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Health Worker Unemployment in Low and Middle- Income Countries with Shortage

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Abstract

Health worker unemployment in countries with shortage is a paradox and a growing concern to global health stakeholders. We sought to document the evidence by reviewing the literature on unemployment among nurses and midwives, dentists, pharmacists, and physicians from low-income and middle-income countries (LMICs) with alleged critical shortage. We conducted a search of relevant keywords in CINAHL, Dissertation Abstracts, PubMed, and Google. Given the paucity of peer-reviewed studies on this topic, we relied largely on the grey literature to glean out the evidence. Our findings confirm the dearth of health worker unemployment data in many LMICs. Circumstantial evidence suggests that large numbers of unemployed health workers exist in India and Indonesia. In the WHO African Region, emerging empirical evidence reveals medical graduates from the Democratic Republic of the Congo are severely affected by unemployment. Delayed posting after community service is commonly reported in South Africa. Rising unemployment and precarity among nurses is evidenced in Malawi. Countries in Southern and Eastern Africa reportedly have large numbers of unemployed health workers clustered in their capital cities while rural health facilities are severely impacted by shortage. Political factors like strike and mass resignation of health workers also affect unemployment. Nurses are more likely to be unemployed than physicians, and generalists appear more vulnerable than specialists. Policy should incentivize unemployed health workers to practice in rural areas and should foster a culture of wellness where health promotion and disease prevention are valued as much as allopathic medicine.

1. Introduction and outline of methods

The World Health Organization (WHO) has consistently emphasized the need for more health workers globally in order to achieve universal health coverage (UHC) and to effectively tackle the global burden of diseases and injuries (*1-4*). In countries with greatest needs such as those identified in the 2006 World Health Report as suffering from critical shortage, more health workers are needed not merely to realize UHC desiderata, but largely to achieve "modest coverage for essential health interventions" (*1*). Mindful of the compounding effect of demographic and epidemiological transitions on population health in both developed and developing countries, the authoritative report predicted that "demand for service providers will escalate markedly in all countries—rich and poor" (*1*).

In poor countries with both critical shortage and limited capabilities to significantly scale up the production of human resources for health (HRH), an escalation of demand for health service providers may not necessarily translate into a surge in supply of new service providers. However, it is reasonable to expect that such escalated demand should lead to a better inventory of available resources, and a more judicious and optimal exploitation of the existing capacity (*5*). Hence, unemployment of health workers in countries with critical shortage should be inexistent or merely a transient phenomenon. Yet, the seminal WHO report also observed that numerical deficits of health personnel often exist in countries with large numbers of unemployed health workers (*1*). The paradox of health worker unemployment in countries with shortage is an aspect of HRH management research that has been overlooked. Published studies on this specific topic are rare, and unemployment among skilled health workers in

developing countries has been mainly inferred through health personnel out-migration studies (*6-8*).

We sought to document evidence of health worker unemployment in countries with critical shortage. WHO's broad definition of "health workers" includes anyone "engaged in actions whose primary intent is to enhance health" (*1*). In the interest of clarity, we mainly restricted our exploration of health worker unemployment to the following cadres who expect a wage for their services: dentists, nurses and midwives, physicians, and pharmacists. Using as our initial sample frame the list of 57 countries identified in the World Health Report 2006 as facing HRH crisis, we expanded our search to all Sub-Saharan African countries, which except for the Seychelles, qualify all as low-income or middle-income countries (*9*). We conducted a search of keywords relevant to health worker unemployment and health workforce shortage in CINAHL, Dissertation Abstracts (via ProQuest), Google, and PubMed (see *Annex 1*). We imposed no time restriction on publication date, and we conducted our search in both English and French in order to capture the universe of evidence available for the most representative group of countries affected by the HRH crisis, the WHO African Region. Given the paucity of peer-reviewed studies on this topic, we relied primarily on the Google's grey literature search to glean out the evidence.

A recommended practice when conducting reviews is to consult with content experts and stakeholders likely to suggest additional references or to provide important insights on the topic of interest beyond those in the literature (*10-11*). Although we did not formally include a consultation component to this review, the lead author reached out to the third and most

senior author of this brief for intellectual insight. She in turn, suggested input from the second author, an advisee of hers, whose recently completed Capstone project explores the employment status of recent medical graduates in the Democratic Republic of the Congo (*12*).

2. Findings

Health worker unemployment in LMICs with alleged shortage is understudied by scholars and mostly reported by the media. We know of the existence of unemployed health workers in HRH deficient countries largely from anecdotal reports, headlines news, and blog entries *(Annex 2)*. Discussing the challenge of HRH underutilization in Africa, labor economists Andalon and Fields state that there is not enough credible evidence to establish that health worker unemployment in African countries exist (*13*). Yet, in the same edited volume, Soucat and Scheffler contend without providing any figures that "Kenya and Nigeria have large numbers of unemployed health workers" (*14*). This contradiction stems partly from the lack of universal agreement of who counts as a health worker and from the methodological differences in collecting health workforce data (*15*). In this section, we highlight the evidence found in the scientific and grey literature.

Prevalence of health worker unemployment

One of the most dramatic examples of health worker unemployment in the midst of a healthcare crisis was reported in South Africa in the early 2000's where there were 32,000 unfilled posts in the public sector for nurses while reportedly 35,000 registered nurses were either unemployed or inactive (*16*). However, upon close examination, this early evidence

appears questionable. These figures were first reported by Dumont and Meyer in a popular chapter from the 2004 OECD's Trends in International Migration entitled "The international mobility of health professionals: an evaluation and analysis based on the case of South Africa" (*16*). These figures were subsequently cited by the seminal 2006 World Health Report (*1*). However, no reference is provided in both publications as to the primary source of these disquieting data.

At the time, WHO did not consider South Africa as a country facing a health worker crisis despite its immense HIV/AIDS plight and the toll it has taken on its health workforce (*1*). Since then, headline-grabbing stories of jobless South African doctors, nurses, and pharmacists are frequent (*Annex 2*). A recent article by the Johannesburg-based Bhekisisa Center for Health Journalism suggested that there were more than 40,000 vacant posts in South Africa's public health sector in 2017 attributable mostly to staffing moratoria by provincial governments (*17*). However, there are conflicting accounts on the extent of unemployment resulting from the freeze, and inadequate information on the categories of health-related positions involved (*18*). Circumstantial evidence from local media suggests that clinical associates (19), dietitians and nutritionists (20), nurses and midwives (21), pharmacists and physicians (22) are all affected at varying degree by unemployment in South Africa. As a partial remedy to unemployment, the South African national government decided in 2018 on an emergency hiring plan involving "2,200 critical medical posts" (*23*).

Although we use the terms HRH deficiency and HRH shortage interchangeably in this review, it is noteworthy that health economists define HRH shortage as the gap between the funding for

health personnel and the number of available health workers, and HRH deficiency as the gap between health worker needs and actual numbers of health workers (*14*). Going by these distinctions, all African countries are HRH deficient, but true shortage exists in only four African countries, namely Ethiopia, Malawi, Mozambique, and Zambia, according to Soucat and Scheffler (*14*). Yet, even in these four countries, reports of precarity and unemployment among health workers are not uncommon.

In April 2019, medical interns and final year medical students of Jimma University and Arsi University in Ethiopia took to the street to express their frustrations *(24)*. Their demands included improved working conditions during medical rotations, paid internship, and clarity about their absorption into the workforce post-graduation. *Addis Standard*, a local newspaper, quoted a demonstrator as saying: "Currently, more than 500 medical students with various skills in medical field are looking for job opportunities. We are asking the government to assign us so we can serve our country" (*24*). It is not clear if these job seekers are final-year medical students who have yet to complete their internship but are already looking for posts. Nonetheless, job-related anxiety and mere contemplation of potential unemployment among Ethiopian health workers is both troubling and instructive. During the last decade, Ethiopia embarked on a massive effort to recruit, train, and retain its health workers through its well documented health extension program and the tripling of the production of medical officers and doctors (*14, 25*). A recent study predicted an upcoming HRH crisis in Ethiopia stemming not from shortage, but rather from surplus and unemployment of medical graduates in the near future (*26*).

In Malawi, a November 2018 headline from the *Nyasa Times,* a local online news, reads: “High rate of unemployed health workers worries stakeholders” (*27*). According to this source, Malawi’s paradox of acute health worker shortage and unemployment was magnified after the government scaled down mass recruitment in the civil service in 2015. Since then, the number of unemployed health workers has exploded, with more than 2,000 nurses and midwives without a post, up to two years post-graduation (27). Of a 2016 graduating class of roughly 250 nursing students, “less than two dozen of the graduates now have jobs in health care” in a country with vacancy estimates ranging from 55% among all public health sector positions to 67% among frontline clinical staff (*28*). The prolonged state of unemployment has led to an intensification of precarity, with unemployed and vulnerable nurses compelled to accept meager “locum and student allowance” and even to provide sexual favors in exchange for employment (*28*).

Malawi’s growing health worker unemployment reflects the limitation of interventions that rely primarily on foreign funding sources. To address its health workforce crisis, Malawi launched an “Emergency Human Resources Programme” supported by the United Kingdom’s Department for International Development in 2005 to expand health workforce training and scale up health worker recruitment into the Ministry of Health and faith-based institutions (*29*). The program is credited to have slowed down migration and incentivized the retention of health workers through salary increase. Between 2004 and 2009, the number of graduates from Malawi's four main health training institutions increased from 917 to 1,277 (*30*), and the number of professional health workers in the civil service from 5,453 to 8,369 (*29*). However, the

sustainability of this successful program was compromised after interruption of donor support (*29-30*).

Among the four African countries cited by Soucat and Scheffler as the only ones with true health workforce shortage, health worker unemployment was hardest to evidence in Mozambique. We could not find any grey data on health worker unemployment this Lusophone country. A 2012 observational study exploring the employment status and mobility patterns of Mozambican-trained physicians found no unemployment in a sample of 730 doctors who graduated between 1980-2006 (*31*). It is reasonable to believe that at this writing, health worker unemployment in Mozambique is not significant. However, in neighboring Zambia, evidence of unemployment among nurses is emerging. A May 2019 opinion piece in *The Zambian Watchdog* reads: "Nurses and teachers are languishing with their qualifications waiting to be posted unfortunately the government is blind and deaf to hear their cries" (*32*). In a 2010 interview with the *International Nursing Review*, Mireille Kingma, Former Director of the International Centre for Human Resources in Nursing suggested that unemployment was the main driver of international migration among new nursing graduates in Zambia (*33*).

Within the WHO African Region, the latest evidence of health worker unemployment comes from the Democratic Republic of the Congo (DRC) where N'Simbo and colleagues estimated a 45% (n=252) unemployment rate from a sample of 566 physician respondents who graduated from medical schools in the DRC between 2007 and 2018 (*12*). Of those with employment, 49 doctors were working part-time, a few of them not as physician. This suggests that the absolute majority (53%) of the sample was either unemployed or working part-time. Overall, 49% of the

entire sample was unemployed for at least one year. Generalists comprised 96% of the study sample, which suggests that lack of specialty training may be a main determinant of unemployment among Congolese medical graduates. In fact, 17% (n=42) of the unemployed doctors were pursuing specialization. Although the findings from this recent study have not yet been published to be fully interrogated, such a large proportion of unemployed among medical doctors in a country competing for skills and rife with unmet health need should give us pause.

Of the LMICs outside Africa experiencing both health worker unemployment and shortage, two countries from the WHO South-East Asia Region stood out: Indonesia and India (*Annex 3*). Unemployment in Indonesia appears to affect largely nurses. Data from the National Board for Placement and Protection of Indonesian Overseas Workers suggests that more than 31,000 nurses were unemployed in 2016 in Indonesia (*34*). In India, large numbers of Ayush graduates, dentists and pharmacists, along with nurses and physicians are affected by unemployment (*Annex 3*). More than 3,000 qualified dentists were reportedly jobless in 2017 in the state of Jammu and Kashmir (*35*). Meanwhile in Rajasthan, 38,000 pharmacists were competing for <1,500 recently created posts in the public sector in 2012 (*36*).

Determinants of health unemployment

HRH unemployment in many LMICs with deficiency is driven largely by budgetary constraints. Across most countries surveyed, wasteful management of available resources and limited absorptive capacity of the public health sector played a preponderant role in the long-term unemployment of qualified health workers. In South Africa, delayed posting of graduates after

mandatory community service, hiring freezes by provincial governments, and shunning of rural and remote locations by recent graduates are leading factors of unemployment (17-22). Unemployment is also determined by overproduction of Ayush doctors in India (*37*) and nursing graduates in Indonesia (*38*), and by the sub-standard quality of medical graduates in the DRC—where large numbers of NGOs operate and prefer to recruit foreign-trained medical graduates at the expenses of locally trained Congolese doctors (12). In Kenya, physician unemployment appears to be essentially a consequence of political dynamics between organized labor and the government. Strike and mass resignation of physicians and the Kenyan government's refusal to reinstate the protesting doctors after the strike has ended fuel unemployment (39). The Kenyan government chose instead to import foreign doctors from neighboring Tanzania and from Cuba (40-41). In most of the countries surveyed, generalists are more susceptible to unemployment than specialists, and nurses appear to be more vulnerable to unemployment than medical doctors.

3. Discussion

The goal of this review was to document evidence of health worker unemployment in LMICs with shortage. As we noted earlier, shortage suggests an availability of funding for health personnel amidst scarcity of health workers, potentially leading to inflationary pressures on wages, overcrowding of the public sector, and "brain raid" or poaching of health workers from other sectors or from abroad (14). This is hardly the case in most LMICs. By and large, LMICs are HRH deficient. Despite their deficit or need for more skilled health workers, many LMICs reportedly experience budgetary constraints which impacts on their ability to recruit more

health workers in the public sector and to incentivize their posting and retention in rural or remote areas where the need is often greatest. Effective HRH management and policy requires better data, and HRH shortage and deficiency require different policies tailored to each country's specific situation and economy (*14*). Hence, the policy options suggested here are essentially intended to stimulate discussion and are by no means prescriptive.

- **Policy option 1**

  Support research to assess the true magnitude and the determinants of health worker unemployment in LMICs with shortage or deficiency

Data dearth limits the impact of any potential policy. Six year ago, labor economists Andalon and Fields (*13*) expressed skepticism about HRH unemployment in African countries and urged for better data to examine the evidence more rigorously. "Available evidence does not allow us to be certain about unemployment in African countries. To the extent that there is unemployment, it is necessary to diagnose its magnitude, types, and causes" they said. Six years later, the quality of evidence is still wanting. Figures on unemployment gleaned out mostly from the media cannot be trusted and should not be used to inform policy. What is needed is a body of proof which can only be obtained through empirically grounded research, using both quantitative and qualitative data from primary sources. As Ahmat and colleagues noted aptly, "major efforts should be put in every country to organize sound censuses of all health workers through workforce surveys. These could provide an evidence base to create more relevant benchmarks, adjustable to local needs and epidemiology, perhaps allowing for

assessments of the quality of the health worker stock" (15). Recent empirical evidence from the DRC reveals large scale (53%) unemployment and underemployment among graduates from local medical schools (12). Such research should be supported and expanded to include other categories of health workers and should be replicated across several LMICs with HRH shortage or deficiency.

- **Policy option 2**

Incentivize health workers to practice in rural and remote areas

Health workforce deficiency is evidenced mainly by rural-urban maldistributions. In most LMICs with deficiency, the geographic distribution of health workers is highly skewed toward urban areas. In Uganda, for example, the physician density in urban areas (4.5 doctors per 10,000 persons) is 20 times higher than in rural areas (0.2 doctor per 10,000 persons) (*42*). In India, nearly "three-fourth of the total number of dentists are clustered in urban areas, which house only one-fourth of the country's population" (*43*). Reportedly, many of these urban dentists are unemployed and can be found eking out a living as call center employees in many of Bangalore's business processing outsourcing (BPO) units. Unemployed but willing health workers who want to practice healthcare and are actively looking for opportunities should be hired and deployed in rural and remote communities where they are needed most. Policy that creates incentives for health workers to practice in rural areas should be promoted. Such policy should address wage disparity between urban and rural health workers. To be truly effective, however, such policy must be informed by social and behavioral theories of attachment, place

identity, and sense of community which provide insight into the processes that bond individuals with specific communities, places and spaces (*44-45*). Such informed policy would likely enable the production and retention of health cadres most likely to serve in impoverished rural communities.

- **Policy option 3**

  Foster a culture of wellness where health promotion and disease prevention are valued as much as (or even more than) allopathic treatment

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (*46*). If this classic definition of health by WHO is to have any relevance >70 years after its initial iteration in 1948, LMIC's governments and stakeholders must begin to prioritize health promotion and disease prevention. Health promotion and disease prevention programs focus on keeping people healthy rather than intervening after an injury or the onset of an illness. Discussions about health worker shortage or deficiency in LMICs essentially arise from concerns about access to medical treatment. While no doubt skilled health workers are essential for a functioning health system, the need for an increasingly greater number of them will be lessened significantly if people adopt healthier lifestyles. With the rapid spread of chronic diseases in developing countries, the need for health policies that actually promote health and does not merely facilitate access to healthcare treatment is becoming more pressing. Governments and donor communities should increase their

commitments to activities that foster a culture of health and wellness (e.g., promotion of sport, nutrition education, hefty taxation on tobacco products and sugary drinks, etc.).

4. Conclusion

In this policy brief, we sought to document evidence of unemployment among health cadres in LMICs with shortage through a review of the literature. Notwithstanding the current limitation of the scientific literature, we documented enough circumstantial and few empirical evidences of health worker unemployment in several African and South-East Asian countries. More credible and primary data are needed to better estimate the prevalence and examine the determinants of health worker unemployment in the countries in question. Better data are critical for developing informed and effective policy tailored to the specific situation and political economy of each country. Urban-rural disparity of health workers is a universal theme of the review that should be addressed by every policy. As behavioral and public health scientists, we encourage governments and relevant stakeholders to proactively prioritize health enhancement and wellness promotion programs as a way to reduce the health worker crisis in LMICs.

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Annex 2. Search strategy and results

	Subject heading 1		Subject heading 2		Subject heading 3		Subject heading 4	Search result
	Unemploy* OR jobless*	AND	Health work* OR Healthcare work* OR Health care work* OR Health labor* OR Health labour* OR Health personnel OR Health profession* OR Human resource* OR HRH OR Dentist* OR Doctor* OR Physician* OR Pharmac* OR Nurs* OR Midwi*	AND	LMIC* OR Low-income countr* OR Low-income nation* OR Middle-income countr* OR Middle-income nation* OR Resource-limited countr* OR Resource limited countr* OR Resource-limited nation* OR Resource limited nation* OR Resource-limited setting* OR Resource limited setting* OR Developing countr* OR Developing nation*	AND	Shortage* OR defici*	
Items found	19019		6223253		142775		859673	12

PubMed Central (PMC) search builder sequence

Search (((((unemploy*) OR jobless*)) AND ((((((((((((((("human resource*") OR HRH) OR "health personnel") OR "health profession*") OR "health work*") OR "healthcare work*") OR "health care work*") OR dentist*) OR doctor*) OR physician*) OR pharmac*) OR nurs*) OR midwi*)) OR "health labor*") OR "health labour*")) AND ((((((((((((LMIC*) OR "low-income countr*") OR "low-income nation*") OR "middle-income countr*") OR "middle-income nation*") OR "developing countr*") OR "resource-limited countr*") OR "resource-limited nation*") OR "resource-limited setting*") OR "resource limited countr*") OR "resource limited nation*") OR "resource limited setting*") OR "developing nation*") AND ((shortage*) OR defici*) Sorted by: Best Match

Search items found: 16

Annex 2. See PDF file

Annex 3. Assortment of circumstantial evidence of unemployment among health workers in various low-income and middle-income countries with alleged shortage

Country	Health worker type	Quantitative and qualitative evidence	Contributing factors to unemployment	Action taken or planned or proposed policy	Sources
Ghana	Nurses	"A meeting just ended with the minister… and other stakeholders and our clearance has been released – a total of ***4832 nurses***. On the clearance, it has been stated that we are to start work 1 July. … The minister was not happy with … the picketing we did…we also told him we did that out of frustration because staying ***home for nine months jobless*** wasn't easy for us." (Tina Mireku, spokesperson for the nurses)	• Delayed posting of recent nursing graduates to public health facilities.	• Nursing graduates formed the Coalition of Unemployed Bonded Diploma Nurses (UBDN) to pressure government to accelerate their recruitment • UBDN members picketed at the Ministry of Health for two days and two nights • Government cleared all 4832 nurses for posting in public health facilities across Ghana	"Unemployed bonded diploma nurses to start work July 1, 2017" (Graphic Online, March 4, 2017)
India	Nurses	With "***more than 1000 unemployed trained staff nurses*** under [its] aegis … the Unemployed Trained Nurses Association (UTNA) of Nagaland … said there was shortage of about 348 staff nurses plus 30% leave reservation in hospitals in the state, and strangely the government could create only 17 posts of staff nurses in 26 years."	• Insufficient absorptive capacity of public (and private) health sector(s). • Lack of funding. • Low prioritization of nurse recruitment by Nagaland State Government ("Department of Health and Family Welfare continue to set up new health centers and up-grade existing ones. But they could only create 17 posts of staff nurses in 26 years.").	• UTNA "launched poster campaign all over Nagaland with regard to the urgency in the health sector • UTNA cautioned they would go for more serious agitation if the government failed to respond to their demands."	"UTNA reveals shortage of 348 staff nurses, wonders on creation of 17 posts of staff nurses in 26 years." (Asian Tribune, Jul 3, 2015)
	Physicians	"There is an acute shortage of doctors in various hospitals even as a ***large number of qualified doctors remain unemployed*** in Jammu and Kashmir, the state government has admitted."		• Proposed "increase in the intake capacity of Medical Colleges in both Jammu and Kashmir provinces"	"Acute shortage of doctors, admits Govt." (Kashmir Monitor, March 16, 2011)
	Dentists	"While the army of unemployed, trained dentists is swelling in numbers, the rural masses in the state are deprived of dental care … There are ***more than 3000 qualified and trained dentists*** in the State [of Jammu & Kashmir] who ***are jobless for years***." Lucknow's jobless dental surgeons said "despite being qualified they were being forced to choose between unemployment and jobs other than their skill. … While there are about 14,000 posts for medical doctors, the number of posts for dentists is only 277."	• Lack of commitment of state government to dental care promotion and unemployed dentists' welfare. • Vacant posts have not been advertised since 2008. • Proposed creation of dental surgeon posts by Health Ministry has not been implemented. • Oral care not viewed as part of primary health care • Very few dental posts when compared to dental needs or medical posts	• "…unemployed dentists were on hunger strike for 45 long days in 2014…" • Jobless dentists petitioned government to create dentist posts in primary health centers "to keep dental diseases among rural population under check and give jobs to the skilled work force,"	"Govt backtracks from assurances of absorbing unemployed dentists." (Early Times, Mar 5, 2017) "Unemployed dentists demand govt jobs." (Times of India, Apr 19, 2012)
	Pharmacists	"There are ***38,000 pharmacists*** registered with Rajasthan Pharmacy Council and majority of them are [competing] ***for 1,478 vacant posts*** created by the state government."	• Disparity between number of drug distribution centers opened by state government (>14,000) and number of pharmacist posts advertised (1,478)	• Planned protest by the Pharma Youth Welfare Sansthan (PYWS) to demand an increase in the number of vacancies.	"Pharma Welfare body to protest against bias." (Times of India, 27 Feb. 2012.
	Ayush doctors	"Over ***3,000 new graduates*** join the work force each year. Estimates are that ***barely 20% of them get decent placements***."	• Over-production of Ayush medical graduates in Madhya Pradesh • Scarce employment opportunities for Ayush doctors in public health sector	• Planned enrollments of Ayush doctors in primary health care facilities	"Ayush doctors are depressed due to poor placements." (Times of India, Dec 4, 2017)
Indonesia	Nurses	"Recent government analysis by The National Board for Placement and Protection of Indonesian Overseas Workers … revealed that ***31,150 Indonesian nurses were without a job*** (BNP2TKI, 2016). Further, the available data in 2012 showed ***12,000 unemployed nurses in East Java*** province… and previous national data showed ***15,000 nurses were unemployed in 2005***…" ">34,000 nurses [are] produced each year… However, …public and private health sectors …are able to absorb [only] 5000–6000 nurses per year."	• Limited absorptive capacity of Indonesia's public and private health sectors • Overproduction of nursing graduates	• Improve HRH data collection to obtain a more accurate picture of supply and demand • Improve nursing education with the primary goal of competing in global labor market • Promote and manage unemployed and underemployed nurses' migration from pre-departure to post-migration • Promote entrepreneurship spirit among nursing graduates so that they should think first about starting their own practices instead of competing for scarce opportunities in the public sector	Efendi et al. The situational analysis of nursing education and workforce in Indonesia. The Malaysian Journal of Nursing. 2018 Apr 2;9(4):20-9. Gunawan et al. Nursing students plan after graduation: a qualitative study. Journal of Education and Health Promotion. 2018;7:1.
Kenya	Physicians	"The Kenya Medical Practitioners and Dentists Union (KMPDU) maintains that ***200 Kenyan doctors are unemployed***. The number is set to reach 1,425 by May when the current cohort of medical interns clear the programme, according to KMPDU." "Available data indicate that there are ***some 1,400 jobless doctors***, who, ideally, deserve to be given the first preference in hiring." "We must resolve the problem of ***more than 1,200 unemployed doctors***, many of them fresh graduates."	• Mass resignation of doctors to protest their conditions. • 100-day national strike by Kenya Medical Practitioners and Dentists Union. • Kenyan medical graduates shunning deployment in rural and remote areas.	• Kenya Health Ministry is recruiting 400-500 general practitioners from neighboring Tanzania after doctors' strike paralyzed health services. • Kenya Health Ministry recruiting 100 specialist doctors from Cuba to work in rural and remote areas.	"Hire more doctors locally" Daily Nation (Mar 12, 2017) "Hiring of Tanzania doctors for county hospitals starts" Business Daily (Apr 2, 2017) "Cuban doctors welcome but hire more Kenyans" The Star (May 10, 2018)
Malawi	Nurses and midwives	"At least ***2,000 nurses and midwives*** in Malawi, some having graduated as far as two years ago, ***remain unemployed*** yet public health facilities in the country are facing acute shortage of health workers."	• Government stopped mass recruitment of staff into the civil service in 2015 due to lack of funds.	• National Organization of Nurses and Midwives (NONM) called on Malawi government and development partners to prioritize the hiring of unemployed nurses and midwives	Malawi: High Rate of Unemployed Health Workers Worry Stakeholders." Nyasa Times (Nov 27, 2018)
South Africa	Nurses	"The chronic shortage of nurses will be addressed by prioritising unemployed professional nurses. We target ***1 779 who completed community health service training*** in January 2019, but ***are unemployed*** due to a lack of funded posts" (Health Minister Zweli Mkhize)	• Delayed placement of government-funded nursing graduates. after mandatory community service. • Limited absorptive capacity of public sector. • Budgetary constraints.	• Budget reallocation for targeted recruitment of unemployed nurses.	"Health Department to prioritise unemployed professional nurses" Daily News (Sep 11, 2019)
	Pharmacists Physicians	"The Pharmaceutical Society of South Africa says more than ***130 pharmacy graduates have still not been placed*** in community service positions slated to start earlier this month." "The Junior Doctors Association of South Africa says ***130 doctors*** who successfully interviewed for jobs at public health facilities ***have yet to start working*** because they are awaiting final letters of appointment from provincial health departments."	• Unofficial hiring freeze fueled by austerity measures. • Delayed posting by provincial governments. • Shunning of rural placements by recent graduates. • Disproportionate growth of provincial health budgets.	• Temporary assignments of recent graduates until final placements.	"New graduates, rural areas likely to pay the price for austerity measures" Bhekisisa (Jan 16, 2017)
	Clinical associates	"***More than 40 clinical associates***, the country's newest class of health workers, ***are still looking for work***, says the Professional Association of Clinical Associates in South Africa (Pacasa)."	• Delayed placement by local government. • Public bursary-funded graduates cannot accept jobs in private sector for fear of being sued by government.	• Pacasa chairperson says the national health department established a task team to deal with the problem but progress has been slow. • KwaZulu-Natal health department spokesperson says unemployed clinical associates will be offered jobs but did not give a time frame for this. • Head of Gauteng health communications says the province is in the process of creating new clinical associate posts.	"Dozens of health workers still unemployed as departments scramble for posts" Bhekisisa (Feb 9, 2017)
	Various health workers	"In February 2017, national health department director general Malebona Precious Matsoso confirmed to Parliament that there were ***more than 40 000 vacancies nationally***."	• Hiring freezes fueled by austerity measures.	• National Department of Health partnered with South African Institute of Chartered Accounts to improve financial management skills [to reduce] wasteful and irregular expenditure.	"What to do about South Africa's unemployed doctors" Bhekisisa (Feb 20, 2019)
Uganda	Nurses, midwives, and physicians	"Every year, at least 320 medical students graduate from Ugandan universities, more than in any east African nation. But public hospitals are very short staffed." "We can't stop health workers from going to work abroad if they want to. … We also can't absorb all in our health government system because of the wage bill and [limits on staff levels]" (Sarah Opendi, Health Minister). "At least 1,963 medics are being recruited to work at one hospital alone in Libya." "According to a 2014/2015 report by the Ministry of Health, ***one third of the country's 81,000 health workers were unemployed or had emigrated***."	• Insufficient absorptive capacity of public health sector. • Health workers not deployed where need is greatest. • Inadequate remuneration of health workers. • Poor motivation of health workers. • Incapacity of the government to bond taxpayer funded students after graduation.	• Health advocacy organizations including Uganda Civil Society HIV Prevention Advocacy Coalition, Health Global Access Project, and Amref Health condemned the Libyan deal and called for a temporary halt to allow urgent discussions at government level. • Planned efforts to make specialist facilities autonomous, so that they can set their own salaries, and not have them pegged to public service rates.	"Hospitals in crisis in Uganda as Middle Eastern countries poach medical staff" The Guardian (Sep 25, 2017) "Uganda's doctors and nurses are seeking greener pastures—in war-torn Libya" Quartz Africa (Sep 29, 2017)