SPECIAL REPORT

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The implications of COVID-19 for health workforce planning and policy: the case of Peru

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Abstract

Like many countries Peru is confronting uncertainties due to the COVID-19 pandemic and its consequences. This is having impacts not only on health systems but also on the planning and preparation of its workforces. In this case article we summarise the progress Peru has been making to improve its workforce capacity and planning and review how Peru has coped with the stresses put on its health system arising from the pandemic. By recounting the responses that the Ministry of Health made through mobilising existing capabilities, additional workers and collaboration with health science faculties and health professional colleges, the article identifies that a longer-term planning perspective based on skills that services require is something that Peru may consider to compliment the health workforce investments that are already being made. As such, this case provides an example for workforce planners and policy makers to contemplate when considering health workforce planning in post-COVID uncertainty.

KEYWORDS
COVID-19, health futures, health workforce governance, health workforce planning, Peru, uncertainty

1 | INTRODUCTION

Presently many countries find themselves facing uncertainty due to the COVID-19 pandemic, with stretched health systems that are under significant pressure.[1] Peru, as one of these countries, has experienced one of the highest per capita case and death rates in the world despite an early lockdown.[2] This situation has been attributed to Peru's choices for testing[2] and a mix of economic and social inequality, which has seen Peru's large informal workforce, who need to work daily for survival, are not covered by social protection schemes and with limited access to health services, bear the brunt of the pandemic.[1-3]

Peru is a middle income country, with a highly (80%) urbanised population of about 32 million people living across 26 geographical and climatic diverse provincial regions that span the South American Andes.[3] Diversity is also found in its health system, where services mainly provided by the Peruvian Ministry of Health (MINSA) along with the multiple other service and insurance providers are 'often working with a high degree of overlap and little coordination'.[4] Despite this fragmented health system, Peruvian life expectancy has been steadily improving along with sustained reductions in mortality and fertility rates, which are attributed to the country's economic performance and poverty reduction efforts, resulting in a population pyramid beginning to resemble more developed nations.[3] This changing population mix places additional pressures on the health system already dealing with rising chronic disease incidence, contagious disease prevalence and persistent high injury rates.[3]

In the following passages we aim to recount the progress that the Peruvian government has been making to improve its workforce capacity and planning and begin to answer the question of how Peru's health workforce policy and planning is addressing health system pressures arising from the pandemic? The scope of this short case reflects the situation and policies to November 2020. As such, we next describe our approach to data gathering and introduce Peru's health system, summarise its institutional structures and review its health workforce issues. We then discuss the pandemic's effect on the workforce and suggest an opportunity for the long-term sustainability of services that would complement traditional workforce planning methods.

2 | METHOD

We undertook a literature scan using the search terms 'health workforce' and 'Peru' and we also reviewed health regulations and websites of the Peruvian government for policies and reports related to Human Resources for Health (HRH). Using these documents, we developed a description of the Peruvian heath system and its recent policy and initiatives with respect to HRH. We then scanned for recent literature, reports and presentations regarding the effects of COVID-19 on the Peruvian health system, taking particular note of the actions that the Peruvian government has undertaken to address the pandemic.

3 | RESULTS

3.1 | Peru's health system

Peru's health system is largely provided by the state through subsidised services delivered by its MINSA's operated health facilities, which include national specialised services such as cancer and paediatrics, and primary care facilities, which provide care to about 60% of the population[3,4] and employ just over 70% of Peru's total health workforce.[5] A contribution-based worker-funded system (EsSalud) and separate systems for the police and branches of the armed forces provides health services to a further 30% of Peruvians, with private health insurance utilised in private for-profit and non-profit hospitals and clinics covering the remaining 10%.[3,4]

In 2009, Peru adopted the goal of Universal Health Coverage (UHC) to be achieved by 2021. Through the Framework Legislation for Universal Health Insurance every person's right to social security in health was guaranteed by a mandatory health insurance system. This system includes an Essential Health Benefit Package that is financed by three types of insurance: (i) contributory, a mandatory scheme of workers and voluntary contributions of the self-employed; (ii) a small partially subsidised voluntary scheme for subsistence or micro business owners; and (iii) a fully subsidised scheme that covers Peru's poorest groups, that provides cover for 36 % of the population through the Comprehensive Health Insurance programme.[4] Peru has made significant progress toward attaining the UHC goal, achieving 83% coverage in 2017, however the fragmented system requires the country to make concentrated efforts to cover the remaining population.[3] Thus, MINSA has embarked on an integrated system strategy based on a networked territorial approach to provision and a focus on the individual, family and community, which will require further health workforce planning to cater for the resulting new models of care.[6]

3.2 | Peru's health workforce

As such, MINSA acknowledges the role that Health Human Resources (HHR) will play and aims to have health personnel adequately geographically distributed with the technical skills to provide quality care.[7] Positive gains are being made[5,8] on MINSA's HHR initiatives that seek to strengthen governance, strategic planning, data and information gathering, recruitment and retention actions, and policies to improve access and reduce mal-distributions.[9] Additionally, there are suggestions to increase research on the health workforce to better understand its professionals' needs, aspirations and expectations.[10] Peru has a number of training institutions that are producing increasing numbers of graduates, though few of these graduates make themselves available to the public system, driving its professional shortages and mal-distributions.[11] Weakness in HRH structure, numbers and skills continue the potential to impede service access and affect chronic and infectious disease prevention and treatment.[3,12]

One of MINSA's HHR initiatives was the establishment of the National Observatory for Human Resources for Health (INFORHUS) in 2011, which has since been identifying numbers, locations and placements within and outside of the public sector and producing tabulations of workforce numbers and sufficiency for adequacy comparisons.[7] In 2018 the total number of health workers in Peru was 202, 808, of these professional assistants composed 49% of the workforce, doctors 15.5%, nurses 17.7% and midwives 6.1%, with 61.1 % of the health workforce working in or around Peru's capital city, Lima.[5] In common with other countries, Peru's workforce data reveal that Peru has rural/urban and geographic professional mal-distributions.[7,8,11] Though improvements are being realised as the density of health sector human resources per 10,000 inhabitants has been increased from 27.4 to 34.5 between 2012 and 2018, with overall numbers also continuing to grow.[5]

This focus on data gathering and analysis by the MINSA allows for the production of detailed reports, which take into consideration the epidemiological profile, supply of health services and regional populations, which has resulted in two comprehensive documents: one report focussing on primary care[13] and the other on the secondary and tertiary levels.[14] These data have been used to set parameters and to frame Peruvian health workforce policies and plans through monitoring professional densities, numbers and to identify personnel and skill gaps and inform future projections.[8]

In 1981 to address workforce gaps in rural and underserved areas, MINSA put in place the Marginal Rural and Urban Internship Program (abbreviated as SERUMS from Spanish) that requires professionals wishing to secure a public sector position or go on to specialist training to undertake a year working at the primary care level in designated areas.[9] However, Huicho et al.[15] found that the preference for urban work was set early in training and that it is nurses, midwives or those from rural backgrounds that are more favourably disposed towards rural roles. Likewise, Miranda et al.[16] found that doctors were five times more likely to choose an urban over rural role. Both

studies found that salary increases and recognition for specialisation were incentives for attracting professionals to rural work, while a mix of professional and family/personal circumstances acted as barriers.[15,16] Thus, SERUMS' modest effect has led to suggestions that programme's the principles be reviewed and that corrections be made to resolve the disconnect between the skills that MINSA actually requires and those being provided by the medical training system.[7,11] In addition, Jimenez at al[10] suggests that a retention component within SERUMS be introduced to improve graduate engagement with public sector postings.

Another HHR dynamic is the tradition of dual practice in Peru. Driven by financial reasons, many Peruvian doctors work in both the public sector and also provide private services, which also provides access to additional skills and experiences.[17] Though it is recognised that dual practice may affect the experiential gains of other health professionals.

Despite these institutional and structural issues there is some evidence to suggest that countries such as Peru have an opportunity to consider the long-term sustainability of their workforce. Investment in health workforces not only results in improved health system performance but also has high returns, gross domestic product effects[18] and unlocks economic growth by providing increased opportunities for women and young people.[19] However, there are alternative ways of providing for service needs than simply increasing the numbers of professionals or occupations. Rather, workforce investment can be made by matching skills and supply to population needs and by using skill mix composition to address professional mal-distributions and inefficiencies that exploits the potential of different typologies of health worker types according to a more rational scope of practice while avoiding the under-utilization of skills.[19]

3.3 | Dealing with today and looking ahead

Despite its HHR issues, Peru's health workforce has managed cope with the pandemic. Even with the country's high COVID-19 death and infection rate, Peru's health workforce has weathered the initial rise and subsequent peak. That said, as of November 30, the number of government health personnel have died as a result of COVID-19 in the exercise of their duties is 385. Of these, 23.1% of the fatalities are nursing technicians (89), 19.5% are doctors (75) and 12.5% are nurses (48), with the remaining 44.9% of fatalities spread across other health occupations.[20]

To address staffing needs in MINSA and the regional governments, the Peruvian government, through MINSA, in coordination with universities with health science faculties, health professional associations/colleges, and regional governments and with additional funds to the health budget, implemented a series of strategies. These strategies included: the temporary hiring of additional health personnel, the payment of extraordinary bonuses to staff, the authorization of extensions of hospital-based personnel's shift lengths up to 12 h per day and up to 8 shifts per month without a new agreement, the approval of Remote Health Work, the development of a platform for the National Recruitment of Human Resources in Health for COVID-19, the modification of the criteria for the completion and placement of the SERUMS, the authorization of the admission and practice of foreign medical personnel, and the inclusion of resident doctors who have been studying the last year in the specialities or subspecialities related to the care of the COVID-19, with the progressive resumption of the activities of the interns in health sciences (students of health sciences in their last year) in the public institutions, among others.[21] Table 1 shows the increase in MINSA and regional government facility staffing per subsector from additional hires, while Table 2 provides these data by role. Further, the pandemic has advanced the use of communication technologies within Peruvian health care, with some services expanding the use of tele-health.[22]

The additional contract workers were utilised in Rapid Response Teams that were involved with clinical assessment support, COVID-19 testing and sampling, home epidemiological investigation, in Clinical Monitoring Teams at care-monitoring centres and temporary isolation units and used for remote or home clinical monitoring of COVID-19 patients in home isolation or following hospital discharge,[23] in In-patient settings and Intensive Care Units,[24] for mental health care for COVID-19[25], for care of indigenous peoples for COVID-19[26] and as part of

TABLE 1 Increase in Ministry of Health and Regional Government headcount in response to COVID-19

Employment Type	Level of care					Total	
	Primary	Secondary	Tertiary	Admin	Not specified	Headcount	%
Employed	60,079	34,081	35,158	11,223	244	140,785	56.46
Contract (Total)	25,072	23,933	15,720	17,284	536	82,545	33.1
Contract (pre-COVID)	20,585	14,147	10,847	10,608	238	56,425	22.63
Contract (additional)	4,487	9,786	4,873	6,676	298	26,120	10.47
3rd party providers	8,298	5,991	6,300	5,405	50	26,044	10.44
Total headcount	93,449	64,005	57,178	33,912	830	249,374	100
Total %	37.5	25.7	22.9	13.6	0.3	100.00	

Notes: Data to August 2020.

Source [21]

TABLE 2 Ministry of Health and Regional Government workforce deployment by group

Group	Employed	Contracted (additional)	Contracted (pre-COVID)	3rd party provider	Total
Medical	19,884	4,640	4,632	2,409	31,565
Nurse	25,166	6,467	9,018	2,133	42,784
Midwife	12,144	1,272	3,363	799	17,578
Professional assistant	13,612	2,777	5,562	2,089	24,040
Technical assistant	46,840	8,325	13,076	4,751	72,992
Administrative	23,139	2,639	20,774	13,863	60,415
Total	140,785	26,120	56,425	26,044	249,374

Notes: Data to August 2020.

Source [21]

Humanitarian Corpse Collection Teams.[23] These deployments reflect a movable strategy responding to initial containment and shifting to community and hospital-based service needs as the virus spread throughout the country.

These data also reveal that MINSA has been able to mobilise additional local health workers to address the increased needs from the pandemic. To maintain this level of service access it would make some sense to incorporate some of these temporary workers post pandemic and to perhaps consider permanently employing them. This of course presents significant budgetary and resource distribution issues. Nevertheless, the COVID-19 experience shows that the Peruvian public health system is able to respond and that global health planners can learn from this level of capacity.

Investing in workforce planning is a significant activity, reliant on data and system understanding nonetheless it can have positive economic impacts, though many planning systems focus on professional groups. However, there is reason to suggest that a focus on understanding the likely skills requirement of health systems and developing this type of health and care provision policy/strategy in the future may allow planners more flexibility to identify candidate workforces with the appropriate skill sets and for them to enter a training pipeline that is more focused towards medical and care skills that are aligned with forecasted need.

A focus on skill requirements may also allow planners a more forgiving long-term planning environment. By focussing on service aggregates planning reliability can be improved and policy makers can gain flexibility for designing services.[27] Taking his approach though, requires Peru's education and health provision sectors to better understand each other, their needs and how they can work together.

Peru produces sufficient baseline data to identify skill needs and to design more appropriate models of care[13,14] and has a stock of workforce intelligence available on placement choices and role preferences, for example.[15,16] This permits Peruvian health workforce planners to consider a focus on skills, as a compliment to professions as their units of planning, and seek sustainable services that emphasise appropriately skilled staff rather than density benchmarks. This type of approach has been used elsewhere to rethink health workforce planning[27] and there are tools to support the planning of workforces from this point of view.[28–30] However, some caution has been advised when proposing skill mix-based workforce policies, as they must account for the time to complete training and that some workforce groups are resistant to this type of reform[31]; implying that it is not something to be rushed.

4 | CONCLUSION

Peru is developing its health workforce capacity and capability. The pandemic, although it created pressure and revealed stress points, has resulted in resulted in a mix of strategies, levels of collaboration and a pace of implementation not seen before in Peru. These include public workforce additions through temporary contracts, extraordinary payments, collaboration with health science faculties and professional colleges and voluntary workforce flexibility; all which evidences the extraordinary efforts the Peruvian health workforce has made to respond to COVID-19.

CONFLICT OF INTEREST STATEMENT
Dr Peralta provides advice and services to the Peruvian Ministry of Health. The other authors declare no conflicts of interest.

ETHICS STATEMENT
This work did not require ethics committee approval as its data are sourced from previously published materials.

DATA AVAILABILITY STATEMENT
Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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