Improving Health Workforce Governance: the Role of Multi-Stakeholder Coordination Mechanisms and Human Resources for Health Units in Ministries of Health

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Abstract

Background:

A cohesive and strategic governance approach is needed to improve the health workforce (HW). To achieve this, the WHO Global Strategy on Human Resources for Health (HRH) promotes mechanisms to coordinate HRH stakeholders, HRH structures and capacity within the health sector to support the development and implementation of a comprehensive HW agenda and regular reporting through WHO's National Health Workforce Accounts (NHWA)

Methods:

Using an adapted HRH governance framework for guidance and analysis we explored the existence and operation of HRH coordination mechanisms and HRH structures in Malawi, Nepal, Sudan and additionally from a global perspective through 28 key informant interviews and a review of 165 documents.

Results:

A unified approach is needed to coordination of stakeholders who support the timely development and oversight of an appropriate HRH strategy subsequently implemented and monitored by an HRH unit. Multiple HRH stakeholder coordination mechanisms co-exist, but the broader, embedded mechanisms seemed more likely to support and sustain a comprehensive HW agenda. Including all stakeholders is challenging and the private sector and civil society were noted for their absence. The credibility of coordination mechanisms increases participation. Factors contributing to credibility included: high level leadership, organisational support and the generation and availability of timely HRH data and clear ownership by the ministry of health.

HRH units were identified in two study countries and were reported to exist in many countries but were not necessarily functional. There is a lack of specialist knowledge needed for the planning and management of the HW amongst staff in HRH units or equivalent structures, coupled with high turnover in many countries. Donor support has helped with provision of technical expertise and HRH data systems, though the benefits may not be sustained.

Conclusion:

While it is important to monitor the existence of HRH coordination mechanisms and HRH structure through the NHWA, improved 'HRH literacy' for both stakeholders and operational HRH staff and a deeper understanding of the operation of these functions is needed to strengthen their contribution to HW governance and ultimately, wider health goals.

1. Background

Tackling key systemic health workforce (HW) issues (quantitative shortage, skills-mix, distribution imbalance, and more) requires a cohesive and strategic governance approach centred around coordinating and implementing policies to gain improvements in workforce performance[1]. From 2006 the Global Health Workforce Alliance (GHWA) and WHO provided catalytic support to national Human Resources for Health (HRH) coordination mechanisms to ensure integrated actions[2]. In 2016, the World Health Assembly adopted the WHO Global Strategy on Human Resources for Health: Workforce 2030 [3], which established periodic reporting requirements for Member States, facilitated by WHO. Objective 3 of this Global Strategy on HRH (Build the capacity of institutions at subnational, national, regional and global levels for effective public policy stewardship leadership and governance of actions on HRH) has two milestones that relate to countries having “inclusive institutional mechanisms in place to coordinate an intersectoral health workforce agenda” (Milestone 3.1) and having HRH Units or departments “with responsibility to develop and monitor policies and plans” (Milestone 3.2) - see Table 1. The National Health Workforce Accounts (NHWA)[4] monitor the availability of these mechanisms and structures. However, a deeper understanding is needed of the governance, functions, attributes and performance of HRH stakeholder coordination mechanisms and HRH Units in their ability to support the “implementation of a comprehensive HW agenda in countries”[3, para 55].

Table 1: Definitions of HRH governance mechanisms based on the Global Strategy and NHWA [3, 4]

Term	Definition
HRH coordination mechanism	Institutional mechanism which includes all key stakeholders and coordinates an intersectoral HW agenda. Mechanisms may be a national coordination committee involving, for example, inter-ministerial Sustainable Development Goals committees, sector skills councils or similar high-level bodies with a leadership function for coordinating, developing and monitoring policies and plans on HW, and negotiating intersectoral relationships with other line ministries, government agencies and other stakeholders.
HRH unit or department	An organisational structure reporting to a senior level within the Ministry of Health (Director General or Permanent Secretary) with the capacity, responsibility, financing and accountability for core functions of HRH policy, planning and governance, data management and reporting.

1.1 Health workforce (HW) development and governance

HW development is a technical process requiring expertise in planning, education and management, and the capacity for strategic HRH long-term planning “rooted in a long-term vision for the health system”[3, para 55]. It is also a political process “requiring the will and the capacity to coordinate efforts on the part of different sectors and constituencies in society and different levels of government”[5, p 798]. Governance includes rules (both formal and informal), roles and responsibilities for collective action and decision making in a system with diverse stakeholders [6, 7]. Key challenges to intersectoral governance and coordination efforts among stakeholders are willingness, commitment, technical capacity, financial mobilization, operational accountability and effective leadership [3].

1.2 Stakeholders in HW development and governance

A large number of stakeholders with differing – and sometimes opposing - interests occupy the 'HRH policy space' [8] which all require coordinating for HW development- see Table 2[9, p115].

Table 2: Stakeholders impacting on HRH policy

Stakeholder group	Institutions
Government	Health (national, regional, local government) Executive leadership (president, prime minister, cabinet) Legislative bodies Finance Education Labour Defence and military Civil service agencies and commissions Statutory professional councils
Employers	Private for-profit businesses Public-private partnership Voluntary or non-profit-making organizations
Representatives of health workers	Professional and occupational associations Professional and occupational unions
International stakeholders	Bilateral and multi-lateral agencies Philanthropic organizations Professional and occupational organizations
Civil society	Community based organizations Patients' rights organizations
Other stakeholders	Media Pharmaceutical and medical device companies

There is a distinct gap in the literature surrounding both the concept and function of health workforce governance across different contexts in terms of HRH coordination mechanisms and HRH units or departments. Two studies based on surveys in Africa[10] and South East Asia[11] provide information on HRH units, but lack detail on how they operate. Cometto et al call for more understanding of the political

economy of HRH policy-making and “the characteristics and performance factors, gained through the specific lens and focus on HRH units”[12, p2]. Therefore, the focus of this paper is on the functions, attributes and performance of the coordination mechanisms and HRH units. This is based on a study to review the situation globally and within three countries: Sudan, Nepal and Malawi.

2 Methods

2.1 Theoretical framing of the study

The Barbazza and Tello framework [13], adapted by Lim and Lin[1] for review of HRH governance, provides a comprehensive framework for reviewing coordination mechanisms and HRH units. In this study, we have adapted and expanded the Barbazza and Tello framework and have added the dimensions of ‘ownership’ from Buse and Walt[14] and ‘HRH literacy’ from Martiniuk[15] in Table 3 below.

Table 3: Dimensions of HRH governance framework for reviewing the HRH coordination mechanisms and HRH units

Dimensions of Governance
Accountability
Leadership
Partnership
Ownership
Formulating policy/strategic direction
Generating information/intelligence
Organizational adequacy/system design
Participation and consensus
Sustainability
HRH performance
HRH literacy

2.2 Study design

We used a rapid qualitative study design to address the research aim. We employed two methods: document review and in-depth interviews with a small number of selected informants (both global and specific to each of the three countries). Both methods were guided by the HRH governance framework described above.

2.3 Study sites

Three countries, namely Malawi, Nepal and Sudan, part of the WHO regions of AFRO, SEARO and EMRO, respectively, were selected for the study. These countries signed up to the Kampala Declaration and Agenda for Global Action in 2008 commitments [16] and were supported by the Global Health Workforce Alliance programme [2]. They are on the WHO's health workforce support and safeguard list because of staff shortages [17], and HRH functions are partially decentralised. The research team has existing links with these countries which enabled rapid data collection. Table 4 provides information about each country.

Table 4: Country contexts

	Malawi	Nepal	Sudan
Population	18.63 million (2019)§	28.60 million (2019)§	42.81million (2019)§
Total Health workforce[1]	37,926§	54,177 §	150,000 §
Per 10,000 population			
Doctors	0.36 (2018)§	8.09 (2010)§	2.62 (2017)§
Nursing Personnel	4.39 (2018)§	21.25 (2019)§	11.45 (2018)§
Midwifery Personnel	0.33 (2016)§	N/A	N/A
Dentists	0.02 (2018)§	1.12 (2019)§	2.09 (2015)§
Pharmacists	0.06 (2018)§	1.35 (2019)§	0.25 (2017)§
Total stock of above cadres	1349 (2018)	63,944 (2019)	35,964 (2017)§
HRH strategy	2012 – 2016 2018 - 2022 (in use)	2012 – 2016 2020-2030 (approved)	2012 -2016 2018 strategy (in progress)
Health service providers	Ministry of Health(MoH) - 69% * Christian Health Association of Malawi -29% * Private sector providers -2% *	Ministry of Health and population - 67% Private healthcare providers -26% Non-Governmental Organisations/Faith Based Organisations/others – 3%	By funding #: Public sector – 23.28% Private sector - 70.30% Other - 6.42%
Form of Decentralisation	Decentralised to district level	Federalisation and decentralised to local government/municipality	Devolution to State level (18 States)

Data sources:§ = National health Workforce Accounts [18]* = Malawi HRH strategy 2018[19] # =System of health accounts report [Sudan][20]

2.4 Document review

The review examined the normative guidance on the areas of a) HRH stakeholder coordination and b) management through HRH units (or equivalent structures) within a governance framework globally as

well as in the three study countries.

At global level, we searched for: journal articles through Medline and Google Scholar and for policy documents from organisations and websites from 2004 - the start of major HRH strengthening interventions with the launch of the 'Joint Learning Initiative (JLI) report'[21].

At country level we searched for relevant journal articles through Medline and Google Scholar and for policy documents. We followed up references of relevant documents and on advice of key informants. Table 5 provides details on the numbers and types of documents reviewed.

We screened each title and abstract and where it was identified as being relevant, we read the full document and included it in the final analysis. We identified 165 documents as shown in Table 5 below.

Table 5: Number and type of documents reviewed

Location	No. of documents reviewed	Type of documents reviewed
Global	95	Journal articles; documents from WHO HQ and regional offices, the Global Health Workforce Network and its predecessor the Global Health Workforce Alliance, regional HRH organisations such as the Asia Pacific Action Alliance on Human Resources for Health (AAAHH), contemporary global HRH projects such as CapacityPlus and HRH2030; websites of international organisations (such as WHO and the World Bank)
Malawi	19	Relevant journal publications; current and recent HRH policies, strategies and reviews; wider contemporary policies, strategies and reviews on HRH and other factors impacting on HRH governance, coordination and leadership and management such as budget reform, civil service reform and decentralisation; HRH project reports; websites of international organisations (such as WHO and the World Bank), those working in the health workforce field and ministries of health, professional bodies and development partners in each of the study countries.
Nepal	33	
Sudan	18	
Total	165	

2.5 Key informant interviews

Using country and respondent-tailored topic guides, interviews carried out between July and September 2021 explored the functions of HRH Coordination Mechanisms and HRH Units, key attributes related to HRH governance, including participation, accountability, organisational adequacy, sustainability, and HRH performance/outcomes. The key informants were purposively selected based on: their experience of working or advising at strategic level on HRH coordination, leadership and management in the government health sector; knowledge of contemporary HRH situation at national and sub-national levels including policies, systems and practices. This enabled a mix of perspectives which supported our approach of triangulation.

Table 6 provides an overview of the key informants. The research team conducted the interviews virtually via Zoom or TEAMS, in English and they lasted between 60 and 90 minutes. They were recorded following consent of the participants.

Table 6: Overview of key informants

Study site	Key informants	Number (female)
Global (GLO)	HRH experts at global or regional level working in international organisations or as consultants	7 (2)
Malawi (MWI)	National HRH stakeholders, including government officials at national and sub-national levels, development partners/donors, regulatory bodies, UN agencies	6 (0)
Nepal (NPL)		6 (1)
Sudan (SDN)		8 (5)
Grand total	-	27 (8)

2.6 Data management and analysis

We transcribed verbatim the recordings of the interviews. For data anonymisation, we provided a sited code (see Table 6) and serial number for each transcript e.g. (GLO 001, SDN 004). We used the thematic framework approach to analyse the interview and document review data, supported by NVIVO programme [22]. We developed a coding framework for all settings from the topic guides, research objectives and themes emerging from reading the transcripts and desk review information whilst being informed by dimensions of the HRH governance framework. We applied the framework to the transcripts and data and developed charts for each code. We then identified and agreed key themes.

3 Results

3.1 HRH coordination mechanisms

This section reports on the coordination mechanisms, their main functions and selected attributes (particularly the wider coordination mechanisms) including leadership and accountability; participation, inclusivity and consensus building; sustainability; and finally, performance.

3.1.1 Coordination mechanisms

Multiple coordination mechanisms were identified in all three study countries (see Table 7). Malawi's HRH TWG and Sudan's National Stakeholder Forum have broad stakeholder reach and appeared to be long standing and embedded in the MoH systems. Nepal does not have a fully institutionalised health workforce stakeholder coordination mechanism. However, it has general coordination mechanisms that include health workforce and has *ad hoc* task-focused mechanisms such as the HRH roadmap working group.

Table 7: Summary of coordination mechanisms and functions in study countries.

Country	Type of Mechanism	Summary of functions
Malawi	Health Sector Working Group, MoH	<ul style="list-style-type: none"> · Oversees all MoH Technical Working Groups (TWGs), including HRH TWG · <i>The ultimate governance body for the health sector, the highest level governance body that can tackle HR issues when necessary</i> (MWI 003) · Comprisesthe Secretary for Health, donors, civil society, the private sector, other government departments, but <i>attendance of other Ministries, this also is something that's not really very strong</i> (MWI 003)
	HRH TWG, under the Health Sector Working Group, MoH	<ul style="list-style-type: none"> · Multisectoral and multi-partner mechanism, established in the early 2000s; comprises approx. 30 members (covering multiple central government departments, local government, regulatory bodies, training institutions, the faith-based organisations, development partners and donors, some of whom provide technical and financial support to HRH functions) · Provides technical advice and generates evidence for MoH Senior Management TeamHRH decision making; <i>reviews and endorses national HR policies and plans</i> [19, p23] · <i>Monitors and reviews implementation of HRH Strategic Plan</i> against annual targets and planned activities [19, p17] · <i>Advocates for adequate funding</i> [19, p23] · Functions according to TOR, led by the MoH HR Director (Chair), with a development partner as rotational co-Chair, withMoH Directorate of Human Resource Management and Development (DHRMD) providing the Secretariat · Meets quarterly · Athink tank that considers issues government cannot make a decision about (MW 001)
	Task Forces, under the HRH TWG, MoH	<ul style="list-style-type: none"> · Constituted by the HRH TWG to work on specific HRH issues and tasks as per agreed ToR e.g. the development of the HRH strategy, recruitment · Comprises volunteer TWG members and consultant hired when required · Mechanism through which the TWGs deliver (MWI 001)
	Parliamentary Committee for Health	<ul style="list-style-type: none"> · Advocates for health including health workforce issues
	Permanent Secretaries (PS) Committee	<ul style="list-style-type: none"> · Multi sectoral committee addressing health sector issues, includes Permanent Secretary for Health and for DHRMD in the Office of the President and Cabinet. among others · Health sector coordination and policy decision making, and potential to influence HRH decision making

Country	Type of Mechanism	Summary of functions
	MoH Senior Management Team	<ul style="list-style-type: none"> · Main decision-making body in the MoH, considers evidence presented by all TWGs, including HRH TWG for HRH decision making and allocating resources
	Human Resources for Health (HRH) Coalition	<ul style="list-style-type: none"> · Umbrella body for professional associations and unions including medical and nurses and midwives' associations · Petitions government on various HRH issues on behalf of its members
Sudan	National Human Resources for Health Observatory (NHRHO)	<ul style="list-style-type: none"> · Established 2007 · Produces evidence and documents for review · Develops meeting agendas, follows up actions identified by the Stakeholders Forum
	National HRH Committee held the National HRH Stakeholder Forum reporting to the National Council for Healthcare Coordination (NCHC)	<ul style="list-style-type: none"> · Multisectoral body · Headed by the Undersecretary for Health with links to the President and has <i>"the strength and the power and the authorization even to push HRH issues and agenda"</i> (SDN 004) · Serves as the Board for the NHRHO · Coordination and decision-making role e.g. salary increases, distribution, production and migration, <i>"when the decision is taken in this committee, so it is likely to be done"</i> (SDN 002) · Meets quarterly
Nepal	Health Coordination Division, MoHP	<ul style="list-style-type: none"> · General health coordination role across the three tiers of government, including for HRH · Coordination with multisector including development partners
	Ad hoc TWGs/committees, MoHP (set up for specific tasks)	<ul style="list-style-type: none"> · CCF process to develop 2011 HRH plan which included task-specific working groups · Development of the HRH Strategic Plan/Roadmap (2017-2020) co-led by MoHP and WHO · Committee for planning for the (re) deployment of staff - the Employee Adjustment process - under federalisation · Groups may comprise MoH officials and development partners
	Interdivisional meetings, MoHP	<ul style="list-style-type: none"> · Weekly meetings to discuss policy issues, including HRH, but <i>"lack of clear agenda, preparation and participation"</i> (NPL 004).

3.1.2 Attributes

The important attributes of the coordination mechanisms cover leadership and accountability; participation, inclusivity and consensus building; and sustainability.

3.1.2.1 Leadership and accountability

The TWG in Malawi is led by the MoH and is accountable to the broader Health Sector Working Group and the MoH Senior Management Team, *“who decides whether to allocate funds to execute”* (MWI 001). The National HRH Committee in Sudan is also led by the Under-secretary for Health and accountable to the President, which gives it power. The interdivisional coordination mechanisms in the MoHP in Nepal report to the Secretary in the MOHP, and the HRH Roadmap TWG was led by the joint-secretary and reported to the Secretary MoHP.

The coordination mechanisms in Sudan had clear Terms of Reference (TOR) and guidance documents which describe the roles and responsibilities of the members, the reporting system, and schedule of meetings, with the HR observatory acting as the secretariat. In Malawi, the HRH TWG and the task forces reportedly had clear TORs. There are clear procedures for MoHP interdivisional meetings in Nepal. These instruments, along with the leadership capabilities of senior management (GLO 001), enhance the legitimacy of the mechanisms.

Leadership capacity was impacted by high staff turnover in Malawi and Sudan (partly through migration). HRH coordination mechanisms should address national rather than donor-driven priorities (GLO 003), but because of frequent changes in leadership in the MoHP (NPL 002, NPL 003 and NPL 005) the TWG in Nepal was driven by a development partner. A participant in Malawi referring to the development of the HRH Strategy described how development partners *‘jumped in,’ ‘took the heavy lift,’* and how a *“team of experts really pushed with the HRH Directorate, and then it came to reality”* (MWI 006).

3.1.2.2 Participation, inclusivity and consensus building

The Malawi TWG had wide participation (see Table 7). In Sudan, the Stakeholder Forum had a similarly wide reach of stakeholders with additional attendance by police and military HRH representatives. Respondents highlighted the challenge of leading and maintaining such large and diverse groups engaged; this required effective communication and trust building efforts. In Nepal and Malawi, the composition of the working groups depends on the task, but donors and development partners will usually participate if they are contributing funds. In Malawi, participation by some MoH Directorates can be sporadic. At one point Sudan had dedicated staff and budgets to promote stakeholder engagement. In all three cases, some allowances were needed to support participation.

In Sudan, development partners, including UN agencies, have their own forum for general coordination which is represented in the NHC. In Malawi, development partners are members of the TWG, and one is

always the co-chair. In Nepal the composition of the working groups depends on the function, but development partners contributing funds usually participate.

Though there is rapid expansion of private health worker training in Nepal and Sudan. The for-profit private (health) sector, which lack representative bodies, was absent from the HRH coordination mechanisms. Moreover, in Sudan, the private (health) sector remains unconvinced of the value in sharing data or the benefits of participation. Civil society was also missing from HRH coordination in the study countries.

Tensions and conflicts between stakeholders were reported due to the politicisation of health and healthcare funding and the presence of many powerful actors who believe they have a legitimate HRH governance and gatekeeping remit (GLO 002; GLO 006). These tensions were often intersectoral, such as education and defence (e.g. reluctance of security forces to share information in Sudan) or as a result of political transitions and resultant changes in institutional roles and responsibilities (GLO 001 and GLO 008). However, consensus-building, collective agenda setting, sharing objectives, use of workshops and informal communication helped to foster collective insight and views on the HRH topic, which eased tensions. Several global respondents observed that this process also improved HRH literacy amongst stakeholders and in Sudan *‘...the structures for coordination and the meetings, the culture of frequent meetings, has done a lot to mediate this relationship and to address conflicts.’* (SDN001).

3.1.2.3 Sustainability

Many respondents emphasised the need for a sustained forum for developing and overseeing the long-term strategy for the health workforce. The longevity of the HRH TWG in Malawi, despite high turnover of government staff, was attributed in part to its embeddedness within existing MoH governance structures and the perception by stakeholders that it was “a competent structure” and essential to the coordination of new initiatives: *“a donor wouldn’t really commit into a serious undertaking before being convinced that the TWG has reviewed and is happy with the direction”* (MWI 005).

In contrast, the functioning of the high-profile Stakeholder Forum in Sudan was affected by the recent political transition in the country. One respondent claimed that *“it [Stakeholder Forum] was functioning, though the country was unstable politically and the issues around the revolution make it a bit difficult to have the regular meetings as it is scheduled in the plan.”* (SDN 004).

Holding regular face-to-face meetings can be expensive if held in hotels and travel costs are required, though for smaller meetings one respondent (NPL 005) said that paying for a “few cups of tea” was a good investment if it helped bring people together. In Sudan, the Stakeholder Forum had dedicated government funding and commitment, with the majority provided through external partners and donors, though *“sometimes [per diems] it’s equal[...], maybe to their[...] monthly salary. So this is one of the things that really motivate people to attend”* (SDN 009). During the pandemic in Malawi, the opportunity to hold virtual meetings meant more people were available, meetings were more frequent and cheaper.

3.1.2.4 Performance

The coordinating mechanisms in Sudan and Malawi and the Road map working group in Nepal had all supported the development of HRH strategic plans to support the long-term health workforce strategy. The coordinating mechanisms in Sudan and Malawi appeared to meet regularly, though this became difficult in Sudan after the 2019revolution in Sudan. Effective HRH coordination mechanisms were reported in Indonesia under the UHC umbrella which shared information and planning processes (GLO 006); and in Mozambiquewhere a strong champion created the coordination mechanism which was supported by an HRH observatory. They gained the interest of stakeholders by demonstrating at the health system annual reviews that *“even if the issue is not a workforce issue, if you bring it their attention, and workforce component will be looked at”* (GLO 003). Two global respondents compared the challenge of coordinating multiple stakeholders in larger – especially federated – countries with smaller countries where all stakeholders could be “in one room” (GLO 002).

3.2 HRH Units

This section reports on findings about the structures ofHRH Units, their functions and attributes (leadership/accountability, capacity, support to decentralised HRH units), and performance.

3.2.1 Types and functions of HRH units

Table 8 shows that whereas Malawi and Sudan have clear HRH units to oversee health workforce functions, in Nepal there was no single structure to provide this oversight.

Table 8: Summary of HRH units

Country	Type of HRH Unit	Description/Function
Malawi	Directorate of Human Resource Management and Development (DHRMD), Ministry of Health (MoH)	<ul style="list-style-type: none"> · Provides strategic direction on the rational use of HRH [19, pp23-4] · Headed by a Director who reports to the Principal Secretary for Health · Provides the secretariat for the HRH TWG · Leads the implementation of the HRH Strategic Plan (2018-2022) · Relies on external technical assistance to perform core functions such as workforce planning · Comprises health workforce planning; management; and development sections · The health workforce management section is responsible for a broad range of HRM functions, including the <i>"interpretation of the Malawi Public Service Regulations (MPSR) for central hospitals"</i> [19] · Works with the Health Services Commission, Local Government Service Commission, and District Councils which have responsibility for some HR functions
Sudan	Directorate General of HRH, Federal Ministry of Health (FMoH)	<ul style="list-style-type: none"> · Evolved from personnel management unit in 2003 to a Directorate General of HRH Development, reporting directly to the Undersecretary for Health · Responsible for <i>"strategic health workforce development including the development of several policies for the health workforce and expanding its role in coordination and facilitation of the health workforce issues"</i> (SDN001) · Includes 8 directorates and institutes to carry out functions with 150 staff: Policy and Planning, National HRH Observatory, Internship Affairs, Fellowships Affairs, Continuous Professional Development (CPD), Academy of Health Science (AHS), Public Health Institute (PHI) (now under the direct management of the Undersecretary of Health), Blue Nile National Institute for Communicable Diseases (BNNICD) managed collaboratively with the University of Gezira
Nepal	Personnel Administration Section, Division of Administration, Ministry of Health and Population (MoHP)	<ul style="list-style-type: none"> · Covers all functions related with personnel administration, HRH information, communication and management · 2012 Mid-Term Review of Nepal Health Sector Strategic Plan NHSP-2 recommended for <i>"a single human resources division and that all human resources activities are assigned to this division"</i> [24, p15] but not acted on.

Country	Type of HRH Unit	Description/Function
	Curative Service, Education, and Research Section, under Policy, Planning and Monitoring Division, MoHP	· Responsible for coordination with health academia, education institutions, hospitals, and technical schools
	Health Coordination Division, MoHP	· Responsible for: the Employee Adjustment process; formulation of HRH policies and plans; workforce planning and projection; HR information systems; training needs assessment, training plans and career development; and HRH research [41] · Includes Provincial and Local Health Coordination Section [41]
	Administration Section, Department of Health Services (DoHS)	· Personnel administration for staff employed by DoHS, including attendance and staff leave.
	National Health Training Centre, Department of Health Services (DoHS)	· Responsible for: HRH training strategy and plan; coordination for training and other capacity development initiatives for HRH; development and use of training materials for HRH
	Nursing Capacity Development Section, under the Nursing and Social Security Division, DoHS	· Coordination of planning, capacity development and management of nursing and midwifery work force

All 11 countries in the Southeast Asia region reported in 2019 that they have some form of health workforce unit, compared with eight in 2018[23], though in Timor-Leste *“it was just a one-person show.”* (GLO 001). In the African region, 15 out of 16 countries surveyed: *“had a responsible HR unit ... but in practice, what had happened was that it was not really functional, many of them were just passing papers in practice”* (GLO 003). Below we have listed selected findings relating to the functions of the HRH units (or equivalent).

3.2.1.1 HRH strategy: development and implementation

HRH functions need to be coordinated within the MoH (GLO 008). A HRH strategic plan is need for both stakeholders and within the MoH to guide, coordinate, and align HRH initiatives to longer-term health plans. Nevertheless, the findings showed that Malawi was the only study country with a plan (2018-22) currently being implemented. The development of an HRH plan appeared to be very time consuming, often getting stuck at the approval stage with Nepal’s 2020-2030 plan only recently signed off. As a pathfinder country for GHWA, there was some external funding for developing Sudan’s 2012-16 HRH strategy, but the process was apparently owned by the MoH and national stakeholders. In contrast, according to some respondents, the development of strategic HRH strategy in Malawi and Nepal was strongly influenced by development partners. Implementation may be hampered without

alignment to the budget process. Although Nepal's 2011 HRH strategy was officially approved and aligned to the budget "the implementation of activities in the strategic plan which require financial resources [was] therefore frozen." [24, p41]. Dissatisfaction with the financing and implementation of Malawi's current strategy was expressed: "*you need to have a proper budget, you need to have a proper plan, indicators, whether you meet those things or not, so, there should be that kind of platform*" (MWI 006).

One global respondent remarked that in many countries HRH departments do not operate at a strategic level and are mainly focused on routine recruitment and deployment (GLO 001). Sometimes major HRH changes may be taken on by a different department. The 'employee adjustment process' to support federalisation in Nepal was not managed by HRH officials, but a focal person of the rank of Chief Specialist was appointed to manage this process (NPL 002).

3.2.1.2 Workforce planning and HR information

Though workforce planning is often a "*self-contained exercise within the health sector carried out in relative isolation from other development processes*" [25, p359], in Malawi the staffing projections were part of the wider strategic HRH plan. The intelligent usage of HRH data [26] is needed for workforce planning and other workforce management processes. WHO has supported Health workforce observatories to generate such data. In 2015, 34 member states in the AFRO region had these observatories – including Sudan [27], yet most countries struggle to get accurate, comprehensive and current data on the workforce and only nine are currently active in the African region [28]. Despite years of donor support, the dedicated HRH information system in Nepal had failed and reliance of the personnel information system (PIS) for civil servants – including health workers - is only of "*some limited use for the training and other planning purposes*" (NPL002). Sudan's donor support to HRH information systems was curtailed by political sanctions. In Malawi, several information systems were in place, but the outputs could not be combined to produce useful information. In Indonesia the HRH data sharing between ministries was spelled out in a memorandum of understanding "*being very clear what data is going to be shared, when, by whom, and which platforms and everything ... they were very systematic on that*" (GLO 006).

3.2.1.3 Lessons from COVID-19 about existing functions

A report from the South East Asian region suggested that lessons from COVID-19 on surge management and protection of health workers should be integrated into updated national HRH strategies [29]. In Malawi, in response to the COVID-19 pandemic, recruitment processes that normally take six months were completed "*within two weeks or even less than that, and that is without compromising any quality*" (MWI 006).

3.2.1.4 Missing HRH functions

In Sudan the HR manual identifies the need for an employee relations unit, and this has been recommended in Nepal [30]. However, in spite of the risk of industrial action generally [28] and in all study

countries some of which was related to COVID-19, there was no evidence of the practice of ‘employee relations’ within MoH structures.

3.2.2 Attributes

Three important attributes of the HRH Unit emerged from the findings: leadership and accountability; capacity of HR unit staff; and support to decentralised units.

3.2.2.1 Leadership and Accountability

The success of Sudan’s HRH Directorate was attributed to the leadership’s clear vision and ability to think *“outside the box and how to conduct things not like ... routine”* (SDN 009). Elsewhere, HRH units may be hampered by unclear mandates and weak coordinating powers[8] or be low in the organisational hierarchy excluding them from strategic decisions-making[31]. Leadership at levels above the HRH unit was also cited as being important to the creation and functioning of such a unit. Strong support was demonstrated in Sudan, but despite numerous calls for its establishment the Personnel Administration Section in Nepal has not been replaced by dedicated HRH Division – *“this is the leadership matter”* (NPL 002). Weak leadership at both levels will affect accountability. Lack of ownership where initiatives were driven externally, such as the development of strategic HRH plans, was also found to be associated with lack of accountability.

3.2.2.2 Capacity of HR Unit staff

The Global HRH strategy [3] promotes the need for a professionalised body of HRH scientists, planners and policymakers to support HRH at a strategic level. Some respondents reported HRH expertise in selected high-income countries, but a recent study in the South-East Asia region found that only 14% of staff in the HRH units were professionals (eg with Master’s Degree in Public Health)[23] and in the African region only 7% of staff were described as ‘technical’[28]. In Malawi and Nepal the HRH functions are staffed by people from “common services” ministries with knowledge of routine personnel administration, but who may be unfamiliar with the complexities of developing and managing a health workforce. *“The perception is just managing, veterinarian managing, agriculture managing[....] or managing other things, the same with the public health and the public or the physicians or nurses. They look [at] everything as ... general.”* (NPL 006). A respondent from Malawi observed that generally *“people who are thrown to the HR department are those who are incapable, or who has a disciplinary issue or who want to have some calm time, so that they will do their own things. So, that is the debacle and because of those things always you see capacity issues”* (MWI 006).

Becoming ‘literate’ about the health workforce takes time. One respondent at a senior level in Sudan had been working for many years in HRH. However, just when the officer can develop effective and appropriate

strategies, they may be transferred: *“when they start to pick up things, they also move to the other institution. So that's really quite a big handicap for an institution as specialized as health.”* (MWI 003). A review from Nepal in 2013 showed very high turnover of staff working on HR functions, especially those in leadership roles [30]. High turnover of senior managers has continued in Nepal, some of which is associated with political instability. In Sudan, training in health workforce development contributed to improved capacity of the HRH directorates at State and National levels. In the absence of a stable body of HRH professionals, some countries have relied on the use of international consultants with the risk that no expertise remains when the contracts finish [8]. *“In Burkina[Faso] they have received support from I think Belgium cooperation to have again an expert to strengthen the HRH unit. And they have done a good job to strengthen HRH information system at the national level. And then when the expat left, nobody was able to manage the system. Then the system died.”* (GL 004)

3.2.2.3 Support to decentralised Units

Many countries either have or are moving towards decentralised health systems and management of the health workforce, as in the three study countries. This requires provision of support, including capacity strengthening, to the decentralised HRH units [3, 32]. Support strategies were included in Sudan strategic HRH plan for 2012-16 [33] and implemented. One respondent reported that all 18 state-level HRH units (staffed with one or more focal persons) are functioning. Strategies to support decentralised HRH units in the federal, provincial, municipal structures were included in Nepal's HRH Roadmap. Similar support to Malawi's devolution was anticipated in its HRH strategic plan - the *“devolution of the HR function led to a delineation of roles and responsibilities between the line Ministry (MoHP) and the Councils”* [19, p16], but at the time of this study, institutional HRH roles and responsibilities e.g. of the health service commission and the local government service commission at central and subnational levels had not been fully delineated.

3.2.3 Factors impacting on performance

A range of factors were found to impact on the performance of HRH Units, including: their legitimacy and power linked to positioning within the MoH structure and hierarchy (GLO 001) [10]; their political capital and engagement of stakeholders at the highest level, *“that gives you the power in order to bring different departments on the table”* (GLO 001); and *“funding power”* (GLO 002). To maintain technical autonomy and financial and programmatic independence, availability and use of monitoring and evaluation instruments and HR data are needed to monitor, report on and be accountable for results. This requires the availability and retention of HR literate professionals [11].

4 Discussion

4.1 Key considerations in building health workforce for UHC

Building and maintaining a workforce fit to support UHC requires the development and sustaining of a long-term HRH agenda informed by the labour market. The challenge is to facilitate a well-informed dialogue with a sufficient range of stakeholders [34, 35]; maintaining a focus on the health workforce to support the long-term health plans, whilst appreciating shorter-term needs of some HRH stakeholders; and whilst navigating an ever-changing environment (as in the study countries) such as decentralisation, pandemics and political transitions, civil unrest [36]. Key to this process are:

- the leadership and accountability that recognises the health workforce as essential to achieving UHC
- robust and transparent mechanisms that promote political and social accountability and responsibility for performance and results/health workforce outcomes
- well informed stakeholders and decision makers through provision of good HRH information and the kind of 'HRH literacy' that enables them to plan for and understand changing health workforce characteristics
- a unified approach to coordination of stakeholders who support the timely development and oversight of an appropriate HRH strategy subsequently implemented and monitored [37] by an HRH unit (or equivalent organising structure).

4.2 HRH coordination mechanisms

The study identified numerous coordination mechanisms which may be fit for their specific purposes, but to support the HRH long-term agenda they need to be sustained and inclusive of a wide range of stakeholder interests [38] including those of the private sector and civil society. Task-oriented groups can be helpful, but they should be integrated into the wider coordination mechanism. The coordination mechanisms need to be seen as credible, so stakeholders perceive a benefit or value in participation. Credibility is enhanced by organisational support and the generation and availability of timely HRH data. This can be achieved by various means, such as Sudan's HRH observatory, though there are few functioning observatories in the African region. There is a need for coordination mechanisms to be owned and driven by the MoH and not reliant on external funding as this jeopardises sustainability.

4.3 HRH units

We found no evidence that a single HRH unit is essential, but there should be a structure to provide the necessary technical leadership and coordinate the development of HRH strategy and the implementation of HRH activities. This is more complex, as in all study countries, when the management of health sector employees is spread across several government departments [39]. The absence of a distinct HRH unit may explain the leadership of the employee adjustment process in Nepal by another department in the MoHP, but even well-established HRH units may be side-lined regarding important HRH initiatives [40]. Coordination of HRH activities becomes yet more complex with the introduction of decentralised management structures. The speed of decentralisation may be unpredictable [32], but in Sudan this appeared to have been adequately planned for. There is a serious absence of expertise specific to managing the complexities of the health workforce. Surveys in Africa and

South-East Asia report on small numbers of 'technical' or 'professional' staff[11, 28], but it is unclear if they have HRH expertise. However, much of this specialised knowledge – or 'HRH literacy' – can only really be learned on the job. The high level of turnover in HRH units makes this difficult in many countries that second 'common services' staff to HRH positions, whose tenure is short-lived. Filling these skills gaps with time-limited consultants does not build the capacity needed[8]. A major input for HRH management is data, especially for workforce planning and monitoring and evaluation. Much donor support has been provided to develop stand-alone information systems, but this is often unsustainable. Further investigation of the Indonesian example of data sharing would be useful.

4.4 Future actions

This study has revealed many problems with HRH governance, but more information is needed. However, findings will be specific to each country context and the situation will constantly be changing. One approach could be for concerned individuals or groups possibly, with assistance from local research groups to document for themselves - guided by areas covered by this paper - a) the current state of HRH coordination mechanisms and their effectiveness, and b) the structures and processes and their effectiveness for implementation of HRH activities. Mapping the HR functions would help with the latter activity. The need for an effective HRH strategy based on a long-term vision that is actually implemented could result from these actions. The Global HRH strategy[3] provides guidance on appropriate actions to strengthen these areas of HRH governance. This, in turn, would strengthen HRH literacy amongst stakeholders at all levels. With such a locally owned approach in place, donors could be approached to provide assistance as needed. Documentation of this whole process would facilitate learning and benefit other countries.

4.5 Strengths and limitations of the study

As intended, this study has investigated HRH coordination and HRH units in greater depth than the NHWA reporting and the more detailed surveys from several WHO regions [10, 11, 28]. In addition, it has identified important tangential issues – such as the HRH strategy and the interdependence of HRH coordination mechanisms and HRH units – which are central to effective HRH governance. Nevertheless, there were limits on the time-frame, the number of interviews (which had to be carried out online) and available country-specific documentation. These challenges resulted in some loss of detail – especially the nuances of the politics of HRH - and limited the degree of triangulation possible.

Conclusions

The Global HRH strategy provides a useful stimulus to strengthen HRH governance through actions to coordinate HRH stakeholders and structures to develop and monitor HRH policies and plans. Reporting on these activities through the NHWA encourages implementation against the two milestones concerned. However, deeper understanding of the ways these mechanisms and structures operate is essential for enhancing their contribution to HRH governance and ultimately the HW contribution of achieving health goals. This paper, which provides some lessons, takes a first step in this direction.

Abbreviations

AFRO African Regional Office (WHO)

DHRMD Directorate of human resource management and development (MoH, Malawi)

DHRMD Department of human resource management and development (OPC, Malawi)

DoHS Department of Health Services (Nepal)

EMRO Eastern Mediterranean Regional Office (WHO)

FMoH Federal Ministry of Health (Sudan)

GLO Global (Respondent)

HRH Human resources for health

HRM Human resources management

HW Health Workforce

LSTM Liverpool School of Tropical Medicine

MoH Ministry of Health (Malawi)

MoHP Ministry for Health and Population (Nepal)

MWI Malawi (Respondent)

NCHC National Council for Healthcare Coordination (Sudan)

NHC National HRH Committee (Sudan)

NHRHO National Human Resources for Health Observatory (Sudan)

NHWA National Health Workforce Accounts

NPL Nepal (Respondent)

SEARO South-East Asian Regional Office (WHO)

SDN Sudan (Respondent)

ToR Terms of Reference

TWG Technical Working Group

Declarations

Ethics approval and consent to participate:

We received ethical approval from the Research Ethics Committee at Liverpool School of Tropical Medicine (21/055). Rigorous informed consent processes and mechanisms to assure confidentiality in data collection, analysis and storage were followed.

Consent for publication: Not applicable

Availability of data and materials: The datasets generated and/or analysed during the current study are not publicly available due confidentiality and ethical restrictions but are available from the corresponding author on reasonable request.

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Authors' contributions:

TM, MC, KO and JR conceptualised and designed the study, developed the data collection tools, collected the empirical data, analysed it and drafted the manuscript. TM, MC, KO, JR and WM reviewed the literature and conducted its qualitative analysis. DN, EB, FB, SB and SR critically reviewed the analysis and manuscript. All authors read and approved the final manuscript.

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