World Health Organization

Executive Board
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Health and care workforce

Global strategy on human resources for health: workforce 2030

Report by the Director-General

Introduction

1. This report summarizes progress towards the four objectives of the WHO Global Strategy on Human Resources for Health: Workforce 2030 adopted by the Health Assembly in resolution WHA69.19 (2016) (hereafter "the Global Strategy") and incorporates progress in implementing five additional health workforce resolutions and one decision.[1]

2. The report includes activities undertaken by WHO through the WHO, ILO and OECD Working for Health programme, which operationalizes the recommendations of the United Nations High-level Commission on Health Employment and Economic Growth.

3. The estimated stock of health workers now exceeds 70 million and shortage estimates decreased from 15.4 million in 2020 to 14.7 million in 2023. Several factors, including the adoption of evidence-based policies and improved data availability, may explain these trends. However, the pace of progress has slowed and masks diverging trends across and within regions, prompting an upward adjustment to the projected workforce shortage by 2030 to 11.1 million (compared to the 2022 estimate of a projected 10.2 million shortage by 2030).

Objective 1: Optimizing the workforce through evidence-informed policies

4. **Competency-based education.** WHO's guidance and technical support facilitate the adoption and scale-up of competency-based education, training and curriculum design, including through regional learning activities and the WHO Academy. The global competency and outcomes framework for the essential public health functions was published in 2024, providing guidance on public health occupations. Assessment of the impact of digital technologies on education and practice is continuing, with new research commencing on artificial intelligence.

[1] Resolutions WHA70.6 (2017), WHA72.3 (2019), WHA74.14 (2021), WHA74.15 (2021) and WHA75.17 (2022); and decision WHA73(30) (2020).

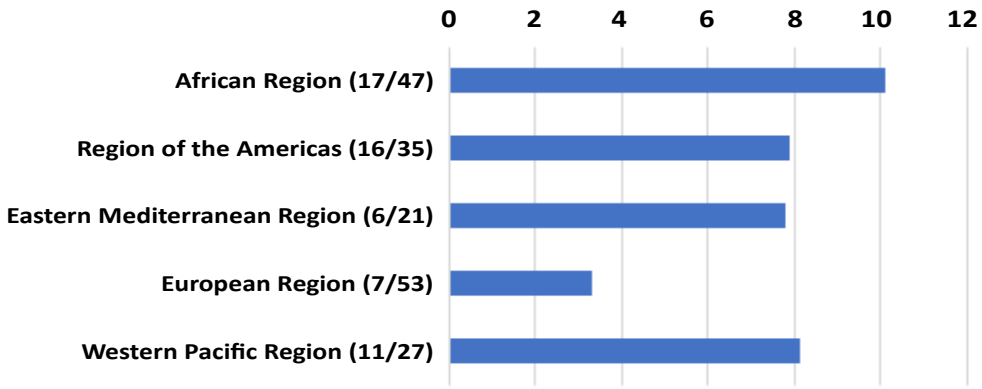
5. **Health professions education.** Medical and nursing schools educated an estimated 2.2 million graduates in 2020 globally, representing one new graduate for every 19 doctors and nurses in the workforce. This ratio is insufficient to develop and retain a sustainable workforce. In order to meet health needs, address issues relating to the ageing workforce, attrition and migration and develop the human capital needed to meet increasing demand, including in relation to digital health and medical technologies, output will have to increase to approximately one new graduate for every 10 health workers, particularly in countries where health workforce scale-up is required to address current and future shortages, fueled by population growth and ageing of the health workforce.

6. **Regulation.** New WHO guidance provides policy considerations to inform ongoing regulatory reforms across countries and regions. In addition to advancing patient safety, health practitioner regulation can support health system functions through measures to ensure the sharing of data on active practitioners and graduates; link regulatory interventions with health practitioner recruitment in underserved areas; and facilitate the international mobility of health practitioners, telemedicine and management of dual practice.

7. **Gender equality and women's empowerment.** The WHO–ILO analysis of the gender pay gap in the health and care sector has focused on the pervasive undervaluation of health and care work performed by women. Resulting policies have informed the Women's Health Policy Dialogue at the Asia-Pacific Economic Cooperation forum in Peru and the Women's Empowerment Working Group established by Brazil during its G20 presidency, and the guidance has been mainstreamed into country and multicountry support, including Working for Health activities and gender analyses at the country level.

8. **Retention in rural and remote areas.** Deploying and retaining health workers to ensure equitable access to health services in rural and remote areas is a global challenge. Available data on nursing personnel from 58 countries show significant subnational differences (Fig. 1). The Secretariat continues to facilitate cross-country learning on primary healthcare-oriented health workforce models. The WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas provides evidence-based policy recommendations to address these imbalances.

Fig. 1. Subnational differences* in the distribution of nursing personnel by WHO region. (number reporting/total number of countries)



Note: Data were available for only one country in the South-East Asia Region, which has therefore not been included.

*As measured by maximum/minimum ratios of density.

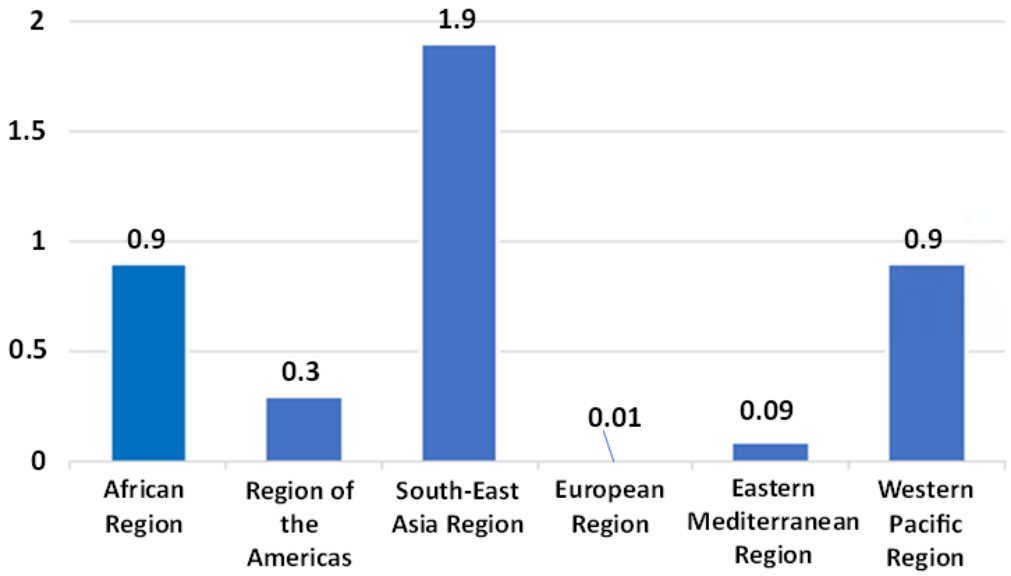
Source: WHO, national health workforce accounts, 2024.

9. Dedicated resolutions and work streams exist for nursing and midwifery personnel and community health workers:

- **Nursing and midwifery personnel.** In 2022, WHO and the global nursing and midwifery organizations convened a virtual "Triad" meeting with 164 countries to operationalize the global strategic directions for nursing and midwifery 2021–2025. The Secretariat convened 129 countries virtually in 2023 and about 800 nursing and midwifery leaders from 155 countries in 2024, to take stock of progress and renew actions. Two regions and over 80 countries have developed or are developing nursing and midwifery strategies based on the global strategic directions. Over 180 countries are actively involved in preparing the 2025 edition of the State of the World's Nursing report.

- **Community health workers.** Data from 93 countries indicate a global stock of around 4 million community health workers (Fig. 2), with a growing number of countries adopting WHO recommendations for the integration of these workers, as evidenced by the existence of salaried community health workers in 28 out of 54 countries (52%) reporting on this indicator. The Secretariat continues to support countries to address the education, integration and remuneration of these workers. Collaboration with regional and global partners is ongoing, including through the African Union's "2 million CHW" campaign and the Community Health Delivery Partnership. Systematic analysis of community health worker training programmes is under way and will inform a WHO curriculum guide to be developed in 2025–2026.

Fig. 2. Distribution of community health workers by WHO region (millions)



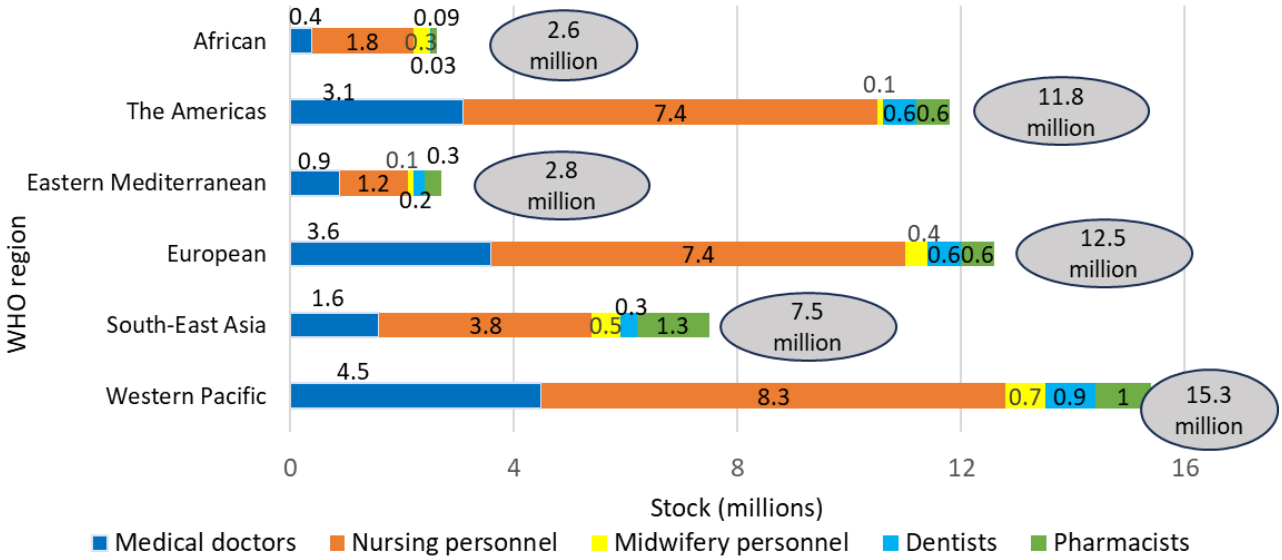
Source: WHO, national health workforce accounts, 2024.

Objective 2: Aligning education, employment and investment

10. The estimated stock of health workers, based on data reported by 194 Member States as at September 2024, now exceeds 70 million, with the five occupations included in target 3.c of the Sustainable Development Goals (dentists, medical doctors, midwifery personnel, nursing personnel and pharmacists) accounting for 52 million (Fig. 3).

11. Other occupations reported by Member States in descending order of magnitude include: personal care workers, community health workers, physiotherapists, healthcare assistants and paramedical practitioners.

Fig. 3. Estimated stock of health workers by WHO region (2014–2023)



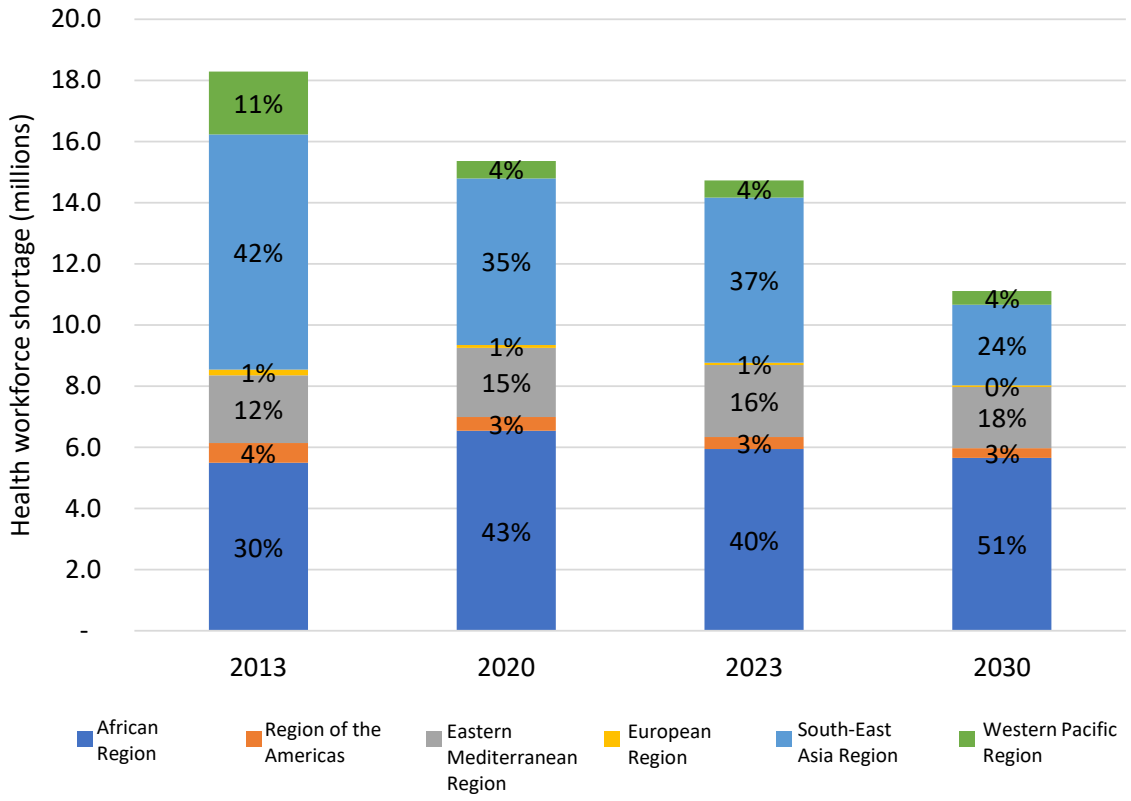
Source: WHO, national health workforce accounts, 2024 (note: stock totals are rounded).

12. Data for 2023 show a 26% increase in density of dentists, medical doctors, midwifery personnel, nursing personnel and pharmacists since 2013, but with significant differences by region and income group (for instance, on average, one for every 64 people in high-income countries versus one for every 621 people in low-income countries). Data are mostly from the period 2021–2023 and from after the coronavirus disease (COVID-19) pandemic. The increase in stock and density, albeit at a slower pace, suggests concerns about a "great resignation" among health personnel have not materialized.

13. WHO's estimated global shortage decreased from 15.4 million in 2020 to 14.7 million in 2023. This masks important variations across regions: while it reduced in almost all regions, the shortage increased in absolute terms in the Eastern Mediterranean Region.

14. The most recent data have resulted in an upward adjustment, from 10.2 million in 2022 to 11.1 million, in the projected shortage of health workers by 2030, with the global shortage increasingly concentrated in the African and Eastern Mediterranean regions (Fig. 4).

Fig. 4. Distribution of the global health workforce shortage by WHO region (for 2013, 2020 and 2023, and projected for 2030)



Source: WHO, national health workforce accounts, 2024.

15. High- and upper middle-income countries, which account for 53% of the global population and 80% of the five occupations under target 3.c of the Sustainable Development Goals, have the highest densities of health workers. Nevertheless, these countries will likely need to recruit 8.4 million additional health workers by 2030 to maintain density levels and meet the rising demands of growing and ageing populations, potentially accelerating international migration.

16. **Health labour market analyses.** The Secretariat is supporting a range of technical cooperation activities, including health labour market analyses in 49 countries, mostly in the African Region and covering 60% of the countries in the WHO health workforce support and safeguards list 2023. These analyses enable and inform the development of national health workforce policies and investment plans. For example, they contributed to a rise by nearly half in public sector absorption of doctors and nurses in India's Chhattisgarh state and have led to a 55% reduction in workforce attrition in Zimbabwe, where a health workforce investment compact is expected to attract over US$ 166 million in investments.

17. **Working for Health.** In line with the Working for Health 2022–2030 Action Plan and its Multi-Partner Trust Fund, 45 countries have received support to develop evidence-based policies and mobilize and increase domestic and external investments in workforce education, employment and retention.

18. **International investments in human resources for health**. Approximately 5% of official development assistance for health is allocated to the workforce, of which the largest share (over 42%) is spent on short-term training. WHO continues to advocate for long-term, sustainable investments in the health and care workforce, hosting partner dialogues at the Fifth Global Forum

on Human Resources for Health held at WHO headquarters in 2023, at the Africa Health Workforce Investment Forum in 2024, which resulted in the adoption of the Windhoek Statement on investing in Africa's health workforce.

Objective 3: Building institutional capacity and partnerships

19. **Stewardship and governance.** Previous trends relative to the 2020 milestones were maintained concerning intersectoral coordination mechanisms, human resources for health units and relevant regulatory mechanisms. Policy dialogue at the Fifth Global Forum on Human Resources for Health reaffirmed the need for political leadership and intersectoral governance to accelerate progress.

20. **Leadership and management.** To bolster leadership and management of human resources for health, the Secretariat has developed a curriculum covering health labour market analysis, data for decision-making and education. This course was rolled out in the European Region in 2023 (where three in four participants were women) and independently by academic institutions. A collaboration between the National Health Service England and the Working for Health programme has strengthened workforce leadership in 22 countries, and the Secretariat and the WHO Academy are developing blended learning modules to expand support for Member States, WHO staff and partners.

Objective 4: Strengthening data for monitoring and accountability

21. **National health workforce accounts** are aimed at strengthening national and subnational health workforce policy and planning. Since the associated platform was introduced, there has been a 20-fold increase in data availability. The number of Member States with nominated focal points has risen to 179 in 2024, 166 of which reported data in the last three years and 135 in 2023 and 2024.

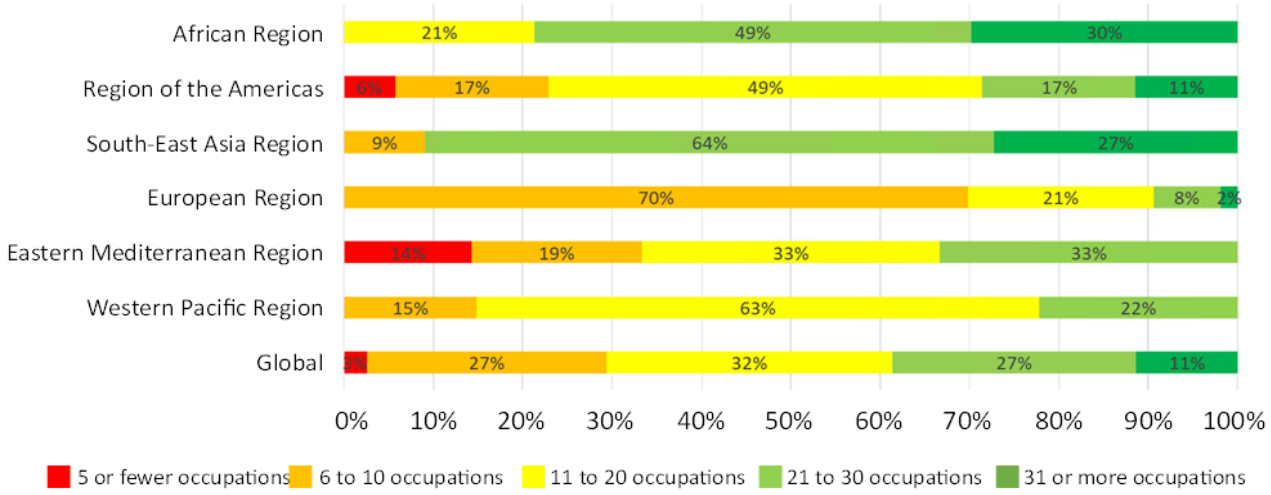
22. **Data availability, disaggregation and quality** has improved following dedicated technical support, with many indicators now reported by more than 100 countries (Fig. 5).

Fig. 5. Data availability for key topics

Source: WHO, national health workforce accounts, 2024.

23. Countries are progressively sharing data on more occupations: on the national health workforce accounts platform, 189 countries (97%) reported stock data for more than five occupations and 137 countries (71%) for more than 10 occupations (Fig. 6).

Fig. 6. Share of countries by the number of occupations reported



Source: WHO, national health workforce accounts, 2024.

24. **Inter-agency data exchange.** WHO, ILO and OECD coordinate efforts on health workforce data, including on education, employment, migration, occupational classification and skills mix. Work is ongoing on undergraduate student pipelines and the revision of the International Standard Classification of Occupations.

Health system resilience and public health workforce capacity

25. WHO evidence and guidance on the impacts on and needs of the health workforce during the COVID-19 pandemic enabled technical cooperation with countries. Furthermore, the lessons learned from the pandemic and the attention it brought to health and care workers' conditions laid the foundation for the development of the global health and care worker compact. This brings together existing international conventions and resolutions and provides recommendations to protect health and care workers and safeguard their rights; promote and ensure decent work, free from discrimination; and provide a safe and enabling practice environment.

26. In collaboration with associations, institutions and schools of public health, WHO launched a road map to strengthen the national workforce capacity for essential public health functions. Support is provided to national and regional stakeholders through an action plan and technical tools to contextualize these functions, educate the workforce on their delivery and ensure their classification and measurement. The road map provides a foundational layer in the vision for a global health emergency corps.

Conclusion

27. WHO's estimated health workforce shortage decreased from 15.4 million in 2020 to 14.7 million in 2023 and is projected to further decrease to 11.1 million by 2030. This slowing pace of global progress, occurring alongside diverging needs and trends across and within regions and countries, and the increasing concentration of shortages in countries with challenging socioeconomic conditions, all require accelerated action.

28. In most countries affected by shortage and maldistribution challenges, financing bottlenecks require increased investment. The evidence-based policies and mechanisms recommended by the Global Strategy and related resolutions have been proven to optimize these investments.

Action by the Executive Board

29. The Board is invited to note the report and consider in its discussions the following questions.

- What policies and investment decisions can countries share that have proven most successful in optimizing the education, employment and retention of the health and care workforce?
- How can the Secretariat help Member States to advance capabilities and competencies in data, policy dialogue and investment decisions on the health and care workforce?
