# BMJ Global Health

# Health workforce policy and plan implementation in the context of universal health coverage in the Africa Region

Adam Ahmat <sup>1</sup>, Sunny C Okoroafor <sup>1</sup>, James Avoka Asamani, Delanyo Dovlo, Jean Jacques Salvador Millogo, Mourtala Mahaman Abdou Illou, Jennifer Nyoni

**To cite:** Ahmat A, Okoroafor SC, Asamani JA, *et al.* Health workforce policy and plan implementation in the context of universal health coverage in the Africa Region. *BMJ Global Health* 2022;**7**:e008319. doi:10.1136/bmjgh-2021-008319

Handling editor Seye Abimbola

Received 30 December 2021 Accepted 2 May 2022



© Author(s) (or their employer(s)) 2022. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by

<sup>1</sup>Health Workforce Unit, World Health Organization Regional Office for Africa, Brazzaville, Congo

<sup>2</sup>Faculty of Public Health, Ghana College of Physicians and Surgeons, Accra, Ghana

Correspondence to Dr Adam Ahmat; adam.ahmat@gmail.com

### **ABSTRACT**

Several countries in Africa have developed human resources for health (HRH) policies and strategies to synergise efforts in setting priorities, directions and means to address the major challenges around leadership and governance, production, recruitment, management, motivation and retention and coordination. In this paper, we present information on the availability, quality and implementation of national HRH policies and strategic plans in the WHO Africa Region, Information was obtained using a questionnaire completed by the head of HRH departments in the Ministries of Health of 47 countries in the WHO Africa Region. Of the 47 countries in the Region, 57% (27 countries) had HRH policies and 11% (5 countries) were in the process of developing one. Thirty-two countries (68%) had national strategic plans for HRH with 12 (26%) being in the process of developing a strategic plan, and 28 countries reporting the implementation of their strategic plans. On the quality of the policies and strategic plans, 28 countries (88%) linked their plans to the national development plan, 30 countries (94%) informed their policy and plan using the national health policy and strategic plans, Evidence-based HRH policies and plans guide the actions of actors in strengthening health systems. Countries need to invest in developing quality HRH policies and plans through an intersectoral approach and based on contextual evidence. This is vital in ensuring that equitably distributed, well-regulated and motivated HRH are available to deliver people-centred health services to the population.

#### INTRODUCTION

In the 2030 Agenda for Sustainable Development, 17 Sustainable Development Goals (SDG) were adopted, with promoting health and well-being by achieving universal health coverage (UHC) and leaving no one behind being key declarations. UHC is one of the targets in goal 3—ensure healthy lives and promote well-being for all at all ages—and it is premised on the code that everyone should

#### **SUMMARY BOX**

- Evidence-based human resources for health (HRH) policies and plans are critical in guiding the actions of national actors towards achieving universal health coverage and Sustainable Development Goals.
- ⇒ Many countries in Africa are faced with numerous challenges in formulating policies, and developing plans mainly due to a weak capacity to formulate policies and develop plans, poor stakeholder engagement, involvement and management processes and lack of contemporary evidence to inform policy and plans.
- ⇒ In practice, national HRH policies and plans should be informed by the global and regional commitments, as well as national context and needs aimed at ensuring a well-performing health system.
- ⇒ They should also consider and incorporate the roles of various sectors in HRH planning, production, management and financing.
- ⇒ In the development of HRH policies and strategies, evidence should be generated by conducting a situation analysis based on the HRH action framework and a holistic health labour market analysis based on flows in the public and private sector and the dynamics of education, employment, migration, fiscal space, regulation and gender.
- ⇒ In practice, the costing of HRH plans provides policymakers and health managers with an insight on the fiscal resources needed to achieve goals, objectives and targets of HRH policies and plans, which is important in informing the allocation of resources in the health sector budgets.

have access to quality health services without facing financial hardships while doing so.<sup>2</sup> <sup>3</sup> With global declarations informing public policies and plans, and other government development priorities,<sup>2</sup> the drive to achieve UHC and SDG has shaped the formulation of health system interventions in national health and human resources for health (HRH) policies and plans. The need



BMJ Glob Health: first published as 10.1136/bmjgh-2021-008319 on 19 May 2022. Downloaded from http://gh.bmj.com/ on October 1, 2023 by guest. Protected by copyright

for evidence-based HRH policies and plans to guide the actions of the various global, regional and national actors towards achieving UHC and the SDG has been demonstrated. All efforts in these regards are aimed at ensuring equitably distributed, well-regulated and motivated HRH to deliver people-centred health services to the population.

It is estimated that there will be a deficit of 18 million health providers globally by 2030, primarily in the developing countries. The WHO African Region has the highest shortage of health workers with 36 countries of 47 having a critical shortage of doctors, nurses and midwives. To fill the gaps, several governance and fiscal policy issues and challenges need to be addressed. They include the inadequate capacity to produce and recruit additional health workers, unconducive working environments, low remunerations, low investments in HRH, weak regulation and protection mechanisms, brain drain and limited career development opportunities. This situation is linked to rigid fiscal policies whose consequences are low investments in HRH policy and plan development and implementation.

In the last decade, increasing attention is being paid to these issues and challenges in Africa; through the development and implementation of HRH policies and strategies that involved various stakeholders and partners to ensure their implementation towards achieving national goals.<sup>7</sup> To this end, the WHO Global Strategy on Human Resources for Health: Workforce 2030 was developed. The global strategy provided normative guidance to countries in accelerating progress towards achieving the UHC and the SDGs by ensuring equitable access to health workers within strengthened health systems.<sup>6</sup> The global strategy maintained that the development and implementation of evidence-based policies and plans are critical in strengthening health systems. These policies and plans should be informed by the global, regional and national plans aimed at ensuring a well-performing health system, and based on an intersectoral approach considering the roles of various sectors, including health, education, labour and finance in HRH planning, production and financing.6 Additionally, the involvement of regulatory bodies, civil society organisations, the private sector, labour unions and professional associations is critical for ownership and buy-in. Policies and plans should be holistic and informed by a sound situation analysis of the health system and population needs, and take into account the components of the health labour market framework. 14 These are vital in addressing the prevalent HRH issues including shortages, inequitable distribution and unemployment.

Accordingly, several countries in Africa have developed HRH policies and strategies to synergise efforts in setting priorities, directions and means to address the major challenges around leadership and governance, production, recruitments, management, motivation and retention and coordination. These efforts have made some impacts in some countries by improving working environments,

enabling the capacities of the health training institutions to produce more health professionals, and enhancing capacity for management of the health workers.<sup>5</sup>

However, the major drawback of these health policies and plans has been their low quality and lowimplementation rates due to weak leadership for HRH, affecting financing, planning, coordination and management of the health workforce. As a result, the shortage of health workers persists. 10 In addition, this situation is accompanied by poor health indices and inequitable distribution of existing health workers. This is attributable to health professionals resisting their deployment to rural areas due to various reasons. 11 15-18 The deployment of skilled health workers to rural areas often raises political, social and ethical issues, which are difficult for the HRH managers in the Ministries of Health to handle. 15 19 As a result, many posts remain vacant in rural or underserved areas, and where occupied, this is often accompanied by high absenteeism. 15

In this paper, we present information on the availability, quality and implementation of national HRH policies and strategic plans in the WHO Africa Region. The quality of the policies and strategic plans was assessed based on whether they are costed, linked to global, regional and national plans, and informed by HRH projections. In this paper, we consider health workforce policy and plans separately. HRH policy usually includes laws, regulations and practices that influence the development of the health workforce. It serves as the framework for developing HRH plans. HRH plans are designed to identify the priority interventions needed to reach the national or regional objectives in the health system based on policy directions, within a time frame (usually 5 years).

To obtain this information, we developed a questionnaire to collect information in English, French and Portuguese based on the languages of the 47 countries in the Region. The questionnaire included questions on the availability of a national policy and strategic plan for HRH, whether or not the plan is costed, and informed by the national development plan, health sector strategic plan, the regional roadmap for HRH, the Global Strategy for HRH and projected HRH needs for the public and private sector (table 1). Other key questions focused on the key components of the plans that partners support their implementation. The key components assessed were pre-service and in-service training, HRH information system/registry, management capacity, community health worker programmes, recruitment and deployment. For this assessment, a partner was considered as any entity that provided technical and financial support in the development, implementation and review of the HRH policies and plans.

We distributed the Microsoft Office Word questionnaire to the head of HRH departments of the Ministries of Health in all 47 countries in the WHO Africa Region. Countries were informed that participation was voluntary, and the required information should be completed based on secondary information available in the public



Table 1 Thematic areas asses	ssed
1 Policy and strategic plan for HRH.	National policy, strategic plan and/or investment case study for HRH is available (or not) or being developed in countries. Commitment of countries for increased allocation of funding through national budgets for HRH plan implementation.
2 Quality of national strategic plan for HRH.	Whether HRH strategic plan in countries is costed, informed by national development and health sector policies and plans and regional and global HRH strategies. Presence of HRH projections of needs for public and private sector and development of strategies based on the projections.
3 Implementation of strategic plan for HRH.	Whether strategic plans for HRH are implemented by countries and the components of plans supported by partners in countries: policy and plan development, pre-service and in-service training/fellowships, recruitment, incentive schemes, HRH information system/registry, National Health Workforce Observatory, National Health Workforce Accounts, staffing norms development, etc.
HRH, human resources for health .	

domain. The designated staff of the WHO country offices provided technical assistance to the head of HRH departments. Data collection lasted from January 2018 to April 2019, and completed questionnaires were emailed to the health workforce designated officer in the WHO Regional Office. The completed questionnaires were reviewed for completeness, with data input and a quality check was done using Epi Info software. There were no missing data in the completed questionnaires. Data analysis was done using Microsoft Office Excel.

AVAILABILITY OF NATIONAL POLICY AND STRATEGIC PLAN FOR HRH

HRH policies and plans are a critical component of health sector policies and plans<sup>10</sup> and are critical for improving health outcomes.<sup>20</sup> It is, therefore, important that the increasing efforts aimed at ensuring that health sector policies and plans are developed, resourced and implemented should be extended to HRH policies and plans. This is pertinent as oftentimes health policies and strategies do not address HRH issues comprehensively. Additionally, the lack of contextual HRH policies and plans results in multidimensional health workforce issues including weak leadership, mismatches, inequitable distribution and poor coordination and partnership.<sup>6 10</sup>

Our findings on the availability of national policies, strategic plans and investment cases for HRH, are presented in table 2. Of the 47 countries that responded to the question on the existence of a national policy for

HRH, 57% (27 countries) had HRH policies and 11% (5 countries) reported that they were in the process of developing a policy for HRH. Thirty-two (32) countries (68%) had national strategic plans for HRH, 12 (26%) were in the process of developing a strategic plan and the government in 19 countries (59%) had committed to increasing national allocation for the implementation of the strategic plan for HRH. Additionally, 11 countries (32%) had developed an investment case for HRH while 23 (68%) did not any in place.

# **QUALITY OF THE STRATEGIC PLANS FOR HRH**

Our findings on the quality of strategic plans are presented in figure 1. The quality assessment was based on whether the plans were costed, and aligned to the regional and global HRH strategies and targets, the national development plan and the health sector policies and plans. Information on the presence of HRH projections of the health workforce needs for the public and private sector, and its use in the development of the plan was also obtained.

As shown in figure 1, the strategic plans in 25 countries (78%) were costed. Twenty-eight countries (88%) linked their plans to the national development plan, and the plans of 30 countries (94%) were informed by the national health policy and strategic plans. Twenty-six countries (81%) linked their strategic plans for HRH to the global strategy for HRH, and the Africa Regional implementation framework of the global HRH strategy.

Table 2	Availability	/ of national polic	y and strategic	plans for HRH in the 47	Africa Region countries

			No		In pro	ocess
Theme	N	%	N	%	N	%
Existence of national policy for HRH	27	57	15	32	5	11
Existence of national strategic plan for HRH	32	68	3	6	12	26
Commitment for increased national allocation for HRH plan implementation		59	13	41		
Existence of an investment case for HRH	11	32	23	68		
HRH, human resources for health .						

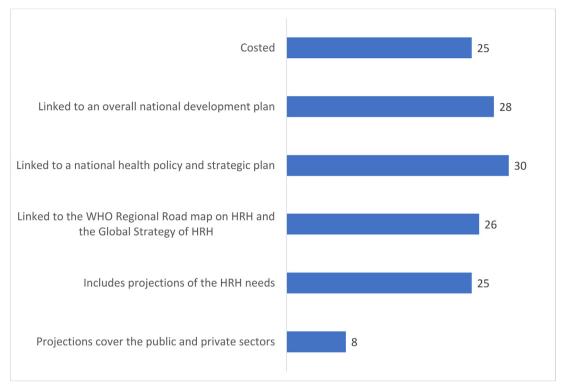
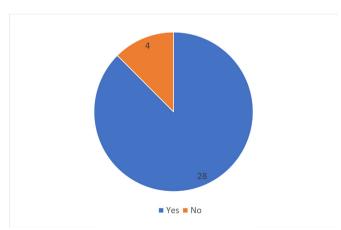


Figure 1 Quality of the HRH strategic plans in the African Region N=32. HRH, human resources for health.

In addition, projections of the country's HRH needs are an important element of the quality of an HRH strategic plan. Twenty-five countries (78%) included projections of country HRH needs in their strategic plans for HRH with only eight countries (25%) having the projections covering both the public and private sector.

### IMPLEMENTATION OF STRATEGIC PLANS FOR HRH

Figure 2 shows that 28 countries that had strategic plans for HRH reported that the plan was being implemented while 4 countries reported that their plan was not being implemented. In these 28 countries, partners supported the following activities: in-service training, HRH information system/registry, policy and plan development for subnational levels, training capacity improvement pre-service



**Figure 2** Number of countries implementing human resources for health strategic plans (N=32).

training and fellowships, management capacity building, community health worker programmes, national health workforce observatory and staffing norms development (figure 3). Other activities supported by partners include National Health Workforce Accounts (26 countries), HRH studies or reviews (26 countries), recruitment (25 countries), incentive schemes (24 countries), distribution and deployment (23 countries) and task shifting and sharing (20 countries).

# PRACTICE IMPLICATIONS OF HRH POLICIES AND PLANS TOWARDS UHC

HRH policies and plans are a critical part of the governance functions relevant for achieving UHC. Governance factors, including issues on management and politics, specifically power and interest of stakeholders, are often neglected and this is indicated to contributing to poor HRH policy and plan formulation and implementation. <sup>21 22</sup> Many countries in Africa are faced with numerous challenges in formulating policies, and developing plans, and this is depicted by our findings on the availability of policies and plans. Oftentimes, this is due to the weak capacity to formulate policies and develop plans, poor stakeholder engagement, involvement and management processes and lack of contemporary evidence to inform policy and plans.<sup>23</sup> <sup>24</sup> This often results in policies and plans not being available. Where available, they are not based on local needs, and resistance is faced in their implementation.<sup>21</sup> Countries need to invest in developing HRH policies and plans as a roadmap for ensuring the availability of the needed health workforce to achieve

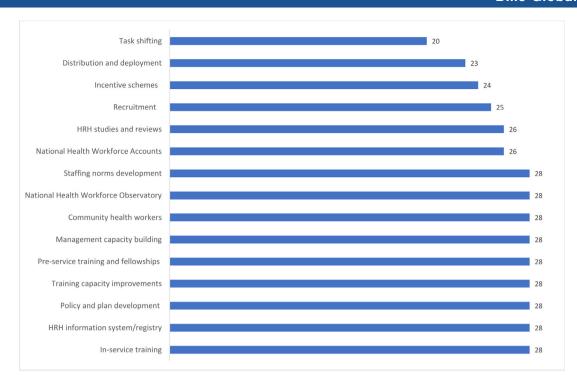


Figure 3 HRH development activities supported by the partners in the strategic plans of countries (N=32). HRH, human resources for health.

national goals and UHC. Furthermore, to minimise resistance in formulating and implementing policies and plans, they need to establish and strengthen platforms for intersectoral HRH research, and actions including stakeholder mapping, and their engagement and involvement in the formulation and development processes.

Closely associated with the aforementioned are poor leadership and weak capacities and competencies for HRH policy and plan implementation and review.<sup>22</sup> Thus, who and/or what institution is accountable for performance or otherwise of policies and plans are not clarified from the outset. These impact negatively on the implementation and quality of policies and plans developed. The quality of plans has been a long-standing issue as plans are often not costed, and informed by global, regional and national development plans. This also results in policies and plans not aligning with the priorities of government and not being used to inform national and subnational budgets. Oftentimes this is evident in instances where their development is driven by global health initiatives programme objectives. <sup>21 25</sup> In practice, leadership and capacities in governance, planning and management are essential and should be planned for in the conceptualisation, development and implementation stages of HRH policies and plans.

HRH policies and plans require robust and contextual evidence from the public and private sectors for countries to achieve national goals. However, this remains a big issue in Africa due to weak HRH information systems, and a lack of contemporary evidence in the health labour market dynamics. Considering that

timely and context-specific evidence is critical in policies and plans, <sup>26</sup> efforts should be directed at strengthening evidence generation systems and analysis. <sup>28</sup> This is pertinent as evidence is key in defining policy directions and assessing their impact. <sup>26</sup> <sup>29</sup> In the development of HRH policies and strategies, evidence should be generated by conducting a situation analysis based on the HRH action framework <sup>30</sup> <sup>31</sup> with information obtained from expert opinions and empirical sources including the national health workforce accounts, <sup>32</sup> WHO workload indicators of staffing needs <sup>33</sup> tool, health workforce projections and surveys.

Quantifying needs, supply and demand based on a sound health labour market analysis and need-based projection of populations' health needs<sup>11 13</sup> provide important contextual evidence needed to develop policies and plans that would improve the health system and meet the populations' needs.6 This approach ensures that needs and demand in terms of population demography and disease burden, numbers, cadres and skill-mix of health workers, and supply in relation to production capacity and competencies are adequately planned for with identified issues addressed holistically. In practice, therefore, a population health needs-based approach to planning is key. This should be augmented with evidence from a holistic health labour market analysis based on flows in the public and private sectors, and the dynamics of education, employment, migration, fiscal space, regulation and gender. This approach is important in ensuring that policy directions and plans respond to the



current and future needs of the health system and the population.

Costing HRH plans provides policymakers and health managers with an insight into the fiscal resources needed to achieve set goals, objectives and targets. In practice, this is a component of strategic planning and is critical in implementing plans. Adequate costing (economic feasibility) of plans is recognised as a measure of the quality of plans<sup>31</sup> and is useful in informing budgets.<sup>34</sup> For HRH plans, appropriate costing is essential in ensuring that funds are allocated during health sector planning processes based on the public financing mechanisms. Additionally, it is useful in advocacy to mobilise resources and increase allocations. Therefore, in practice, efforts should be aimed at ensuring that the costing of HRH plans is realistic, and used to inform health sector budgets and the Medium Term Expenditure Frameworks. This will go a long way in increasing government spending on HRH and enhancing the performance of the health system.

Linking of HRH policies and plans to global, regional and national development goals, priorities and national health strategic plans promotes investment by government, donors and other stakeholders and fosters accountability to the global commitments. Furthermore, it ensures that the implementation of policies and plans not only leads to the achievement of national goals but also encourages the interests of the leadership to invest in the sector.<sup>2</sup> In the global and regional contexts, it also ensures that commitments signed by the government are achieved. The absence of alignment of policies and plans to developmental goals is a recurring pitfall in their development process. This has been recognised to contribute to the non-implementation of policies and plans. In practice, it is important to ensure that HRH policies and plans align with national goals as well as commitments signed by the government. This will ensure that government and partners support their implementation.

The development and implementation of an HRH policy or an HRH strategic plan should be done in collaboration with all stakeholders. The principle is that each actor must take ownership of it, including the priority interventions assigned. This strategic alignment is the first step towards ownership of the implementation of the HRH policy or a strategic plan. However, this may not be enough to ensure that all stakeholders will be working in the same direction and contributing to the achievement of the set objectives. Each actor is an 'organisation' in itself, with its own human relationships, power, interests, and finally specific objectives that may not necessarily be aligned with those of the plan or the policy. Ensuring strategic alignment is an important challenge for the successful implementation of plans and policies.

Strategic alignment is the process of identifying synergies between policy processes with common objectives in order to increase coherence, efficiency and effectiveness to deliver better results.<sup>35</sup> Thus it is important to: (i) increase coherence by facilitating the analysis of shared objectives, and co-benefits between divergent

objectives, with the evidence used to lead more strategic investments, and ensure that efforts in one area do not compromise progress in another; (ii) ensure efficiency, by avoiding duplication of effort and enabling adequate use of resources, including financial and human resources; and (iii) promote effectiveness, by building resilient and people-centred health system, by improving the quality of planning, implementation, measurement and evaluation processes to achieve better results. 6

The process of alignment requires both leadership and coordination between government stakeholders and the other key actors including partners. Strategic alignment requires flexibility, not only to enable coordination but also to ensure the integration of contributions. It should therefore be accompanied by continuous review and monitoring. <sup>21</sup>

Our findings show that 28 countries indicated that they were implementing their strategic plans. The non-implementation of plans could be attributed to the aforementioned factors especially lack of interest by government and partners due to lack of capacity to implement, poor quality of policies and plans, and non-alignment with global, regional, and, most especially national goals. In addition, lack of knowledge on the content and existence of plans due to weak dissemination of policies and plans to stakeholders is also culpable. This necessitates the development and implementation of a communication and dissemination plan to ensure that the goals, strategies, targets and milestones of HRH policies and plans are well known to all relevant stakeholders.

## CONCLUSION

Evidence-based HRH policies and plans are critical in guiding the actions of the various actors towards achieving UHC and the SDGs. Several countries in the WHO Africa Region are on the path to achieving their national health workforce goals by developing and implementing policies and plans, but this should be the drive of all countries if regional improvements are to be achieved. Therefore, countries need to invest in developing quality HRH policies and plans through an intersectoral approach, and based on contextual evidence. This is pertinent in ensuring adequate health workers who are equitably distributed, well-regulated and motivated, are available to deliver people-centred health services to the population.

Twitter Adam Ahmat @adamahmat, Sunny C Okoroafor @okoroaforsc and Delanyo Dovlo @kevivuvu

**Contributors** AA and SCO drafted the initial manuscript. AA, SCO, JAA, JN, MMAI, DD and JJSM conceptualised and conducted the analysis. All authors read and approved the final version of the manuscript.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

**Ethics approval** Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.



Data availability statement Data are available in a public, open access repository.

**Open access** This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

#### **ORCID** iDs

Adam Ahmat http://orcid.org/0000-0002-3708-264X Sunny C Okoroafor http://orcid.org/0000-0003-4690-485X

#### **REFERENCES**

- 1 UN General Assembly. Resolution adopted by the general assembly on 11 September 2015: A/RES/69/315. New York: United Nations, 2015.
- 2 Odoch WD, Senkubuge F, Hongoro C. How has sustainable development goals declaration influenced health financing reforms for universal health coverage at the country level? A scoping review of literature. *Global Health* 2021;17:1–13.
- 3 Verrecchia R, Thompson R, Yates R. Universal health coverage and public health: a truly sustainable approach. *Lancet Public Health* 2019:4:e10–11.
- 4 World Health Organization. A universal truth: No health without a workforce third global forum on human resources for health report. Geneva, Switzerland: Author, 2013.
- 5 Skinner L, Staiger DO, Auerbach DI, et al. Implications of an aging rural physician workforce. N Engl J Med 2019;381:299–301.
- 6 World Health Organization. Global strategy on human resources for health: workforce 2030. Geneva: World Health Organization, 2016.
- 7 Afriyie DO, Nyoni J, Ahmat A. The state of strategic plans for the health workforce in Africa. *BMJ Glob Health* 2019;4:e001115.
- 8 World Health Organization. The African regional framework for the implementation of the global strategy on human resources for health: workforce 2030, 2020.
- 9 Adeloye D, David RA, Olaogun AA, et al. Health workforce and governance: the crisis in Nigeria. Hum Resour Health 2017;15:1–8.
- 10 World Health Organization. The state of the health workforce in the who African region. Brazzaville, 2021.
- Okoroafor SC, Ongom M, Mohammed B, et al. Perspectives of policymakers and health care managers on the retention of health workers in rural and remote settings in Nigeria. J Public Health 2021;43:i12–19.
- 12 Zurn P, Zapata T, Okoroafor SC. The importance of strengthening the health workforce in Nigeria to improve health outcomes. J Public Health 2021:43:i1–3.
- 13 Asamani JA, Amertil NP, Ismaila H, et al. The imperative of evidence-based health workforce planning and implementation: lessons from nurses and midwives unemployment crisis in Ghana. Hum Resour Health 2020;18:1–6.
- 14 Sousa A, Scheffler RM, Nyoni J, et al. A comprehensive health labour market framework for universal health coverage. Bull World Health Organ 2013;91:892–4.
- 15 World Health Organization. Retention of the health workforce in rural and remote areas: a systematic review: web annex A: GRADE evidence profiles. Geneva, 2020.
- 16 Okoroafor SC, Ongom M, Salihu D, et al. Retention and motivation of health workers in remote and rural areas in cross river state, Nigeria: a discrete choice experiment. J Public Health 2021;43:i46–53.
- 17 Esu EB, Chibuzor M, Aquaisua E, et al. Interventions for improving attraction and retention of health workers in rural and underserved

- areas: a systematic review of systematic reviews. *J Public Health* 2021:43:i54–66
- 18 Ojakaa D, Olango S, Jarvis J. Factors affecting motivation and retention of primary health care workers in three disparate regions in Kenya. Hum Resour Health 2014;12:33.
- 19 World Health Organization. Increasing access to health workers in remote and rural areas through improved retention. Global policy recommendations. Geneva: World Health Organization, 2010.
- 20 Effa E, Arikpo D, Oringanje C, et al. Human resources for health governance and leadership strategies for improving health outcomes in low- and middle-income countries: a narrative review. J Public Health 2021;43:i67–85.
- 21 Dieleman M, Shaw DMP, Zwanikken P. Improving the implementation of health workforce policies through governance: a review of case studies. *Hum Resour Health* 2011;9:1–10.
- 22 Sales M, Kieny M-P, Krech R. Human resources for universal health coverage: from evidence to policy and action. SciELO Public Health, 2013
- 23 Yeoh E-K, Johnston C, Chau PYK, et al. Governance functions to accelerate progress toward universal health coverage (UHC) in the Asia-Pacific region. Health Syst Reform 2019;5:48–58.
- 24 Okech M, Okoroafor SC, Mohammed B, et al. Human resources for health coordination mechanisms: lessons from Bauchi and cross river states of Nigeria. J Public Health 2021;43:i41–5.
- 25 Hanefeld J, Musheke M. What impact do global health initiatives have on human resources for antiretroviral treatment roll-out? A qualitative policy analysis of implementation processes in Zambia. Hum Resour Health 2009;7:1–9.
- 26 Onwujekwe O, Uguru N, Russo G, et al. Role and use of evidence in policymaking: an analysis of case studies from the health sector in Nigeria. Health Res Policy Syst 2015;13:1–12.
- 27 Travis P, Bennett S, Haines A, et al. Overcoming health-systems constraints to achieve the millennium development goals. The Lancet 2004;364:900–6.
- 28 Moat KA, Lavis JN. 10 best resources for... evidence-informed health policy making. *Health Policy Plan* 2013;28:215–8.
- 29 Campbell DM, Redman S, Jorm L, et al. Increasing the use of evidence in health policy: practice and views of policy makers and researchers. Aust New Zealand Health Policy 2009;6:21.
- 30 World Health Organization. Human resources for health: action framework for the Western Pacific region (2011-2015), 2012.
- 31 International Health Partnership. *Joint assessment of national health strategies (JANS) tool & guidelines*. Geneva: World Health Organization, 2021. http://www.internationalhealthpartnership.net/en/tools/jans-tool-and-guidelines/
- 32 World Health Organization. *National health workforce accounts: a handbook*. Geneva: World Health Organization, 2017.
- 33 World Health Organization. Workload indicators of staffing need (WISN): selected country implementation experiences. Geneva: World Health Organization, 2016.
- 34 Stenberg K, Rajan D. Estimating cost implications of a national health policy, strategy or plan. In: *Strategizing National health in the 21st century: a handbook*. Geneva: World Health Organization, 2016: 335–92.
- 35 van de Pas R, Veenstra A, Gulati D, et al. Tracing the policy implementation of commitments made by National governments and other entities at the third global forum on human resources for health. BMJ Glob Health 2017;2:e000456.
- 36 Badr E, Mohamed NA, Afzal MM, et al. Strengthening human resources for health through information, coordination and accountability mechanisms: the case of the Sudan. Bull World Health Organ 2013;91:868–73.
- 37 Mwisongo A, Nabyonga-Orem J. Global health initiatives in Africa governance, priorities, harmonisation and alignment. BMC Health Serv Res 2016;16 Suppl 4:212.