POLICY BRIEF 53

What can intersectoral governance do to strengthen the health and care workforce?

Structures and mechanisms to improve the education, employment and retention of health and care workers

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INTERSECTORAL COOPERATION

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The European Observatory is non-normative and offers evidence and options but does not make recommendations. This policy brief, however, has been developed with WHO HQ and Regions in the context of the 5th Global Forum on Human Resources for Health. The key messages therefore go beyond the standard European Observatory approach and assert what should be done. These messages, while they are more directive than 'usual', are supported by rigorous analysis of the evidence.

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List of abbreviations

ACMMP	Advisory Board on Medical Manpower Planning
COVID-19	coronavirus disease 2019
EU	European Union
GHS	Ghana Health Service
GHWA	Global Health Workforce Alliance
GHWN	Global Health Workforce Network
GSHRH	Global Strategy on Human Resources for Health
H4AP	Health for All Policies
HiAP	Health in All Policies
HRH	human resources for health
HCW	health care worker
HCWF	health and care workforce
HLMA	health labour market analysis
HRHIS	human resources for health information systems
ILO	International Labour Organization
IT	information technology
MO	medical officer
NGO	nongovernmental organization
NHWA	National Health Workforce Accounts
OECD	Organisation for Economic Cooperation and Development
PHC	primary health care
SDG	Sustainable Development Goals
TAPIC	transparency, accountability, participation, integrity and policy capacity
UHC	universal health coverage
UK	United Kingdom
W4H	Working for Health
WHO	World Health Organization
WISN	workload indicators of staffing needs

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Towards an evidence-informed statement of intent: key messages on intersectoral solutions to workforce issues

The COVID-19 pandemic showed the capacity of different sectors to come together to achieve remarkable outcomes. The lessons generated are key to informing post-pandemic health systems policy. They offer powerful evidence on how best to work across sectors to educate, employ and retain a sustainable health and care workforce (HCWF) to deliver on the ambitions of universal health coverage (UHC), health security and the Sustainable Development Goals (SDG).

If governments are to take forward the policies and practices that worked, they should know the following.

1. Providing political leadership from the top can set an agenda for HCWF development across the whole-of-government and the whole-of-society

- Sectors cooperated to really good effect during the pandemic because top-level leadership insisted on the finance, economy, education and health sectors working together.
- Only the **most senior (and serious) government commitment can make HCWF education, employment and retention everybody's concern** and this means:
  - putting in place a strong legal and political mandate for intersectoral measures;
  - institutionalizing routine and consistent inclusion of HCWF issues in planning and decision-making in all relevant sectors;
  - securing proper funding for intersectoral action.
- It is important that high-level political commitment is sustained across electoral cycles.
- A clear government policy prioritizing long-term human capital development in the health and care economy will signal to all involved that the HCWF matters.

2. Making intersectoral collaboration effective means sustained investment in relationships with key sectors and strategies that build trust

- Health sector leaders, ministries of education and finance reached new understandings during the pandemic and created new networks.
- Sustaining **trust and collaboration with other sectors is the way to maintain networks and support the HCWF** effectively both in normal times and in emergency.
- The health sector needs to demonstrate to its counterparts that it is a partner that can be trusted to plan effectively, articulate evidence-based demands and deliver efficiently.
- Health champions who understand the perspective of other sectors and look for win-wins are best placed to build long-term relationships that work.

3. Countries need to strengthen intersectoral governance mechanisms to make them work for the HCWF agenda

- Cross-government committees, specially convened multi-sector working groups and ad hoc tools enabled rapid and innovative responses to COVID-19.
- There is a need to **build on existing intersectoral mechanisms and implement new ones to sustain the benefits** and this means:
  - revisiting the tools at both administrative and political levels;
  - linking funding to HCWF development, mobilization and retention;
  - political engagement to ensure health is not crowded out.
- The lessons of the pandemic suggest there should be particular investment in:
  - mobilizing cabinet and parliament;
  - extending the scope of existing intersectoral committees, working groups and commissions.
- Engaging to diverse stakeholders, including communities and civil society.
- International support mechanisms can also be exploited to boost effective work across sectors.

4. The health and care sector needs to develop reliable data and forecasting if other sectors are to take it seriously.

- The complexity and scale of HCWF needs in terms of supply, demand and distribution has become abundantly clear.
- **Being able to specify what health systems need in terms of the HCWF is key** to responding and requires:
  - stronger data collection, analysis and reporting to the public domain;
  - improved forecasting and scenario planning for health and care services and all public health functions, including emergency preparedness and response;
  - linking data to models of care and explicit reform goals;
  - breaking down needs in terms of competencies, practice activities, distribution and aims.
- Quantifying HCWF needs will strengthen credibility with other sectors and help make the case for investment.

5. Governments need to change the investment narrative for the health and care sector and spell out the co-benefits for other sectors of investment in the HCWF

- The pandemic demonstrated how much the health system and the HCWF does to support populations, keep individuals healthy and enable economic activity.
- Analysing and **presenting the co-benefits of investing in the HCWF is a key tool for securing political, parliamentary and stakeholder support and investment.**

- Transparency on co-benefits can also help convince other sectors of the value to them of working with health in terms of:
  - the education, employment and gender dividends arising from a deliberate expansion of human capital for the health and care economy.
  - the creation of counter-cyclical employment and jobs in areas of underemployment.
  - the health, safety and productivity of all workers; and
  - postponement of early retirement on health grounds.

Executive summary

Intersectoral collaboration is essential in developing and strengthening the health and care workforce (HCWF) to deliver on the ambitions of universal health coverage (UHC), health security and the Sustainable Development Goals (SDG)

The HCWF is critical to delivering health services under normal circumstances and even more so during emergency situations. The COVID-19 pandemic has added additional strain to the HCWF's longstanding challenges, including widespread shortages in the total workforce and shortages in specific occupations, maldistribution and "medical deserts", particularly in rural, remote and urban deprived areas. These compounding challenges are also functions of an inadequate skill mix and the constraints placed on the scope of practice limiting the effectiveness of multi-disciplinary teams – and increasingly relating to a lack of competencies in digital and green technologies.

With the realities highlighted by COVID-19, significant steps were taken to optimize the use of the HCWF in the long term and provide the support needed to sustain the HCWF (see the policy brief *Global Health Workforce Responses to Address the COVID-19 Pandemic*). Although operating from different starting points with different capacities, countries need to build on these learnings in the longer term and make even greater strides in strengthening their HCWF. This additional planning would make countries better prepared for future shocks but can also meet commitments to their populations on UHC, health security and the SDG. This implies making intersectoral collaboration a priority, not least because education and training, employment protection and wider measures supporting retention (including childcare, transportation and accommodation) are all rooted in other sectors.

Political leadership must set the agenda for HCWF development across the whole-of-government and the whole-of-society

Political leadership denotes the commitment to achieve particular policy goals. Policy-making is often not consensual and requires creating some kind of coalition or compromise. Strong governance and strategic leadership may be sufficient in certain contexts, whereas "intangible software" is often invoked in others. In these other cases, a combination of negotiation, consensus-building, establishing shared values and social norms, communication and trust building, and creating a sufficient shared vision is needed to align stakeholders and resources behind a sustainable solution. It hinges on a societal desire to foster change, developed through increasing government and public understanding and support.

Whole-of-government and whole-of-society approaches during the pandemic were possible because strong political leadership guided the finance, economy, education and health sectors to work together. What is less clear is how to sustain this strong support for intersectoral collaboration. Elements that can help strengthen a political leader's position to foster collaboration between sectors includes sharing information, generating public interest and fomenting advocacy. Similarly, demonstrating the co-benefits of investing in the HCWF and communicating them clearly can help build bridges across sectors motivating whole-of-government and whole-of-society approaches. Certainly, government commitment to leveraging existing mechanisms and measures for collaboration – or fostering new ways of working intersectorally – and ensuring they are adequately resourced makes a difference.

Countries need to strengthen intersectoral governance mechanisms in order to properly coordinate the funding, development, mobilization and retention of an effective HCWF

Countries need to build on existing intersectoral mechanisms or implement new ones at administrative and political levels. Steps that can aid in supporting substantive collaboration on and for the HCWF should include linking funding to HCWF development, mobilization and retention, involving cabinets and parliament, identifying existing intersectoral committees, working groups and commissions where there are already mechanisms in place, and connecting with diverse stakeholders (this might also include communities and civil society). International support mechanisms can also be used to increase effective work across sectors and ensure that health is not left out of discussions.

Governance refers to how decisions are made and implemented. This includes everything from policy-makers' ability to create alignment between different actors (so that agreement can be reached) as well as their ability to implement policies (that draw on the resources of different sectors). Effective intersectoral governance is key to ensuring coordination across sectors to support HCWF development. The first part of effective governance is about *making decisions*, and in essence – for effective policies on the HCWF – this requires that the health sector sits at the same table as other sectors and stakeholders when plans are developed and priorities set. It also implies that the health sector's voice is heard. The second part is about *implementing decisions.* This entails having the capacity (regulatory, financial, etc.) to translate the decisions agreed upon at the table into practice. While this is undeniably complex, it is a combination that was achieved effectively during the COVID-19 pandemic proving that health can work with and for other sectors provided effective governance is in place.

The development of reliable data and forecasting to better understand and support HCWF demands are a precondition for effective intersectoral governance

If the health system is to convince other sectors that HCWF issues merit their support, it must have the skills and structures to credibly define the scale of the issues and present them to other sectors. It also needs to be able to set out what it is trying to achieve and be convincing of its ability to implement efficiently. The health system actors must be able to explain the supply versus demand gap coherently, how it can be absorbed (through employment) and how it can be sustained (through retention), and to do so in ways that are compelling enough to secure the commitment of education, employment and finance. This requires the ability to transparently collect, analyse and report data for the public domain, improve forecasting and scenario planning for all health functions and services, including emergency preparedness and response and link data to models of care and explicit reform goals. The ultimate goal is not just to make a case for intersectoral collaboration but to actually facilitate successful work with different sectors.

Data collection and analysis need to be timely and reliable, with data disaggregated by gender. The use of forecasting and planning tools must be context specific and explicit. The evidence must be sufficiently granular so that HCWF demands are not just expressed as numbers but in terms of skills, distribution and aims.

There is also scope to explore innovative ways of building and sustaining political and policy capacity and HCWF literacy across health, other sectors and societal actors to foster meaningful contributions to intersectional collaboration and action.

Other sectors need to be convinced that the investment narrative for the health and care sector will result in co-benefits for other sectors

Implementing and sustaining intersectoral governance requires more than a range of tools that work in emergencies. It suggests political and legal mandates, sufficient funding and the creation of strong leadership (based on intersectoral arguments) to achieve joined up action in areas that improve education, employment and retention in the long term.

Health leadership alone cannot insist on effective working relationships – health needs to generate trust and build relationships with other sectors based on evidence, shared aims and mutual understanding. A key driver for securing political, parliamentary and stakeholder support and investment is by presenting the co-benefits of investing in the HCWF. The health sector must demonstrate effective planning and administration and guarantee that it can deliver efficiently (see the companion policy brief, *What steps can improve and promote investment in the health and care workforce?*) to be taken seriously by other sectors.

Given the persistent challenges surrounding the HCWF, it is imperative that the sector capitalizes on the pandemic experience and make intersectoral governance and collaboration sustainable. Intersectoral collaboration is the key to workforce development, making progress with UHC and responsiveness in emergencies. Health must therefore remain at the (intersectoral) decision-making table and work with other sectors to achieve its goals.

POLICY BRIEF

1. Introduction

Intersectoral governance is key to developing and strengthening the health and care workforce

The COVID-19 pandemic has highlighted the critical importance of an adequately trained and sufficiently staffed health and care workforce (HCWF) for health security, health systems, societies and economies. The pandemic has also generated lessons, and a collective effort is needed to sustain and build on what we now know about meeting the challenges. COVID-19 has laid bare the multiple deficiencies in the education, employment and development of the HCWF (WHO, 2022b; 2022f; 2023). Pre-existing deficiencies were aggravated by the pandemic, hampering effective responses. These deficiencies include: widespread shortages in total workforce headcount and across clinical occupations; maldistribution of the HCWF and "medical deserts", particularly in rural, remote and deprived urban areas; an inadequate skill mix limiting the effectiveness of multi-disciplinary teams; and insufficient competencies in digital technologies.

The absence of robust intersectoral governance structures, decision-making, management and workforce planning capabilities have been identified as key reasons for the mismatch between education and employment in the health and care sector. This often results in the quantity, quality and competencies of health and care workers not meeting population needs for health and well-being; thus, not achieving universal health coverage (UHC).

Box 1. How HCWF governance is defined in this brief

HCWF governance here is understood as the underlying systems and processes that lead to the development and implementation of policies and other decisions about the health workforce. HCWF governance is critical in influencing the availability, accessibility and quality of the health workforce. Based on the TAPIC governance framework, governance comprises five domains, namely: **t**ransparency of decisions; **a**ccountability of decision-makers; **p**articipation of stakeholders; **i**ntegrity derived from fair and transparent procedures and management of the health workforce; and **c**apacity among decision-makers and other stakeholders to generate evidence-informed policies (WHO Regional Office for Europe et al., 2019). We draw from the description used within the National Health Workforce Accounts (NHWA) to define intersectoral governance as the specific mechanisms or institutions that enable the coordination of an intersectoral HCWF agenda (WHO, 2017). We consider "mechanisms" to include inter-ministerial committees or other high-level bodies that lead coordination, monitoring and evaluation, and negotiation across sectors and stakeholders. Finally, we draw from the World Health Organization (WHO) Regional Office for Europe in describing HCWF planning as the coordination of activities across education, training, regulation and driving change in organizations and working conditions considering: the whole health workforce; variations in health workforce needs across a country; the importance of reliable and timely human resources for health (HRH) data – and people with relevant expertise to interpret this data – to identify trends and determine needs; the criticality of stakeholder engagement in supporting change; the need for effective costing across sectors; and the need to maintain flexibility to adapt strategies where objectives may not be met (WHO Regional Office for Europe, 2022).

Ensuring a sustainable supply and appropriate skill mix of health workers requires effective cooperation and governance across multiple sectors, including health, education, labour, trade, finance, gender and social welfare, as well as the engagement of the private sector, and across all levels of government – from the local to the national. Yet, all too often, different sectors work in silos, with little effective collaboration. For example, education policy and investment decisions are normally taken by the education sector, often in a disjointed fashion from the health sector. In many countries, the health and care sector does not undertake evidence-based workforce planning to be able to understand future supply needs, often due to a lack of data and institutional capacity. These challenges are further compounded by ineffective regulation of the HCWF, education market failures, unregulated labour mobility and migration (within and across countries), and restrictions in the number of publicly financed jobs to absorb health professional graduates due to fiscal space and budgetary constraints.

This policy brief explores how intersectoral governance and health and care workforce planning and development can be enhanced to ensure that education, employment and retention of the health and care workforce are considered holistically.

To achieve this, in the next section this brief will look at the existing intersectoral governance mechanisms and highlight how they can be strengthened to better improve the education, employment and retention of the HCWF. The following section will speak to supporting or leveraging existing intersectoral mechanisms. The fourth section will highlight key factors and drivers in effective intersectoral collaboration, and the concluding section will summarize the main findings from the brief.

Box 2. Methods in brief

We carried out a scoping review across key publications identified following a separate document review on health workforce governance (Martineau et al., 2022b), with a focus on elements of intersectoral activities. In total, 90 documents were reviewed (63 articles from academic journals and 27 grey literature documents).

Additionally, we drew from case studies compiled across different WHO regions, each providing key examples of intersectoral action for health workforce governance and planning. These are highlighted throughout. Please see Appendix 1 for a more detailed description of the methods.

2. What intersectoral governance mechanisms exist and how can they be strengthened to improve the education, employment and retention of HCWF?

A diverse array of stakeholders with different and often opposing interests and priorities occupy the human resources for health (HRH) policy space. Robust intersectoral governance mechanisms are required to promote cooperation and coordination across and between these groups for responsive and effective HCWF policy, planning and development (Fieno et al., 2016; George, Scott & Govender, 2017; Lim & Lin, 2021; Martineau et al., 2022a).

Improved intersectoral cooperation and inclusive and participatory intersectoral governance mechanisms will optimize the engagement of all the key stakeholders that can influence and impact HCWF policy, planning and development, including government ministries, departments and agencies, non-state actors – including the private sector – professional and occupational associations and unions, civil society and the community. In addition, intersectoral governance mechanisms can facilitate the diversification of HRH data sources and data triangulation at national and subnational levels, and play key roles in improving the availability, quality, analysis, dissemination and use of HCWF data to inform decision-making and planning (WHO, 2018; 2022e). However, the use of appropriate mechanisms to identify stakeholders and engage them on the basis of their specific expertise and potential contributions to HRH development is key (Kingue et al., 2013).

Research on HCWF governance has found that HCWF policy prioritization is influenced by interlinked factors across sectors such as fiscal space, current economic policy, employment practices and HCWF resistance to change. Interests and objectives beyond health – from national sovereignty issues to political will, and manoeuvring alongside external stakeholders in education and training and financing – add further complexity in creating and implementing HRH policies (Lim & Lin, 2021).

Table 1 presents a selection of national-level intersectoral mechanisms that provide opportunities for intersectoral cooperation on HCWF planning and development. Across these mechanisms, higher-level political support is often necessary to enable them to function fully and achieve intended outcomes (Badr et al., 2013; Dieleman, Shaw & Zwanikken, 2011; Fieno et al., 2016).

Table 1: National-level mechanisms that facilitate intersectoral governance

MECHANISM	WHAT THEY DO
HRH-specific technical working groups, committees, coalitions and councils	Engagement of state and non-state actors through meetings, workshops, national forums or other platforms in order to provide technical insights and evidence and inform policy solutions for HCWF issues. Citizens may also be engaged, particularly through citizen advisory committees or groups, deploying public satisfaction surveys, or hosting "consensus conferences" in which a panel of citizens question experts or decision-makers in a public forum (Barbazza et al., 2015; Dieleman, Shaw & Zwanikken, 2011).
National Health Workforce Observatories	Support intersectoral evidence generation for HCWF decision-making for polices and practice (Gedik & Dal Poz, 2012).
HRH Unit	An organizational 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 (WHO, 2016).

2.1 High-level intersectoral governance mechanisms

Using new, repurposed and/or existing intersectoral governance mechanisms is central to improving the education and employment of the HCWF. However, often opposing interests and priorities occupy the HCWF policy space. Even interests with a shared focus on the HCWF, the risk is that if they are not well-coordinated or their interests are not effectively aligned, they will fail to achieve policy coherence and intended HCWF outcomes (Heenan et al., 2022). This makes it necessary to have robust and formalized intersectoral governance mechanisms in place that promote cooperation and coordination across and between these groups for responsive and effective HCWF policy, planning and development. There are national, regional and global mechanisms available to help with this, but what is really missing is the health sector making sure that it is invited to participate in the intersectoral structures that exist in every country in order to successfully benefit from intersectoral support. Demonstrated ways of addressing these challenges, including examples developed during the pandemic, incorporate a mix of interventions that seek to foster a shared understanding, align priorities and make planning and delivery mechanisms compatible across sectors, supporting the health sector in meeting societal needs.

Mechanisms that facilitate intersectoral governance need to be strong in order to expedite responsive and effective HCWF policy, planning and development

High-level intersectoral governance mechanisms can foster intersectoral cooperation across a sufficient number of decision-makers (e.g. representing health, education, labour, finance, etc.) with a common understanding of the problem and a commitment to supporting a solution. Common platforms for collaboration include: cabinet committees and secretariats; parliamentary committees; cross-or all-party committees; interdepartmental committees and units; and merging of ministries (McQueen et al., 2012). Some of these are described below.

Parliamentary committees: These can have an influence on ministers by raising the profile of cross-departmental health issues and making recommendations. All-party parliamentary committees encourage a more consensual approach. These can enhance the potential influence of findings and create stability within the reform process, supporting the longevity of an issue as a political priority, despite a change of government (McQueen et al., 2012). An example of what parliamentary committees can achieve and the positive role that political consensus can play in reform is seen in the case of Sláintecare in Ireland. Initiated by the Department of Health, the formation of the Oireachtas Committee on the Future of Healthcare enabled politicians from across the political spectrum to come together to consider national and international evidence and to reach consensus on how to achieve the shared goal of a universal single-tier health system (Houses of the Oireachtas, 2017). This extensive and intensive cross-party collaboration and dialogue led to the Sláintecare 2017 Report, which recognized, among other things, that the recruitment and retention of health care professionals was critical to address the challenges facing the Irish health service and to reorient health services towards primary and social care in the community. High-level cross-party support to the resourcing and implementation of the report has been sustained through the development of the Healthy Ireland Strategic Action Plan 2021–2025 and production and presentation of regular progress reports to the Dáil. Significant progress with Sláintecare reform and innovation across health and social services was reported in 2021, including increased staff recruitment across all service areas and the initiation of a Health and Social Care Workforce Planning Strategy and Planning Projection Model to develop future health and social care workforce demand and supply planning projections at the regional and national levels. This work is being undertaken with assistance from the Directorate-General for Structure Reform Support of the EU Commission through their Technical Support Instrument (Government of Ireland, 2021).

Joint budgeting: At times, intersectoral collaboration fails to achieve its goals because financial resources are not readily available. The term "joint budgeting" refers to using combined budgets between two or more government departments or tiers of government to achieve a collective goal (McDaid, 2012). Joint budgets can follow different approaches (budget alignment, dedicated joint funds, joint-post funding, fully integrated budgets or policy-oriented funding) and can be mandatory or voluntary. The main purpose of such budgets is to pool financial resources to achieve the desired outcome more efficiently and faster. An example of how joint budgeting can be used is in the case of Swindon, a town in England. Here, £28 million in health and social care funds were pooled for children's services. This involved three separate agreements with a phasing in of integration that moved first from aligned to pooled budgets. The result was improvements both in rates of obesity and youth employment after the scheme was launched (McDaid, 2012).

Delegated finance: The funding aspect across departments, committees and sections is often one of the biggest challenges in achieving goals (Public Health Agency of Canada, 2007). Delegated financing is an intersectoral funding arrangement that reaches beyond governments – namely it involves the transfer of authority from governments to semi-autonomous statutory bodies. Examples of how this is done can be found in Schang & Lin (2012). The ultimate goal of such a transfer of authority is to stimulate financial commitment, thus increasing the likelihood of funds for intersectoral action.

Interdepartmental committees and units: These operate at the bureaucratic (usually administrative) level and aim to reorient ministries around a shared priority. Both interdepartmental committees and units are composed of civil servants; however, committees can include political appointees and units can include those outside of government. The appeal of such committees and units is that they provide a unique forum for problem solving and debate, which, in turn, lowers implementation costs by involving affected departments in the decision-making. The relevance and roles of an interdepartmental committee or unit are highly dependent on context – in particular, the relative political importance of an issue and the level of agreement there is between departments about the issue (McQueen et al., 2012).

2.2 Extending the scope of existing intersectoral governance mechanisms to support HCWF goals

Sustainable and cost-efficient HCWF interventions can inform the investment case for HCWF planning and development

Achieving HCWF outcomes, UHC and related Sustainable Development Goals (SDGs) will be dependent on robust intersectoral governance. These will require cooperation with national leadership and effective monitoring and documentation of sustainable and cost-efficient HCWF interventions to inform the investment case for HCWF planning and development. As such, intersectoral representation should come from, at a minimum, the ministries of health, finance and education, donors or global health agencies, the private sector and professional associations, trade unions and civil society.

However, as a starting point, it may be possible to leverage pre-existing platforms for HCWF dialogue and problem solving between sectors. The structures with capacity to trigger intersectoral actions may be found at the governmental, parliamentary and bureaucratic levels. Such a process may involve the following steps (McQueen et al., 2012):

1. Recognizing the need for intersectoral collaboration – this works best when there is perceived political importance of the HCWF.
2. Identifying government structures and ministerial linkages that may be capitalized on.
3. Setting shared goals and targets with indicators for monitoring.
4. Developing shared coordination agreements to decrease fragmentation and duplication of actions. For example, establishing a legal mandate to support the foundation and legitimacy of different practical arrangements, creating shared memoranda of understanding and so forth. Leadership around coordination is essential.
5. Monitoring and evaluating progress.

In Canada, the Committee on Health Workforce (formerly called the Advisory Committee on Health Delivery and Human Resources) was established in 2002 and is still active, leveraging existing officials within the provincial and federal ministries of health, in order to establish "pan-Canadian" registration and planning of the HCWF. Within this committee, there are representatives from professional associations such as the College of Family Physicians of Canada, engagement with special interest organizations such as the Canadian Centre on Substance Use and Addiction and the cross-sectoral Canadian Health Workforce Network (representing researchers, knowledge users, and decision-makers) (Bourgeault, 2021; Marchildon, Allin & Merkur, 2020).

2.3 Supporting meaningful participation of diverse stakeholders, including communities, unions and the private sector

A diverse set of stakeholders, including health and non-health professionals, can ensure responsiveness to populations needs in a constantly changing environment

2.3.1 National-level stakeholders including representatives from health and non-health professions are key

To further ensure responsiveness to an ever-changing environment, including population needs, global health security, health worker migration, and political and civil instability and unrest, among others, the scope of intersectoral cooperation should also likely include representation from non-health professionals who work in the health care system, such as computer scientists, engineers, data scientists and professionals in other areas such as artificial intelligence (Frenk et al., 2022). The use of the country coordination and facilitation model was successful in some countries in coordinating and expanding stakeholder involvement and participation in the development and implementation of HCWF polices and strategic plans. In fragile states especially, research also shows that, although development partners are key in shaping HRH policy, local nongovernmental organizations (NGOs) and other non-public actors are critical in supporting policy implementation and ensuring service provision (Witter et al., 2016). Further, an innovative approach is using digital health to facilitate ongoing engagement of the diaspora in HCWF development in their home country (Zapata, Buchan & Azzopardi-Muscat, 2021).

Beyond national-level stakeholder groups, coordination between the different levels of government is key. Continued efforts to facilitate HCWF governance, increase policy dialogue and strengthen capacity at the regional and subregional levels is critical "to facilitate an interface between global policy proposals and national implementation" (WHO, 2021b).

Further, intersectoral strategic planning and budgeting and policy development may be a new arena in some health systems. Therefore, policy entrepreneurs who aim to change the current ways of doing things and seek to influence policy to that end can be effective agents of change for HCWF reforms (Fieno et al., 2016; Mintrom & Norman, 2009).

2.3.2 Communities help mobilize interests, power and resources

Intersectoral collaboration and action at community level can be effective in influencing decision-making, with the HCWF key to making intersectoral action happen (Public Health Agency of Canada, 2007). The engagement and involvement of communities and community-based structures (e.g. health facility management committees, women's groups) in HCWF governance mechanisms and HCWF development and decision-making can also mobilize interests, power and resources for the planning,

implementation and evaluation of intersectoral HCWF interventions and strategies (Gopinathan, Lewin & Glenton, 2014; Barbazza et al., 2015; WHO, 2021b). An increase in HCWF literacy across the population would allow for a more effective engagement in intersectoral collaboration and action, and result in more informed decisions and actions on HCWF-related issues. This in turn would help mobilize communities and resources to support individual health workers in their community or be involved with intersectoral HCWF issues and initiatives more generally. Health workers' perceptions of community acceptance and safety, particularly in rural communities, can contribute to health worker motivation, performance and retention, and other HCWF and health outcomes (Dieleman & Hilhorst, 2011; Karki, Prajapati & Baral, 2013; Gopinathan, Lewin & Glenton, 2014; Fieno et al., 2016; Godue, Cameron & Borrell, 2016; Martiniuk et al., 2019; WHO Regional Office for Africa, 2021; Martineau et al., 2022a). Strategies such as working with communities to ensure the alignment of education curricula with community needs, targeted student selection prioritizing underrepresented populations and expansion of the teaching faculty in rural training institutions have been shown to increase rural recruitment and retention (WHO, 2021c).

2.3.3 Unions and health professional associations foster multisectoral engagement

Multisectoral engagement, inclusive of unions and health professional associations, is key to delivering the "decent work" agenda – that is, ensuring that conditions of employment and the working environment are conducive to the positive mental health and well-being of the HCWF, offering opportunities for good work-life balance. Building capacity and expertise in the management of labour relations can facilitate improved working conditions and prevent, resolve and/or mitigate the impact of industrial action and strikes on health worker morale and service delivery users (Cometto et al., 2019; Cometto, Buchan & Dussault, 2020; Waithaka et al., 2020). For example, in Slovenia, working conditions are defined through the Regulation on Continuous Health Care, generated through agreements with trade unions representing the HCWF (WHO Regional Office for Europe, 2022).

2.3.4 Private sector involvement can help generate training opportunities

Increasing demand for health worker education, and the international marketability of health worker skills, as well as employment opportunities within domestic labour markets for qualified health workers, have led to a rapid expansion of the private-for-profit health education and training sector worldwide. Private sector involvement in intersectoral governance mechanisms is key, especially in contexts where there is significant private sector involvement in health education and training. This cooperation can generate training opportunities, while the government can control the costs of training in the private sector and support the provision of scholarships, grants and loans for private training (Effa et al., 2021). With appropriate regulation, accreditation and quality assurance processes in place, partnership and collaboration with the private sector in HCWF production and training can expand and optimize HCWF availability and accessibility for service delivery (Dieleman, Shaw & Zwanikken, 2011; Ayanore et al., 2019; WHO, 2021a; Frenk et al., 2022). This oversight is essential, as, while greater collaboration with the private for-profit health education sector has advantages for HCWF supply and expansion, evidence suggests that inadequate regulation processes and weak capacity and governance mechanisms across government agencies and regulatory bodies is contributing to the rapid expansion of private for-profit health worker education and training alongside a perceived decline in the quality of training in private training institutions (Martineau et al., 2022a).

2.3.5 Professional councils and regulatory bodies aid in establishing and sustaining regulatory frame-works and quality assurance processes

Collaboration with health professional regulatory and accreditation bodies, through intersectoral processes, can facilitate the establishment and sustainability of effective regulatory frameworks and quality assurance processes for both public sector and private-for-profit health education and training, including the accreditation of training programmes and institutions, the licensing and certification of health facilities and health workers, and legislation around scope of practice (Cometto, Buchan & Dussault, 2020). Competency-based recruitment and training of health care workers (HCWs) can also be strengthened through collaboration with regulatory bodies and health education and training institutions (Cometto, Buchan & Dussault, 2020).

In Afghanistan, giving the accreditation board responsibility for developing an accreditation system for midwifery education helped in the implementation of the programme (Dieleman, Shaw & Zwanikken, 2011). The rapid expansion of Ethiopia's Health Services Extension Programme was enabled by a strategy in which theoretical training was offered through training institutions run by the Ministry of Education, while practical training was offered at health centres. Health labour market analysis (HLMA) conducted using intersectoral approaches in a number of countries has also highlighted the importance of the oversight and regulation of private education to mitigate the overproduction and non-absorption of certain cadres and to assure the quality of health worker education and practice (Garg et al., 2022; WHO, 2021b). The Sector Working Group in Laos, which has private sector representation, was able to influence the content of training for nurses/midwives/allied professionals to emphasize clinical experience, which had been previously neglected (Dodd et al., 2009).

3. How can existing intersectoral mechanisms be leveraged or improved to support the education, employment and retention of the HCWF?

The COVID-19 pandemic highlighted the importance of the HCWF to well-performing and resilient health systems and the need for effective intersectoral governance and responses. The adoption of innovative and flexible approaches met the increasing demand for health workers. Initiatives to optimize the mix of HCWF settings, skills and roles demonstrated how agile the HCWF is and suggested that there is scope to adapt tasks, responsibilities and workloads going forward. COVID-19 emphasized the importance of protecting the HCWF and the need for adequate HCWF investment to ensure the availability, performance, retention, safety and well-being of health workers (Zapata, Buchan & Azzopardi-Muscat, 2021). Innovations in big data, augmented reality, mixed reality, simulation and artificial intelligence have the potential to transform both education and health care systems. They provide opportunities for the expansion of competency-based and trans-professional education health worker education and training with improved global connectivity fostering the development of collaborative networks (Frenk et al., 2022). Intersectoral cooperation between government and the private/technology sector at the country level to improve information technology (IT) infrastructure and digital technologies could help facilitate the sustained adoption and refinement of these new technologies and innovations to better meet health and HCWF needs, improving health workers' access to and awareness of e-learning opportunities and adoption of education for life models, especially in more remote and rural areas (Frenk et al., 2022).

3.1 Securing and sustaining political will for intersectoral collaboration

Political will is widely recognized as necessary to advancing the intersectoral HRH agenda

Amidst ever-changing social, technological and epidemiological conditions, the need for intersectoral collaboration to support HCWF planning and development is essential, and relies on the presence of sustained political will for its success. Though it is widely recognized that political will is necessary, preconditions for political will for HCWF intersectoral activity or evidence of how it can be built and sustained, in practice, are scarce. Political will hinges on societal desire to foster change, developed through increasing government and public understanding and support. Sharing information, generating public interest and fomenting advocacy can strengthen political will (Baum et al., 2022). Political will is defined by Post, Raile & Raile (2010) as having four key components:

1) A sufficient number of decision-makers who …
2) share a common understanding of a problem and …
3) are committed to supporting this problem through …
4) a commonly perceived and potentially effective policy solution.

COVID-19 has led to increased public value in and understanding of the challenges facing the HCWF in many contexts, and thus may represent an important catalyst to generate increased political will for the HCWF. There are, of course, examples outside of the pandemic. For instance, in Australia, resonating with calls within and beyond the government for equity in the health system, women's participation in the HCWF was encouraged. Laws for paid parental leave were revised to provide more financial and job security. Recognizing the success of these schemes, policies around gender neutral parental leave have since been adopted by many employers to support work-life balance within the health system and beyond (Baum et al., 2022; Workplace Gender Equity Agency & Australian Government, 2019).

HRH strategic decisions result from continuous interaction of diverse stakeholders with varied interests across multiple policy spaces. Building and sustaining political will is complex, requiring strong governance and strategic leadership skills including "intangible software" such as negotiation, consensus-building, establishing shared values and social norms, communication and trust building. These help to engender a shared and common vision and to generate resources to create sustainable policy solutions and advance the intersectoral HRH agenda (Van Ryneveld, Schneider & Lehmann, 2020). Efforts and commitments at global (e.g. through WHO's HRH Leadership and Management Curricula Package) and regional levels (e.g. led by the WHO European Region) aim to strengthen HCWF leadership and governance capacity, including support to strengthen HRH units to lead and coordinate an intersectoral HCWF agenda (WHO Regional Office for Europe, 2022).

3.1.1 Taking a whole-of-government approach to strengthen policy coherence in the HCWF

Political leadership and consensus are required for a whole-of-government approach

There is a need to decompartmentalize governance across sectors to avoid siloed decision-making and strategies that are not coherent or congruent with overarching policy aims (people-centredness in health systems, UHC) and adopt a whole-of-government approach (Lim & Lin, 2021). Policy coherence refers to the creation of mutually reinforcing policies across government departments – and sectors – that create synergies that support achievement of a common goal, while minimizing potentially negative knock-on effects (OECD, 2016).

Health in All Policies (HiAP) that support whole-of-government approaches have become increasingly necessary due to COVID-19. The implementation of these policies recognizes the considerable overlapping benefits in improving health on improving other aspects of societal development, highlighting the importance of intersectoral collaboration and policy influence that considers many of the social determinants of health (Green et al., 2021).

Political leadership and consensus is required for a whole-of-government approach. It can ensure that there is a solid business case for sustained HCWF strengthening and

mobilization, rallying domestic resources or attracting investments and aid from development partners as needed. Such leadership can ensure the channelling of support from the ministries of education and finance, as well as from labour, civil service commissions, local governments and the private sector to this end. It can support uptake of innovations and overcome rigidities in public sector regulation for better responsiveness. As such, this type of whole-of-government approach is necessary to secure domestic and external investments in the HCWF (Cometto, Buchan & Dussault, 2020).

3.1.2 Leveraging co-benefits of intersectoral cooperation for HCWF strengthening

Moving from Health in All Policies (HiAP) to Health for All Policies (H4AP) helps strengthen health policies and improves health outcomes that have major and tangible co-benefits for other sectors

An important tool to support the whole-of government approach is the concept of Health for All Policies (H4AP). Building from the HiAP concept, H4AP highlights what the health sector can do for other sectors while simultaneously attaining co-benefits for its own sector (Greer et al., 2022). This implies that benefits are not only one-directional for the health sector, but benefit all sectors involved in the given policy. Thus, a single policy (for example, increased flexibility in working hours) leads to a variety of beneficial outcomes (for example, increased HCWF retention and attractiveness, decrease in sick leave, long-term financial benefits).

In terms of co-benefits, a well-performing HCWF that can support the aims of improving population health will be critical to fulfil broader aims around social development as outlined by the SDGs, for instance (Greer et al., 2022). The health sector can be an important potential contributor to reducing employment-related inequalities. The HCWF is often geographically dispersed, which implies that health and care employers might be one of the few, and among the most important, employers in remote and poorer areas. The health sector employs people across a wide range of education and skill levels and salaries, from highly trained specialist doctors to home health aides, administrators, hospital porters and people without extensive educational credentialling. In addition, the health sector in most countries employs a large number of women, migrants and other minorities (WHO, 2022a).

3.1.3 Securing the political and legal mandates for sustaining and safeguarding intersectoral governance mechanisms and measures

Implementing and sustaining intersectoral governance requires political and legal mandates, sufficient funding and political will

Implementing and sustaining intersectoral governance measures requires more than a range of tools. This demands political and legal mandates, adequate resources and operational budgets to have sustainable impact, and the creation of strong political will to achieve joined up actions that improve HCWF education, employment and retention outcomes. Intersectoral mechanisms and arrangements must be firmly embedded and anchored in the overall governance structures (WHO, 2004). Developing memoranda of understanding that establish clear mandates may help to formalize more permanent intersectoral arrangements (Public Health Agency of Canada, 2007).

The absence of legal and constitutional mandates creates regulatory barriers that impede the health sector from assuming a leadership role and undermines meaningful collaboration and cooperation with non-health sectors. As a result, ministries of health and the government-at-large are often unable to effectively align HCWF numbers and skills with population expectations and demand for integrated people-centred care (Hazarika, 2021).

The involvement and political commitment of key central sectors such as finance and public services, responsible for key decisions on HCWF remuneration and working conditions in intersectoral mechanisms and policy dialogue on HCWF strengthening are often difficult to sustain. Public service culture and accountability frameworks are not often amenable to horizontal collaboration (Public Health Agency of Canada, 2007). In addition, macroeconomic investment decisions are often made at higher levels of government, outside these health sector-led mechanisms (Martineau et al., 2022a). In these contexts, the ability of the health sector to mobilize and secure the required levels of financing and investment for the effective implementation of plans and interventions and achievement of policy outcomes can be undermined.

Promoting and supporting innovative approaches to intersectoral collaboration could be helpful especially in fiscally constrained contexts

While international regulations – such as WHO's International Health Regulations – influence health policies across all countries, they do not necessarily require intersectoral collaboration. Legislation has been used to formalize the establishment of intersectoral institutional arrangements, such as in the European Union (EU), with the establishment of the EU Health Commission and regulations governing the application of intersectoral collaboration to policy proposals initiated within and outside the health sector. However, despite this legal basis, capacity constraints have impacted effective implementation (Public Health Agency of Canada, 2007). Making intersectoral collaboration a condition of funding can help to get sectors to work collaboratively to address complex problems. Promoting and supporting innovative approaches to intersectoral collaboration may also help to address overlapping and intersecting organizational mandates, especially in fiscally constrained contexts (Public Health Agency of Canada, 2007; WHO, 2004). Financial allocations can also be combined with legal instruments to enforce intersectoral collaboration, however, clarity around what constitutes intersectoral working must first be established (Public Health Agency of Canada, 2007).

Well-crafted regulations do not lead to bureaucratic burdens within countries if they are proportionate to the benefits they bring, flexible enough to respond to various health care needs and future changes, and focused on potential risk to public safety (WHO Regional Office for the Western Pacific, 2016).

Securing political and legal mandates for high-profile intersectoral HCWF structures and mechanisms and ensuring they are well embedded within government systems and processes will help continued high-level political involvement and sustained action and support beyond electoral cycles and through transitions and governance changes.

3.1.4 Securing international and/or regional investments for intersectoral collaboration on HCWF planning and development

Ministries of health play influential roles in promoting the use of global and regional mechanisms to foster intersectoral collaboration

Intersectoral mechanisms to improve dialogue, establish a shared vision and promote intersectoral working and mobilization of resources can be potent tools to drive investment in the HCWF across sectors. A number of global and regional mechanisms exist that provide opportunities for intersectoral cooperation on HCWF planning and development. For these to function effectively or sustainably, the Ministry of Health still must play an instrumental role in facilitating their use. An example is the ILO-OECD-WHO (International Labour Organization-Organisation for Economic Cooperation and Development-WHO) Working for Health (W4H) initiative, which uses the multi-partner trust fund mechanism to support countries and regions in: generating improved HCWF data; multisectoral engagement in policy dialogue; developing evidence-informed HCWF strategic plans, inclusive of capacity strengthening for educational institutions; and mobilizing domestic and external resources for sustained investment in HRH.

The intersectoral dialogue facilitated under the W4H initiative enabled Niger, for example, to engage with a range of sectors and ministries to develop a National Action Plan For Investment in Health and Social Sector Employment and Growth in Economic Health 2018–2021, which was endorsed by the government and adopted through a presidential decree. In 2019, the programme led to the creation of 2 500 community-based health worker jobs and 5 000 indirect jobs in three regions (WHO, 2021b). Further, under the W4H programme, the development of HRH strategies and plans in South Africa and Guinea also supported the creation of health sector jobs (WHO, 2021b). At the regional level, the programme provides a common approach for regional investment and harmonization of HCWF education, employment, governance and regulation.

Major global health initiatives outlined in the Declaration of Astana on Primary Health Care and the United Nations Political Declaration of the High-level Meeting on Universal Health Coverage refer to the need to invest in the HCWF (UHC2030, 2021). The need for HCWF strengthening to advance primary health care (PHC), achieve UHC and meet the health and other related targets within the SDGs have become even more pronounced due to the pandemic (UHC2030, 2021). The centrality of the HCWF in some of these broader initiatives may support the mobilization of complementary resources, especially where they should be redirected for health systems strengthening, for which HCWF strengthening for improved quality and accessible service delivery is integral (UHC2030, 2021). However, limited fiscal space, and competing international and domestic pressures to comply with the "austerity agenda" and maintain fiscal stability can also sway decisions to make long-term investments in the HCWF (Martineau et al., 2022a). Further, the complexities of the HCWF arena are also a common barrier to the participation of donors and global health initiatives in intersectoral mechanisms and co-investment plans. HCWF employment and development programmes may not align well with donor and global health initiatives funding cycles and time frames (WHO, 2021b). A disconnect between Ministry of Health and donor HCWF priorities can lead to policy incoherence and ineffective implementation (Farrenkopf & Lee, 2019; Witter et al., 2016). Parallel funding sources may undermine intersectoral cooperation and coordination. Finally, dependency on the technical capacity and funding of development partners and donors and the resulting lack of alignment to the fiscal and budgetary space may adversely affect the resourcing, implementation and sustainability of results (Martineau et al., 2022a). For example, in Sierra Leone, a cycle has emerged: a crisis generates a window of opportunity, which is followed by a huge influx of external support and significant levels of funding and focus, which is then followed by a period of stagnation (Witter et al., 2016).

The WHO European Region has recently called for renewed public investment in HCWF education, development and protection (Nacer & McKee, 2022; WHO Regional Office for Europe, 2022), specifically noting the importance of "making the case" to other ministries and potential funders for increased and targeted HCWF investments. Returns on such investments are significant and should be leveraged as advocacy arguments. Public and private investments will be needed. Likewise, at a Special Side Event, "Reimagining Health Workforce Development for Africa's Health Security", at the 77th Session of the United Nations General Assembly in 2022, the African Union Heads of State and Government, and the Heads of Delegations called for further investment in HCWF and a new compact for HCWF development in Africa. They also called upon African Union Member States to mobilize all sectors including the health, veterinary, labour, education and finance sectors, to strengthen health worker training, deployment and retention (African Union & Africa CDC, 2022).

3.2 Aligning educational outputs with HCWF demands

3.2.1 Strengthening health system capacity to identify HCWF needs

There is a need to strengthen the capacity of the health system to identify HCWF needs and to effectively communicate these to other sectors. For instance, identifying and communicating the supply versus demand gap and how the HCWF can be absorbed (through employment) and sustained (through retention).

Nationally

Improved cooperation between the health and education sectors, as well as the private sector, has contributed to improved HCWF production and availability of HCWs. Improved intersectoral cooperation in Sudan led to the establishment of new health training institutions in the country and enhanced remuneration for university academic staff, which expanded training capacity and contributed to improved HCWF production and deployment (Abuagla & Badr, 2016; Badr et al., 2013). Collaboration between the Ghana Ministry of Health, the Ghana Health Service (GHS) and health professional regulatory bodies and associations in assessing training needs across the HCWF is supporting policy and planning for the delivery of in-service and competency-based education and training (see Box 3). In South Africa, the Joint Health Sciences Education Committee, which has representation from the National Department of Health, the Department of Higher Education and Training and the National Treasury, helps to coordinate and align policy and financing within health science education (Dodd et al., 2009). However, this committee, which was established to coordinate and align health education policy with financing, has not functioned optimally. A joint committee without a shared vision will be insufficient to solve intersectoral issues (Van Ryneveld, Schneider & Lehmann, 2020).

Box 3 describes the process of developing Georgia's first HCWF development strategy.

Box 3. Georgia: from the absence of planning to strategic planning

With the exception of rural PHC services and a handful of public hospitals, Georgia has a highly privatized health care system dominated by for-profit entities. This approach also applies to the HCWF, whose supply has been left to the market. Since the deregulation of the health system in 2004, Georgia has not undertaken any formal HCWF planning. Instead, it relied on the choices of students, the output of education institutions and demands of health service providers in the market. The Ministry of Health has not actively influenced the supply of HCWs, and governance links between the Ministry of Health and key stakeholders have not been in place. The result was a laissez-faire and unplanned approach to HCW supply, leading to oversupply of medical doctors (mainly in narrow specialties), an undersupply of nurses and midwives, with a concentration of the HCWF in big cities around private health care networks.

In December 2019, the government renewed its commitment to investing in and strengthening PHC. To support this renewed interest, WHO contributed to the first comprehensive HCWF assessment in Georgia, with a particular focus on PHC. The assessment found the following:

- PHC workforce demographics were unfavourable, with an ageing profile. A significant number of workers were within 10 years of the retirement age (60 for women and 65 for men) and a number were working well into retirement.
- Wages were low by comparative standards, though the government has adjusted the taxation requirement for HCWs to raise the real-term equivalent.
- Rural staff retention is a challenge. Practices are small, leading to professional isolation and potential deskilling due to limited exposure to professional development opportunities.
- Continuing professional development was being implemented in an ad hoc way.

The assessment findings supported the creation of the country's first HCWF development strategy, beginning in June 2022. Successful implementation of the strategy relies on attracting additional professionals to PHC in a sustainable way. Key recommendations included:

- establishing and investing in an HRH planning and governance unit;
- substantially increasing investment in human resources for PHC;
- providing support to improve quality though continuing professional development;
- developing formal HRH reporting mechanisms and reviewing the HRH information system;
- improving the regulatory environment, including revalidation of accreditation; and
- developing a new approach to recruitment and retention.

WHO is committed to supporting Georgia's capacity development through participation in the ongoing Workforce Planning Leadership Development Programme. This includes providing technical assistance to support the drafting of a HCWF development strategy and facilitating a policy dialogue with key stakeholders on the implementation of recommendations and reforms to establish the structures and capacity to shape the HCWF.

Regionally

To increase institutional capacity for health worker education and training, the ASPIRE (International Recognition of Excellence in Medical Education) initiative launched in 2012 to improve performance in education institutions in the EU. The ASPIRE board is comprised of experts in education. It provides a holistic assessment of teaching excellence and provides expert support to organizations that are not meeting criteria but are working towards it. Their own approach to providing support shifted during the pandemic to online, open access webinars, which may have benefits outside of the EU (WHO Regional Office for Europe, 2022).

Internationally

Intercountry collaboration in the form of bilateral or multilateral agreements have enabled the pooling of educational functions and facilities. For example, between-country agreements in Europe and Fiji enabled sharing of the training and development of specialist staff to Fiji, while being accessible and cooperative to nationals from other Pacific Island countries (Cometto, Buchan & Dussault, 2020).

Intersectoral collaboration with donors and global health initiatives, especially in resource constrained settings, may provide the financial resources and technical assistance needed to plan and implement HCWF strategies and interventions (Martineau et al., 2022a). Many global health agencies and initiatives support capacity strengthening, often through building/expanding medical schools, faculty development or the design and delivery of training curricula and materials.

Box 4 highlights how intersectoral collaboration can assist in identifying HCWF training needs and informing planning for in-service and competency-based health worker training.

Box 4. Training needs assessment and e-learning technology in Ghana to improve health workforce in-service training and competency

The Ghana Health Service (GHS) regards in-service training for its staff as a priority intervention to close competency gaps. To better understand the training and competency needs of its in-service health workforce and inform a more integrated training plan, the GHS undertook a training needs assessment in 2022. This collaboration provided a platform to convene intersectoral stakeholders, including the Ghanaian ministries of health and selected agencies of the Ministry, all 11 GHS directorates, numerous professional health regulatory bodies and associations and WHO.

Using data from all 16 regions, this analysis tracked human resource competencies and distribution in the GHS to explore the training needs of staff in 44 occupational job classes and to inform the design of more fit-for-purpose curricula. The GHS identified several factors contributing to inadequate training across the country, chiefly the absence of an integrated training plan underpinned by systematic competencies and a training needs assessment.

Against this backdrop, the GHS is trying to effect a paradigm shift to a situation where in-service training decisions will be based on identified or actual competency gaps required to deliver health services at all levels of service delivery. It plans to guide investments in training and capacity development through a comprehensive and integrated 5-year training plan, with well-targeted and tailor-made training designed for job holders. Moreover, the GHS will involve stakeholders from other sectors (e.g. agencies of the Ministry, education/training institutions, professional councils and actors at subnational levels) in the assessment, development and implementation of the proposed training plan.

In response to these issues, the GHS developed training course areas for 44 professional categories to better integrate staff needs. It also developed an e-Learning Policy and an e-Learning Strategic Plan to mainstream and leverage e-learning as an approach to increase geographical and financial access to training courses. The policy will guide the development and deployment of e-learning tools in the service and regulate delivery, content management, monitoring, evaluation and quality improvement.

3.2.2 Health workforce forecasting and planning

A major input required for strategic HCWF decision-making – planning, management, investment – and advancing the intersectoral HCWF agenda is data, which remains a challenge for many countries. The availability of reliable, timely and comprehensive HCWF data is critical to ensure understanding of issues across the whole HCWF, including the private sector, to inform intersectoral policy dialogue, decision-making and the co-production of evidence-based HCWF development strategies and investment plans. Global and regional cooperation is strengthening HCWF information systems and improving the availability, accessibility and quality of data. Major international databases from the World Bank, WHO and OECD use data provided by their Member States. The National Health Workforce Accounts (NHWA), is supporting intersectoral collaboration in the generation and use of HCWF data, providing a set of 78 standardized health workforce indicators across 10 modules in alignment with the HLMA framework (WHO, 2017). Over the last 5 years of progressive implementation of the NHWA, there has been an improvement in the availability and quality of health workforce data at the global and national levels (WHO, 2022d; 2022e; 2023). Efforts across European organizations (WHO Regional Office for Europe, Eurostat and the OECD) and in the Latin America and Caribbean region are also helping to strengthen the availability, reliability and standardization of HCWF data to inform recruitment and retention decision-making (Cometto, Buchan & Dussault, 2020; WHO, 2017). Nine countries in Latin America and the Caribbean have developed common metrics for HRH, which facilitates comparisons and benchmarking and capacity development. Similarly, the Member States of the WHO South-East Asia Region identified 14 standardized HRH indicators to measure progress, in alignment with the NHWA and the GSHRH (WHO Regional Office for South-East Asia, 2020). There are also a number of independent organizations producing research evidence to inform HCWF policy processes operated in Canada, the United States and England (Cometto, Buchan & Dussault, 2020).

HCWF data that is timely, reliable, comprehensive, and context specific is needed

At the country level, there are potentially useful HCWF data, but such information can be spread across several agencies in multiple formats, with varying degrees of completeness. The development of NHWA at the country level is helping to improve the availability and standardization of these data. In their study of HCWF governance, Martineau et al. (2022b) found that Malawi expected annual reporting against NHWA indicators would help to improve the quality and comprehensiveness of HR data for decision-making, specifically training data for workforce planning and HCWF recruitment.

The successful establishment of regional and national HCWF observatories has supported intersectoral evidence generation for HCWF decision-making, as in Sudan where the National Health Workforce Observatory supported the generation of evidence for HCWF decision-making by the intersectoral HRH Committee under the National Council for Healthcare Coordination, improving understanding of remuneration, migration management and dual practice workers (Badr et al., 2013; Cometto, Buchan & Dussault, 2020. HRH observatories in the Americas have worked together in the past to address health worker out-migration in the region, with intersectoral action and leadership helping to mobilize political and fiscal support for workforce programme development and implementation. The generation of research evidence is also helping to inform HCWF policy (Cometto, Buchan & Dussault, 2020).

In the Netherlands, the Advisory Board on Medical Manpower Planning (ACMMP), which is fully funded by the Ministry of Health, Welfare and Sport, advises and makes recommendations to the government on the required intakes of health professionals into training programmes. It uses a forecasting model that assesses a range of factors and parameters (including demographics, epidemiology, sociocultural developments, policy initiatives and studies conducted by external experts) to provide the evidence for the formulation of the intake recommendations. The ACMMP's forecasting model has been evaluated by various organizations in the Netherlands and within the EU, and was assessed as one of the best forecasting models in a comparative analysis (Capaciteits Orgaan, 2019).

However, a constraint to this wider-scale data sharing is that some countries do not yet have digital human resources for health information systems (HRHIS) or use a combination of electronic and paper-based data systems, which is challenging for enhancing evidence-based decision-making (Kaplan et al., 2013). A 2018 regional survey to assess the status of the HCWF in the African Region found that out of a total of 43 countries where data were collected, 29 countries (67.4%) had an HRHIS or a registry with a regularly updated database (WHO Regional Office for Africa, 2021).

Investing in the analytical capacity of Member States for HCWF and health systems data is key

There also needs to be commensurate skills in place among those interpreting and utilizing HCWF data and access to technical capacities (e.g. policy analysts, demographers, statisticians, informaticians). Strengthening HCWF data for improved monitoring and accountability of national, regional and global strategies is one of the four key objectives of the Global Strategy on Human Resources for Health: Workforce 2030 (GSHRH). This would be achieved through various interventions such as investing in the analytical capacity of countries for HCWF and health systems data (one of the objectives in the African Regional Framework for the Implementation of the GSHRH), establishment of national HCWF registries and strengthening HRHIS and building the human capital required to operate them (WHO, 2016). Further, the WHO Regional Office for Europe has committed to supporting countries in assessing and developing improvement plans for HRH information systems and strengthening data collection and analysis for HRH decision-making (WHO Regional Office for Europe, 2022).

Understanding health labour market dynamics and the forces that drive HCWF issues, such as shortages and surpluses, is key for HCWF planning and development. Promoting intersectoral cooperation in the conduct of HLMA can improve the quality of data and evidence for HCWF policy and planning. The HLMA process has been used in a number of countries to inform policy options for HCWF planning and development. Countries have used the HLMA process to forecast requirements for skills and competencies in the health and social care workforce (UK) (Cometto, Buchan & Dussault, 2020), to match HCWF supply to demographic changes and service delivery demands (Ghana and India), and improve HCWF recruitment, deployment and distribution (India, Lebanon) (Garg et al., 2022; WHO, 2021b; WHO Regional Office for Africa, 2021). See Box 5 for a practical example from Chhattisgarh, India.

Box 5. HLMA in Chhattisgarh, India to deliver equitable care in underserved areas

Chhattisgarh is one of the poorest states in India, with a population of around 280 million, and substantial HRH shortages. To understand the context of HCWF challenges and to develop policy recommendations to address them, Chhattisgarh undertook the first HLMA in India in 2019. The HLMA was a collaboration between the Department of Health and Family Welfare and Medical Education, the State Health Resource Centre and WHO (WHO Country Office for India, 2020). One of the first tasks was stakeholder consultation to identify key policy questions. The stakeholders involved via semi-structured interviews included private sector representatives, civil society experts, health professionals, field officials, teaching and training institutions, state level officials directly involved in HRH policy implementation and the Department of Health at the state level.

The analysis used data from the Department of Health and the stakeholders and assessed the macroeconomic situation, production, absorption capacity and distribution aspects. The HLMA identified the following gaps:

- High vacancy rates of medical officers (MOs), especially in underserved areas.
- Shortage of specialists in district hospitals and community health centres.
- Inefficiencies in recruitment process of nurses.Concerns around the quality of education and training of nurses.
- Lack of clarity in roles and responsibilities of mid-level health workers.

In response to these five gaps, the HLMA proposed six concrete recommendations:

- Promoting diploma/alternative short training courses and task-shifting between specialists and MOs.
- Improving recruitment processes of MOs and nurses such as by interacting regularly with students, regular recruitment drives, identifying unemployed nurses and providing (re)training.
- Improving supportive services and other benefits for retention in remote areas.
- Improving administration and capacity of assistant MOs.Improving accreditation and control mechanisms for all education institutions.
- Ensuring quality in training and continuous skill building for mid-level health practitioners in Health and Wellness Centres.

On the basis of recommendations from the HLMA, three new medical colleges were opened and 13 nursing colleges that were not demonstrating improvements in quality were shut down. In addition, 1 542 nurses, 409 specialists, 1 246 doctors, 198 lab technicians, 1 597 community health officers and 70 pharmacists were recruited.

3.3 Leadership and capability from the Ministry of Health

HCWF development is a political process, requiring robust governance mechanisms and leadership capacity to coordinate and coalesce sectors and societal actors at the global, regional and national levels around an intersectoral HCWF agenda. It is also a technical process, requiring institutional, organizational and individual capacities to facilitate intersectoral relationships and action, expertise in HCWF planning, education and management to translate the political agenda into meaningful HCWF policies and strategies and plans need to be resourced and implementable to achieve outcomes (WHO Regional Office for Europe et al., 2019; WHO, 2022b).

A successful leader must be able to foster a shared vision and strategic direction across partners

Coordinating and managing interactions among the large number of stakeholders who occupy the HCWF governance space, many of whom have different and sometimes conflicting interests and mandates, is challenging, requiring strong leadership competencies and capacities. The centrality of leadership in fostering a shared vision and strategic direction across partners – reflected through

meaningful coordination of an intersectoral HCWF agenda by the Ministry of Health – is key (Barbazza et al., 2015). At a minimum, the Ministry of Health must ensure sustained political commitment from the highest levels of policy-making power: the Ministry of Education, which dictates most HCWF training and development (though, in some contexts, the Ministry of Health is responsible for nursing and midwifery training, for example), and the Ministry of Finance, which dictates health and HCWF financing through effective stewardship (Hazarika, 2021; Lim & Lin, 2021). Ministry of Health leadership has provided effective multistakeholder coordination of HCWF processes, especially where country coordination and facilitation processes were adopted, for example, in Indonesia and Cameroon (Kingue et al., 2013; Kurniati et al., 2015).

The case of Papua New Guinea highlights the importance of strong leadership in fostering intersectoral governance on HCWF planning, development and management (Box 6).

Box 6. Intersectoral governance, planning and decision-making actions to improve education, employment and retention of the HCWF in Papua New Guinea

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HRH in Papua New Guinea have been faced with weak dialogue and engagement of key stakeholders for many years. This is despite the acknowledgement that HCWF concerns require multiple players to provide solutions. Stakeholders were predominately working in silos, thereby making it difficult to resolve challenges such as workforce shortages (quantity and quality), unfilled positions, lengthy recruitment processes, weak retention in rural areas and weak HRH data. The COVID-19 pandemic exacerbated and exposed these HCWF issues further.

An ongoing structured intersectoral coordination mechanism involving all health sector stakeholders, education, finance, treasury, planning, immigration and development partners with clear terms of reference, kicked off during the COVID-19 pandemic (March 2021). The initiative was led by WHO to support the National Department of Health to improve planning, decision-making and implementation of policies that address education, employment and retention of HCWs. The intersectoral working group is chaired by the Health Secretary and emphasizes regular and open communication at both national and subnational levels.WHO provided US$ 300 000 to implement tools that evaluate the status of the HCW. WHO tools supported the process of accounting for all the HCWs by using the NHWA and conducting a HLMA to comprehensively understand factors affecting the supply and demand of the HCW. The Workload Indicators of Staffing Needs (WISN) assessment helped determine staffing requirements.

The new coordination mechanism and the new evidence base on the WISN, HLMA and NHWA enabled:

- Identification of socioeconomic, political and cultural factors affecting supply, demand and needs, providing localized solutions within the available fiscal space.
- An updated HRH database identifying existing cadres by sex, age, cadre, distribution thereby influencing education, employment, and management decisions incorporating gender and inclusivity.
- Development of a costed workforce development plan that incorporates production, absorption and retention of HCWs in remote underserved areas.
- Based on the results, HCWF gaps were identified, and the information has been used to advocate for HRH funding and accelerated recruitment for the public health agencies (PHAs) based on specific needs. Individual sectors within the forum have become responsive and accountable; for example, the Department of Personnel Management has approved 7 130 positions for recruitment while the Department of Treasury has allocated $647 080 or 2.311 million Papua New Guinean Kina, an increase of 34% in the 2023 personnel emolument budget.

4. Key practices to support intersectoral collaboration

Here we highlight some important factors and drivers for effective intersectoral collaboration. As demonstrated above, context and culture are critical to the success of intersectoral initiatives. Conditions or approaches that produce positive outcomes in one sector or environment may not have the same result in another. While there is no one-size-fits-all approach to achieve effective intersectoral collaboration, adhering to certain principles promotes success. Among the key intersectoral actors there should be agreement on a number of these principles, including transparency and accountability.

4.1 The TAPIC framework in support of intersectoral collaboration

Key factors and drivers highlighted here are grouped around the five domains of the TAPIC framework: **t**ransparency, **a**ccountability, **p**articipation, **i**ntegrity and policy **c**apacity.

4.1.1 Transparency: an explicit decision-making process

From the outset, a mutual understanding of the goals of intersectoral collaboration and a clear shared strategic vision, with transparency around roles and responsibilities (for example, articulated in a memorandum of understanding) and budgeting and resource allocation need to be in place. Open communication and evidence about co-benefits to other sectors may also promote intersectoral collaboration. The decision-making processes should be made explicit. Where intersectoral mechanisms are used, these should have shared terms of reference and agreed guidance for implementation of these mechanisms. Intersectoral cooperation itself can enhance the monitoring and evaluation of HCWF plans and can increase political and social accountability and responsibility for decision-making (Fieno et al., 2016).

A deeper understanding of how intersectoral cooperation mechanisms themselves operate and what they have achieved is a key priority (Cometto et al., 2019; Martineau et al., 2022a). Sharing of reports on processes and outcomes of intersectoral collaboration would be of value to all stakeholders. Having robust monitoring and evaluation tools and processes to monitor stakeholder engagement mechanisms will ensure they are optimally functioning, while also monitoring and reporting on the implementation of HCWF plans and interventions (Fieno et al., 2016).

4.1.2 Accountability: the need for oversight and guidance

Accountability is essential to intersectoral collaboration. Linked to transparency, accountability may be achieved through utilizing terms of reference or memoranda of understanding with clear role definitions and delineation, mutually agreed expectations and targets and accountability frameworks. Plans that are developed should be implemented and evaluated. Resources allocated should be spent as intended, demonstrate value for money and, where relevant, outcomes should be attributed to intersectoral action. Accountability, however, necessitates oversight and guidance. Central to mechanisms for intersectoral collaboration is the need for leadership, governance and coordination, which should come from the Ministry of Health. Better intersectoral cooperation and stewardship within the health sector at different levels and across sectors will ensure that health and HCWF outcomes are considered simultaneously (Hastings et al., 2014). To facilitate effective coordination across different sectors and stakeholders, Lim and Lin (2021) recommend the "brokered network" model, in which the government retains key functions around legislation, public financing and stewardship, with the devolution of other functions to stakeholders. Through this model, all roles and responsibilities are clear and mutually agreed upon and emphasis is placed on trust and goal consensus, which further foster accountability, enabling the Ministry of Health to be seen as a valued partner (Lim & Lin, 2021).

To enhance accountability, there are a number of tools and measures that could be used. At the national level, plans and monitoring tools – developed through consensus at the country level, that build on pre-existing available data rather than creating parallel information systems – may include terms of reference (general and for discrete activities), roles and responsibilities, decision-making processes, codes of conduct, operational plans with linked milestones and indicators and meeting minutes that document decisions (Cometto, Buchan & Dussault, 2020). At the regional level, roadmaps and results frameworks already exist for different geographical and WHO regions and can be leveraged (WHO, 2022g). At the global level, in addition to supporting the development of HCWF strategies and activities, global health actors, health financing agencies and donors can make intersectoral collaboration and action a condition of funding, which can facilitate improved monitoring of intersectoral collaborations and action, which will also enhance accountability and intersectoral governance (Farrenkopf & Lee, 2019). While the NHWA is an important instrument to monitor key HCWF components – including governance and intersectoral HCWF mechanisms and activities – and the number of countries using the NHWA is increasing in recent years, monitoring tends to be driven externally, so greater ownership of these processes at national and regional levels would be important (Cometto, Buchan & Dussault, 2020; WHO, 2016).

4.1.3 Participation: involving a diverse range of stakeholders both within and outside of the health sector

The meaningful participation of a diverse range of stakeholders (across ministries and sectors, from civil society, from international organizations) is needed to ensure adequate HCWF planning and development. The availability of an HRH policy or strategic plan, developed with the involvement and participation of key stakeholders, will guide, coordinate, and, when aligned to longer-term health sector plans and fiscal and budgetary space, will facilitate implementation and achievement of HCWF outcomes. Inclusive intersectoral mechanisms and measures that promote active stakeholder participation increase participants' ownership of – and investment in – HCWF strengthening processes, as well enhancing their legitimacy.

However, intersectoral collaboration and action are often more costly and resource (human, financial and information) intensive in the short-term than band aid-type quick fixes and can be time-consuming. It is therefore important to consider and make the case for adequate resources and time to foster participation and achieve results, which are often underestimated (Barbazza et al., 2015; Public Health Agency of Canada, 2007).

Participation in intersectoral mechanisms and ongoing dialogue can help to streamline different approaches and funding streams for HCWF strengthening – including those by donors, global health initiatives, health financing agencies and international NGOs (e.g. revitalizing the one plan, one budget, one report approach) – and prevent duplication and fragmentation in HRH activities and improve alignment with national priorities and needs. Stakeholder consultations can provide invaluable insights for policy design, can support policy implementation, manage interests and build consensus and can reduce resistance to change.

4.1.4 Integrity: trust and credibility are key in cross-sectoral collaborations

The Ministry of Health must be seen as a trustworthy and credible partner for other sectors to work with, evidenced through effective HCWF planning and coordination and the efficient use of resources that can be attributed to the achievement of outcomes. Again, the importance of clear roles and responsibilities is evident. Clear agreement around defined roles and responsibilities aligned with Ministry of Health functions, structures and mandates is critical (Fieno et al., 2016). The legitimacy of the governance process can be enhanced by increasing accountability, transparency and stakeholder participation as described above (Hazarika, 2021). At the highest levels, there must be clarity around an organizational mission and practical efforts made to prevent corruption.

Finally, there is a need to rethink HCWF governance itself with a view to integrity, identifying gaps and developing commensurate policy interventions – this governance innovation is needed to shift many aspects of HCWF development that may be rooted in outdated models (Kuhlmann & Larsen, 2015).

4.1.5 Policy capacity: the ability to develop, analyse, translate and monitor and evaluate HCWF policies

The health sector is expected to play a variety of roles in leading and managing an intersectoral HCWF agenda. Policy capacity for HCWF includes the capacities of the health sector and HCWF units and functions to develop, analyse, translate and monitor and evaluate HCWF policies, as well as anticipating and mitigating for policy failures. This is also a key requirement for effectively leading, influencing, partnering with and supporting other sectors in achieving HCWF outcomes. A first step in building this capacity, broadly, is engendering a "HCWF-literate community" both within the Ministry of Health and across other sectors to facilitate understanding of the centrality of the HCWF as a key contributor to responsive and resilient health systems, enhancing capacity to make informed decisions and act on HCWF issues (Martiniuk et al., 2019; Martineau et al., 2022a; Public Health Agency of Canada, 2007). Health and HCWF leaders need to have the skills to defend HCWF policies and investments to support other sectors in considering the importance of a resilient and high performing HCWF for current and future health, UHC and other national planning and development outcomes (Public Health Agency of Canada, 2007).

Individual Ministry of Health policy-makers' capacities – especially in HRH policy formulation, planning, implementation and monitoring and evaluation – can be a limitation to effective intersectoral action (Afriyie, Nyoni & Ahmat, 2019). For example, in Iran, though the "Ministry of Health and Medical Education" is unique, there is sometimes insufficient knowledge and skills among policy-makers to fully utilize this joint ministry effectively (Manafi, Takian & Sari, 2019). Capacity strengthening should therefore be directed at decision-makers and HCWF leaders, inclusive of managerial competencies to formulate and translate policy and to monitor and evaluate policy implementation and outcomes. Political awareness skills are important for managing vested interests, territorial claims, competition for scarce resources and for building political will both within the health sector and across other sectors (Public Health Agency of Canada, 2007). Building data literacy and capacity are also critical for the interpretation, use and dissemination of HCWF data in political communication, persuasion, policy dialogues and policy-making (Ayanore et al., 2019).

Developing a critical mass of "strategic HR thinkers" at the country level can help to sustain HCWF strengthening processes in the long term and ensure the development of supportive policies to enable effective implementation of strategies (Martineau & Caffrey, 2008). Where there is reliance on external technical assistance to this end, there should be skill transfer to ensure local capacities are strengthened (WHO, 2022c). Capacity strengthening may also be needed for other key health stakeholders such as professional and regulatory bodies and professional associations and unions to ensure their full participation in developing and implementing the HCWF intersectoral agenda and formulation of policy solutions to HCWF challenges (Kuhlmann et al., 2018; Thuku et al., 2020; Tsofa et al., 2017).

4.2 Generating evidence through HCWF research

A deeper understanding of the ways intersectoral mechanisms and structures operate and their impact is essential for enhancing their contribution to HCWF planning and development and ultimately the HCWF's contribution to achieving health and UHC outcomes and related SDGs, from the macro (e.g. how are bilateral agreements working to fulfil HCWF goals) to the micro levels (Martineau et al., 2022b). There is an important role for health systems and HCWF researchers to play in generating evidence on what works and what does not. Underpinned by dynamic stakeholder engagement and drawing from principles of systems thinking and political economy analysis – taking a cross-sector lens to understand the complexities inherent with intersectoral collaboration and action on HCWF planning and development – may help to identify what works, what does not and why (Kuhlmann et al., 2018). Innovative ways of building and sustaining political and policy capacity and HCWF literacy across sectors and societal actors that meaningfully contribute to intersectional collaboration and action would also be a useful research area.

5. Conclusions

COVID-19 has highlighted the importance of a well-equipped and responsive HCWF and the need for intersectoral collaboration. Intersectorality is essential for developing and strengthening a HCWF that can meet current and evolving population needs. The centrality of Ministry of Health leadership and governance in coordinating an intersectoral HCWF agenda, and subsequent actions, is critical. Key lessons and messages to support intersectoral collaboration for the HCWF emerging from the body of evidence are presented here.

Intersectoral collaboration is essential for developing and strengthening the HCWF

COVID-19 has highlighted the importance of a whole-of-government and whole-of-society approach to producing, deploying and retaining a skilled, responsive and resilient HCWF. Broad-based stakeholder engagement in HCWF planning and development must necessarily extend beyond the Ministry of Health, across ministries, agencies and sectors to mobilize, reskill, redeploy and protect workers. Education, employment and finance are key partners for health in developing and implementing an intersectoral HCWF agenda. The capacity of the health sector to demonstrate effective HCWF planning and management and value for money is a key factor in it being perceived as a legitimate partner and in generating and establishing trusting and reciprocal relationships with other sectors, global health actors and other societal actors. Clearly defined roles and responsibilities, structures for accountability and monitoring and evaluation mechanisms set out in terms of reference or memoranda of understanding are necessary for effective intersectoral collaboration and action.

Sustained political will is essential for intersectoral collaboration and action on HCWF strengthening and outcomes

Top-level leadership is key, as are effective mechanisms, but alone they cannot ensure effective working relationships. Transparently demonstrating the co-benefits of investing in the HCWF can help in creating and sustaining political will and government commitment to ensure existing mechanisms and measures for collaboration – or new ways of working intersectorally – are leveraged and adequately resourced. Intersectoral mechanisms and measures need be safeguarded and embedded in constitutional, legal and political mandates to protect them against shifting government priorities, political transitions and electoral cycles and to withstand political interference. Supporting the integration of HCWF needs into cross-sector planning and budgeting will enhance policy coherence on HCWF planning and development and ensure the successful implementation of HCWF plans and interventions. Health sector leadership and governance supported and reciprocated by sectors such as finance, education and employment are essential for effective intersectorality.

Strengthen and sustain intersectoral governance mechanisms to coordinate HCWF planning, development and investment

There are a myriad of existing intersectoral mechanisms and measures at administrative and political levels that can be used or repurposed, such as intersectoral committees, working groups and commissions – new ones can be also be developed. There are useful examples from COVID-19 that can be drawn upon to inform the establishment and functioning of effective mechanisms. Mobilizing cabinet and parliament, as well as exploiting international support mechanisms and engaging diverse stakeholders, including communities and civil society, can enhance effective intersectoral working and action.

Clear evidence and understanding of health systems' HCWF needs is needed for intersectoral collaboration

The use of forecasting and planning tools, involving HCWF (including the private and informal HCWF) data collection and analysis needs to be strengthened. Institutional, organizational and individual capacities must be built to interpret and use these data in determining health systems priorities and needs for the HCWF. HCWF policies and plans need to be aligned with current and future models of care and reform goals. HCWF supply and demand must be clearly defined in terms of skills, distribution and outcomes and not just expressed as numbers. Explicit and detailed plans for emergency preparedness and responses need to inform the way all sectors consider (and contribute) to HCWF planning and development.

"Whole sector planning", incorporating public, private, faith-based, community and NGO-based HCWF, should be enabled, extending data collection to all cadres and occupations within the HCWF. The planning of the HCWF should address requirements holistically, rather than by occupational groups, and be informed by population and health system current and expected future needs. Such planning should cover education policies, financing requirements, governance and management and be a continuous process with regular monitoring and adjustment of priorities.

APPENDIX 1: Methods in detail

We carried out a scoping review across key publications identified following a separate document review on health workforce governance (Martineau et al., 2022a), with a focus on elements of intersectoral activities.

In the separate document review carried out by Martineau et al. (2022a) on intersectoral mechanisms for HCWF governance, we explored both grey literature and journal articles. Grey literature was found by carrying out searches of the websites of the following:

- WHO headquarters and regional offices;
- the Global Health Workforce Network (GHWN) (and its predecessor the Global Health Workforce Alliance (GHWA));
- regional HRH organizations such as the Asia Pacific Action Alliance on Human Resources for Health;
- contemporary global HRH projects such as CapacityPlus and HRH2030;
- other international organizations (such as the World Bank).

Journal articles were found by searching PubMed/MEDLINE and Google Scholar using the following string searches:

1	"Coordination" OR "Collaboration" OR "Partnership" OR "Stakeholder" OR "Committee" OR "Technical working group"
2	"unit" OR "department" OR "section" OR "division" OR "of-
3	governance" OR "management"
4	(#1) OR (#2) OR (#3)
5	(#4) AND ("human resources for health" OR "health workforce" OR "health personnel" OR "health staffing")
6	From 2004–2021

We screened the documents included in the separate document review carried out by Martineau et al. (2022a) using the following inclusion criteria:

- must focus on intersectoral collaboration/engagement/activity for the HCWF;
- must reflect planning, development, supporting or sustaining the HCWF;
- must involve intersectoral activities for education, employment, retention or sustainability of the HCWF.

In this scoping review we also included key HCWF grey literature that had been published since the original document review (post-June 2021), most notably key WHO documents from headquarters and from regional offices, such as the Working for Health Action Plan 2022–2030, and the Regional Office for Europe's *Health and care workforce in Europe: time to act*.

Finally, as gaps in literature emerged, we carried out targeted searches, using key terms in both PubMed/MEDLINE and Google Scholar. For example:

"political will" AND ["health and care workforce" OR "health workforce" OR "healthcare workers" OR "health workers"].

- ["investment" OR "cooperation" OR "co-funding" OR "collaboration"] AND ["cross-sectoral" OR "multisectoral" OR "intersectoral"] AND ["health and care workforce" OR "health workforce" OR "healthcare workers" OR "health workers"].
- education AND ["health and care workforce" OR "health workforce" OR "healthcare workers" OR "health workers"] AND ["cross-sectoral" OR "multisectoral" OR "intersectoral"].

In total, we included 90 documents (63 articles from academic journals and 27 grey literature documents). Overall, 49 articles and 15 grey literature documents were included from the original document review by Martineau et al. (2022a), 14 additional documents were included following targeted searches and 12 additional grey literature documents were included based on knowledge and suggestions among the reviewer team.

Data from included documents was extracted into Excel, focusing primarily on examples of intersectoral activities (particularly mechanisms), information about how they worked, challenges or opportunities and their effects. Data were synthesized and the draft policy brief was developed using the following emerging themes: intersectoral mechanisms in place; benefits of intersectoral collaboration; challenges to intersectoral collaboration; and policies and targeted actions that can incentivize sectors to work together.

The European Observatory on Health Systems and Policies and the Technical Reference Group reviewed the draft policy brief, added country case studies, developed key messages and further synthesized the data under the following questions:

1. What intersectoral mechanisms for the HCWF exist?
2. How can they be strengthened to improve the education, employment and retention of the HCWF?
3. What are key practices that can be put in place to support intersectoral collaboration?

That synthesis is presented in this document.

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