Human Resources for Health: A Critical yet Challenging Pathway to Universal Health Coverage in Indonesia

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Abstract
In 2014, Indonesia launched the much-awaited National Health Insurance (NHI) to provide universal health coverage to an estimated 250 million inhabitants by 2019, thus becoming one of the largest social health insurance globally. In the first year of implementation, NHI has exposed many issues that deserve urgent attention related to the complexity of the scheme as well as to pre-existing health system failures. This article focuses on the particularly challenging conditions of health human resources. It is argued that NHI magnifies chronic deficiencies in availability, performance and accountability of health workers and highlights the urgency of finally addressing them, if NHI is to deliver on the promises of accessibility, equity and improved health outcomes. Quality improvement efforts need to be intensified and current reforms need to be linked to NHI, so that the workforce can serve as the critical pathway to achieve universal health coverage.

One Year of National Health Insurance

Recently, Indonesia joined the ranks of lower- to middle-income countries aiming to provide universal health coverage (UHC) to enhance access to healthcare and reduce the risk of financial hardship. In 2014, after a decade delay, the much-waited National Health Insurance or NHI (Jaminan Kesehatan Nasional or JKN) mandated by the 2004 National Social Security Law was finally rolled out. Managed as a single pooled fund by the Social Security Management Agency (BPJS), NHI aims to enrol 121.6 million Indonesians in the first year and achieve universal coverage of an estimated 250 million by 2019 (Simmonds and Holt 2013), thus becoming one of the largest social health insurance globally.

NHI integrates previous schemes for the poor, public employees and formal workers into a single pooled fund and makes participation compulsory. Fees for the poor and vulnerable, estimated at 86 million people, remain the responsibility of the State, while workers in the formal sector are to share the prescribed contribution of 5% of their wages with employers. Self-employed and workers in the informal sector are required to pay a monthly premium, which varies according to ward class (Sciortino 2014).

The Ministry of Health (MOH) sets guidelines for NHI and the provision of related health services through a mix of public and private providers. Government-owned health facilities are automatically included, while private physician practices and hospital facilities are contracted after meeting accreditation criteria. Payments are made through a combined system of capitation for basic primary healthcare facilities and INA-CBG (a modified Indonesian version of case-related groups or CRGs) service output payments for secondary and tertiary hospitals (Simmonds and Holt 2013; Mboi 2015). Currently, mainly curative services are financed, but there is pressure to include primary prevention packages such as immunization and diagnostic screening for cancer, which are at the moment managed as separate MOH programs.

Public and policy support for the provision of UHC is widespread, and there is appreciation for its goal to enhance people's welfare, offer social protection and reduce health and socioeconomic inequities. Yet, among experts, concerns are rife about the complexity of implementing such a large insurance scheme and sustaining it over time. The first year of NHI has exposed many issues that deserve urgent attention. These include: an inadequate funding and reimbursement system; adverse participant selection and burden of chronic, expensive diseases; low level and limited collectability of monthly premiums; funding overlapping with project-oriented efforts by MOH and the National Family Planning Board (BKKBN); inefficiency and risk of corruption in disbursement and use of funding; and failure of health system infrastructure due to poor quality and unequal distribution of health facilities and a malfunctioning referral system (see also The Economist 2015).

This article focuses on the particularly challenging conditions of health human resources and their inadequacy to meet NHI expectations. Building on literature and direct experience,[1] it is argued that NHI magnifies chronic deficiencies in availability, performance and accountability of health workers and highlights the urgency of finally addressing them. If NHI is to deliver on the promises of accessibility, equity and improved health outcomes, greater attention is needed to strengthen the health workforce to enable it to fulfil its role as the "critical pathway to achieve UHC" (Jimba et al. 2010).

High Demand on Limited Human Health Resources

In the past decade, health needs have been expanding in Indonesia, bolstered by a growing and aging population, with the proportion of elderly projected to sharply increase and peak by 2040. Health needs have also

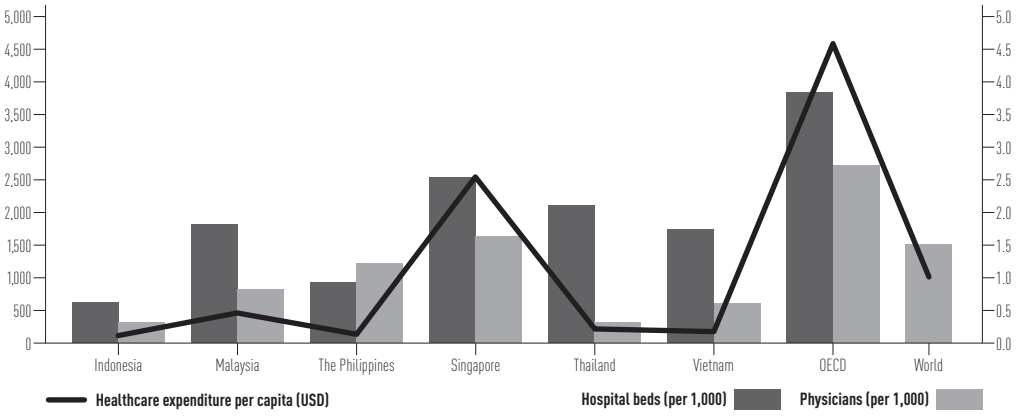
become more diverse because of changing epidemiological conditions: while the profile of communicable diseases, under-nutrition and poor maternal and child health persists, the burden of non-communicable diseases such as cancer, diabetes and heart disease and accidents increases (Kosen et al. 2014).

High and differentiated demand for health services followed, facilitated by increased incomes and the introduction of policies directed at reducing financial barriers for the poor. Outpatient and inpatient utilization rates have progressively risen, especially among the bottom 40% of the population. From 2004 to 2012, outpatient utilization rates[2] reached 12.9% for all income groups, up from 10.1% for the wealthier 60% of the population and 9% for the remaining 40%. Inpatient utilization rates[3] nearly doubled from 1% for the wealthier 60% and 0.6% for the bottom 40% in 2004 to 1.9% by 2012 for both socioeconomic segments (National Socio-Economic Survey data in Dorkin et al. 2014).

With the launch of NHI, further growth in demand and utilization of healthcare is expected, especially for the more costly in-patient services, also considering that before NHI, Indonesia reported low hospital bed occupancy and utilization rates compared with other countries in Southeast Asia (Awofeso et al. 2013). The 2013 National Basic Health Survey (Riskesdas) projected an increase in inpatient utilization rate from 5.0% in 2015 to 9% in 2019 (Kosen et al. 2014). Observations from the first year of NHI appear to confirm this trend, and media have widely reported on the surge in demand and the strain it places on the health system and its workers. As noted in the Financial Times, "The number of patients visiting some hospitals has jumped by four times and many doctors and nurses are unhappy..." (Bland 2014).

The NHI-induced demand indeed imposes an additional burden on the already limited human resources for health. In spite of significant improvements in the ratio of health workers to population – which increased from 0.95/1,000 people in 2006 to a projected 2.63/1,000 by 2014 (BPPSDM in Meliala and Anderson 2014) because of growth in private health education institutes and accelerated education programs for midwives – Indonesia has a lower density of key health workers, especially physicians, when compared with other mid-income countries in the region and globally, reflecting the low expenditure on health and lack of infrastructures (Figure 1).

Figure 1. Comparison of healthcare expenditure, infrastructure and physicians



Source: Adapted from the Economist 2015: 15.

The shortfall is both at the primary health-care facility level (community health centre or *puskesmas*) and at the hospital level, and it hampers preventive and promotive activities as well as curative service provision (Meliala and Anderson 2014). A 2011 survey of community health facilities (Rifaskes Puskesmas) found than only 60% of health centres are served by a dentist, and that many other health competencies, including trained nutritionist, sanitarian, community empowerment specialist and health promotion specialist, were lacking in a greater number of *puskesmas* (Balitbangkes 2012).

With regards to physicians, in 2013, their total reached 88,000 or 0.33 physicians per 1,000 persons, below the 0.4 recommended by the World Health Organization (WHO). Imputed, this brings the estimated shortage to 12,371 physicians (Listyanti 2013). Specialists are scarcer, with only 42,000 covering the entire population, mainly because of the high cost and length of specialized education (Tjokro 2014). Of concern is that the numbers of graduating general practitioners and specialists have been declining since 2009 for reasons still poorly understood (Meliala and Anderson 2014).

More generally, the current and projected production capacity of educational facilities is unlikely to meet the growing health worker needs as forecasted by MOH for the period 2014-2019 based on the increase in life expectancy and population (Table 1), let alone to meet the yet-to-be-estimated health worker needs to enable NHI to scale up to full coverage of the population in the same timeframe.

Table 1. Indonesia: health worker needs projections 2014 and 2019

	2014		2019	
Type of HRH	Ratio per 100,000 population	Numbers	Ratio per 100,000 population	Numbers
Specialist	**12.00**	**29,452**	**24.00**	**62,157**
General practitioner	**48.00**	**117,808**	**96.00**	**248,627**
Dentist	**11.00**	**26,998**	**11.00**	**28,489**
Nurse	**158.00**	**387,785**	**158.00**	**409,199**
Midwife	**75.00**	**184,075**	**75.00**	**194,240**
Dental nurse	**16.00**	**39,269**	**16.00**	**41,438**
Pharmacist	**12.00**	**29,452**	**24.00**	**62,157**
Pharmacist assistant	**24.00**	**58,904**	**48.00**	**124,314**
Public health	**12.00**	**29,452**	**24.00**	**62,157**
Sanitarian	**15.00**	**36,815**	**30.00**	**77,696**
Nutritionist	**24.00**	**58,904**	**48.00**	**124,314**
Physiotherapist	**6.00**	**14,726**	**12.00**	**31,078**
Medical technician	**9.00**	**22,089**	**18.00**	**46,618**

Source: BPPSDM (Adapted from Meliala and Anderson 2014).

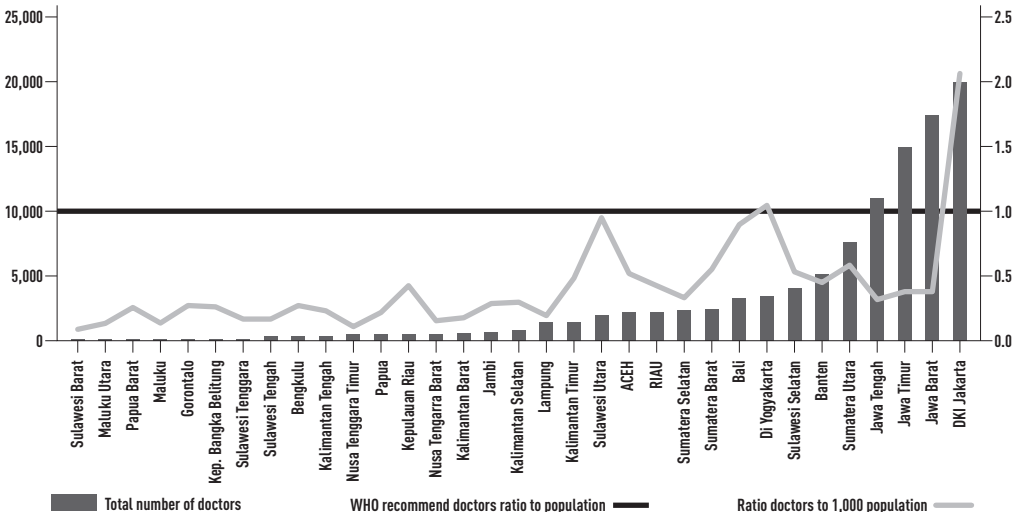
The impact of health worker shortage on the ability to deliver UHC and realize its goal of equitable access to essential health services across the country is exacerbated by the maldistribution of health human resources, especially physicians. The most populous and wealthy island of Java and tourist-attraction Bali are at the highest end with 45.08% of health workers, followed by Sumatra (27%), while the regions of Nusa Tenggara (3.9%) and Papua (2.44%) in socio-economically disadvantaged Eastern Indonesia are at the lowest end (Listyanti 2013).

Across Indonesia's provinces, there are also significant gaps, which are only partially explained by population density. For physicians, only the capital DKI Jakarta and Yogyakarta meet recommended WHO standards, closely followed by Bali and North Sulawesi, while the other 29 provinces rank much lower (Figure 2; Meliala and Anderson 2014). Concentration, especially for specialists, is in urban areas due to preferred living conditions, higher incomes and greater opportunities of professional development. MOH data for March 2014 indicate that 938 *puskesmas* or 9.8% of all the community health centres were short of the required number of physicians or had none (Kemkes 2014).

Interventions currently underway to reduce inequities in the distribution of the health workforce, such as the placement of contract physicians and the assigning of health workers teams to remote areas under the "Nusantara Sehat" (Healthy Archipelago) program (Kemkes 2015a) are temporary and not harmonized with the NHI needs. Furthermore, facilities in disadvantaged areas with scarcer health human resources are at risk of being penalized by the NHI arrangements, as they lack infrastructure and personnel capacity to absorb the allocated NHI fee-based budget, as already observed in the Eastern Indonesia's province of Nusa Tengara Timur or NTT (Nappoe 2014).

At the facility level, the system of capitation for community health centres, which is based on the number and type of available health workers (Menkes 2014), translates into reduced budget allocations for under-resourced primary health facilities. Poorly staffed community health centres cannot claim the maximum capitation fee of approximately $6 per person living in the coverage area (Koamesah 2014), although the minimum number of 155 diseases to be treated is the same. In the private sector, smaller facilities, most often present in rural

Figure 2. Ratio and distribution of physicians per province in Indonesia



Source: BPPSDM 2012 in Meliala and Anderson 2014.

and remote areas, have difficulty meeting the personnel requirements as part of the quality criteria set by the government for accreditation under the NHI scheme due to lack of health workers, especially the required physicians and specialists. The dilemma is then whether NHI requirements should be relented, as lobbied for by disadvantaged local governments and private sector providers, but if so, to what extent it would jeopardize already unremarkable quality of care?

Greater Access to Services, But of What Quality?

Despite progress over time, the overall quality of health services remains low partly because of the providers. As noted by the 2014 Health Sector Review, their quality and performance require comprehensive "improvement from the production stage (accreditation of health personnel, schools, curriculum) to utilization (certification of health personnel, training) and competency examination" (AIPHSS 2014).

Health professional education is marked by inadequate pedagogic methods and curricula, scarce resources and limited opportunities for pre- and in-service training (Rokx et al. 2010; Meliala and Anderson 2014). Despite efforts by the Ministry of Education with support by the World Bank to improve the quality assurance system through the Health Professional Education Quality program (World Bank 2015), 52% of the schools lack accreditation and graduate certification by a nationally standardized competency testing remains a priority (Meliala and Anderson 2014).

Poorly trained health workers demonstrate limited knowledge and capacity in the field. In the latest 1997 Indonesia Family Life Survey, health workers' responses to the diagnostic vignettes presented were only 50% correct, and it is generally assumed that improvements thereafter, if any, have been marginal (Rokx et al. 2010; Anderson et al. 2014). More recently, in 2010, it was found that the growth of village midwives did not contribute significantly to reducing maternal mortality most probably because of limited competency and insufficient practical training (APAAHRH 2014). Accuracy of treatment practices has also been questioned: overuse of antibiotics marked by unnecessary prescription in 50-80% of hospitals (Sinar Harapan 2014), and high rates of Caesarian-section are two of the most striking examples. Common patients' complaints include lack of courtesy, responsiveness, time and willingness to provide explanations (Billy 2010). Owing to limited numbers of health workers, and compounded by high rates of absenteeism, which reaches 40% among physicians, responsibilities are inappropriately delegated. A decade-long practice is for nurses to provide curative services in community health centres as well as in small private facilities and their own semi-formal practices, even if not sanctioned by law (Sciortino 1995; Rokx et al. 2009).

With all their gaps, health professional education and services are barely prepared for NHI. Health professional education devotes little time to NHI and the role of health personnel therein. A recent World Bank study reports that three-year medical school programs dedicated only 2–16 hours to NHI (Meliala and Anderson 2014). Examination and certification systems also do not test for needed knowledge of NHI and health provider responsibilities under the scheme.

At the facility level, socialization of NHI has been poor, with the result that both upcoming and current health workers, especially at the primary level, insufficiently understand NHI and its modalities and are hampered in properly fulfilling their role and providing information to the community (Ciputranews 2014). Many are weary of the changes and concerned about increasing work burdens due to intensified and more diverse demand, and are reluctant "to deliver optimal care services for [NHI] participants as they claimed they [are] being underpaid" (Faizal 2014). There is

opposition to the INA-CBG, notwithstanding regular revisions, and preference for the fee-for-service payment system even if the government does not support it. In the words of the former Health Minister Nafsiah Mboi:

> We don't agree with the fee-for-service system. This will only allow unnecessary medication prescriptions. There should be changes in doctors' attitudes in delivering care services, improving the efficiency and effectiveness of treatment (Faizal 2014).

Health personnel's performance and attitudes are also of concern to NHI members who complain of more rushed examinations after longer waiting times. Issues of substandard care have also been raised, especially by patients who perceive that medical treatment and providers' responsiveness were better under their former public and private employees schemes now integrated under NHI. The persistence of a segmented system where not only ward types, but also the quality of treatment given varies according to fee streams has also been highlighted. Media report stories of patients experiencing delayed treatment or who have been rejected at times with tragic consequences. Unduly practices such as compelling patients to pay additional fees for standard drugs and tests and referring them to more expensive private facilities or higher types of public hospitals entitled to higher INA-CBG tariffs have also made it to the news (Kompas 2014; Kompasiana 2014), exposing conflicts of interest and corruption in a health system where multiple job holdings by health workers is entrenched.

Who's Interest?

In Indonesia, it is common for physicians, midwives and nurses working in public facilities to have private practices and/or work in private hospitals to complement their public employee salaries. Recent studies estimate that up to 70% of physicians and 93% of midwives engage in dual practice (Rokx et al. 2010; Rokx et al 2009), with proportion of private incomes ranging between 66 and 81% (Meliala et al. 2013).

Although the government positively views dual practice as a way to mobilize resources and retain qualified staff and the World Bank has stressed its contribution to broadening access in rural areas (Rokx et al. 2010; Hipgrave et al. 2013), concerns remain that it threatens the quality of health services. Already in the mid-1990s, a study of primary healthcare centres in Java reported that dual practitioners used public funding, drugs and goods for private purposes, with the public sector ending up subsidizing the private sector. The findings suggested that dual practice compromised the quality of public services, as health workers (especially physicians, nurses and midwives) encouraged patients to use their private practices and were absent from their public setting duties. Moreover, as they could not be present in all the facilities they supposedly served, their affiliations were merely a well-paid formality for facilities to comply with regulatory requirements, while positions were actually filled by less qualified staff (Sciortino 1995).

To improve the situation, licences by the Provincial or District Health Office were eventually required for each private practice, and the Medical Practice Act No 29/2004 has restricted the number of private practices per physician to two in addition to their position in the public sector for a total of three workplaces. However, enforcement is weak and job skirting and absenteeism remain widespread in pursuit of the greater incomes from non-government options. A recent study found that in a provincial city, some specialist physicians were still working in up to seven locations, only spending few hours per week in their public job (Meliala et al. 2013). Misappropriation of scarce public sector resources for private purposes also remains an

issue along with health workers' malpractice of offering lower-quality services in the public sector to incentivize use of owned or affiliated private options (Meliala and Anderson 2014).

If not tackled, the NHI has the potential to encourage such perverse practices. A recent report from the Corruption Eradication Commission of Indonesia warns about the opportunity for increased fraud, as the NHI, contrary to former schemes for the poor, permits patients from low socioeconomic classes whose premiums are paid by the government to be treated in private facilities with guarantee of payment. Entrusted by NHI with the key role of "gate-keepers" in the referral system, health workers in community health centres have more possibilities to refer to the practice or private facilities with which they are affiliated. As the capitation system offers health workers the autonomy to decide how to allocate funds, the "profit" is double, by concentrating *puskesmas* funding in advantageous posts and earning again though their private role (Hukum Online 2015). Even when referring to non-affiliated options, health personnel can also derive unofficial incomes. As a midwife recently noted in a class discussion held by one of the authors in Yogyakarta, she prefers to refer women to private facilities for delivery because she may receive a $30 equivalent fee, while in public option settings, she would be compensated only equivalent to $7.

The capitation system can be further abused by false claims to be present in a facility to take advantage of the point system that determines payment to the health workers, which is based on functional positions as well as absentee level. In hospitals, identified fraud opportunities for health personnel include submitting claims for medical interventions that have not been conducted; up-coding to indicate more complex, and thus more expensive, interventions than actually undertaken; and/or conducting more expensive treatment procedures than necessary (Fajriadinur 2015; Kemkes 2015b). These acts not only cause financial damage to NHI, but also affect its credibility among the public and policymakers and thus compromise its future.

Towards a Better Staffed NHI

The previous sections demonstrate that NHI is being introduced in a context where shortcomings in the availability, performance and accountability of the health workforce pose daunting challenges to its implementation and to the realization of improved health outcomes. At the same time, NHI exacerbates these conditions with increased and more diverse demand and with insufficient governance systems for the newly introduced funding mechanisms.

Yet, somehow paradoxically, NHI also brings the promise and an opportunity for the much-awaited improvements of the overall health system. The introduction and up-scaling of such a major reform increases the urgency of strengthening health infrastructures and personnel if NHI is to perform. Closer scrutiny by parliament, the media and the public and a more critical consumer base who feel entitled to quality healthcare because of the NHI premium that they pay or is paid for them will pressure the responsible agencies to devote greater attention to the persistent inadequacies of human resources for health that compromise accessibility, equity and quality of health services.

The government is aware of the need to focus on the health workforce and its performance indicators for 2019 are set to: increase the density of health workers and improve the ratio doctor/nurses in disadvantaged areas; strengthen team-based and compulsory deployment; conduct regular competency testing; and ensure minimum configurations for health personnel in hospitals and community health centres in compliance with the regulations. As Meliala and Anderson(2014) argue "UHC requires 100% coverage of these indicators by 2019," but it would be more realistic to operationalize them in feasible targets and resource the activities to achieve them.

Complementary measures to speed up production and placement of health workers may facilitate NHI implementation by addressing availability and mal-distribution concerns. Task shifting may also be considered, for example, by formally allowing and training nurses and midwives to conduct simple curative procedures if there is no physician available (Anderson et al. 2014) – something that, as said above, actually already happens, but in the shadow of the law and without the due preparation. Interventions that are context-specific also need to be developed for those areas that are geographically and/or culturally diverse and present poor health conditions. Although not discussed in this article owing to limited space, the role of district governments in ensuring quality healthcare provision ought to be central to innovations at the local level, as under the decentralization law, health services are their responsibility. Tensions between the centralized NHI system and the placing of health workers also need to be addressed. As outcomes will not be immediate, short-term NHI-specific interventions are needed to revise the capitation system to include geographical diversity considerations and reduce negative biases for health resource-poor settings.

Most importantly, greater policy attention is required to improve the skills, competency and performance of health workers. Quality improvement efforts ought to be intensified both for health professional education and for health service delivery. The various reforms underway on accreditation, licensing, competency testing and graduate certification need to be linked to NHI. For instance, facilities may only be accepted to operate under the NHI scheme if the staff are properly credentialed or licensed and show understanding of NHI procedures. NHI knowledge should be integrated in education curricula and become part of an expanded offer of pre-service and in-service training for all cadres.

At the service level, the introduction of INA-CBG and well-defined clinical protocols may become important tools to foster quality healthcare by reducing unnecessary treatment and inefficiencies if properly enforced. Close monitoring by government and public auditing agencies and the Corruption Eradication Commission will also be key to limit excessive dual practice and to rein in conflicts of interest and corruption. Over the longer term, NHI can provide an occasion to reconsider the dual practice regulation, especially for urban areas in privileged regions where there is no shortage of health human resources.

This and other measures are only few examples of the concerted efforts required to address the chronic failures in planning, developing and managing adequate health human resources. In designing and implementing them, it will be key to ensure consistency with the UHC NHI system to enhance its efficiency and effectiveness. Indonesia has a "challenging pathway" ahead to improve its workforce, but one that has to be entered if UHC is to be attained.

Notes

1. Sciortino was Senior Advisor with AusAID to design the Australia–Indonesia Health System Strengthening program in 2009–2010 and continues to provide advisory services to other bilateral projects in Indonesia, while Tjong is involved in a number of policy working groups, civil society organizations and health enterprises.

2. Proportion of the population reporting a need and utilization of outpatient care in the past 30 days.

3. Proportion of population utilizing inpatient care in the past 12 months.

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