KEY POINTS

- Human resources for health (HRH) and aged care are subject to powerful forces and trends across demand, supply, and delivery, including climate change, aging populations, and changes in the disease burden.

- HRH and aged care in Asia and the Pacific face absolute shortages, compounded by a maldistribution of the workforce and a misalignment of skills to needs.

- Primary care remains the cornerstone for achieving universal health coverage and a key platform for care coordination and resilience to health threats such as pandemics; a renewed focus on HRH for primary care can sustain health systems and help lower carbon emissions associated with health care delivery.

- The digital revolution is transforming both health care delivery and HRH education; Asia and the Pacific needs a health workforce that can embrace appropriate, effective technologies to improve people’s health and well-being.

- To address future HRH needs, health workforce planning needs to incorporate analyses of key trends.

INTRODUCTION

Human resources for health (HRH) is a key building block of health and aged care systems and is subject to challenges and opportunities that require careful collaboration among multiple sectors. It encompasses doctors, nurses, pharmacists, midwives, dentists, allied health professionals, and community health workers. Demand for health care workers (HCWs) is affected by large-scale trends in climate change, urbanization, and epidemiological and demographic shifts. Supply is mediated by a continuing shortage of HCWs as well as mismatches between the skill sets and geographic distribution of HCWs, including issues related to labor migration. Care delivery is changing through renewed pushes to decentralize health services, combined with a recognition that new national and regional capabilities are needed to make health systems more resilient to pandemics and other threats to health. The advent of the Fourth Industrial Revolution—in which digital technologies are transforming health and aged care—is changing the nature of care delivery. It holds the promise of enhanced health promotion and disease prevention; empowered patients and providers, particularly primary care practitioners; and improved coordination of care.

HUMAN RESOURCES FOR HEALTH SHORTAGE: A GLOBAL ISSUE

The long-standing shortage of HRH was formally recognized in 2016, when the United Nations established the High-Level Commission on Health Employment and Economic Growth, tasked with making recommendations to create at least 40 million
new jobs in the health and social sectors. Since then, and following the adoption of the Global Strategy on Human Resources for Health: Workforce 2030, the global health workforce has grown by 29% to 65 million workers.

The High-Level Commission on Health Employment and Economic Growth emphasized the significant economic benefits of investing in the HRH. Not only is a healthier population more productive—health improvements accounted for one-quarter of economic growth in low- and middle-income countries from 2000 to 2011—but the health sector is also a key economic sector and job generator in its own right. For instance, the combined economic output of the health sectors of the 34 members of the Organisation for Economic Co-operation and Development (OECD) was more than $5.8 trillion per year in 2016.

The creation of jobs in the health sector has a multiplier effect across the economy, with two supporting jobs for every worker trained in a health occupation. The health sector is also important for the employment of women. Women account for approximately 70% of the global health workforce, yet often earn less than men with similar qualifications. Additional investments into health and social services could increase the rate of women’s employment by 3.3% to 8.2%, a gain that far outstrips equivalent investments in other industries.

Health and aged care are inextricably linked. The latter years of life account for a high proportion of health care utilization. When older persons receive appropriate care and support services, the burden on the health system is reduced—but this requires access to quality, affordable aged care services. This denotes a shift in the thinking about the types of HRH needed to provide aged care now and in the future.

DEMAND-SIDE TRENDS IN HEALTH AND AGED CARE

Climate Change

Human health is inextricably linked to the health of the planet. Degradation of land, coastal and marine ecosystems, and soils; increased extreme weather events; changing patterns of disease; hotter and more humid environments; rising sea levels; worsening air quality; and forced migration are creating new health risks. Addressing these challenges requires collaboration across sectors, disciplines, and communities. They also increase demand for new expertise within the health sector to develop systems, infrastructure, and communities that are climate-resilient and to implement “One Health” approaches that join actions across sectors.

The health sector also urgently needs to reduce its contribution to climate change—which is more than 5% of net global emissions—by implementing low- or zero-emissions facilities, operations, and supply chains. This requires new types of skills and roles in health systems.

Changing Disease Burden and Its Impact on Universal Health Coverage

Asia and the Pacific has the highest rates of mortality attributable to noncommunicable diseases (NCDs). In 2017, four NCDs—cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes—were responsible for more than 75% of the deaths in Asia and the Pacific. For diabetes,
this amounts to 296 million people living with the condition in Asia and the Pacific.10

The growing burden of NCDs will impact every aspect of countries’ efforts to provide universal health coverage (UHC), straining health sector capacity. Renewed emphasis on primary care and models of shared care and self-management of NCDs require increased numbers of appropriately trained primary care and community health workers (CHWs).11 As the workforce adapts to meet this changing disease burden, health services must also still address the health concerns of populations facing food insecurity, undernutrition, and neglected diseases.

**Changing Population Demographics**

Asia and the Pacific is the fastest aging region in the world. By 2050, 11 countries in the region will be classified as “super-aged” societies, and almost one-quarter of the region’s population will be over 60 years of age.12 As people continue to live longer, the burden of complex and multiple chronic conditions will significantly compound existing pressures on health, aged, and long-term care systems. For instance, the number of people living with dementia in Asia and the Pacific will roughly triple between 2015 and 2050.13

To adapt to changing demographics—in addition to dramatically increasing the numbers of skilled long-term care workers and volume of specialized geriatric or chronic disease services—the quality of existing primary, community-based, and informal care provision will require strengthening, including the skills and competency of the workforce.14

**Impact of the COVID-19 Pandemic and Health System Resilience**

The coronavirus disease (COVID-19) has significantly disrupted access to primary care globally and reduced critical primary health initiatives such as cancer screening, routine immunizations, and NCD management. In Asia and the Pacific, most countries faced disruption to routine health services in 2020, which disproportionally impacted people with complex NCDs and those who were already struggling to access health care.15 Moreover, health expenditure during the pandemic focused on the acute COVID-19 response rather than on broader health system-strengthening initiatives.16 Developing more resilient primary care services is essential for effective future pandemic responses, which includes maintenance of health services and effective surveillance as well as delivery of pandemic countermeasures such as vaccines.

Beyond primary care, the pandemic posed system-wide challenges for public health, clinical services, community care, paramedical services, and medical regulation and manufacturing. Skills—such as public health leadership, administration and management, epidemiology, risk communications, community engagement, digital health services, and laboratory sciences—were all lacking. Many of these skill sets are becoming more important as health systems become more complex and as countries look to improve the organization and governance of health services through, for example, the establishment of national centers for disease control and prevention.

**SUPPLY-SIDE TRENDS IN HEALTH AND AGED CARE**

**Shortage of Health Care Workers**

Modeling of health force growth to 2030 predicts that while the global demand will be for 80 million HCWs, the supply of HCWs is expected to reach just 65 million over the same period, predominantly in low- and lower-middle-income countries.17 The COVID-19 pandemic illustrated the gravity of this shortfall, as staffing shortages emerged as the most common reason that health services were severely disrupted during that time.18 HCW death and burnout rates exacerbated these shortages in many settings.19 Indeed, the high burnout rates underlined the importance of taking HCW well-being into account in workforce planning and management, including retention strategies.20

Current staffing of health systems across Asia and the Pacific only meets the minimum numbers recommended by the World Health Organization (WHO) of at least 1.0 doctor and 2.5 HCWs (i.e., physicians, nurses, and midwives) for every 1,000 people. Upper-middle-income countries in the region report 1.2 doctors per 1,000 population. In lower-middle-income countries, there is an average of 1.0 doctor and fewer than 2.0 HCWs per 1,000 population.21 However, these averages disguise marked shortages in many settings.21

14 ADB. 2022. The Road to Better Long-Term Care in Asia and the Pacific: Building Systems of Care and Support for Older Persons. Manila.
differences across countries. For example, in Solomon Islands, there are 11.0 HCWs for every 1.0 doctor; in Pakistan, doctors outnumber HCWs (footnote 12).

While it is possible to achieve comprehensive primary health care coverage without a high physician density, this is reliant on upskilling and shifting tasks to other cadres and building a robust, well-coordinated, and appropriately trained complementary workforce, including allied health and CHWs.

The current shortfall in staffing for long-term and aged care is more apparent. The International Labour Organization stated that a minimum of 4.2 formal workers for every 100 people aged 65 years and over is needed to deliver an acceptable quality of long-term care.22 This workforce encompasses health, allied health (e.g., technicians, medical assistants, and therapists), domestic, and social workers.23 There are as many as 4.4 workers per 100 persons aged 65 years and over in Australia, 0.7 worker per 100 persons aged 65 years and over in Thailand, and negligible numbers of reported long-term care workers in India and Indonesia (footnote 23).

Labor Migration
The migration of skilled HCWs is a significant and increasing global phenomenon, driven by pull factors from destination countries and push factors from source countries.24 Factors driving countries to seek migrant HCWs include a domestic undersupply of workers and challenges in workforce planning. Factors encouraging skilled workers to emigrate include low wages or lack of full-time employment opportunities in their country of origin and increased educational opportunities and better working conditions in the destination country. This loss of skilled and senior workers from low-resource settings also impacts on the quality of supervision and training for workers who remain, as those with the best skills are the ones most likely to migrate.

Asia and the Pacific is home to many countries that supply HCWs to other parts of the world. In particular, India and the Philippines have collectively trained some 330,000 nurses currently working in OECD countries.25 In the Pacific—although the outflow of nurses is smaller in absolute terms—14% of Tongan and 15% of Fijian nurses emigrate.26 Migration also occurs within Asia and the Pacific, where middle-income countries look to replace human resources lost to high-income countries with migrants from low-income settings.27 For example, Fijians who move to the Marshall Islands and Palau are replaced at home by immigrants from the Philippines and elsewhere.

Medical outsourcing can also lead to HCWs being utilized to provide services offshore rather than to their own population. Medical outsourcing is anticipated to accelerate as countries face shortfalls and bottlenecks for delivery of health services, such as diagnostic services and outpatient care for remote populations.

WHO has identified some countries in Asia (i.e., the Lao People’s Democratic Republic [Lao PDR], Nepal, and Pakistan) and in the Pacific (i.e., Federated States of Micronesia, Kiribati, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tuvalu, and Vanuatu) that face the most pressing health workforce challenges given their low coverage of health services.28 Specific support to develop HRH plus safeguards to limit targeted international recruitment of HCWs from these countries is recommended.

Geographic Maldistribution
Within countries, migration trends can make it difficult to attract workers to and to retain workers in rural or underserved settings. This can impact access to essential health services, undermine progress toward UHC, and lead to a concentration of HCWs in urban areas.29 Thus, smaller economies in the region such as Cambodia, Lao PDR, Mongolia, and Vanuatu have a very strong urban bias in HCW distribution.10

Many of the factors that enhance rural retention of HCWs in Asia and the Pacific are directly within the remit of governments, especially local governments.31 These include financial incentives, supportive working environments, decent amenities, and effective human resource management practices. A gender lens is also needed to define strategies to address the geographic maldistribution of HCWs given both the preponderance of women in the workforce and their perceptions of a lack of security in rural and remote areas (footnote 31).

Training Health Care Workers

While the future supply of HCWs will be determined by many factors, it is largely linked to the ability of the education and training sector to operate in step with demand. Southeast Asia has one of the lowest densities of nurses as well as one of the lowest nursing school graduation rates in the world, at just 12.2 graduate nurses per 100,000 population. Addressing the nurse shortage in low-density countries necessitates an average increase of 8.8% in the number of yearly graduates from 2018 to 2030 as well as improvement of absorption capacity. Policies that drive increased enrollment rates are thus urgently needed.

Private education and training providers can play a role in boosting the number of skilled HCWs, but this demands careful implementation to maintain consistency of training quality and alignment with broader health system reforms. Traditional education systems have also been slow to adjust curricula to an increasingly complex health sector and new demands arising from health technologies and a changing disease burden and climate.

NEW TRENDS IN DELIVERING HEALTH AND AGED CARE

The Fourth Industrial Revolution

The proliferation of digital technologies—known as the Fourth Industrial Revolution—is transforming the nature of work in all industries. It offers a range of opportunities to save HCWs’ time, enhance clinical decision-making, facilitate personalized medicine, increase patient control over their own care, and train and maintain HCW skills.

Social distancing and quarantine measures throughout the COVID–19 pandemic proliferated blended-care approaches that incorporate contact with both HCWs and digital interventions. Telehealth expanded for the delivery of primary care and outpatient services. The quality and effectiveness of services delivered virtually requires a trained workforce and patients who are willing and technological literate. Moreover, while telehealth should have a particular role in providing access for marginalized populations and hard-to-reach specialist health services, affordability and infrastructure remain highly variable across the region.

So far, telehealth advancements have occurred largely as pilots or stand-alone interventions. Most countries still lack the digital health expertise to organize, manage, and integrate different data systems and to keep up with digital transformations. To realize the potential of blended and virtual models of primary care at scale will require considerable change in management and support from leadership at all levels of the health sector.

Shifts in Models of Primary and Community Care

At the individual level, having access to effective primary care significantly improves patient outcomes by increasing access to preventive initiatives and essential medicines. This benefit is particularly apparent in patients with chronic or complex conditions. At the population level, a functioning and efficient primary health system can reduce pressure on higher levels of health care by reducing hospitalization rates.

Several countries in Asia and the Pacific have begun to shift away from models of primary care that rely heavily or exclusively on medical practitioners toward establishing broader, multidisciplinary teams that leverage the skills of nursing, allied health, and CHWs. This approach facilitates “person-centered care,” which emphasizes the importance of engaging people and communities as active partners in their own health and well-being. Person-centered care views patient needs holistically and positions care around addressing the broad factors that contribute to ill health, rather than responding to acute illness as it arises.

One example of this reorganization of primary care can be found in India, where 150,000 rural health and wellness centers have been established through the comprehensive health reform agenda Ayushman Bharat to reduce gaps in health service coverage and to improve the health of underserved populations. Ayushman Bharat aims to expand the number of urban HWCs to deepen urban primary health care services and to strengthen community partnerships in urban areas.
Community Health Workers

CHWs play a significant role in the provision of primary care in Asia and the Pacific and are key to mitigating the impact of the HCW shortage in the region. However, there can be challenges in attracting and retaining this cadre in areas of highest need. In some countries, CHWs or village health workers are not remunerated for their work, despite the critical role that they play in extending the reach of the public health system. They represent the significant burden of unpaid or informal work being performed by women in Asia and the Pacific.

Upskilling and formalizing the informal community health workforce can significantly increase the efficiency and reach of the primary care system. However, the risk of increasing the burden of unpaid care work performed by women must be weighed against expanding the scope of practice and workload of CHWs.

TEN POLICY RECOMMENDATIONS

Addressing the complex issues around HRH will require concerted effort and policy change. The following are 10 areas where change is needed to meet the region's current and future HCW needs.

1. Apply analysis of key trends in human resources for health and care planning. A more holistic understanding of national and regional sector trends and system pressures will enable countries to develop data-driven educational and health sector planning and investment to respond to and mitigate foreseen challenges. Investments should focus on aligning regulatory frameworks and policies that facilitate data sharing on HRH at a regional or global level to supplement and to improve the quality and range of insights currently available to governments. Partnerships with the private sector should be pursued to assist in the operationalization of regional and national approaches to data collection, storage, and utilization. This would enable countries to plug gaps in current data and information requirements using, for example, enrollment and results data from private training providers or relevant labor market data from other jurisdictions, while others can also invest in building necessary infrastructure for information and communications technology domestically.

2. Apply a climate change lens to understanding future needs of human resources for health. HCWs will play a central role in mitigation, adaptation, and response to the impact of climate change. Through a climate lens, it is possible to see job creation opportunities for HRH, both in terms of climate mitigation and adaptation. These opportunities are aligned to initiatives that increase climate resilience from a systems level to frontline service delivery and decarbonize the health sector, including the entire health care supply chain. At the end of the spectrum, for example, HRH will need to gain better understanding to be able to deal with acute demand due to climate change-related disasters as well as climate-sensitive health conditions. Further toward the system-level response, clinicians need to be engaged in organizational preparedness for climate change and for leadership at the policy and systems levels.

3. Apply a gender lens to understand the female workforce. Women account for the majority of HCWs in Asia and the Pacific. They also perform the bulk of unpaid and underpaid care, which puts a significant burden on them. Many identified “push factors” for HCW labor migration—including poor working conditions, low wages, and limited education opportunities—disproportionately impact women. Adopting a gender lens is therefore critical to managing the migration of skilled HCWs. Improving gender equity in the health care workforce includes not only the working conditions of grassroots HCWs but also addressing the current gender imbalance in health and care system management and leadership. Underpinning all of this is the need for gender-disaggregated data and gender awareness in data collection and use.

4. Embrace complexity; train health care workers to address noncommunicable diseases and older persons’ complex needs. There has been an evolution of roles in the health sector, expanding the range of care available to support people to age well with multiple complex and chronic conditions. This broadening reflects a shift away from biomedical or curative notions of aging to a more comprehensive approach to maintaining well-being as people age and develop NCDs. Developing long-term care human resources to increase the availability of community-based care and providing support that enables people to live independently for longer will help relieve pressures on unpaid care and formal care facilities and the reliance on more specialized HCWs.

5. Use the team-based approach of primary care to act as a platform for care coordination. Delivering person-centered care requires a shift to team-based, multidisciplinary integrated care. Existing health care system hierarchies must be leveraged to develop relevant capabilities in paraprofessional or allied health workers and to establish links among primary, secondary, and tertiary facilities. CHWs make up a significant portion of the primary care workforce in Asia and the Pacific, and formalizing and upskilling these workers can increase the efficiency of primary care.

6. Develop integrated approaches, and move beyond silos. Solving issues in HCW supply and demand cannot be addressed by the health sector alone. An integrated approach can break down silos within the sector and between it and other sectors including labor, finance, education, and gender equity.

7. Provide support and investment to informal carers. Many countries have large populations, and women mostly provide informal and familial care. Providing comprehensive support to family caregivers—from financial support, support networks, respite care, to training—can reduce the financial,

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emotional, and physical strains of caregiving as well as breakdowns in care, easing the pressure on formal health systems. The skill set of this informal population can also be transformed into formalized health competencies to address the health needs of communities. Efforts should focus on establishing the first step on a “career escalator” from informal and unpaid caring into a spectrum of paid work in the health sector.

8. Mitigate unfavorable workforce migration flows, and focus support on the most vulnerable health systems. Addressing push and pull factors influencing HCW migration will require a coordinated, global response. Unfavorable migration flows of HCWs will continue to be a significant challenge in the pursuit of UHC, and countries must employ strategies to mitigate and to adapt to unfavorable outflows of HCWs from areas of need. Three potential levers to address this challenge include (i) addressing push factors to reduce the outward flow of HCWs, (ii) reorganizing the workforce to increase efficiencies in workforce utilization, and (iii) improving regional and international cooperation to mitigate external migration factors.

9. Strive for better alignment of training for human resources for health with needed skills. There is a need for constant refinement to ensure that HCWs receive skills for the future in pace with developments outside of the education sector. To be more responsive to evolving needs and external pressures, investment should develop skills-based—rather than only qualification-based—educational approaches. This involves rapid production of high-quality modules that education providers can roll out in response to the latest trends and aligned with workforce needs.

10. Fully exploit the potential of digital health and digital education tools and technologies. The Fourth Industrial Revolution and workforce transformation must occur in unison. Moreover, the capacity to manage digital needs to be enhanced in health systems, requiring training for HCWs. There are three main ways that technology can assist the health system and workforce development: (i) workforce optimization, in which activity insights can be used to determine optimal staff mix in teams and allocation of tasks between clinical and operational staff and between organizations; (ii) demand forecasting, which uses predictive analytics to better anticipate future needs to align human and other resources at an organizational and system level; and (iii) education and training, by deploying technologies to upskill and to reskill staff to work in different ways and to use different technologies through pre-service and in-service professional development.