Health Organization

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Introduction

1. In May 2014, the Sixty-seventh World Health Assembly adopted resolution WHA67.24 on Follow-up of the Recife Political Declaration on Human Resources for Health: renewed commitments towards universal health coverage. In paragraph 4(2) of that resolution, Member States requested the Director-General of the World Health Organization (WHO) to develop and submit a new global strategy for human resources for health (HRH) for consideration by the Sixty-ninth World Health Assembly.

2. Development of the Global Strategy was informed by a process launched in late 2013 by Member States and constituencies represented on the Board of the Global Health Workforce Alliance, a hosted partnership within WHO. Over 200 experts from all WHO regions contributed to consolidating the evidence around a comprehensive health labour market framework for universal health coverage (UHC). A synthesis paper was published in February 2015[1] and informed the initial version of the Global Strategy.

3. An extensive consultation process on the draft version was launched in March 2015. This resulted in inputs from Member States and relevant constituencies such as civil society and health-care professional associations. The process also benefited from discussions in the WHO regional committees, technical consultations, online forums, a briefing session to Member States' permanent missions to the United Nations (UN) in Geneva, exchanges during the 138th Executive Board and a final round of written comments in March 2016. Feedback and guidance from the consultation process were reflected in the current version of the Global Strategy, which was also aligned with, and informed by the WHO Framework on integrated people-centred health services[2]

4. The Global Strategy on Human Resources for Health: Workforce 2030 is primarily aimed at planners and policy-makers of Member States, but its contents are of value to all relevant stakeholders in the health workforce area, including public and private sector employers, professional associations, education and training institutions, labour unions, bilateral and multilateral development partners, international organizations, and civil society.

5. Throughout this document, it is recognized that the concept of universal health coverage may have different connotations in countries and regions of the world. In particular, in the WHO Regional Office for the Americas, universal health coverage is part of the broader concept of universal access to health care.

Global strategy on human resources for health: Workforce 2030 – Summary

Vision

Accelerate progress towards universal health coverage and the UN Sustainable Development Goals
by ensuring equitable access to health workers within strengthened health systems

Overall goal

To improve health, social and economic development outcomes by ensuring universal availability, accessibility, acceptability, coverage and quality of the health workforce through adequate investments to strengthen health systems, and the implementation of effective policies at national, regional and global levels

Principles

- Promote the right to the enjoyment of the highest attainable standard of health
- Provide integrated, people-centred health services devoid of stigma and discrimination
- Foster empowered and engaged communities
- Uphold the personal, employment and professional rights of all health workers, including safe and decent working environments and freedom from all kinds of discrimination, coercion and violence
- Eliminate gender-based violence, discrimination and harassment
- Promote international collaboration and solidarity in alignment with national priorities
- Ensure ethical recruitment practices in conformity with the provisions of the WHO Global Code of Practice on the International Recruitment of Health Personnel
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Global milestones (by 2020)

- All countries have inclusive institutional mechanisms in place to coordinate an intersectoral health workforce agenda.
- All countries have a human resources for health unit with responsibility for development and monitoring of policies and plans.
- All countries have regulatory mechanisms to promote patient safety and adequate oversight of the private sector.
- All countries have established accreditation mechanisms for health training institutions.
- All countries are making progress on health workforce registries to track health workforce stock, education, distribution, ows, demand, capacity and remuneration.
- All countries are making progress on sharing data on human resources for health through national health workforce accounts and submit core indicators to the WHO Secretariat annually.
- All bilateral and multilateral agencies are strengthening health workforce assessment and information exchange.

Global milestones (by 2030)

- All countries are making progress towards halving inequalities in access to a health worker.
- All countries are making progress towards improving the course completion rates in medical, nursing and allied health professionals training institutions.
- All countries are making progress towards halving their dependency on foreign-trained health professionals, implementing the WHO Global Code of Practice.
- All bilateral and multilateral agencies are increasing synergies in of cial development assistance for education, employment, gender and health, in support of national health employment and economic growth priorities.
- As partners in the United Nations Sustainable Development Goals, to reduce barriers in access to health services by working to create, ll and sustain at least 10 million additional full-time jobs in health and social care sectors to address the needs of underserved populations.
- As partners in the United Nations Sustainable Development Goals, to make progress on Goal 3c to increase health nancing and the recruitment, development, training and retention of the health workforce.

Core WHO Secretariat activities in support of implementation of the Global Strategy

Develop normative guidance; set the agenda for operations research to identify evidence-based policy options; facilitate the sharing of best practices; and provide technical cooperation on health workforce education, optimizing the scope of practice of different cadres, evidence-based deployment and retention strategies, gender mainstreaming, availability, accessibility, acceptability, coverage, quality control and performance enhancement approaches, including the strengthening of public regulation.

Provide normative guidance and technical cooperation, and facilitate the sharing of best practices on health workforce planning and projections, health system needs, education policies, health labour market analyses, and costing of national strategies on human resources for health.

Strengthen evidence on, and the adoption of, macroeconomic and funding policies conducive to greater and more strategically targeted investments in human resources for health.

Provide technical cooperation and capacity-building to develop core competency in policy, planning and management of human resources for health focused on health system needs.

Foster effective coordination, alignment and accountability of the global agenda on human resources for health by facilitating a network of international stakeholders.

Systematically assess the health workforce implications resulting from technical or policy recommendations presented at the World Health Assembly and regional committees.

Provide technical cooperation to develop health system capacities and workforce competency, including to manage the risks of emergencies and disasters.

Review the utility of, and support the development, strengthening and update of tools, guidelines and databases relating to data and evidence on human resources for health for routine and emergency settings.

Facilitate yearly reporting by countries to the WHO Secretariat on a minimum set of core indicators of human resources for health, for monitoring and accountability for the Global Strategy.

Support countries to establish and strengthen a standard for the quality and completeness of national health workforce data.

Streamline and integrate all requirements for reporting on human resources for health by WHO Member States.

Adapt, integrate and link the monitoring of targets in the Global Strategy to the emerging accountability framework of the UN Sustainable Development Goals.

Develop mechanisms to enable collection of data to prepare and submit a report on the protection of health workers, which compiles and analyses the experiences of Member States and presents recommendations for action to be taken by relevant stakeholders, including appropriate preventive measures.

6. **Health systems can only function with health workers; improving health service coverage and realizing the right to the enjoyment of the highest attainable standard of health is dependent on their availability, accessibility, acceptability and quality.** (8) Mere availability of health workers is not sufficient: only when they are equitably distributed and accessible by the population, when they possess the required competency, and are motivated and empowered to deliver quality care that is appropriate and acceptable to the sociocultural expectations of the population, and when

fast enough or deep enough. Shortages, skill-mix imbalances, maldistribution, barriers to inter-professional collaboration, inefficient use of resources, poor working conditions, a skewed gender distribution, limited availability of health workforce data – all these persist, with an ageing workforce further complicating the picture in many cases. Reviewing past efforts in implementing national, regional and global strategies and frameworks,

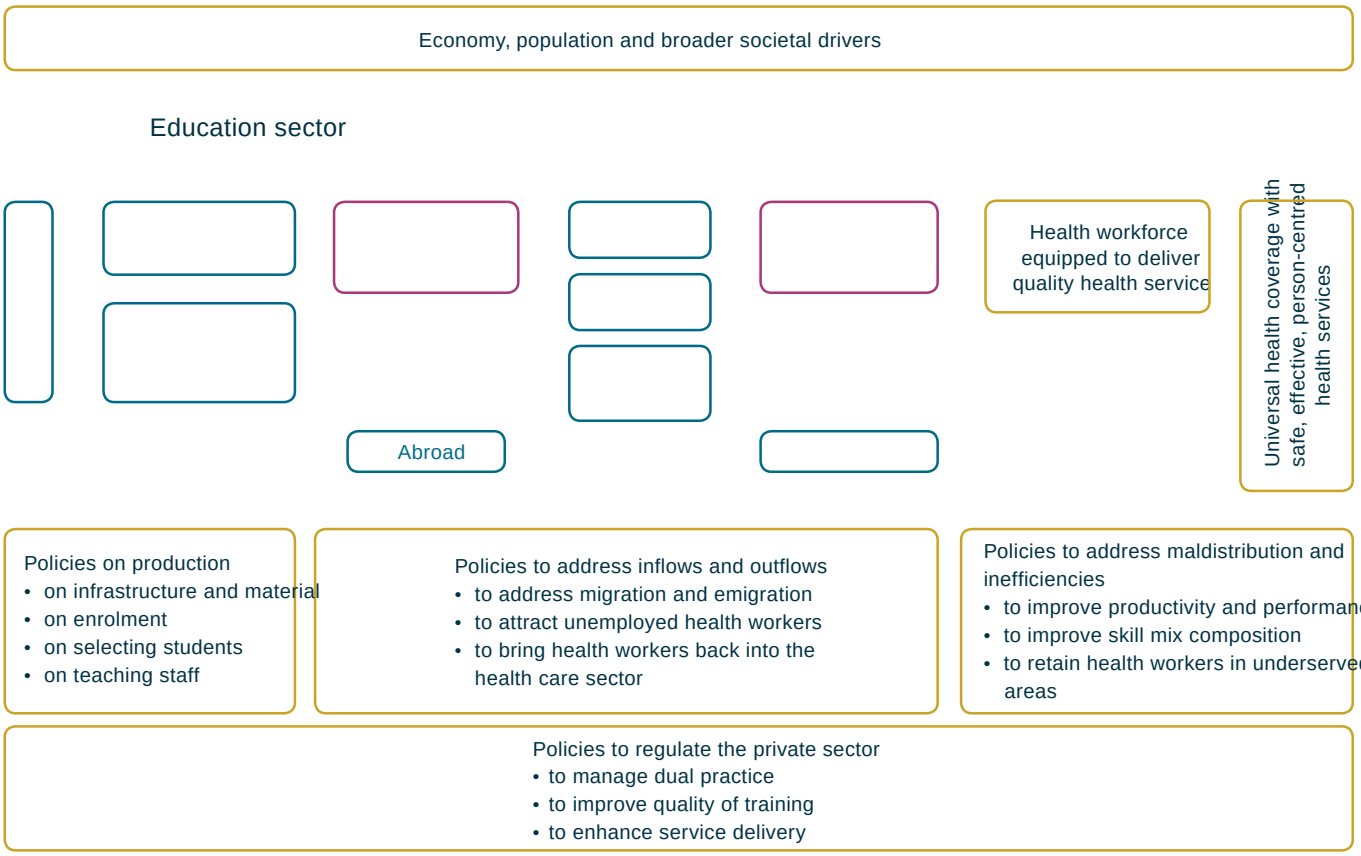
served areas. Shortages and distribution challenges contribute to global labour mobility and the international recruitment of health workers from low-resource settings. In some countries, in addition to major under-investment in education, particularly in under served areas, imbalances between supply capacity and the market-based demand determined by fiscal space, and between demand and population needs, result in challenges in universal access to health workers within strengthened health systems, and even the paradox of health worker unemployment co-existing with major unmet health needs.

11. **The foundation for a strong and effective health workforce, able to respond to the 21st century priorities, requires matching effectively the supply and skills of health workers to population needs, now and in the future.** The health workforce also has an important role in contributing to the preparedness and response to emergencies and disasters, in particular through participation in national health emergency management systems, local leadership and the provision of health services. Evolving epidemiologic profiles and population structures are increasing the burden of noncommunicable diseases and chronic conditions on health systems throughout the world; this is accompanied by a progressive shift in the demand for patient-centred care, community-based health services, and personalized long-term care. Demand for the global health workforce is therefore expected to grow substantially. At the same time, emerging economies are undergoing an economic transition that will increase their health resource envelope, and a demographic transition that will see hundreds of millions of potential new entrants into the active workforce. Attaining the necessary quantity, quality and relevance of the health workforce will require that policy and funding decisions on both the education and health labour market are aligned with these evolving needs (Figure 2).

12. **Persistent health workforce challenges, combined with these broader macro-trends, require the global community to reappraise the effectiveness of past strategies and adopt a paradigm shift in how to plan, educate, deploy, manage and reward health workers.** Transformative advances alongside a more effective use of existing health workers are both needed and possible through: the adoption of inclusive models of care encompassing promotive, preventive, curative, rehabilitative and palliative services; by reorienting health systems towards a collaborative primary care approach built on team-based care; and by fully harnessing the potential of technological innovation. In parallel, much-needed investment and reform in the health workforce can be leveraged to create qualified employment opportunities, in particular for women and youth. These prospects represent an unprecedented occasion to design and implement health workforce strategies that address the equity and coverage gaps faced by health systems, while also unlocking economic growth potential. Realizing this potential hinges on the mobilization of political will and building institutional and human capacity for the effective implementation of this agenda.

13. **The vision that by 2030 all communities have universal access to health workers, without stigma and discrimination, requires combining the adoption of effective policies at national, regional and global levels with adequate investment to address unmet needs.** Realistically, the scale-up required in the coming decades to meet increasing demand, address existing gaps and counter expected turnover is greater than all previous estimates. Projections developed by WHO and the World Bank (Annex 1) point to the creation of approximately 40 million new health and social care jobs globally to 2030 and to the need for 18 million additional health workers, primarily in low-resource settings, to attain high and effective coverage of the broad range of health services necessary to ensure healthy lives for all.

14. **It has long been known what needs to be done to address critical health workforce bottlenecks; now there is better evidence than ever on how to do it.** The global strategy on human resources for health:



Workforce 2030 considers new evidence and best practices on what works in health workforce development for different aspects. These range from assessment, planning and education, across management, retention, incentives and productivity; several WHO tools and guidelines can support policy development, implementation and evaluation in these areas (Annex 2). The Global Strategy addresses all these aspects in an integrated way in order to inspire and inform more incisive action by all relevant sectors of government and all key stakeholders, at national level by planners and policy-makers, and at regional and global level by the international community. Given the intersectoral nature and potential

countries to strive to use their own HRH to meet their needs, to collaborate towards more ethical and fair international recruitment practices, and to respect the rights of migrant health workers; it builds upon related regional strategies and frameworks such as the Toronto Call to Action[16] and the African Roadmap on Human Resources for Health[17]; and it provides a foundation for the work of the High-Level Commission on Health Employment and Economic Growth[18], established by the United Nations Secretary-General following UNGA Resolution 70/183.[19] The Strategy also supports, among others, the goals and principles of the UN Global Strategy for Women's, Children's and Adolescents' Health[20], the WHO framework on integrated people-centred health services[21],

Objective 1

Optimize performance, quality and impact of the health workforce through evidence-informed policies on human resources for health, contributing to healthy lives and well-being, e ective universal health coverage, resilience and strengthened health systems at all levels

Milestones:

- 1.1 By 2020, all countries will have established accreditation mechanisms for health training institutions.
- 1.2 By 2030, all countries will have made progress towards halving inequalities in access to a health worker.
- 1.3By 2030, all countries will have made progress towards improving the course completion rates in medical, nursing and allied health professionals training institutions.

must be determined and tailored to the specific reality of each WHO Member State, in relation to the needs of the population, education policies and health system requirements, including during emergencies. Similarly, the responsibilities of the WHO Secretariat are understood to be in relation to demand for support expressed by Member States.

Policy options to be considered in all countries

21. Strengthen the content and implementation of HRH plans as part of long-term national health and broader development strategies to strengthen health systems, ensuring consistency between health, education, employment, gender, migration, development cooperation and fiscal policies. This will benefit from intersectoral dialogue and alignment among relevant ministries (health, labour, education, finance, etc.), professional associations, labour unions, civil society, employers, the private sector, local government authorities, and other constituencies. Planning should take into account workforce needs as a whole, rather than treating each profession separately. Such an integrated approach has to consider population and health system needs, adjusting investment volumes, education policies on the intake of trainees, and incentive mechanisms as needed. This is required to redress prevalent labour market failures – such as shortages, maldistribution and unemployment of health workers co-existing with unmet health needs. HRH development is a continuous process that requires regular appraisal of results and feedback loops to inform and adjust priorities.

22. Promote decent working conditions in all settings. Ministries of health, civil service commissions and employers should adopt gender-sensitive employment conditions, remuneration and non-financial incentives. They should cooperate to ensure occupational health and safety, fair terms for health workers, merit-based career development opportunities and a positive practice environment to enable their effective deployment, retention and adequate motivation to deliver quality care and build a positive relationship with patients. Gender-based discrimination, violence and harassment during training, recruitment/ employment and in the workplace should be eliminated. It is particularly important to ensure that public sector rules and practices are conducive to adequate incentive mechanisms, working conditions and career structures for health workers, with appropriate levels of flexibility and autonomy.

23. Ensure the effective use of available resources. Globally, 20–40% of all health spending is wasted, with health workforce inefficiencies and weaknesses in governance and oversight responsible for a significant proportion of that. Accountability systems should be put in place to improve efficiency of health and HRH spending. In addition to measures such as improving pre-service training completion rates and removing ghost workers from the payroll, it is critical to adopt appropriate, cost-effective and equitable population health approaches to provide community-based, person-centred, continuous and integrated care. This entails implementing health-care delivery models with an appropriate and sustainable skills mix in order to meet population health needs equitably. Health systems should thus align market forces and population expectations with primary health care needs, universal access to health care and people-centred integrated service delivery, supported by effective referral to secondary and specialized care, while avoiding over-medicalization and unnecessary interventions. There is a need to modify and correct the configuration and supply of specialists and generalists, advanced practitioners, the nursing and midwifery workforce, and other mid-level and community-based cadres. Enabling public policy stewardship and regulation are needed to formally recognize all these positions and allow them to practice to their full scope. Appropriate planning and education strategies and incentives, adequate investment in the

[2] The notion of decent work entails opportunities for work that is productive and delivers a fair income, security in the workplace and social pr for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and pa in the decisions that affect their lives, and equality of opportunity and treatment for all women and men (http://www.ilo.org/global/topics/dece lang--en/index.htm).

health-care workforce, including general practice and family medicine, are required to provide community-based, person-centred, continuous, equitable and integrated care.

24. Adopt transformative strategies in the scale-up of health worker education. Public and private sector investments in health personnel education should be linked with population needs and health system demands. Education strategies should focus investment in trainers, for which there is good evidence of a high social rate of return. Priority should also focus on orienting curricula to balance the pressure to train for international markets, and on producing professionals capable of meeting local needs,[36] promoting technical, vocational education and social accountability approaches that improve the geographic distribution of health workers. A coordinated approach is needed to link HRH planning and education (including an adequate and gender-balanced pipeline of qualified trainees from rural and remote areas), and encourage inter-professional education and collaborative practice. Education standards and funding should be established and monitored in national policies: radical improvements in the quality of the workforce are possible if the higher education and health sector collaborate by implementing a transformative education agenda[37] grounded in competency-based learning. This approach should equip health workers with skills to work collaboratively in inter-professional teams, with knowledge to intervene effectively on social determinants of health and expertise in public health. This must include epidemic preparedness and response to advance the implementation of the International Health Regulations (2005). The social mission of health education institutions represents an opportunity to nurture in health workers the public service ethics, professional values and social accountability attitudes requisite to deliver respectful care that responds to local needs and population expectations. Particular account should be taken of the needs of vulnerable groups such as children, adolescents and people with disabilities; ethnic or linguistic minorities and indigenous populations; as well as the need to eliminate discrimination related to gender, ageing, mental health, sexual and reproductive health, and HIV and AIDS among others. Opportunities should be considered for North–South and South–South collaboration, as well as public–private partnerships on training and investment, maximizing opportunities for skills transfer and mutual benefit, and minimizing negative consequences of international mobility of health personnel. This includes advances in e-learning and putting in place mechanisms to track and manage education investments in individual health workers and their continuing professional development.

25. Optimize health worker motivation, satisfaction, retention, equitable distribution and performance. While urbanization trends and the potential of telemedicine may, in some contexts, reduce the acute challenge of geographical maldistribution, in the majority of settings access to health workers remains inequitable. The ‘decent employment’ agenda entails strategies to improve both performance and equitable distribution of health workers. Such an integrated package of gender-sensitive attraction and retention policies includes: job security, a manageable workload, supportive supervision and organizational management, continuing education and professional development opportunities, enhanced career development pathways (including rotation schemes where appropriate), family and lifestyle incentives, hardship allowances, housing and education allowances and grants, adequate facilities and working tools, and measures to improve occupational health and safety, including a working environment free from any type of violence, discrimination and harassment. The adoption of specific measures in a given country context has to be determined in relation to cost-effectiveness and sustainability considerations, and may be aided by employee satisfaction surveys to adapt working conditions to health worker feedback. Critical to ensuring equitable deployment of health workers are the selection of trainees from, and delivery of training in, rural and underserved areas, financial and non-financial incentives, and regulatory measures or service delivery reorganization.[38]

26. Harness - where feasible and cost-effective - information and communication technology (ICT) opportunities. New ICT tools can be of particular relevance in relation to e-learning, electronic health records, telemedicine, clinical decision-making tools, links among professionals and between professionals and patients, supply chain management, performance management and feedback loops, patient safety, service quality control, and the promotion of patient autonomy. New professional qualifications, skills and competency are needed to harness the potential of ICT solutions to health-care delivery.[41] Standards, accreditation procedures and evaluation activities should be established to certify and ensure the quality of training delivered through blended approaches that include e-learning; appropriate regulations should also be established for the provision of mobile health (m-health) services, and for handling workforce data that respects confidentiality requirements.[42]

27. Build greater resilience and self-reliance in communities. Engage them in shared decisions and choice through better patient-provider relations. Invest in health literacy, and empower patients and their families with knowledge and skills; this will encourage them to become key stakeholders and assets to a health system, and to collaborate actively in the production and quality assurance of care, rather than being passive recipients of services. Health workers should be equipped with the sociocultural skills to serve as an effective bridge between more empowered communities and more responsive health systems.

28. Strengthen capacities of the domestic health workforce in emergency and disaster risk management for greater resilience and health-care response capacity. Prepare health systems to develop and draw upon the capacities of the national health workforce in risk assessments, prevention, preparedness, response and recovery. Provide resources, training and equipment for the health workforce and include them in policy and implementation of operations for emergencies at local, national and international levels. Preparedness work should include efforts to build the capacity of national authorities at all levels in managing post-disaster and

Ministry of Education and renew focus on primary and secondary education to enhance science teaching. This renewed focus should also ensure an adequate and gender-balanced pool of eligible high-school graduates, reflective of the population's underlying demographic characteristics and distribution, to enter health training programmes, in order to improve health workforce distribution and enhance a person-centred approach. The faculty of health training institutions represents a priority investment area, both in terms of adequate numbers and in relation to building and updating their competency to teach using updated curricula and training methodologies, and to lead research activities independently.

31. Ensure that the foreseen expansion of the health resource envelope leads to cost-effective resource allocation. Specifically, prioritize the deployment of inter-professional primary care teams of health workers with broad-based skills, avoiding the pitfalls and cost-escalation of overreliance on specialist and tertiary care. This requires adopting a diverse, sustainable skills mix, and harnessing the potential of community-based and mid-level health workers in inter-professional primary care teams[43,44]. In many settings, developing a national policy to integrate, where they exist, community-based health workers in the health system can enable these cadres to benefit from adequate system support and to operate more effectively within integrated primary care teams[45,46], a trend already emerging in some countries. Support from national and international partners targeting an expansion of these cadres should align with res adopti8d Q aid-l more (Ensure4g of they educathe pia)-9.8s.care teams,

Responsibilities of the WHO Secretariat

34. Develop normative guidance, support operations research to identify evidence-based policy options,

Objective 2

Align investment in human resources for health with the current and future needs of the population and health systems, taking account of labour market dynamics and education policies, to address shortages and improve distribution of health workers, so as to enable maximum improvements in health outcomes, social welfare, employment creation and economic growth

Milestones:

- 2.1 By 2030, all countries will have made progress towards halving their dependency on foreign-trained health professionals, implementing the WHO Global Code of Practice on the International Recruitment of Health Personnel.
- 2.2 By 2030, all bilateral and multilateral agencies will have increased synergies in official development assistance for education, employment, gender and health, in support of national health employment and economic growth priorities.
- 2.3 By 2030, partners in the Sustainable Development Goals will have made progress to reduce barriek 0 Tws7glvincglvies wi0C 11 (ess to r)5.9 (educe barriek 0 Tws7glvi3D (educe

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Policy options for WHO Member States

All countries

40. Build planning capacity to develop or improve HRH policy and strategies that quantify health workforce needs, demands and supply under different future scenarios. This should be carried out in order to manage health workforce labour markets and devise effective and efficient policies that respond to today's population needs while anticipating tomorrow's expectations. HRH needs should be quantified in terms of predicted workloads rather than by population or facility-based norms. HRH plans should be costed, financed, implemented and continually refined to address:
    a. the estimated number, category and qualification of health workers required to meet public health goals and population health needs;
    b. the capacity to produce sufficient and adequately distributed qualified workers (education and effective regulation policies); and
    c. the government and labour market capacity to recruit, deploy and retain health workers (economic and fiscal capacity, and workforce deployment, remuneration and retention through financial and non-financial strategies).

    Estimates should be based on full-time equivalents – rather than simple head counts – to reflect flexibility (job sharing, part-time engagements) in work arrangements; this is particularly important to plan for equality of opportunities for male and female health workers.

41. Catalyse multisectoral action on health workforce issues to generate the required support from ministries of finance, education and labour (or equivalent), collaborating with and facilitated by the health sector. This will also ensure alignment of different sectors, constituencies and stakeholders with the national health workforce strategies and plans, harnessing benefits for job creation, economic growth, social welfare and gender empowerment, in addition to health system strengthening.

42. Invest in decent conditions of employment through long-term (10–15 years) public policy stewardship and strategies. Such strategies should respect the rights of male and female workers, promote better working environments, stimulate personal growth and fulfilment and include at the very least provision of a living wage (including for community-based health workerss.yment,lment and incofTf 0e9 0.s:

- encouraging more cost-effective ways to educate health professionals to respond to population needs;
- planning a more diversified skills mix for health teams; and
- better harnessing the complementarity of different cadres, including mid-level providers.

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teams; and

Responsibilities of the WHO Secretariat

49. Provide normative guidance and facilitate technical cooperation when requested by Member States and relevant stakeholders. WHO support under this objective covers health workforce planning and projections, education policies, health system needs (taking into account evolving population needs linked to epidemiological transition), health labour market analysis, costing of national HRH strategies, and tracking of national and international financing for HRH. Acknowledging the continued need for external assistance in some countries, WHO will also provide estimates of HRH requirements (and the socioeconomic impact of their education and employment) to global and regional financial institutions, development partners and global health initiatives. This should inform the adoption of macroeconomic and funding policies conducive to greater and more strategically targeted investments in HRH. To facilitate a progressive transition towards national ownership and financing of HRH policies and strategies, WHO will also provide technical assistance to Member States to identify approaches to mobilize sufficient domestic resources and to allocate them efficiently.

Recommendations to other stakeholders and international partners

50. The International Monetary Fund, World Bank, regional development banks and others to recognize investment in the health workforce as a productive sector. Investment in the health sector has the potential to create millions of new jobs and spur economic growth and broader socioeconomic development. These institutions could harness this opportunity to adapt their macroeconomic policies to allow greater investment in social services.

51. Global health initiatives to establish governance mechanisms to ensure that all grants and loans include an assessment of health workforce implications. This involves a deliberate strategy and accountability mechanisms on how specific programming contributes to HRH capacity-building efforts at institutional, organizational and individual levels, beyond disease-specific in-service training and incentives. Emphasis should be given to increasing sustainable investment and support for HRH. The recruitment of general service staff by disease-specific programmes weakens health systems, and should be avoided through integration of disease-specific programmes into primary health care strategies.

52. Development partners to align their investments for HRH with coordinated, long-term national needs as expressed in national sector plans. Investments should adhere to the principles of aid effectiveness, the International Health Partnership and related initiatives, and the Third International Conference on Financing for Development.[58] This support should align education, employment, gender and health with national human resource development and health system strengthening strategies. In addition, global health initiatives should realign their support to strengthen HRH in a sustainable way, including the possibility for investment in capital and recurrent expenditure (including salaries) for general service staff, and overcoming the current preferential focus on short-term, disease-specific, in-service training.[59,60] In this respect, development partners might consider establishing a multilateral funding facility to support international investment in health systems[61] as a means to support the realization of human rights and the SDG Goals. While continuing to advocate for an increase in allocation of domestic resources to HRH, development partners should also support countries to strengthen – where needed – their capacity for tax collection.

53. **Relevant institutions should be encouraged to establish mechanisms to track the proportion of development assistance for health allocated to HRH.** The Organisation for Economic Co-operation and Development and the Humanitarian Financial Tracking System, for example, should establish mechanisms to determine the proportion of development assistance for health that is allocated to HRH, as current processes and data requirements for tracking international aid flows to health do not allow a reliable and consistent capture of health workforce investments.(62)

54. **Regional or subregional bodies can bolster political and financial commitment to implementing this agenda.** Entities such as the African Union, European Union, Arab League, Union of South American Nations, and Association of Southeast Asian Nations play an important role in facilitating policy dialogue and peer review among countries with a comparable socioeconomic structure or cultural background. They also help to generate and sustain the political will that underpins supportive investment and policy decisions.

Objective 3

Build the capacity of institutions at subnational, national, regional and global levels for e ective public policy stewardship, leadership and governance of actions on human resources for health

Milestones:

- 3.1By 2020, all countries will have inclusive institutional mechanisms in place to coordinate an intersectoral health workforce agenda.
- 3.2By 2020, all countries will have an HRH unit with responsibility to develop and monitor policies and plans.
- 3.3By 2020, all countries will have regulatory mechanisms to promote patient safety and adequate oversight of the private sector.

55. **Effective governance and strengthening of institutional capacities are required for the implementation of a comprehensive health workforce agenda in countries.** Despite considerable advances in the last decades, progress in the HRH area has not been fast enough, nor deep enough. Health workforce development is partly a technical process, requiring expertise in planning, education and management, and the capacity to root this in long-term vision for the health system. But it is also a political process, depending on the will and power of different sectors and constituencies in society, and different levels of government to coordinate efforts.[63] Key challenges are, simultaneously, to ensure effective intersectoral governance and collaboration among stakeholders; strengthen technical capacity; and mobilize financial resources for the contemporary HRH agenda.[64] This requires the political will – and accountability – of heads of government.

56. **Technical and management capacities are needed to translate political will and decisions into effective implementation.** Public health workforce planning and management – from the national to local level – must be professionalized, ensuring equal opportunities across gender, race and linguistic/ethnic groups. Just as capable health professionals are needed, so are capable professional health managers, HRH scientists,

countries; monitor and evaluate HRH interventions and trends; and build alliances with data producers and users.

59. Establish the national case for investment in HRH as a vital component of the SDGs, UHC and universal access to health care. The national case should be used as a basis for plans and budgets to mobilize

Recommendations to other stakeholders and international partners

68. Parliaments and civil society to contribute to sustained momentum of the HRH agenda. This can be achieved through oversight of government activities and accountability mechanisms to monitor performance, and by advocating the improvement of both public and private sector educational institutions and employers. Social accountability mechanisms should be encour aged.

69. The international community, development partners, and global health initiatives to examine system-atically the health workforce implications of any health goals that are considered and adopted. As part of this, the WHO Secretariat should also cooperate with the mechanisms of its governing bodies to create the conditions whereby all future resolutions presented to the World Health Assembly and regional committees include an assessment of health workforce implications resulting from technical or policy recommendations.

70. The international community, development partners, and global health initiatives to work closely with states to strengthen national and subnational public institutions and governance in a post-emergency or post-conflict recovery phase, when donor funding and opportunity for reform is greatest. A coordinated mechanism will enable a common understanding of context and interventions, bring all stakeholders together and, with the state in a coordinating role, target interventions with an explicit capacity-building objective. In these settings, interventions to strengthen the domestic health workforce may be more effective if they target a decentralized level or are effected through non-state actors, where results and lessons for scale-up

Objective 4

Strengthen data on human resources for health for monitoring and accountability of national and regional strategies, and the Global Strategy

Milestones:

- 4.1 By 2020, all countries will have made progress to establish registries to track health workforce stock, education, distribution, flows, demand, capacity and remuneration.
- 4.2By 2020, all countries will have made progress on sharing HRH data through national health workforce accounts and submitting core indicators to the WHO Secretariat annually.
- 4.3By 2020, all bilateral and multilateral agencies will have strengthened health workforce assessment and information exchange.

71. Better HRH data and evidence are required as a critical enabler to enhance advocacy, planning, policy-making, governance and accountability at national, regional and global levels. The evidence-to-policy feedback loop is an essential feature of resilient health systems, defined as those with the capacity to learn from experience and adapt according to changing needs. Projections of future workforce requirements

Policy options for WHO Member States

All countries

Policy options to be considered in some countries, depending on context

79. Strengthen health systems by applying "big data" approaches to gain a better understanding of the health workforce, including its size, characteristics and performance to generate insights into gaps and possibilities for health workforce strengthening. This should be done in compliance with national norms and legislative frameworks regulating the collection and use of personal data that will guarantee absolute confidentiality and anonymity of individual health workers.

80. Exploit "leapfrogging" opportunities through the adoption of ICT solutions for HRH data collation and storage, avoiding the capital-heavy infrastructure needed in the past.

Responsibilities of the WHO Secretariat

81. Support the development and strengthening, review the utility of and update and maintain tools, guidelines and databases relating to data and evidence on HRH for routine and emergency settings.

82. Facilitate the progressive implementation of national health workforce accounts to support countries to strengthen and establish a standard for the quality and completeness of their health workforce data. Improved HRH evidence will contribute to a global digital reporting system for countries to report on a yearly basis on a minimum set of core HRH indicators. This will include information on health workforce production, recruitment, availability, composition, distribution, costing and migratory flows, disaggregated by sex, age and place of employment.[67]

83. Streamline and integrate all requirements for reporting on HRH by WHO Member States. In their annual report on HRH, Member States would thus integrate progress on implementing the WHO Global Code of Practice on the International Recruitment of Health Personnel; other HRH-focused Health Assembly resolutions; and the Global strategy on human resources for health.

84. Adapt, integrate and link the monitoring of targets in the Global Strategy to the emerging accountability framework of the SDGs and other resolutions adopted by the United Nations General Assembly. For instance, WHO should develop mechanisms to enable collection of data to prepare and submit a report on the protection of health workers, which compiles and analyses the experiences of Member States and presents recommendations for action to be taken by relevant stakeholders, including appropriate preventive measures, as called for by UNGA Resolution 69/132 on Global health and foreign policy.

Recommendations to other stakeholders and international partners

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Annex 1

Health workforce requirements for implementation of the Global strategy on human resources for health

WHO has been facilitating since April 2015 a coordinated inter-agency, multi-constituency effort to estimate health workforce requirements and projections to 2030. Annex 1 provides selected elements of this ongoing analysis. The final paper will be published on the WHO website (http://www.who.int/hrh/en/) once the analysis is completed.

Data on current stock and density of health workers for 193 countries were extracted from the WHO Global Health Observatory, which includes data provided by WHO Member States. Future simulations of supply, need and demand on the other hand represent modelled estimates. The modelling has significant margins of uncertainty related to both the assumptions made and the variability in quality and completeness of the underlying data.

Simulating future supply of health workers

The supply of physicians and nurses/midwives was projected to 2030 based on historical data on the increase in physician and nurse/midwife densities in each country. To forecast supply, a linear growth rate model was adopted, which assumes that the historical growth rate of physicians and nurses/midwives per capita for each country will continue into the future at the same rate each year.

Data points that represented obvious outliers due to misreporting were removed and replaced with missing data.

Table A1.1: Stock of health workers (in millions), 2013 and 2030[a, b]

WHO Region	Physicians		Nurses/midwives		All other cadres[c]		Total health workers		
	2013 N	2030 N	2013 N	2030 N	2013 N	2030 N	2013 N	2030 N	% Change
Africa	0.2	0.5	1.0	1.5	0.6	1.0	1.9	3.1	63%
Americas	2.0	2.4	4.7	8.2	2.6	3.4	9.4	14.0	50%
Eastern Mediterranean	0.8	1.3	1.3	1.8	1.0	2.2	3.1	5.3	72%
Europe	2.9	3.5	6.2	8.5	3.6	4.8	12.7	16.8	32%
South-East Asia	1.1	1.9	2.9	5.2	2.2	3.7	6.2	10.9	75%
Western Paci c	2.7	4.2	4.6	7.0	3.0	6.1	10.3	17.3	68%
Grand total	9.8	13.8	20.7	32.3	13.0	21.2	43.5	67.3	55%

[a] WHO Global Health Observatory
[b] Forecast
[c] Refers to the seven other broad categories of the health workforce as de ned by the WHO Global Health Workforce Statistics Database, i.e. dentistry, pharmacy, laboratory, environment and public health, community and traditional health, health management and support, and all other health workforce categories. A multiplier for “all other cadres” was developed based on the values of countries with available data.

NB: Since absolute values are rounded to the nearest 100 000. totals may not precisely add up.

The 2006 World Health Report broke new ground by developing an evidence-based model for health worker need, based on achieving 80% coverage of assisted deliveries. The threshold of 2.3 skilled health workers per 1000 population has enabled advocacy and inter-country comparability. However, the model is clearly limited to one single health service (delivery by a skilled birth attendant). In considering a new health workforce threshold, the focus must shift to reflect the broader range of services that are targeted by UHC and the SDGs.

Tracers of indicators for UHC were selected to reflect noncommunicable diseases, maternal, newborn and child health, and infectious disease priorities. Table A1.2 lists the 12 indicators and their primary classification (5 indicators for infectious diseases, 3 for maternal, newborn and child health, and 4 for noncommunicable diseases). Coverage data for all countries available for the 12 indicators were combi.955nnviremen y

Table A1.2: SDG tracer indicators

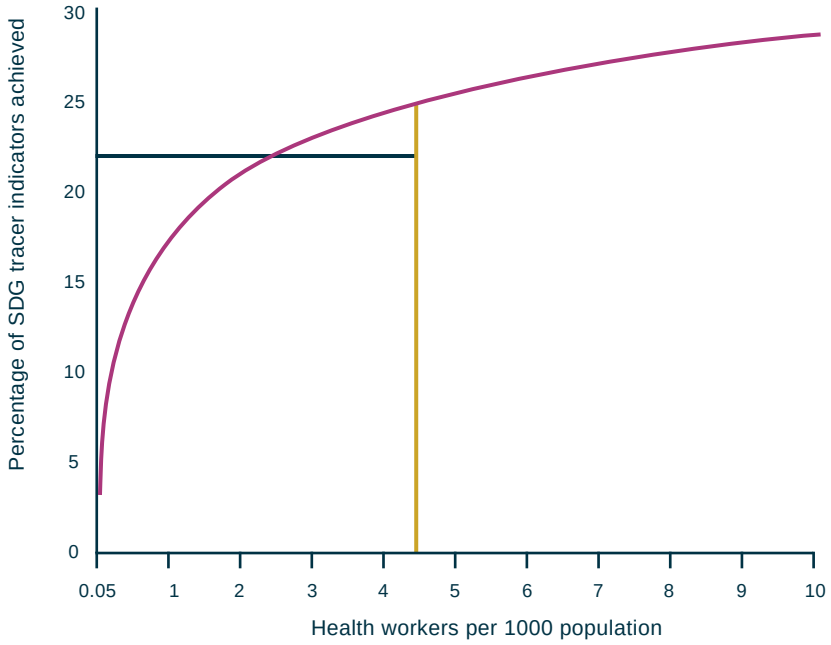
Indicator	Classi cation
Antenatal care	MNCH
Antiretroviral therapy	ID
Cataract	NCD
Diabetes	NCD
DTP3 immunization	ID
Family planning	MNCH
Hypertension	NCD
Potable water	ID
Sanitation	ID
Skilled birth attendance	MNCH
Tobacco smoking	NCD
Tuberculosis	ID

DTP3, third dose of diphtheria-tetanus-pertussis vaccine; ID, infectious diseases; MNCH, maternal, newborn and child health; NCD, noncommunicable diseases.

The coverage of this composite SDG index was analysed across countries, and a regression analysis performed to identify the aggregate density of doctors, nurses and midwives corresponding to the 50th percentile (median) level of attainment. It was not possible to factor into the analysis other health worker cadres (such as community-based and mid-level health workers, and other allied health professionals) due to extensive limitations in data availability for these other cadres. On the basis of the analysis conducted according to the SDG index methodology described above, an indicative threshold of an aggregate density of 4.45 physicians, nurses and midwives per 1000 population was identified, as it corresponds to the median score of SDG tracer indicator attainment (25%). This value has been used for the needs-based estimates in this analysis.

Other thresholds have been developed in the past, and alternative methods are possible to estimate a threshold of minimum requirements for health workforce availability. It should be emphasized that this figure does not represent a planning target for countries, as it does not reflect the heterogeneity of countries in terms of baseline conditions, health system needs, optimal workforce composition and skills mix. Further, it is acknowledged that this threshold reflects only physicians, nurses and midwives, an inherent limitation caused by the paucity of data on other cadres. Planning targets for countries should rather be set based on national level policy dialogue, taking into account the context-specific needs of the health system, service delivery profile, and labour market conditions. They should reflect a more diverse skills mix, going beyond the cadres of doctors, nurses and midwives to harness the potential contribution of all health workers for a more responsive and cost-effective composition of health-care teams.

Figure A1.1: SDG index composite method: percentage of 12 SDG tracer indicators achieved as a function of aggregate density of doctors, nurses and midwives per 1000 population



Estimating health workforce requirements and needs-based shortages to 2030 in countries with a lower HRH density than the SDG index threshold

The index of 4.45 physicians, nurses and midwives per 1000 population was used to estimate the health workforce needs and needs-based shortages by 2030 (i.e. the additional number of health workers that would be needed to attain this threshold of health worker density, over and above the projected supply in 2030).

Table A1.3 examines the needs-based shortage of health-care workers in 2013 and 2030 by cadre and by WHO region. Needs-based shortages were calculated by subtracting the current/projected supply of health-care workers from the current/projected needs (as defined by the SDG index threshold of 4.45 physicians, nurses and midwives) in countries facing a shortage.

Globally, the needs-based shortage of health-care workers in 2013 is estimated to be about 17.4 million, of which almost 2.6 million are doctors, over 9 million are nurses and midwives, and the remainder represent all other health worker cadres. The largest needs-based shortages of health workers are in South-East Asia at 6.9 million and Africa at 4.2 million. The shortage in absolute terms is highest in South-East Asia due to the large populations of countries in this Region, but in relative terms (i.e. taking into account population size) the most severe challenges are in the African Region. The global needs-based shortage of health-care workers is projected to be still more than 14 million in 2030 (a decline of only 17%). Hence, current trends of health worker production and employment will not have sufficient impact on reducing the needs-based shortage of health-care workers by 2030, particularly in some countries: in the African Region the needs-based shortage is actually forecast to worsen between 2013 and 2030, while it will remain broadly stable in the Eastern Mediterranean Region.

Assessing health workforce needs in relation to service requirements in countries of the

These simulations in the baseline scenarios sum to aggregate shortfalls against service requirements of about 500 000 midwives, 1.1 million nurses, and 750 000 physicians across the 31 included countries for 2030. These estimates are, however, highly sensitive to the assumptions on the parameters of the model: sensitivity analysis shows that by 2030 the shortfall against service requirements could be in excess of 4 million health workers (over 70 000 midwives, 3.2 million nurses and 1.2 million physicians).

Assessing market-based demand for health workers in 2030

Understanding health labour market trends also requires assessing demand for health workers as a function of countries' capacity to create funded positions (whether in the public or private sector) for them. The demand for health workers was modelled using supply projections, per capita gross domestic product (GDP), per capita out-of-pocket health expenditures, and population aged 65+. Estimates could be produced only for 165 countries with sufficient data to model demand. The result of these simulations (Table A1.4) indicates a growing demand for health workers.

Table A1.4: Estimated health worker[a] demand (in millions[b]) in 165 countries, by Region

WHO Region	2013	2030
Africa	1.1	2.4
Americas	8.8	15.3
Eastern Mediterranean	3.1	6.2
Europe	14.2	18.2
South-East Asia	6.0	12.2
Western Paci c	15.1	25.9
World	48.3	80.2

[a] Health worker refers to physicians, nurses/midwives, and other health workers.

[b] Since all values are rounded to the nearest 100 000, totals may not precisely add up.

Source: World Bank. Washington DC (forthcoming).

In the aggregate, the model to project demand forecasts that by 2030 there will be a global aggregate demand for some 80 million health workers in the 165 countries with sufficient data to produce estimates, with the potential for the creation of approximately 40 million additional jobs (the current stock is estimated at approximately 43 million in 193 WHO Member States – see Table A1.1). The additional jobs, however, will not necessarily be created in the regions and countries where they are most needed to address unmet population needs.

Interpretation

In contextualizing and correctly interpreting the findings of

Even in the case of OECD countries, data limitations make it imperative to consider these simulations with caution. Therefore the results should not be interpreted as precise predictions; instead they serve as compass bearings, showing the directions in which the HRH situation is heading, and may continue if the current trends continue.

Notwithstanding, by including coverage of noncommunicable diseases in the SDG index, this analysis represents a step forward in terms of identifying health workforce requirements for UHC and the SDGs. The identification of a higher threshold of minimum health workforce availability requirements resulted in greater needs (and needs-based shortages) than all previous estimates. The difference is particularly stark if the new threshold is compared with past analyses based on requirements for skilled assistance at birth, which resulted in the identification of a much lower requirement of 2.3 skilled health workers (physicians and nurses/midwives) per 1000 population. The SDG index threshold of 4.45 physicians, nurses and midwives per 1000 population represents almost a doubling of the recommended density of skilled health workers to meet health needs. This increase reflects the staffing needed to deliver a more comprehensive range of health services[78] [79] and it is not dissimilar to other benchmarks of HRH density developed in relation to the UHC goal (such as the 4.11 physicians, nurses and midwives per 1000 population threshold developed in the past by the ILO).

Considering jointly the needs-based shortage of over 14 million health workers in countries currently below the threshold of 4.45 physicians, nurses and midwives per 1000 population – and the shortfall against service requirements in selected OECD countries (possibly in excess of 4 million) – the aggregate projected global deficit of health workers against needs (defined differently in different contexts) could exceed 18 million (range: 16–19) by 2030.

However, global aggregate projections and trends mask important disparities: the estimates of the current and projected future supply of health workers show that, despite increased production, population growth in some contexts is outstripping the increase in health workers, resulting in lower densities. While needs-based shortages are forecast to reduce significantly in most regions of the world, on current trends they might remain unchanged in the Eastern Mediterranean Region, and worsen in the African Region. On current trends, by 2030 some parts of the world would face a substantial and widening mismatch between the number of health workers needed to provide essential services (need), the availability of health professionals (supply) and the countries' capacity to employ them (demand): in the African Region, where many countries are confronted with fiscal space challenges, a modest growth in the capacity to employ workers is likely to lead to a shortage based on economic demand, with the overall supply of health workers remaining constrained. Both demand and supply will, however, fall short of population needs. Greater investments will be required in these contexts to boost market-based demand and supply, and to align them more closely with population health needs. By contrast, emerging economies might see a narrowing gap between the supply of health workers and the numbers needed to provide essential health services. However, economic growth and demographic trends in these countries will likely boost the demand for health care beyond the essential services. The current pace of health worker production will need to be significantly accelerated to meet the demand. This tight labour market condition could potentially raise the cost of health workers, possibly stimulating labour movements across borders and fuelling cost escalation in the health sector in these countries.[54] These dynamics, together with a growing demand for health workers in advanced economies with an ageing population, and a persisting divergence in working and living conditions in different countries, point to growing international migration of health workers in the coming decades.

These projections and simulations should therefore be understood as a note of caution against complacency. Maintaining the status quo in health worker production and employment is expected to result in too slow a progress (or even a worsening gap, especially in countries that are already lagging behind in their health outcomes) and continuing global imbalances.

Annex 2

Annotated list of selected WHO tools and guidelines for human resources for health

The planning, design and implementation of the policy options described in this Strategy can be informed and supported by a number of tools, guidelines and other normative documents. The following is a list of selected products developed by WHO on human resources for health. It is envisaged that during the lifetime of the Strategy (2016–2030) this list will evolve dynamically and be updated to reflect new evidence and emerging priorities and opportunities. For more information and updated tools and guidelines please refer to http://www.who.int/hrh/tools/en/.

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National health workforce accounts

The purpose of a national health workforce account (NHWA) is to standardize the health workforce information architecture and interoperability as well as track HRH policy performance towards universal health coverage. The implementation of NHWAs facilitates a harmonized, integrated approach for regular collection, analysis and use of standardized health workforce information to inform evidence-based policy decisions. http://www.who.int/hrh/documents/15376_WHOBrief_NHWFA_0605.pdf.

Minimum data set for health workforce registry

This tool provides guidance on the minimum information fields required to develop or modify an electronic system for health workers at national or subnational levels. The minimum data set for health workforce registry (MDS) provided in this document can be used by ministries of health to support the development of standardized health workforce information systems.
http://www.who.int/hrh/statistics/minimun_data_set/en/.

Monitoring and evaluation of human resources for health with special applications for low- and middle-income countries

The handbook offers health managers, researchers and policy-makers a comprehensive, standardized and user-friendly reference for monitoring and evaluating human resources for health, including approaches to strengthen relevant technical capacities. It brings together an analytical framework with strategy options for improving the health workforce information and evidence base, as well as country experiences that highlight successful approaches.
http://www.who.int/workforcealliance/knowledge/toolkit/25/en/.

Analysing disrupted health sectors

This modular manual supports policy-makers in settings characterized by complex humanitarian emergencies to analyse and plan for their health systems. Module 10 of the tool reviews aspects to be considered in the study of a health workforce in these settings. In these irregular contexts, tailored strategies for planning, education, deployment, retention and staff performance management are required.
http://www.who.int/hac/techguidance/tools/disrupted_sectors/en/ and
Module 10 – Analysing human resources for health:
http://www.who.int/hac/techguidance/tools/disrupted_sectors/adhsm_mod10_en.pdf?ua=1.

Annex 3

Monitoring and accountability framework

The monitoring and accountability framework of the Global Strategy entails a regular process to assess progress on its milestones. At the national level, countries should consider reflecting relevant actions contributing to the milestones in national policies, strategies and frameworks, as relevant to context. Existing processes and mechanisms for health sector review should include a regular assessment of progress in the health workforce agenda in the national context. Global accountability will include a progressive agenda to implement national health workforce accounts (see objective 4), with annual reporting by countries on core HRH indicators to the WHO Secretariat. Reporting requirements for Member States will be streamlined by effectively linking monitoring of the Strategy with that of the WHO Global Code of Practice on the International Recruitment of Health Personnel, other HRH-focused Health Assembly resolutions, and strategic documents and resolutions adopted at regional level. Global monitoring will also be complemented by specific analyses – to be conducted by WHO in collaboration with OECD and other relevant institutions – on aspects relating to official development assistance for health and international mobility of health personnel.

Table A3.1: Monitoring and accountability framework to assess progress on the Global Strategy milestones

Global milestones (by 2020)	Baseline indicator (2016)	Numerator	Denominator	Periodicity of data collection	Source
1. All countries have inclusive institutional mechanisms in place to coordinate an intersectoral health workforce agenda.	The percentage of countries with institutional mechanisms in place to coordinate an intersectoral health workforce agenda.	Number of countries with an HRH unit or function that negotiate inter-sectoral relationships with other line ministries and stakeholders.	Total number of countries	Annual	NHWA
2. All countries have a human resources for health unit with responsibility for development and monitoring of policies and plans.	The percentage of countries with a human resources for health unit or functions, responsible for developing and monitoring policies and plans on human resources for health.	Number of countries with a human resources for health unit or functions, responsible for developing and monitoring policies and plans on human resources for health.	Total number of countries	Annual	NHWA
3. All countries have regulatory mechanisms to promote patient safety and adequate oversight of the private sector.	The percentage of countries with a national mechanism to promote patient safety and adequate oversight of the private sector .	Number of countries with a national mechanism to promote patient safety and adequate oversight of the private sector.	Total number of countries	Annual	NHWA
4. All countries have established accreditation mechanisms for health training institutions.	The percentage of countries with accreditation mechanisms for health training institutions.	Number of countries with accreditation mechanisms for health training institutions.	Total number of countries	Annual	NHWA
5. All countries are making progress on health workforce registries to track health workforce stock, distribution, ows, demand, supply, capacity and remuneration.	The percentage of countries with a health workforce registry to track health workforce stock, distribution, ows, demand, supply, capacity and remuneration.	Number of countries with a health workforce registry to track health workforce stock, distribution, ows, demand, supply, capacity and remuneration.	Total number of countries	Annual	NHWA

References

1 Global Health Workforce Alliance. Health workforce 2030 – towards a global strategy on human resources for health [Synthesis paper]. Geneva: World Health Organization; 2015 (http://www.who.int/hrh/documents/synthesis_paper_them2015/en/, accessed 5 June 2015).

2 WHO Global Strategy on People-Centred and Integrated Health Services – interim report. Geneva: World Health Organization; 2015 (WHO/HIS/SDS/2015.6; http://www.who.int/servicedeliverysafety/areas/people-centred-care/en/, accessed 5 June 2015).

3 Global Health Workforce Alliance. A universal truth: no health without a workforce. Report of Third Global Forum on Human Resources for Health, Recife, Brazil. Geneva: World Health Organization; 2014 (http://www.who.int/workforcealliance/knowledge/resources/hrhreport2013/en/, accessed 13 February 2015).

4 International health regulations (2005), 2nd ed. Geneva: World Health Organization; 2008 (http://www.who.int/ihr/publications/9789241596664/en/, accessed 13 February 2015).

5 The world health report 2007 – a safer future: global public health security in the 21st century. Geneva: World Health Organization; 2007 (http://www.who.int/whr/2007/en/, accessed 13 February 2015).

6 Campbell J, Buchan J, Cometto G, David B, Dussault G, Fogstad H et al. Human resources for health and universal health coverage: fostering equity and effective coverage. Bull World Health Organ. 2013; 91(11):853–63.

7 Van Lerberghe W, Matthews Z, Achadi E, Ancona C, Campbell J, Channon A et al. Country experience with strengthening of health systems and deployment of midwives in countries with high maternal mortality. Lancet. 2014; 384(9949):1215–25.

8 DeLuca MA, Soucat A, editors. Transforming the global health workforce. New York: New York University College of Nursing; 2013.

9 Cometto G, Boerma T, Campbell J, Dare L, Evans T. The third Global Forum: framing the health workforce agenda for universal health coverage. Lancet Glob Health. 2013; (6):e324–5.

10 The road to dignity by 2030: ending poverty, transforming all lives and protecting the planet. Synthesis report of the Secretary-General on the post-2015 agenda. New York: United Nations; 2014 (http://www.un.org/disabilities/documents/reports/SG_Synthesis_Report_Road_to_Dignity_by_2030.pdf, accessed 13 February 2015).

11 Resolution WHA67.24. Follow-up of the Recife Political Declaration on Human Resources for Health: renewed commitments towards universal health coverage. In: Sixty-seventh World Health Assembly, Geneva, 19–24 May 2014. Resolutions and decisions, annexes. Geneva: World Health Organization; 2014 (WHA67/2014/REC/1; (http://apps.who.int/gb/ebwha/pdf_files/WHA67/A67_R24-en.pdf?ua=1, accessed 5 June 2015).

12 Hernandez P, Poullier J, Van Mosseveld C, Van de Maele N, Cherilova V, Indikadahena C et al. Health worker remuneration in WHO Member States. Bull World Health Organ. 2013; 91(11):808–15.

13 GBD 2013 Mortality and Causes of Death Collaborators. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2015; 385(9963):117–71.

14 Economic, demographic, and epidemiological transitions and the future of health labour markets. [Technical Working Group 1 synthesis paper for the Global Strategy on Human Resources for Health, 28 September 2014]. Global Health Workforce Alliance; 2014 (http://www.who.int/workforcealliance/media/news/2014/WG1_SynthesisSept282014.pdf?ua=1, accessed 14 February 2015).

15

44 Lassi Z, Cometto G, Huicho L, Bhutta ZA. Quality of care provided by mid-level health workers: systematic review and meta-analysis. Bull World Health Organ. 2013; 91(11):824–33.

45 McCord GC, Liu A, Singh P. Deployment of community health workers across rural sub-Saharan Africa: financial considerations and operational assumptions. Bull World Health Organ. 2013; 91:244–53B.

46 Tulenko K, Møgedal S, Afzal MM, Frymus D, Oshin A, Pate M et al. Community health workers for universal health-care coverage: from fragmentation to synergy. Bull World Health Organ. 2013; 91:847–52.

47 Møgedal S, Wynd S, Afzal M. Community health workers and universal health coverage: a framework for partners' harmonised support [e-book]. Geneva: Global Health Workforce Alliance; 2013 (http://www.who.int/workforcealliance/knowledge/resources/frame_partner_support/en/, accessed 5 June 2015).

48 Rowe A et al. Health care provider performance review. Near final results of a systematic review presented at a World Bank workshop, September 2014 (http://www.worldbank.org/content/dam/Worldbank/Event/SIEF/20140905-quality-of-health-care-services-products/01-Health-care-provider-performance-review-Alexander-Rowe.pdf, accessed 4 January 2016).

49 University Research Co., LLC. Improving health worker performance. Bethesda MD: United States Agency for International Development; 2014 (https://www.usaidassist.org/sites/assist/files/improving_health_worker_performance_feb2014.pdf, accessed 15 February 2015).

50 Tankwanchi A, Ozden C, Vermund S. Physician emigration from sub-Saharan Africa to the United States: analysis of the 2011 AMA Physician Masterfile. PLoS Medicine. 2013; 10(12).

51 Scheil-Adlung X, Wiskow C. ILO comments on draft papers of TWGs 1, 3, 7 & 8 [submission to the public consultation process on the Global Strategy on Human Resources for Health]. Global Health Workforce Alliance; 2014 (http://www.who.int/workforcealliance/media/news/2014/GHWA-

9 280.6536 TxnM7a1n8.189formancecpdf,?ua=19 (accesse
products/01-Health-care-provider-performance-review-
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products/01-Health-care-provider-perfo34ance-review-
products/01-Health-care-provider-perfo2ance-review-
Health]http://ugus5Tw T4 W. Global Healthe Alliance; 2014 (http://
www.who.int/who(edia/news/2014/GHW)17.9 (A-)]TJ 0 Tw T(75nce_feb2014.pdfLead36.hipn MGovopme)co5 June<c2 1 anku

57 Social Protection Floors Recommendation, 2012 (No. 202). Recommendation concerning national floors of social protection. Geneva: International Labour Organization; 2012 (http://www.ilo.org/secsoc/areas-of-work/legal-advice/WCMS_205341/lang--en/index.htm, accessed 14 February 2015).

58 Report of the third International Conference on Financing for Development, Addis Ababa, 13–16 July 2015. New York: United Nations; 2015 (A/CONF.227/20, http://www.un.org/esa/ffd/ffd3/, accessed 19 October 2015).

59 Vujicic M, Weber S, Nikolic I, Atun R, Kumar R. An analysis of GAVI, the Global Fund and World Bank support for human resources for health in developing countries. Health Policy Plan. 2012; 27(8):649–57.

60 Bowser D, Sparkes SP, Mitchell A, Bossert TJ, Bärnighausen T, Gedik G, Atun R. Global Fund investments in human resources for health: innovation and missed opportunities for health systems strengthening. Health Policy Plan. 2014; 29(8):986–97.

61 Gostin L. Ebola: towards an international health systems fund. Lancet. 2014; 384(9951):e49–51.

62 Campbell J, Jones I, Whyms D. “More money for health – more health for the money”: a human resources for health perspective. Human Resources for Health. 2011; 9:18.

63 Sales M, Kieny MP, Krech R, Etienne C. Human resources for universal health coverage: from evidence to policy and action. Bull World Health Organ. 2013; 91(11):798–8A.

64 Padilha A, Kasonde J, Mukti G, Crisp N, Takemi K, Buch E. Human resources for universal health coverage: leadership needed. Bull World Health Organ. 2013; 91(11):800–0A.

65 Norse J. What are the health workforce and service implications of the Global Framework for Public Health? [Discussion paper for the Global Strategy on Human Resources for Health, 29 August 2014]. Global Health Workforce Alliance; 2014 (http://www.who.int/workforcealliance/media/news/2014/RefA_PublicHealthpaper.pdf?ua=1, accessed 20 January 2015).

66 Kirigue S, Rosskam E, Bela AC, Adjidja A, Codjia L. Strengthening human resources for health through multisectoral approaches and leadership: the case of Cameroon. Bull World Health Organ. 2013; 91(11):864–7.

67 Data and measurement of HRH availability, accessibility,

[72] Benton DC. Technical Working Group consultation papers 1 to 8: input of the International Confederation of Nurses to the public consultation process on the Global Strategy on Health Resources for Heatlh. Global Health Workforce Alliance; 2014 (http://www.who.int/workforcealliance/media/news/2014/6ICN.pdf?ua=1, accessed 14 February 2015).

[73] Ranson MK, Chopra M, Atkins S, Dal Poz MR, Bennett S. Priorities for research into human resources for health in low- and middle-income countries. Bull World Health Organ. 2010; 88(6):435–43.

[74] Foster AA. Recommendations for HRH global strategy papers: input of Intrahealth International to the public consultation process on the Global Strategy on Health Resources for Health, November 2014. Global Health Workforce Alliance; 2015 (http://www.who.int/workforcealliance/media/news/2014/8IntraHealthInternational.pdf?ua=1, accessed 14 February 2015).

[75] Getting research into policy and practice. London: Department for International Development; 2011 (http://www.dfid.gov.uk/What-we-do/Research-and-evidence/news/research-news/2011/Getting-research-into-policy-and-practice/, accessed 19 October 2015).

[76] Tomblin-Murphy G et al. A synthesis of recent high-income OECD country analyses of HRH requirements and labor market dynamics (in press).

[77] Office of the UN Secretary-General's Special Envoy for Health in Agenda 2030 and for Malaria. New report highlights benefits from investments in CHW programs (http://www.mdghealthenvoy.org/new-report-highlights-benefits-from-investments-in-chw-programs/).

[78] Transforming our world: the 2030 agenda for sustainable development. New York: United Nations Department of Economic and Social Affairs (https://sustainabledevelopment.un.org/post2015/transformingourworld).

[79] Marten R, McIntyre D, Travassos C, Shishkin S, Longde W, Reddy S et al. An assessment of progress towards universal health coverage in Brazil, Russia, India, China and South Africa (BRICS). Lancet. 384(9960):2164–71.

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