

Conference Paper

Calculated Number of Midwives Required in Indonesian Public Health Centers Based on the Minimum Standard Workforce

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Abstract

Midwives are part of a strategic workforce aimed at reducing Indonesia's maternal mortality rate; however, the Indonesian government's task to assign midwives to public health centers (PHCs) is not straightforward. This quantitative descriptive study, aims to describe the availability, distribution, requirement, and lack or excess of midwives in Indonesian PHCs based on the minimum standard workforce. The study used secondary data from The Board of Development and Empowerment of Human Resources for Health, which was tabulated and compared to a minimum standard workforce for PHCs by univariate analysis. The analysis showed that for 9,740 registered PHCs, there were 79,314 midwives, while the calculated minimum required number of midwives based on the minimum standard workforce was 49,145. Six percent of PHCs had numbers of midwives that met the minimum standard workforce. Forty-one per cent of PHCs had less midwives than the minimum standard workforce, lacking 13,296. The largest deficiency was in Papua's PHCs that lacked 1,445 midwives. In comparison, Fifty-three percent of PHCs had more midwives than the minimum standard workforce, with an excess of 43,465. The largest excess was in East Java's PHCs, totaling of 5,852. Even though the number of PHC midwives was greater than the calculated standard number required, there was a mal-distribution of midwives with several PHCs having an excess of midwives and several PHCs with not enough midwives.

Keywords: midwife, availability, standard, shortage, excess

1. INTRODUCTION

A strategy to decrease the maternal mortality rate in Indonesia is to care for and monitor pregnant women reporting to public health centers (PHCs) to detect potential early complications. Related to this, the availability of midwives at PHCs is required because midwives act as facilitators, motivators, and catalysts for achieving safe motherhood.

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The government's task of assigning a midwife according to the needs of each PHC is not straightforward because Indonesia is an archipelago with more than 255,461,700 million people distributed across 13,466 islands with differing geography and socio-cultures [2].

A plan for human resourcing Indonesian health needs, stated that the ratio of midwives in Indonesia amounted to 98.4 per 100,000 population, based on the population of Indonesia then [12]. To plan for the fulfillment of midwife numbers for each PHC, it is necessary to calculate the number of midwives required based on the health-care facility, therefore a description of the numbers, existing positions, and a calculated number of midwives required based on the minimum standard workforce for PHCs is essential. This study describes the availability of midwives, their distribution, and the required numbers based on minimum standards of the workforce in PHCs, and furthermore, describes shortages and excesses of midwives in Indonesian PHCs. The result is expected to provide guidance for the fulfillment of the minimum numbers of midwives required in Indonesian PHCs.

2. METHODS

This was a descriptive quantitative study using secondary data from The Board of Development and Empowerment of Human Resources for Health, in October 2015 [3] which was analyzed using univariate analysis. Data of the number of midwives and their positions from 9,740 registered PHCs in 34 Indonesian provinces were tabulated and compared to the minimum standard workforce for PHCs refers to the attachment of health minister decree about Public Health Centre [10]. From this comparison, PHCs were classified into three categories: those where the number of midwives met the minimum standard workforce, those where the numbers of midwives was less than the minimum standard workforce, and those where the numbers of midwives exceeded the minimum standard workforce. Then, the data from each PHC was recapitulated into each province so that the calculated results such as a lack/excess of midwives were the sum of the lack/excess values for each PHC per province.

3. RESULTS

From 9,740 registered PHCs consisting of 3,395 inpatient PHCs and 6,345 outpatient PHCs, there were 79,314 midwives, while the number of midwives required based on the minimum standard workforce for PHCs was 49,145.

TABLE 1: Actual number of midwives vs. calculated minimum number of midwives required (based on the minimum standard workforce) for Indonesian public health centers (PHCs), October 2015.

Public Health Centers (PHCs)	Number of PHCs	Number of Midwives	Midwives Required
Inpatient PHCs	3,395	34,237	23,765
Outpatient PHCs	6,345	45,077	25,380
Total	9,740	79,314	49,145

There were 592 (6%) PHCs where the number of midwives met the minimum standard workforce; 5,181 (53%) where the number of midwives exceeded the minimum standard workforce; and 3,967 (41%) where the number of midwives was less than the minimum standard workforce.

TABLE 2: Number and percentage of public health centers (PHCs) where the numbers of midwives met the minimum standard workforce, exceeded the minimum standard workforce, or was less than the minimum standard workforce, October 2015.

Public Health Centers (PHCs)	Number of PHCs	Percentage of PHCs
PHCs where the number of midwives met the minimum standard workforce	592	6%
PHCs where the number of midwives exceeded the minimum standard workforce	5,181	53%
PHCs where the number of midwives was less than the minimum standard workforce	3,967	41%
Total	9,740	100%

For 53% (5,181) of PHCs, where midwife numbers exceeded the minimum standard workforce, there was an excess of 43,465 midwives. The largest excess was in East Java with a total of 5,852 midwives. The smallest excess was 62 midwives in Daerah Istimewa Yogyakarta (DIY). In contrast, for 41% (3,967) of PHCs where the number of midwives was less than the minimum standard workforce, there was a lack of 13,296 midwives. The largest deficiency was in Papua with a lack of 1,445 midwives and the smallest deficiency was in Banten with a lack of 26 midwives. The numbers of excesses and shortages of midwives by province in 2015 is shown in Figure 1.

4. DISCUSSION

Based on the current study's results, there was an excess of midwives in Indonesian PHCs as of October 2015. This could be because the minimum standard workforce method only shows the minimum required number of midwives. To determine the real requirement of midwives in PHCs, we needed to analyze the workload for each

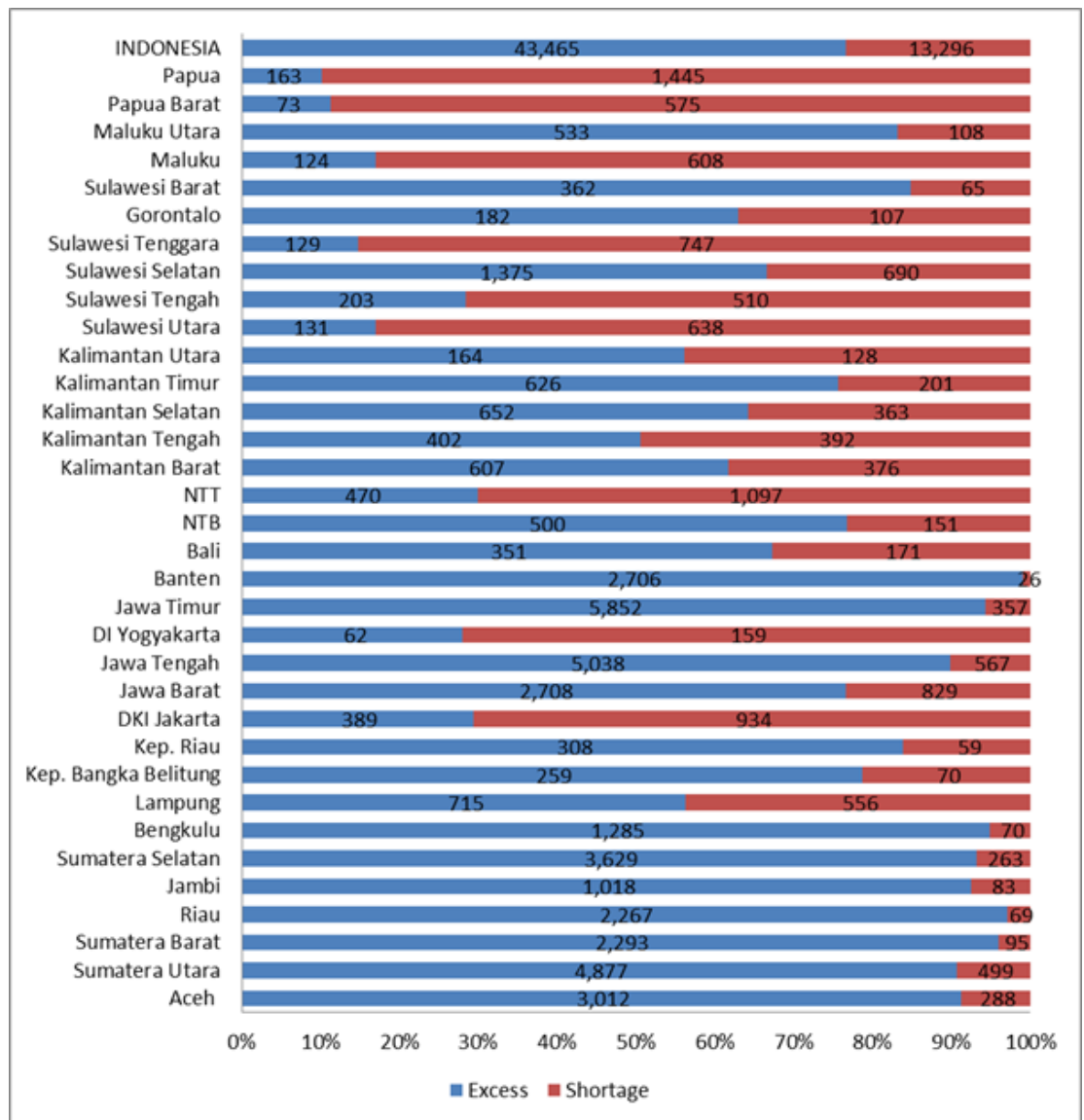


Figure 1: Number of excesses and shortages of midwives in public health centers (PHCs) by Indonesian province, October 2015.

PHC [11]. It is possible that the number of required midwives based on the workload is higher than the number of midwives required based on the minimum standard workforce for PHCs.

At national, sub-national, and global levels, there is a significant gap between the required number, demand, and supply of health workers that causes uneven deployment of health workers [15]. This is in accordance with the results of this study; there is a shortage and an excess of midwives in every Indonesian province, indicating that there is a mal-distribution of midwives in PHCs in every province. This situation is also consistent with previous studies that found the distribution of Indonesian health workers was uneven [5].

Location of PHCs affects the availability of midwives. Urban areas generally have more midwives than rural or remote areas because urban areas are more attractive to workers, including midwives. This is one of the causes of midwife mal-distribution in Indonesia.

Almost all physicians, midwives, and nurses do not have high work retention rates in remote PHCs, especially in island regions. They wish to be relocated to urban areas, because of several reasons such as incentives, career development, and geographical location [7]. Mal-distribution is also influenced by various factors, including living conditions in rural and urban areas, because opportunities for income in urban areas are better than rural areas [8].

Related to mal-distribution, the Indonesian Government recruits health workers through various mechanisms such as the civil servant scheme and hiring contractual employees. The deployment and distribution of civil servants, appointed by the central government, is mainly controlled by the Ministry of State Apparatus. In contrast, civil servants, appointed by the provinces and district governments, are controlled by a local personnel agency, (BKD). For example, a contractual employer is *Pegawai Tidak Tetap* (PTT), managed by the Personnel Bureau of the Ministry of Health, in collaboration with the provincial health office and the district health province [14].

Distribution of health workers in public health-care facilities is the responsibility of local governments because of the Indonesian decentralization policy [9]. According to this policy, the government can relocate health workers who are appointed by either the central government or local governments from PHCs with an excess number of health workers to PHCs with a lack of health workers. However, based on the results of this study, the policy to relocate health workers is not easy to implement. The central government still has difficulty in placing midwives according to the requirement of every PHC in Indonesia.

Decentralization has many benefits including economic. In the case of Indonesian local governments, the economic benefit comes from optimal management of their natural resources; when their natural resources are managed optimally, the local government's income increases. If local governments' incomes increase, they can provide adequate infrastructure including additional incentives and facilities as well as workplace safety so that workplaces can endure in the regions. This would improve deployment and distribution of health workers. Related to this, the Indonesian central government should also encourage local governments to develop and manage their own regions.

5. CONCLUSIONS

The current study's results indicate that the number of midwives in PHCs is greater than that based on the minimum standard workforce for PHCs. There is a mal-distribution of midwives because there are several PHCs that have excess midwives and several PHCs have shortages. The current study calculated the minimum number of midwives required in PHCs. To discover the actual requirement of midwives in PHCs, we needed to analyze the workload for each PHC. The calculation of the health workforce's needs based on workload refers to the guideline for the preparation of human resources for health planning needs [11]. Related to mal-distribution, stakeholder's coordination, especially between the central government and local governments, for distributing the health workforce is important. The Ministry of Health as the central government encourages local governments to provide health-care infrastructure. The roles, commitment, and responsibilities of local governments are very important for implementing the relocation of the health workforce in their regions. Technical policy including placement schemes for the distribution of the health workforce should be applied to the working fields.

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