of pharmacy officers is in the Samarinda Seberang sub-district. One pharmacy officer serves 18,252 people, while the highest number is in the Samarinda Ulu sub-district, where 1 pharmacy officer serves 691 people.Sungai Pinang sub-district has the lowest number of nutritionists (1: 54,386), implying that one nutritionist serves 54,386 people, while Samarinda Ulu sub-district has the highest number (1: 3,758), implying that one nutritionist

serves 3,758 people.

Table 8. Number of health workers per sub-district compared to the population, 2018

No	Health Workers	Total Health Workers	Population	Comparation Health Workers and Population
1	Doctor	669	939.112	1 : 1.403
2	Nurse	2.008	939.112	1 : 468
3	Midwife	592	939.112	1 : 1.586
4	Pharmacist	362	939.112	1 : 2.594
5	Nutrisionist	75	939.112	1 : 12.521

Source: *Primary Data, 2021*

In terms of the distribution of health workers, the city of Padang is experiencing similar problems to Samarinda. The number of doctors appears to be average, with a ratio of 1:1.403, implying that one doctor serves 1.403 people. The number of Nurses appears to be average, with a ratio of 1 468, implying that one Nurse serves 468 people. The number of midwives appears to be average, with a ratio of 1:1.586, implying that one midwife serves 1.586 people. The number of pharmacists appearsto be average, with a ratio of 1:2.594, implying that one pharmacist serves 2.594 people. The number of nutritionists appears to be average, with a ratio of 1:12.521, implying that one nutritionist serves 12.521 people.

Tables 7 and 8 compare the number of health workers in Samarinda City and Padang City and show some differences. The ratio of doctors, nurses, midwives, pharmacists, and nutritionists shows that Samarinda is better than Padang, but this does not indicate that the basic standard of health workforce needs is met.

Discussion

Challenge For Health Workers' Distribution

The following strategic challenges and significant problems in the growth of health workers continue to plague Indonesia:

(1) Health worker development has failed to meet the needs of health workers for health services and products.

(2) Regulations to aid in the development of health professionals are also minimal.

(3) Planning for the need for health personnel needs improvement, and an effective health personnel information system is still lacking.

(4) There is still a disconnect between requirements and procurement/education of different types of health workers.

(5) Regarding health personnel use, quality health personnel are still in short supply, especially in underdeveloped areas, remote areas, borders, islands, and less desirable areas. (6) Guidance

and quality management of health staff is not yet being enforced as planned.

(7) There are resources available to assist in the growth and empowerment of health workers that are still limited. (Slamet, 2018)

Impact on The Shortage of Health Workers

Over Staffing for Non-Professional and Undestaffing for Professional. Human resources, also known as human capital, is an essential resource in management. Both levels of management must recognize the value of human capital. (Arifudin, Sudirman, 2017). The factors significantly related to over employment are ethnicity, age, education, number of children in the household, occupation, hours of work, and control over work schedule(Fernandez, 2017). Preliminary numbers, types, and distribution of health workers may result in a lack of public access to quality health care and the emergence of issues with referral and patient handling in specific cases(Kemenkes RI, 2014). Over-staffing for nonprofessional staff (non-technical) and under-staffing for specialists (technical personnel) are both issues; the shortage is the trustworthy source of the problem. (Meliala, 2005)

Impact on Quality of Health Services

The inequitable distribution of health professionals within countries poses an essential obstacle to the optimal functioning of health services(Liesl Grobler, Ben J Marais, 2015).To function efficiently, the healthcare system relies on human capital. (Campbell, J., Dussault, G., Buchan, J., 2013). In sufficient numbers and of adequate quality, health workers are critical for achieving optimal health indicators because they directly impact the quality of health services delivered(Ghosh, 2014). Even though regardless of socioeconomic growth, almost all countries face

challenges in distributing health workers, including issues with education and training, placement, retention, and efficiency. (WHO, 2016). The health worker to population ratio is one of the most widely used calculations in the evaluation and planning of health services since it allows comparisons between regions and subregions with different population sizes, is simple to measure, and still provides relatively good relative inequality. (Anand, 2010)

Work Overload

The appropriate doctor-to-population ratio is 1: 2500, which means one doctor serves 2,500 people. (Kemenkumham, 2016). In Samarinda's city, there are six sub-districts where the doctor-to-population ratio does not meet Indonesian government requirements. Palaran, SamarindaIlir, Sambutan, Samarinda Seberang, North Samarinda, and Sungai Pinang are among these sub-districts.The sub-district with the most doctors, Samarinda Seberang, is far from the minimum ratio of doctors to the total population of the six sub-districts.

The optimal nurse-to-population ratio is 1: 855, which means that one Nurse serves 855 people(Kemenkumham, 2016). In the city of Samarinda, there are six sub-districts with a nurse-to-total-population ratio that is not in compliance with government guidelines. Palaran, Sambutan, Samarinda Seberang, Sungai Kukung, North Samarinda, and Sungai Pinang are among these sub-districts. Sungai Pinang sub-district has the smallest number of nurses among these sub-districts.

The Ministry of Health's regular ratio is characterized by each pharmacy serving 83,333 or 1: 83,333, while the WHO standard is similar with the understanding that each pharmacy serves 2,000 or 1: 2,000.(Dyani Primasari Sukamdi, Lutfan Lazuardi, 2015). According to WHO requirements, the number of pharmacy staff in Samarinda is still inadequate. An individual in charge of at least one pharmacist/pharmacist is usually found in a pharmacy. Compared to the total population, the number of pharmacy staff in Samarinda is considered low; there are eight sub-districts, including Palaran, Samarinda Ilir, Sambutan, and SamarindaSeber Loa JananIlir, Sungai Kunjang, North Samarinda, and Sungai Pinang. Samarinda Seberang Subdistrict has a shortage of pharmacy staff from all sub-districts in the city of Samarinda.

Stress is higher among nursing assistants, medical assistants, social workers, inpatient workers, women, and persons of color are related to workload and mental health and is lower when feeling valued(Kriti Prasad, Colleen Mc Loughlin, Martin Stillman,

2021).

Maldistribution

The unequal distribution of risks in later life: (1) burden of disease in epidemiological transition, (2) financial security in retirement, (3) familial resources for elderly care, and (4) care workforce for elderly care(Masa Higo, 2014). Health staff quality, composition, and distribution are generally acknowledged as essential determinants of health system performance. (WHO, 2006). The ten countries that make up the Association of Southeast Asian Nations (ASEAN) (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam) have different socioeconomic statuses and have gone through different stages of growth over the last 50 years.(Bank, 2017)that influence health system capacity (Chongsuvivatwong V, Phua KH, Yap MTet al., 2011), the political system, the health system, and the health situation are all intertwined. Most countries, including the rest of Indonesia, are experiencing health worker shortages and maldistribution. (Review, 2010). In lower-middle-income countries, other factors such as motivation and job satisfaction have been essential in health worker retention and turnover. (Bonenberger, Aikins, Akweongo, & Wyss, 2014).

Economic Gap

Uneven distribution of health workers can be caused by various causes, one of which is health worker migration between regions. Government regulations on health workers are one of the causes of migration.More health workers would be attracted to areas with better socioeconomic environments because of economic conditions, personal characteristics, safety factors, jobs, access to children's education, information production, and areas with better socioeconomic environments (Dussault, G. & Dubois, 2003). Health professionals who perform well are those who, given the resources and circumstances available, work in a responsive, equitable, and productive manner to produce the best health outcomes possible. (Manyazewal, 2017).

Remote areas are Becoming not Desirable

In Samarinda, the government focuses on social concerns such as demographic issues. In comparison to other cities in the province of East Kalimantan, Samarinda City, as a large city and provincial capital, has the most comprehensive range of facilities,

ranging from the center of government to educational facilities, health, and trade and services, and various forms of entertainment. Of course, being able to experience these numerous facilities is a big draw for visitors from outside the area, so it's no surprise that the population of Samarinda City has grown significantly over time, to the point where it's now the most populated city in East Kalimantan.(Dinas PU, 2014)

Most health workers in Samarinda live and study in the city center. In this regard, many areas facing a shortage of health professionals are primarily suburban areas. Many people gradually migrate to cities because the population of cities is greater than that of the suburbs / rural areas for various reasons, one of which is economic factors.When viewed from its vantage point as the administrative center of East Kalimantan Province, Samarinda still has a shortage of health workers in several locations/ sub-districts that should be more evenly distributed in terms of distribution, especially in areas far from Samarinda cities, such as Penajam Paser Utara and other cities. Which is far from Samarinda, the dilemma becomes increasingly complex.

The disparity in Health Utilization

Significant issues include accessibility and geographic conditions. The disparity in health utilization among communities in several areas of Samarinda could be exacerbated by differences in health staff and geographic conditions. In Palaran and Sambutan, there is a scarcity of doctors and nurses. For example, one of the reasons is the geographical condition, which is a hilly region, and the lack of official accommodation, which forces health workers stationed in that area to have a unique housing budget; for them, it is preferable to work in an urban area close to home, where access to transportation is also easier. Furthermore, the Sungai Pinang sub-district, located in a region vulnerable to flooding, experienced the same thing, causing health workers to be less interested in being assigned to that site.

Relationship Between Health Worker Distribution and Health Degrees

The relationship between health worker distribution and health degrees will be shown in Figure 1. The number of health workers available has a significant impact on implementing the Indonesian government's health program. As illustrated in Figure 1, the number, type, quality, and distribution of health workers all significantly impact the success of public and individual health efforts.

Figure 1. Relationship between health worker distribution and health (Rangga Yudistira, 2014)
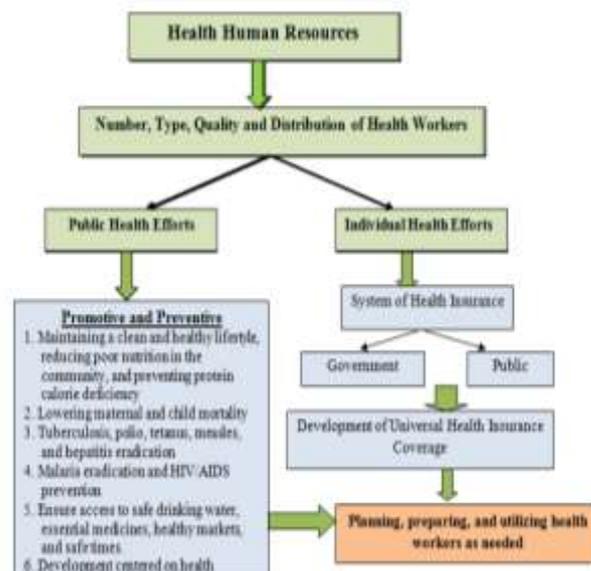
Stakeholder engagement in the creation process is critical for incorporating expert input and evaluating user feedback, which is then used to solve priority issues and create simulations that can be used widely(Gale, Chatterjee, Mellor, & Allan, 2016). For workforce planning, having access to accurate and detailed information on health workers is crucial. (KD Rao, R Shahrawat, 2016)

The Samarinda City government's critical agenda for compiling regulations on distributing health workers in each sub-district is planning, monitoring, and evaluation. This will be the starting point for policy formulation. Development planning will serve as the axis for deciding development goals for the citizens of Samarinda City in the short, medium, and long term.

Conclusion

In the city of Samarinda, the allocation of health workers is not evenly distributed. Health care professionals, such as physicians, nurses, and pharmacists, are more concentrated in metropolitan areas than suburban areas. Social issues, environmental (a floodplain), demographics, and geography relate to this.

The impact of the distribution of health workers on the implementation over staffing for nonprofessionals and understaffing for professionals, impact on quality of health services, work overload, maldistribution, economic gap, remote area are becoming not desirable, and disparity of health utilization. Cooperation from various sectors, including the government, private sector, educational institutions, and health service institutions, is

urgently required to address the issue of health worker maldistribution in Indonesia.

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Author Contributions and Competing Interest

Interest All writers contribute the smallest to the essential things in collecting and analyzing data, including compiling the manuscript. The author ensures that there is no conflict of interest in the activities and preparations

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