# SOMALIA HEALTH REGULATORY LANDSCAPE

# HRH LANDSCAPE REPORT

July 5, 2021

A study commissioned by the World Bank to a group of consultants (Dr. Kate Tulenko, Dr. Khalif Bile, Natasha D'Lima) in collaboration with the Ministries of Health at the Federal & State level Specially Director, Department of HRH & Training Ibrahim Mohamed Nur

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# Executive Summary

Somalia has witnessed decades of disruption and suffering due to a variety of causes including security challenges, internal conflicts, and weather-related disasters. With the recently established government bringing much-needed stability to the country, the country is now focusing on setting up a strong regulatory foundation for the health sector, including Human Resources for Health (HRH) as well as service delivery.

In the absence of an agreed upon definition of HRH regulation, the team proposes a working one for the purpose of the study to include policies and practices for the efficient production of fit-for-purpose health workers, and standardization of their practice. While the public health sector has received a boost through the establishment of district-level health facilities, private investment in the rural areas is woefully lacking. The mushrooming of a network of unregulated clinics, hospitals, and health workforce training institutions in urban areas, however, poses a grave danger to the quality-of-service delivery and HRH production alike. The institutions have contributed to the increase in the national health workforce, but lack of uniformity in academic and practical training makes it impossible to achieve a standard provision of care in the country. The goal of regulation is to remove uncertainty, stabilize markets and protect people and the environment, in addition to promoting investment and innovation.

To encourage a participatory environment, the human resource landscape assessment was led by the HRH leadership and team members at the Federal and State level. The maturity model developed by the African Health Profession Regulatory Collaborative (ARC) was modified for the Somali context and was used to assess the Federal and State Ministries of Health (MOH) on internationally recognized regulatory functions such as HRH legislation, Accreditation of Pre-Service Education and Registration and Licensure of professionals. The Federal and State MOH are mostly at a maturity level of stage 1, except in terms of having a dedicated HRH unit and a Council for the approval of pre-service schools/ programs – for these, the country is at stage 2. This demonstrates that the country has an ad-hoc regulatory system, with documented regulations only in the most critical situations. As part of the assessment, we have sensitized the HRH leadership at various levels about the need to standardize procedures and document them, with an aim to achieve a stage 2 maturity in the next 2-3 years.

During a preliminary supply demand assessment, it was found that although almost 60% of the country's current health workforce comprises of physicians, nurses and midwives, the country still suffers from an extreme workforce shortage for all categories. If the WHO recommended rate of health workforce density is considered (Only for these 3 categories), it will take 10-24 years to bridge the supply gap. It is therefore recommended to strengthen existing schools/universities and assist the Somali government in establishing new schools to enable an equitable production of health workforce among states.

The assessment was supplemented by focal group discussions with key stakeholders, educational institutions, international NGOs, partner organizations and the private sector. The on-ground situation was also assessed through a discussion with practicing physicians as well as a short employment and education survey for students of health professional courses. The

findings from all of these served to corroborate the views of the experts and stakeholders for the challenges and issues faced. Both students and practicing physicians alike were satisfied with their training and wanted to work for their country. Although they felt that the scope of their career was good, they felt additional opportunities were required for training and employment. More than 70% feel that unemployment was a large concern, but despite challenges in the rural areas, they wouldn't mind practicing anywhere in the country.

All of our findings build the case for a far better implementation of the NHPC Act and its provisions to strengthen service delivery and the overall quality of the health system. Given the health workforce shortage and the budgetary constraints in scaling up government leadership teams to their required level, it is critical to maximize the capacity of existing teams by ensuring an equitable distribution of tasks while strengthening the Federal and States' health partnerships. Existing regulatory bodies need to develop scopes of practice and utilize task-shifting and task-sharing, along with due monitoring and supervision, to enable all health professionals to work at the top of their licenses. Several measures are also proposed to comprehensively implement a standardized nationwide workforce employment policy, such as registration and licensing of professionals, regulation of professional misconduct and labor market.

## Introduction

The Somali national health system has suffered from decades of political disruption, conflicts, extensive population displacements, fraught with major security challenges, drought, and flooding. These adverse events have significantly weakened the human resource capacity to deliver quality and effective health services to the population, affecting the entire health worker lifecycle from pre-service training and production, induction, and deployment in the health services system, to retention, regulation and the monitoring and coordination of their service provision. Meaningful efforts for health sector recovery became feasible only after the establishment of the Federal Government of Somalia in 2012, with the formation of the first permanent central government since the outbreak of the civil war, enabling the country to move toward stability. After 30 years of civil war, Somalia is now experiencing challenges in the regulation of both Human Resources for Health (HRH) and pharmaceuticals and medical devices. The displacement of people, outmigration of skilled staff, disruption of education, shortage of health professionals and administrative professionals, insecurity, static budgets, and low budgetary absorptive capacity all create a challenging environment to design and implement regulation.

Somalia's HRH density index is less than 1 (less than one skilled health worker per 1,000 population), less than the 2.3 that the WHO recommends for the provision of basic health services. This shortage of all categories of skilled professionals, especially physicians, pharmacists, nurses, and midwives is further compounded by their inequitable distribution, with a high concentration in larger cities and a lower concentration in the country's rural and remote population areas. Several other factors also limit its progress; the country ranks 179/180 on the

Corruption Perception Index and 190 /190 on the Ease of Doing Business Index, making it the most difficult country in the world for businesses. Despite these persisting impediments, Somalia has recently declared its resolve and mission to accelerate progress towards universal health coverage (UHC) with the commitment to improving the health of the population and responding to the needs of the most vulnerable social groups, without causing them any catastrophic costs or financial hardship.

The lack of a regulatory framework, however, has obscured the clarity about the roles and practices to be undertaken by the different categories of health professionals, while hindering their continuing professional development and service delivery modalities in the health facilities they operate, and the services offered at each level of healthcare provision. In the absence of officially instituted health regulations, the public health sector service delivery operations have been following the guidelines set by the WHO and other international agencies. This includes the use of their training material for specific health programs and categories of health workers as well as the standard treatment guidelines for primary health care.

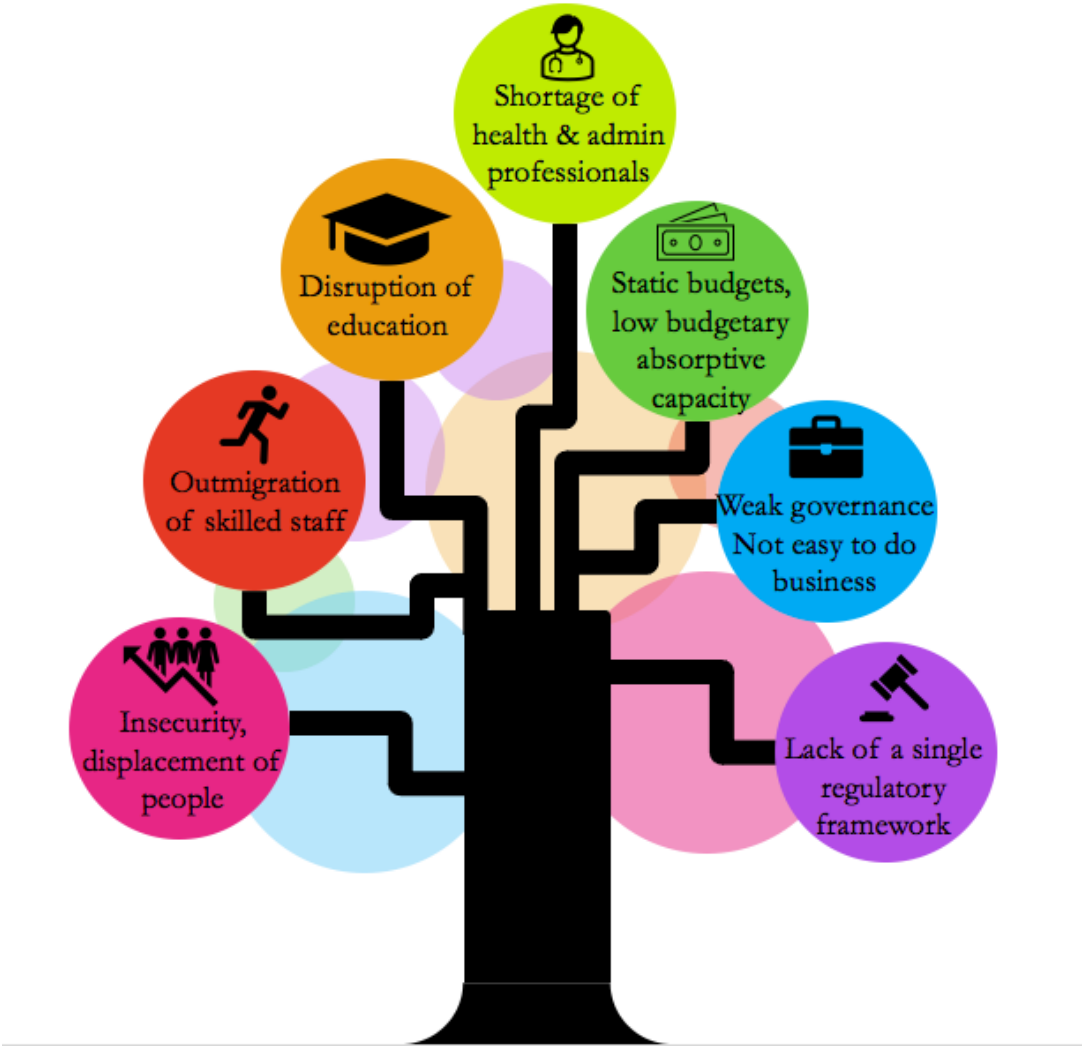



**Figure 1: Challenges to design and implement regulation in Somalia**

The absence of official legislations with clearly set norms and standards for health professionals could pose serious health consequences while compromising the target populations' right to health. This has been offset by the close collaboration with the international UN partners and other health sector partner organizations which has improved the coordination with the public sector operated service providers, for health promotion, disease prevention, diagnosis and care, and emergency preparedness and response. Moreover, the established health professional associations of the medical, dental, nursing, midwifery, pharmacy, and other cadres were only able to undertake voluntary registration of their respective professional groups.

In its Global Strategy on Human Resources for Health (HRH), the WHO has emphasized the imperative for health workforce regulation, as a prerequisite to achieve universal health coverage, better utilize resources and protect vulnerable populations against individual and collective risks. The public health sector has the prerogative to align this investment with contemporary and future health workforce needs. To ensure the success of these endeavors, the health workforce regulatory framework also needs to cover health facilities and health educational and academic institutions, enabling them to produce the needed health workers, with the appropriate level of supportive oversight.

Recognizing the weak health sector legal environment, the carefully enacted and approved regulation will also be extended to the private health sector and foster partnerships. Setting and implementing uniform standards for both, the public and private health sector will undoubtedly improve the quality of care, health services utilization and impact on the health of the vulnerable and poor. Such collaborative engagements combined with good governance will facilitate the establishment of partnerships with the private sector on UHC.

## Terms and Special Situations:

There is no generally agreed upon definition of HRH regulation. For the purpose of this analysis, we will define regulation as in the box below. Regulation of health workers generally does not include retention of health workers except in the case of the regulation of health worker bonding. Good HRH regulation helps remove uncertainty, supports productive partnerships, and helps both public and private health systems function more efficiently. It is important to be mindful that any health workforce regulation has a cost. This may include the cost to the government to enforce regulation; the cost to schools, health workers, and to health facilities to comply. "Cost" may include monetary cost, time cost, opportunity cost, or decreases in the ease of practice or ease of doing business.

*HRH regulation consists of the laws, policies, and practices that any level of government uses to ensure production of adequate numbers of fit-for-purpose health workers, ensure quality of care, ensure patient safety, ensure health worker safety, harmonize professions and their practice, and facilitate a well-functioning health worker labor market.*

*– Working definition of HRH Regulation.*

**Box 1: Working definition of HRH Regulation**

**Somaliland:** The UN and the federal government of Somalia recognize Somaliland as an integral part of the country of Somalia, however Somaliland considers itself to be an independent country. Representatives from Somaliland were invited to all the HRH Regulation meetings and attended some of them. Due to the compressed timeline of this analysis and report, there will be deeper engagement with Somaliland in the next phase of work.

# 1. Health Workforce Landscape and Regulatory Framework: Situation Analyses

During the extended phases of civil war and protracted conflicts, the Somali health workforce and their international humanitarian partners played leading roles that substantiate how the delivery of lifesaving health interventions can contribute to state legitimacy and state building processes across the country. The provision of humanitarian health services was often the first response to address the urgent health needs of the population, followed by the establishment of health facilities operating on a regular basis that became an integral part of the Somali health system and state building process.

With the reinvigorated public health sector through the establishment of health facilities in every district, there was also a revival of the private health sector led by health professional groups and civil society organizations resulting in the establishment of a network of unregulated private clinics, hospitals, and health workforce training institutions. Courses were initiated in different regions on medical education, nursing, midwifery, laboratory technicians, public health and nutrition that were run by a limited number of teaching staff without any external technical support and operated within a resource-constrained environment with paucity of equipment, teaching aids and/or well-resourced hospital or laboratory training facilities. In the absence of a uniform curriculum, the quality of the trained professionals differs from provider to provider, leading to a non-standard provision of care in the country.

Despite these challenges, the established academic training health institutions contributed to the production of the overwhelming majority of the health professionals currently operating in the health system, and modestly brought about a tangible improvement in the coverage and quality of healthcare services delivery across the country. The public health sector has also

progressively created opportunities to engage in impactful health interventions in over 1,000 health facilities and established collaborative endeavors with over 75 national and international non-governmental organizations assisting the public sector leading to significant improvements both in the coverage and the performance of the health system. Similarly, the response of the health sector, particularly the health workforce, to recurring disease outbreaks of cholera, measles, meningococcal disease, and the COVID-19 pandemic health crisis illustrate the critical value of this social sector in the national development process. The recently promulgated legislation for a human resource for health regulatory framework, warrants the need for a health workforce landscape analysis to effectively plan the regulation of the health sector and address the severe shortage and maldistribution of health workers that the country is facing, while strengthening the health system.

Moreover, it is important to consider why regulation is necessary and what the goals of developing and enforcing regulation are. In the box below, the five goals of regulation and some examples are presented. It is important to keep these goals in mind while designing and implementing the Somalia HRH regulatory system.

**Box 2: 5 Goals of Health Sector Regulation**

1. To protect people and the environment
    a. Removing the licenses of unfit practitioners
    b. Setting standards for the handling of hospital waste
2. To remove uncertainty
    a. It is unclear if telemedicine is legal in Somalia, what services may be provided, or who may provide them
3. To make markets more efficient
    a. Health professional school market
    b. Health worker job market
    c. Health services market
4. To promote investment
    a. Investment in schools and in health facilities
    b. Unclear if a pharmacy's license is tied to a particular pharmacist
5. To promote innovation
    a. Regulatory waivers for high priority services or geographies

## 1.1 The Methodological Approach Pursued

It is easy in a Low-Income Country Under Stress (LICUS) to focus on what is wrong. Throughout this process our team has adopted an Appreciative Inquiry approach and worked to appreciate the MOH's strengths, what is working in Somalia, what has gone right and can be built upon. Such a positive approach has helped us build trust and relationships with the MOH staff and helped us draft sustainable solutions that are most useful to the MOH.

The HRH assessment and analyses regulation landscape were organized through an initial desk literature review of the health workforce covering the educational training institutions and their production as well as their employment and distribution in urban and rural settings under the public and private health sector. The review process covered the national HRH policy, strategic plans and in-service training, reflecting the pursued continuing professional development. The desk review exercise was complemented by a close partnership between the mission members and the HRH directors and their teams both at federal and state level working in close coordination until all the relevant data was collated and the data cleaning process completed.


**Figure 2: Key aspects of methodological approach**

Teams of the health workforce department at the federal and state level provided their valuable inputs throughout the process. Key informant interviews were also conducted with a focus on national and international partners providing direct support to the national health system and contributing to the development of the health workforce in particular. This human resource landscape assessment was led by the federal and state level directors and managers of the health workforce in the country. The assessment process was supplemented by focal group discussions with key Federal and State-level stakeholders, educational institutions, international NGOs, partner organizations and the private sector. This involved the identification of the priorities and the challenges of the health workforce, and exploration of the role of the human resource regulatory framework in relation to its ability to reform the service delivery system and improve its quality and impact on the population health outcomes. It also helped identify the bottlenecks and greatest harms caused by the existing regulatory structure to help prioritize new regulation.

In designing regulation for a developing country, it is tempting to look at a well-functioning system, such as the UK's regulatory system, and model the regulation after their regulation. However, developed countries such as the UK have a different set of needs and resources than

developing countries and that they arrived at their regulatory structure after decades of iterative policy development and trial and error. Instead, we have been working with the Somali Federal and State Ministries of Health to develop a stepladder regulatory approach for both HRH and pharmaceuticals and medical devices. We thus aim to ensure that regulation is appropriate, affordable, feasible, and brings the most benefit for the effort. *For both HRH and pharmaceuticals there are recognized maturity models that can be used to build the regulatory stepladders.* For HRH we will use the maturity model developed by the African Health Profession Regulatory Collaborative (ARC).

The HRH maturity model tool was originally designed as an approach to sequentially assess, in a structured manner, an organization's ability to perform necessary HRH functions. The scale for each essential function comprises five discrete, successive stages, going from a low capability stage to a high one. Each stage is characterized by key competencies and is instrumental to advancing to the next stage. Together, they create an "evolutionary improvement path" upon which organizations can advance. Progression through the stages is intended to be sequential with advancement to a stage representing a meaningful improvement in functioning.

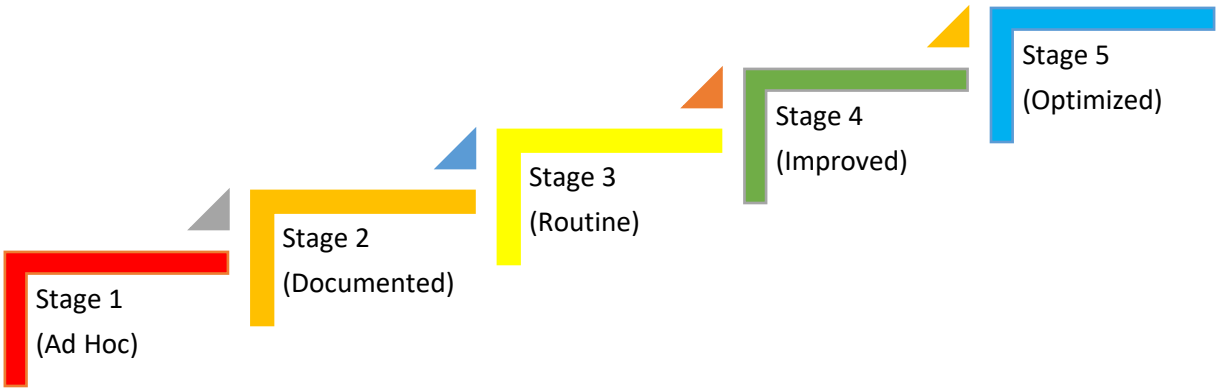



**Figure 3: Stages of maturity in the HRH maturity model**

The original 7 regulatory functions were selected by the ARC by reviewing and validating regulatory elements from global and regional standards recognized by the International Council of Nurses (ICN), the International Confederation of Midwives (ICM), the World Health Organization (WHO), the United Nations, and the East, Central, and Southern Africa College of Nursing (ECSACON). Based on the Somali context, we modified this to apply to all health workers, as opposed to only nursing and midwifery. We also added two extra functions: one of health workforce office capacity and one on occupational health, which is a shared function in Somalia between HRH offices and Ministries of Labor.

## 1.2 HRH Situation Analysis

The health workforce landscape was assessed in the Benadir Regional Administration and the five states of Galmudug, Hirshabelle, Jubaland, Puntland, and South-West. In these administrative geographical areas, all the five care provision levels are considered to be critical to the national declared policy and strategic direction of achieving universal health coverage (UHC) and the SDGs. To achieve this goal, the federal government has promulgated in close coordination with the federating entities and the international health partners to pursue the Essential Package of Health Services (EPHS). To operationalize this program, the health workforce will be deployed to serve in public regional and district hospitals, health centers (HCs) and in Primary Health Units (PHUs), each providing coverage to the population within a defined catchment area. The HRH salaries amount to 48% of the health sector operational expenditures of 2020, while the medicines and supplies and related transport and logistics account for 54% of the cost. The fifth service provision level is that of the community where the hard-to-reach rural communities and nomads are to be covered.

The EPHS has established tentative staffing norms to ensure that the critical health interventions are regularly performed at each level as planned. At the community level, a Community Health Worker (CHW) is assigned for each locality, these being preferably females selected from the community to deliver the basic interventions assigned. At the HC level, 21 health workers with focus on skill mix are providing service, that include a Clinical Officer, qualified nurses and midwives and numerous other midlevel skilled health professionals.

The District Hospital services on the other hand are delivered by 48 health professionals of different categories that include a surgeon, a general practitioner, a Clinical Officer and a range of qualified nurses and midwives and other skilled health professionals, while the regional hospital has a health workforce of 78 service providers offering medical, surgical, maternal, neonatal and child care services, as well as dental, ophthalmic health technicians and several other categories of skilled health professionals. However, the above health workforce envisaged to serve in the different care provision often suffer from a prominent shortage of key health professionals limiting both the scope and quality of the EPHS services' provision. This operational gap needs to be addressed by the HRH regulatory framework by introducing technical and organizational solutions to mitigate this wide range challenge affecting the health system.

## A) Focus Group Discussion with Young Physicians

As part of the situation analysis, a virtual group discussion was held with five young physicians who had recently graduated from different universities located in Mogadishu to learn from their experiences.

1. Pre-service Training: Points of discussion included their learning experience through their courses, clerkships and practical internships, as well as the need for the accreditation of academic training institutions. The physicians collectively found their educational programs productive, especially through the university partnerships with public and private hospitals in Mogadishu, and the month-long community medicine experience in the rural areas. However, they noted the incoherence of existing health

care rules and regulations, as well as the lack of recruitment and employment standards in these hospitals both in the management of service providers and patients. ~~They thought the regulation could improve the quality and the management of these institutions.~~

2. Employment Opportunities: Following the long years of study in which their modest-income families struggled to give them the needed support, the interviewed physicians eagerly awaited opportunities for a decent employment upon graduation. This was noted to be their biggest challenge, where hundreds of physicians from those graduated in earlier or later cohorts are still unemployed. They spoke of the subject with dissatisfaction, indicating that the majority of the lucky ones were those who had the right connections with little adherence to fair practices, such as advertisement of posts, examinations, and other fair competitive selection processes. They all hoped that the health sector regulation and the implementation of the NHPC Act would streamline the situation. They indicated that one hospital where strict regulatory mechanisms of induction of health professionals were followed and penalty rules for malpractices pursued was "Digfer hospital", co-managed by FMOH and the Turkish medical authority.

   Other aspects of unemployment were also discussed to understand their preferences in seeking employment elsewhere, as follows:

   a) Employment in the Private Health Sector: The participants indicated that the private sector is equally inflicted by the need for strong connections and family linkages for being offered a job. On many occasions, a voluntary practice without any financial compensation is the only opportunity offered, with many happy to accept to advance their professional skills, making the private sector less attractive.

   b) Self-employment: One of the participants had jointly established a small clinic with a fellow physician and said they were managing reasonably. However, his colleagues indicated that this avenue of employment is possible only for the limited few who could afford the upfront tangible investment for establishing a clinic (with a small laboratory and the employment of one to two technicians). They noted that the majority do not have the financial means to start a clinic of their own.

   c) Moving and seeking jobs at the State health institutions (Region and district level): This opportunity offers the ability to serve in the regions and districts across the country and improve the quality of care to populations who have little or no access to regular decent health services. The participants indicated that in addition to unattractive salaries, the biggest challenge to employed physicians is the insecurity and extortion posed by different non-state entities, and other pressure groups including the police. Those working with International NGOs are particularly targeted unless one has the necessary protection and support.

The physicians interviewed felt that the above reasons severely limited their professional opportunities, in many cases, compelling graduates to change their profession and engage in

non-health areas, such as working on business/commercial enterprises or opt for a life as a housewife, as is the case of many female health professionals.

They estimated the rate of unemployment among the graduating physicians to be about 60%. One of the participants indicated that of his batch of 250 graduates, only 28% (70) have obtained jobs. They all agreed that lower salaries may be acceptable, but insecurity is non-negotiable. It was thus suggested that the government offer hardship allowances for rural services and explore the potential of a mandatory year-long rural posting for medical graduates as a national service.

Overall, the physicians hoped that the NHPC Act would contribute effectively to the health sector regulation, while curbing malpractice and ensuring the formal licensing and registration of all physicians and other key health professionals, especially for foreigners whose qualifications needed to be mandatorily licensed for practice.

The development and implementation of a regulatory framework is expected to improve the quality of pharmaceuticals and medical technology, in addition to service quality and the capacity of the health workforce and the institutions they operate. It was also expected to provide protection to the health workforce against the insecurity risks they are exposed to and promote their retention. The physicians emphasized that the success of the NHPC lay in its enforcement, creating a solid roadmap that is different from the non-robust governance regulations related to other sectors of the government.

## B) Employment and Education Perception Survey

A short survey was conducted for students of health professional courses to understand their experience with their academic training, and perceptions towards employment. 388 responses were received, of which 35 were irrelevant as they belonged to non-health professional courses. Thus, they were eliminated from the data during analysis.

**Results**

1) Overall distribution of responses among States and Specialties

In less than 2 weeks, almost 400 students from across the country responded, demonstrating their interest in regulation. The majority of responses came from students of priority courses such as Nursing (33%), public health (22%), Medicine and Surgery (15%), Midwifery (14%) and Medical Laboratory (10%). All other courses formed about 7% each of the total.

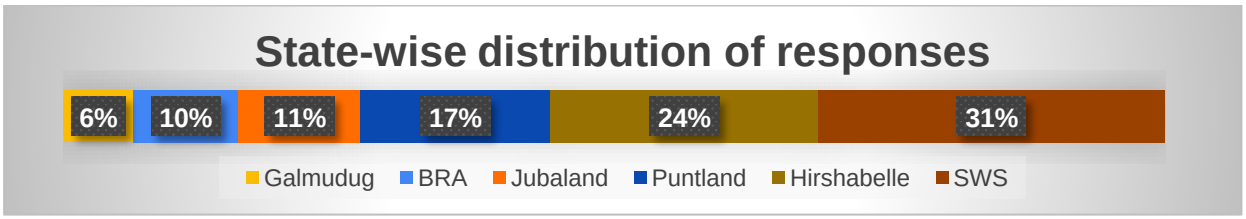



**Figure 4: State-wise distribution of responses to student survey**

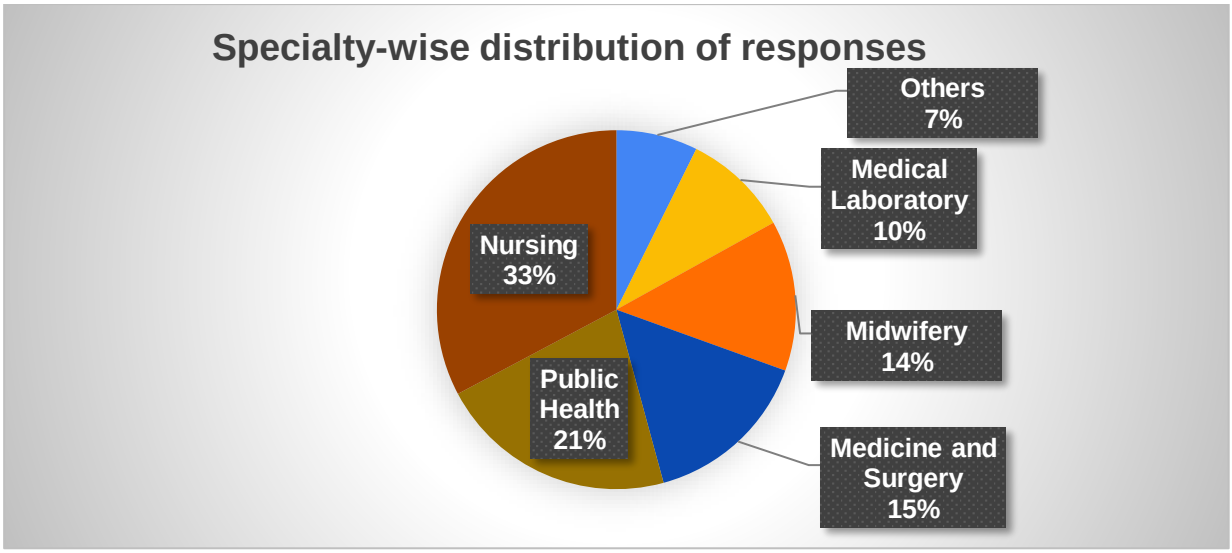



**Figure 5: Specialty-wise distribution of responses to student survey**

2) Quality of academic training

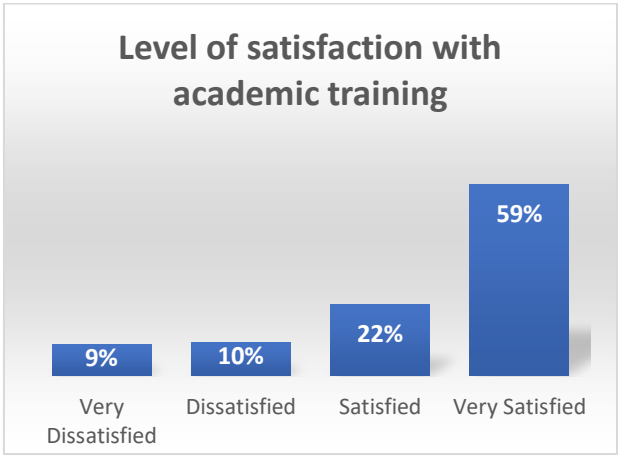



**Figure 6: Level of satisfaction with academic training (student survey)**

Overall, about 80% of respondents were satisfied with the quality of their training. However, of all the students from BRA that responded, 56% were dissatisfied. About 70% of students would prefer to study in Somalia, thus building the case for standardization of academic training experiences across the country.

3) Employment opportunities

In contradiction with practicing physicians interviewed, almost 90% of students perceived their employment opportunities to be good, and 80% agreed to consider working in the rural areas, if given a chance. Close to 30% in BRA and 15% in Jubaland do not consider their employment opportunities to be good.

However, all of them agreed with the existing workforce in demanding more opportunities for practical training and professional development, employment, and stricter regulation. Several challenges on working in the rural areas were highlighted, which were dominated by lack of security/ terrorism. Other important issues raised were poor health infrastructure, lack of resources, distance from cities and poor access roads or lack of public transportation, lack of finances and/or poverty, and dearth of communication services and/or internet.

Less than 2% of students expressed a desire to work outside the country, demonstrating an untapped opportunity to leverage their expertise to improve the health situation in the country.

**Limitations**

In an effort to encourage more responses, the survey was kept anonymous. Due to this, it is suspected that a handful of students may have submitted multiple responses. Since the data on intake capacity of universities was obtained in a short time, it was determined that this survey may also help identify any universities missing in the list. Hence, to eliminate any kind of bias, no universities were listed in the survey, encouraging the students to fill this out. However, this method collected 5 responses where a student wrote their name instead of that of their university.

A similar methodology was adopted for the list of courses. However, since we had a pre-determined list of specialties from our work with the Federal Ministry of Health, a list was used, along with the option to add more specialties should the need arise. This resulted in several responses from students of non-healthcare courses that had to be discarded during analysis (35 in total). 1 student wrote MBBS, and this response was clubbed with Medicine and Surgery.

## C) The Somalia Health Labor Market Paradox

The paradox in the Somali health labor market is that at the same time that there are high rates of vacancies there were also high rates of unemployment, especially amongst new graduates. To better understand why this is the case would take more time than we have during this analysis; especially including detailed interviews with a number of unemployed health graduates in both urban and rural areas. However, in the chart below the team offers some possible root causes for this unemployment paradox and their potential solutions.

| **Unemployment Root Causes** | **Unemployment Solutions** |
|---|---|
| **Vacancies are in undesirable areas rural remote insecure** | -People from the communities with vacancies must be recruited and trained to be health workers<br><br>-Admission to some public health professional schools should be contingent on bonding to work in underserved area |
| **Salaries are too low** | This is a delicate problem, as raising the minimum wages for various health professions can eliminate many jobs in both |

| | |
|---|---|
| | the public and the private sector and force many private health facilities to go out of business. It needs to be understood why some sectors (such as the service and sales sectors) can pay higher wages than the health sector. |
| **Working conditions are unsafe due to security or infectious disease** | The government needs to prioritize both public and private health facilities for police protection and for improvement of occupational health. |
| **Mismatch between the professions and skills of the unemployed and the needs of employers** | Improved communication between employers (public and private), health professional schools, and the Ministry of Health. In Ethiopia employers report to the Ministry of Health how many of what type of professions they expect to hire, and schools' enrollment is expanded or restricted based on this expressed demand. |
| **Lack of efficient markets for employers to advertise or open positions for health workers to advertise their availability and to do matchmaking** | Inclusion of employment status (including seeking employment) in the HR information system and creation of a unified public job market for health workers. |
| **Waiting for opportunities abroad** | The government can facilitate the movement of citizens who wish to work abroad. Consider the creation of an office of overseas Somali employment and the creation of bilateral agreements between the Somali governments and other governments such as Saudi Arabia and other Middle East countries from the Gulf Cooperation Council. |
| **Gender Norms** | For many Somali families, gender norms may have changed enough for young women to seek education, but they have not changed enough for families to allow them to be employed in the relatively insecure healthcare labor market. Solutions to this challenge involve improving the security of health facilities and long-term cultural change. |

## 1.3 Federal and State Level Distribution of the Health Workforce

### i. The High Shortage of Skilled Health Professionals

The total health workforce operating the BRA and the five states where the HRH landscape was assessed and found to be 13,236 of which 7,073 (53.4%) are physicians, nurses and midwives. When the density of the latter three skilled health professionals was assessed using the WHO lower threshold of 2.3 per 1000 for a population estimated at 13 million, the need was estimated at 30,000 doctors, nurses, and midwives. This threshold was considered necessary to attain the required 80% coverage of skilled birth attendance. However, a higher skilled health workforce

density of 4.45 per 1000 population would enable the health system to attain 80% coverage for the 12 selected SDG tracer indicators. The demand for doctors, nurses and midwives hence jumps to close to 58,000. The above two globally recommended densities are unattainable at the current pace of which these categories of skilled health workers are produced. This in turn will have a negative effect on their recruitment, deployment in the network of the health system across the country and accordingly to the organizational set up devised by the EPHS in the five care provision levels of the health system.

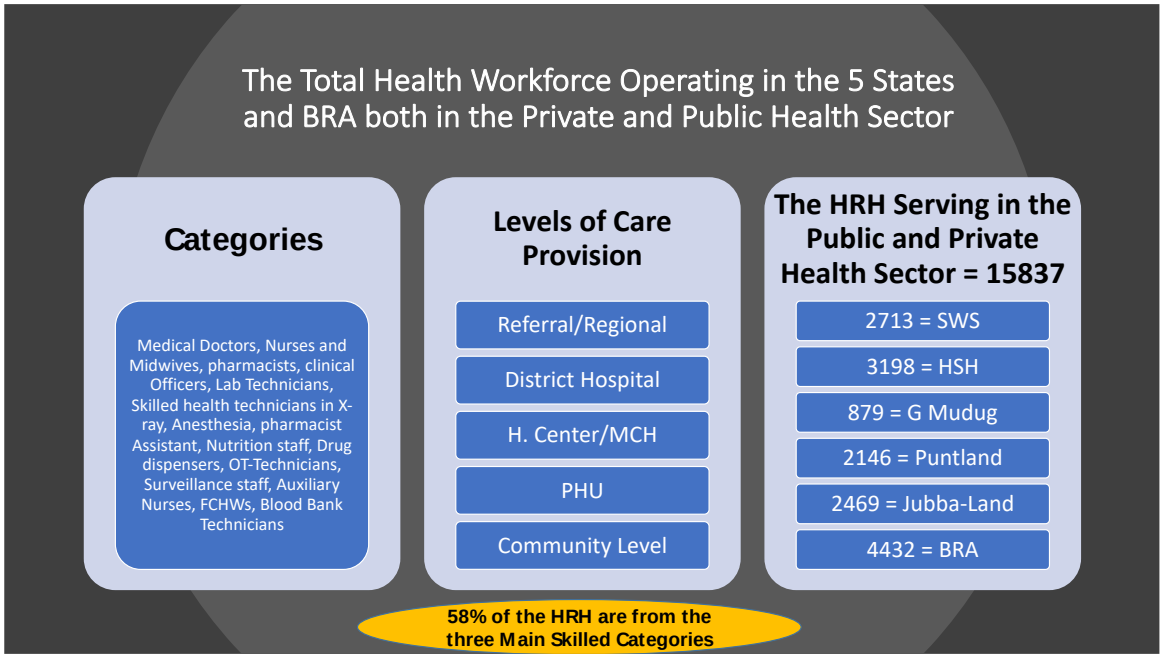
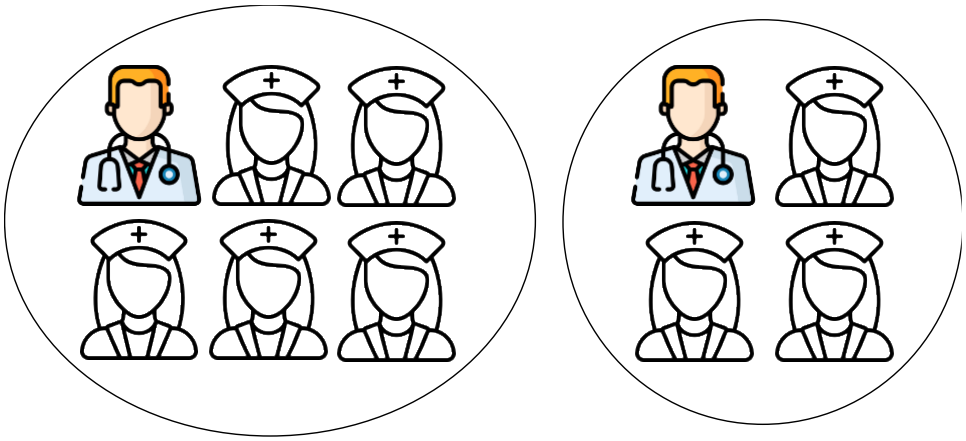



**Figure 7: A glimpse of the health workforce in Somalia**

The shortage is also reflected in the urban rural disparity of health professionals, disproportionately crowding the larger urban centers both at federal and state level. In addition to the severe shortage of all the categories of skilled health workers, including physicians, nurses and midwives, the ratio of physicians to the other two categories is 1:5. This ratio is closely similar to many African countries and 1:3 in developed countries, reflecting the critical roles the nurses and midwives contribute to the health system.



Ratio of physicians to nurses and midwives in Somalia and Sub-Saharan Africa (1:5)

Ratio of physicians to nurses and midwives in Europe (1:3)

**Figure 8: A comparison of the physician to nurse and midwife ratio in Somalia and Sub Saharan Africa (1:5) versus Europe (1:3)**

The outline below illustrates the tremendous paucity of the health workforce in the country and how these vital resources are more limited in the rural areas and among the nomadic populations. The expansion of primary health care services and the recruitment, training and deployment of community health worker in these remote and hard to reach communities is the only strategy that can effectively address the growing shortage of health professions, particularly in the Somali socio-economic and health system context. The data analyses of the HRH landscape were disaggregated for the different administrative federal and state level entities to allow context specific strategic medium- and long-term plans to address this growing challenge. A graphical representation for the distribution of priority health professions is given below and the state-wise distribution tables are included in annex 2.

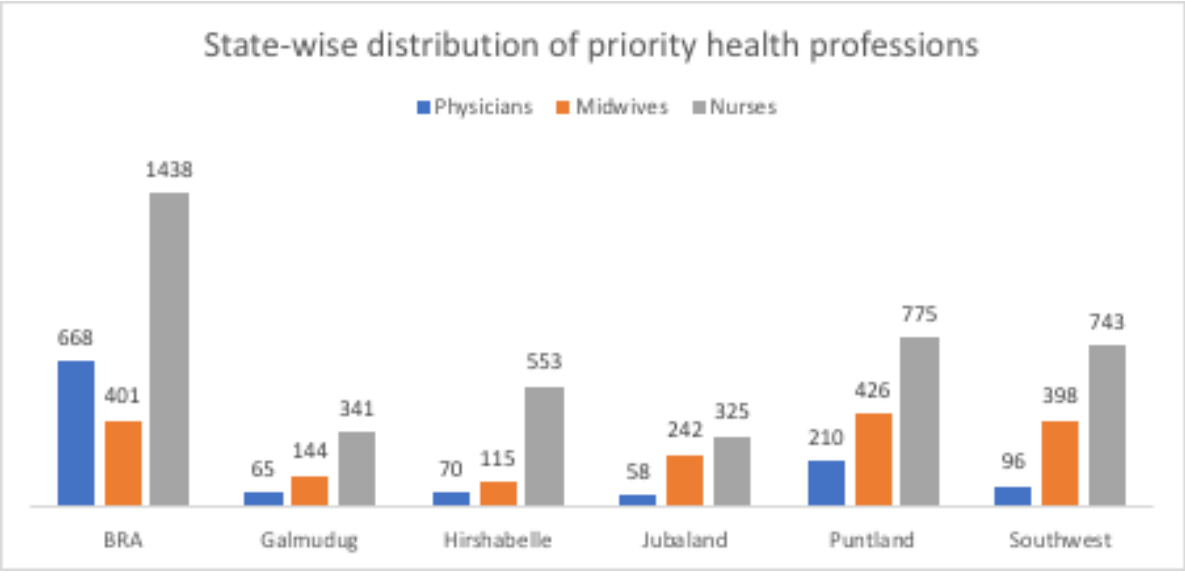



**Figure 9: State-wise distribution of priority health professions**

### ii. The HRH Gap in the Health System

Table 1 below illustrates the shortage level in the density of physicians, nurses and midwives operating in the different care provision levels of the health system. Two different scenarios were considered, the first being the set minimum WHO staffing threshold of these three categories of skilled health professionals estimated at 23 per 10,000 population. In this scenario the need for these professional categories is estimated at 30,000, reflecting a gap amounting to 20,793. In the second scenario with the WHO preferred density rate of 44.5 per 10,000 population, the need approaches 57,850 with a gap of about 48,500. This situation is further deteriorated by the inability of the health sector to absorb and employ all the graduate health workforce categories that are direly needed by the health system across the country. As the health workforce shortage is exclusively related to the lack of trained health professionals in view of the hundreds of physicians, nurses and midwives graduating every year with very limited employment opportunities in both the public and private health sector. This paradox is a matter requiring a policy review of the health sector financing by the public sector.

**Table 1: The WHO Minimum Recommended Staffing Threshold to Support the Attainment of UHC**

| Key HRH Categories | Currently in Service | Estimated Yearly Production | Current Need as per WHO Minimum Density Rate of 23 per 10,000 Population | Current Need as per WHO Revised Density Rate Of 44.5 per 10,000 Population | HRH Gap as per WHO Indicated two Coverage Scenarios | Time Projected for Bridging the Current two Coverage Scenarios Gap in Years |
|---|---|---|---|---|---|---|
| Physicians | 1167 | 800 | Current density: 5.4 per 10,000 population.<br><br>Estimated need of the three categories as per 23 per 10,000 population is: 29,900. Attainable in 8 years with the current production rate | Current density: 5.4 per 10,000 population<br><br>Estimated need of the three categories to achieve 44.5 per 10,000 population is: 57,850. Attainable in 25 years with the current production rate | 22,827 & 50,777 | 8 and 17 years Respectively, without accounting for the five states and Mogadishu Regional Administration population annual growth rate (PAGR), and 10.5 and 22.6 years respectively when the 2.9% PAGR is accounted for till 2030 |
| Registered Nurses | 4175 | 1400 | | | | |
| Registered Midwives | 1731 | 780 | | | | |
| **Totals** | **7,073** | **3,000** | **29,900** | **57,850** | | |

## 1.4 The Essential Package of Health Service: Setting HRH Standards for the Different Levels of Care Provision

The national Essential Package of Health Services (EPHS) adapted for the country and approved for implementation in 2020 includes 412 interventions, where the implementation

with the countrywide service coverage rate of about 80%, will amount to a cost of per capita income of US$ 33 of which 48% of the cost will go to the HRH salaries.

The EPHS aims at leading the country towards UHC by ensuring the essential services' availability, accessibility, and acceptability. The latter is substantiated by the imperative of securing qualified and well-regulated health professionals that are able to support the UHC expansion through the EPHS across the country. Through a politically supported, reasonably financed and community-led implementation, low-income countries like Somalia can promote their priority health needs and assertively move towards UHC.

The EPHS will catalyze synergy between a well-trained, properly supported HRH reaching an equitably distributed minimal density threshold complemented by the CHWs in the remote and hard to reach areas. Consequentially, the EPHS will achieve all the indicators consistent with the attainment of UHC. In the Somali health services delivery context, there are challenges that are likely to emerge despite all the efforts exerted by the government to sustain the synergy outlined above:

i) The resources available with the health sector are indeed highly inadequate to provide the envisaged interventions in the package for which local solutions and partnerships need to be designed to bridge this gap in a progressive and incremental manner.

ii) Some population groups are extremely hard to be reached due to geographical barriers, environmental influences including seasonal migrations of nomads, periodic floods and other risks, for which the imperative of training, recruiting and supporting locally residing female CHWs is the most viable option to consider to not leave any area or community behind.

iii) There are services that are offered by the health facilities, but poor clients cannot afford to meet these catastrophic payments, for which the government should explore the opportunity of providing social safety nets and financial protection in such conditions.

iv) The utilization of the essential lifesaving interventions in the different levels of care are often unattainable because of the lack of emergency response capacities or ambulances for high-risk pregnancies and maternal and newborn conditions as well as for other emergencies. Hence the necessity of organizing a referral network at every care provision level and readily available professionals and community health workers at the grassroot level.

## 1.5 The labor and civil codes perspectives before Passing the National Health Professionals' Council Act into Law

Labor laws and environmental working conditions significantly impact on the employees' working life and their productivity. The Somali Labor Code of 1972 was revised in 2019 under the leadership of the Federal Ministry of Labor & Social Affairs (MoLSA) in collaboration with

the International Labor Organization (ILO), and active participation of representatives from other federal institutions and the states. The absence of NHPC act has constrained the application of occupational health, a key instrument of the HRH regulatory framework. However, this was partially compensated by the labor code ratified by the Government of Somalia and addressing a range of fundamental principles and rights at work, that include employment contracts and relations and the safety and health of the employed workforce. The minimum wage principle and equity in remuneration to undertake the services assigned were thoroughly deliberated. Moreover, the occupational health and safety of the workforce and their protection against all potential risks, while preserving a conducive and hygienic work environment was to be ensured. The aim of the Work Environment Act is essentially to prevent ill health and accidents at work and to create a good work environment. Another law enshrined in the "Somali Civil Code" of 2006, affecting the permanent civil servants employed by the Government emphasizes that "*every worker has the right to equity, opportunity, and treatment without any form of discrimination and to access the appropriate support to gain the necessary performance capacity for executing the duties and professional obligations assigned*". Employed women are also provided the right for four months of paid maternity leave and the right for two hours leave for child breastfeeding on every working day for a period of one year starting from the day she resumes her service. Every public sector institution has also a promotion and discipline committee, with representation from the Civil Service Commission.

## 2. Analysis of the Somali HRH Regulation Landscape using the HRH Maturity Model

The consultants introduced the HRH maturity model to the federal ministry HRH team and the state HRH teams to check for relevance in the Somalia context. Based on this dialogue, a few additions were made to the model. Two additional components were added to the original eight components of the matrix. The first additional component was the capacity of the federal and state HRH teams. Without a functional HRH team at all relevant levels of government, the other components are never going to be realized. In addition, we added a component on occupational health. In many countries occupational health of health workers falls fully under the purview of the Ministry of Labor. In Somalia, the responsibility is divided between the Ministry of Labor and the Ministry of Health. Therefore, to meet the needs of the government of Somalia, a component on occupational health was added to the maturity model.

In addition, the original HRH maturity model did not include any content on the division of labor between central governments and local governments. In Somalia, where the regulation of HRH is divided between the central Somali federal government and the local state governments, a dimension on division of labor was added to each of the ten (increased from the original eight) HRH regulatory components. In general, for the division of labor, the federal government in close collaboration with the states, sets the regulation for the five most widely recognized cadres and their schools (physicians, nurses, midwives, pharmacists, and dentists), while the states set the regulation for all other health professions. For health facilities, the federal government, in

close collaboration with the states, sets the occupational health regulation for referral hospitals and referral laboratories (public or private), while the states set the occupational regulation for all other health facilities.

*The following sections analyze the Somali HRH Regulation Landscape and provide recommendations based on each component of the revised HRH maturity model. (See page 43)*

## 2.1 HRH Team Capacity

**Analysis**: The HRH team capacity at both the federal and the state levels is not sufficient to carry out all the regulatory and non-regulatory activities required of them. At both the federal and state levels there is not a sufficient number of workers in the team. In addition, many of the HRH team members have not received the training that they would need to be able to optimally carry out their work. Most of the teams have little budget beyond their salaries. This means there is little or no budget for communications, printing, travel, IT, training, etc.

**Recommendation**s: It is recommended that each HRH each team be expanded as budgets will allow. In addition, each HRH team should create a learning plan in order to provide the team members with the skills that they need. In a more long-term vision, it is important that sustainable HRH training programs be established in health professional schools in Somalia.

## 2.2 HRH Legislation: The National Health Professionals' Council (NHPC) Regulation: Passing the Act into Law (Stage 1)

**Analysis:** Health Regulation is a globally widely accepted policy instrument aimed at ensuring the health services to be delivered by qualified and competent professionals providing safe health care services, achieved through the establishment and enforcement of educational and professional practice standards. The institution of the health regulatory framework is thus an important milestone in standardizing the health professionals' education both in pre-and-in-service training and practice. In Somalia, the nationwide human resource for health regulatory framework i.e. "The National Health Professionals' Council (NHPC) Act" was unanimously endorsed by the Somali Federal Parliament on July 7, 2020.

The NHPC Act is expected to trigger a new momentum in the Somali health system, replacing the decades long absence of a general regulatory HRH framework. The NHPC regulation will also impact the health facilities and training institutions and create opportunities for continuing professional development. The NHPC act will positively affect the scope of service delivery and the quality of the health system and improve the coordination of the national and international stakeholders operating in the public and private health sectors. This will include urban and rural/nomadic settings, and a plethora of non-governmental organizations (NGOs) involved in service provision as well as the division of roles and responsibilities between the Federal and States levels of the health system. This new piece of legislation of the health care system will scale up the trust and confidence of the population it serves, place patient safety at the center of medical practice and validate the health professionals' fitness to their respective fields of practice.

In the absence of a formal regulatory framework during the past decades, loose self-regulation has been the norm. In this regard, several professional groups including medical and dental associations, nursing and midwifery association, pharmacists and other professional groups have been organizing their groups in an attempt to improve the access and quality of the health care services they provide. Their aim is to also set the standards of best practice related to promoting health, preventing diseases and delivering curative and rehabilitative services to the population following the service delivery guidelines established by the health sector. These associations were also formed to protect and guard their respective professional interests in terms of regulation, licensing, Continuing Medical Education (CME) and continuing professional development (CPD), preserve ethical norms, and set standards of practice, while representing their respective professions or cadres at national and international level. In the absence of a binding national or state level regulatory framework, the professional associations sustained a voluntary registration system with weak licensing authorities, while having little or no influence in the pre-service regulation of their respective educational professional institutions.

It was in recognition of these challenges, that the Federal Government has developed and approved the NHPC Act, while two other entities namely Somaliland and Puntland have also established their health professional councils that were ratified by their respective parliaments.

**Recommendations**: The NHPC Act needs to be implemented. In order to achieve this goal, an implementation plan has been created by the federal Ministry of Health and the states in collaboration with partners. The implementation plan will then be costed, and budgets will be obtained, and the implementation will proceed.

## 2.3 Registration System and Use of Registration Data

**Analysis:** Following decades of capacity disruption and fragmentation, and the absence of public law regulation, independent health professional associations were created with no option but to pursue a voluntary registration system. However, in the absence of a regulated licensing system in the country, the credentials obtained from the educational institutions acted as proxy licensing permits enabling new graduates to seek employment opportunities in the health system. Likewise, neither the educational institutions nor the health facilities that would potentially employ these newly graduated professionals were registered or licensed, although most educational institutions are voluntarily registered by the Ministries of Higher Education and/or by the competent states' level government authorities in which these institutions formally operate.

With the passage of the NHPC Act, all public and private health educational institutions will need to be accredited at the Council's office to give them official credence. Similarly, the newly certified graduates will be legally required to apply for proper registration and license. The pursued training program, the awarded qualification, and the duration of their training are recorded as an integral component of the registration process. From this perspective, the NHPC prohibits foreigners and nationals who have graduated abroad from practicing in the country until they formally obtain the NHPC registration and licensing permits. All the health facilities formally operating in any geographical location in the country must also be registered, licensed

and passed through the accreditation process. It is worth noting that these regulation processes have not yet entered full implementation, indicating the urgent need for accelerating the organization of the governing structures that will effectively translate this law into action. To closely monitor the implementation processes of the NHPC and the related role of professional associations and their operational coherence, the human resource information system should be strengthened to continuously improve the performance and decision-making capacities of the health sector. Efforts should be made to establish a collaborative coherence between the NHPC and the different health professional associations. Registration therefore constitutes a fundamental part of professional regulation, providing trust and confidence to the service users that the health facilities and their operating staff are qualified and licensed to practice their profession to serve the community.

**Recommendations:**

1. **Integrated Human Resource Information System (iHRIS):** The consultants will arrange for iHRIS team (the HR information system for DHIS2) to make a presentation to the MOH and state team. The Ministry of Health and states can then make a decision on implementing iHRIS or some other information system. It was agreed that a single implementation of the chosen software should be used country-wide, with the federal MOH responsible for entering data on the five main health professions and the states responsible for entering data on all other health professionals. https://www.ihris.org/
2. **Staff:** In order to be able to set up and run an HR information system, the federal MOH and the states will have to hire or train people with data entry, database management, and database analysis skills.
3. **Priority Analysis:** The federal MOH and the states need to prioritize the type of HRH analysis that will most help them manage the health workforce and provide universal health. Such care (UHC priority analysis may be graduation numbers for each profession, unfilled vacancies in government positions, and health worker density.
4. **Populating the HR Information System:** It is recommended that the HR Information System be populated through a process of triangulation to increase its accuracy. This triangulation would include data from government payrolls, health facility payrolls, private sector payrolls, Ministry of Health registrations, and professional association registrations.
5. **Ghost Workers:** It is important to periodically clean the HR information system and clean payrolls to prevent the accumulation of ghost workers. It is estimated that in many countries, 30% or more of workers in public payrolls are ghost workers.
6. **National Health Workforce Account:** In the medium and long term, Somalia should strive to have their HR information system meet the criteria of WHO's recommended National Health Workforce Account. https://www.who.int/hrh/statistics/nhwa/en/

## 2.4 Licensure

**Analysis:** There is currently no formal licensing system at the federal level or in most of the states**.**

**Recommendations:**

1. **Online Licensure:** The federal MOH and states should select a national HR Information System that would enable health workers to apply for their license and apply for re-licensure online. This would avoid the travel expense, travel time, and safety risk of having to travel to Mogadishu to obtain licensure or re-licensure.
2. **Difficult to Forge Licenses:** Globally there is a significant increase in falsified health professional licenses. In the medium term, the federal MoH and states should consider placing hologram stickers on graduation certificates/diplomas and professional licenses. Although hologram stickers can indeed be forged, it is much more difficult to forge them than to forge a standard diploma or license.
3. **ECSA Regional Licensure**: In the long-term, Somalia can consider joining ECSA and its regional licensing of health workers. For example, in ECSA all physicians are now licensed at the regional rather than the national level.

## 2.5 Scope of Practice

**Analysis:** There are currently no scope of practice guidelines at the federal level or in most of the states.

**Recommendations**: The first step in the domain of Scope of Practice is for the federal government in close collaboration with the states to develop scopes of practice, core competences, and training length for the five main health professions. This can be done using the World Health Organization's health worker categories as well as using scopes of practice examples from the ECSA region and elsewhere. The states can then work together to develop the scopes of practice of other health care workers.

## 2.6 Continuing Professional Development

**Analysis:** There is currently no requirement for CPD for any profession in Somalia, which is exacerbated by the dearth of additional training opportunities in general. The promulgation of the NHPC recognized the merit of continuing professional development (CPD) across the health workforce serving the national health system both in the public and private health sector. In order to operationalize this cost-effective learning process, NHPC regulators need to work closely with the different professional associations and jointly contribute to the planning and implementation of the capacity building necessary for their respective professional categories. It is envisioned that these collaborative efforts will ultimately lead to the development of a national comprehensive CPD program. Innovative approaches for distance learning that apply digital technology are assuming greater importance in the framework of the COVID-19

pandemic that has constrained efforts at organizing face-to-face training programs due to their cost, and the unavailability of qualified tutors required. The use of simulation practices has scaled up the learning opportunity for many basic health skills in different fields of the EPHS program interventions with a focus on those interventions identified as learning priority competencies. These can in turn translate into CPD plans to improve the health workforce performance and the quality and safety of the health care services they provide.

**Recommendations:**

1. **Priority Topics:** The Federal Ministry of Health should work in close collaboration with the states to identify the priority topics for CPD. These priority topics may cover conditions that cause excess mortality, health worker practice patterns such as antibiotic over-prescription that damage patient health, or health worker behaviors such as patient maltreatment which reduce patients' access to care.
2. **Open Access Courses:** Once the priority CPD topics are chosen, the Ministry can work with the states and other partners to develop both online and face-to-face training in these topics. The Ministry should make these courses freely available to both the public and the private sector.
3. **Moving up the CPD Ladder:** In the short and medium term, CPD should be optional but in the long term the CPD can be made mandatory for re-licensure.

## 2.7 Accreditation of Pre-service Education (PSE)

**Analysis:** The consultant team spoke with representatives from both public and private universities. In discussion with the school representatives and the federal and state representatives there was general agreement that the federal government in close collaboration with the states should accredit preservice education for the five main cadres (physicians, nurses, midwives, pharmacists, and dentists) and that the states should accredit preservice education for all the other cadres. It was agreed that there should be an effort to harmonize all the other cadres across the states to allow health worker movement and avoid confusion. The schools indicated that they were mainly self-regulating. They tended to have little contact with either the Ministry of Health or the Ministry of Education. The schools mentioned that the regulatory uncertainty made it difficult to establish new schools and expand existing programs. He also stated that because there were no set standards for the length of training or competencies for each cadre, that the competences of graduates of a given profession differed greatly from school to school and that this created uncertainty in the labor market. The schools said that they welcomed regulation from the Ministry of Health. It seems that the Ministry of Education does not have a clear role in the regulation of health professional schools.

**Recommendations:** The Federal Ministry of Health in collaboration with the state ministries should work on the first stage of the maturity model. The steps here should include cataloging all the existing health professional schools, their programs, average intake numbers and average graduation numbers. Schools that are identified by other schools as problem schools should be identified for further assistance.

Two main priorities emerged for the government to consider: the first priority was the standardization of cadres' competencies, and the second priority was general standardization of each cadre's curriculum. It is important that this standardization should not be too overbearing that it interferes with creativity. The establishment of a school self-evaluation can be based on existing self-evaluations created by the World Federation of Medical Education (WFME), multiple nursing regulators and regulators for other cadres.

It was agreed by all who participated that access to laboratory space is a huge barrier to starting and expanding schools. We suggest that federal and state governments consider creating shared laboratory, library, teaching, and computer spaces. This space can either be government owned or can be contracted out to the private sector to be made available to all schools on a reservation basis.

It was agreed by all that regulation of health professional schools should be supportive rather than policing and that the purpose of regulation was not to shut down schools. Underperforming schools would be identified and assisted. If after a lengthy grace period of five or ten years, they were unable to improve their quality to an acceptable level, only then would they potentially be merged with existing schools or be shut down.

It was discussed that as part of their self-regulation, health professional schools had formed an umbrella organization for exchanging information. This organization could potentially be revived and supported. In addition, health professional schools in Somalia can join the 500 Health Professional Schools Initiative to take advantage of the initiative's group procurement, free advisory services, free curricula, and school management documents, and communities of practice.

Most health professional schools in Somalia have good access to the Internet through the Somali REN program, however many students who would like to undertake distance learning programs quote the lack of access to Internet as a barrier. Providing this access to students in their homes will become increasingly important as more students start distance learning from rural and remote communities. MOH and states should negotiate with Somali telecom providers for preferred rates for health professional students.

a. The World Federation of Medical Education (WFME) currently does not recognize any institution as being an approved institution for accrediting medical schools in Somalia, although 20 academic institutions from Somalia are registered in the World Directory of Medical Schools, (this does not denote recognition or accreditation by the WFME). It should be a long-term goal for Somalia to apply for this accreditation. There are two significant benefits to WFME accreditation: Firstly, it improves quality and consistency. The second is that in order to be eligible to apply to residencies in the majority of international academic institutions, a physician must have graduated from a medical school that is accredited by a WFME approved accreditor. The accreditation process identifies the minimum acceptable qualification standards of performance that a successfully accredited academic institution is obliged to pursue and sustain

## 2.8 Professional Misconduct and Disciplinary Powers

**Analysis:** Interviews with key informants indicated that one significant area of misconduct arises from charlatans – individuals who are not licensed health workers but pretend to be – particularly physicians and pharmacists. It was the general opinion of the key informants that engaging in dual practice (publicly employed health workers who simultaneously run private practices) is widely recognized and not seen as a problem. In the Somali health system, dual practice is seen to help health workers supplement their low public salaries and keep them in public employment.

**Recommendations:** The lowest hanging fruit in this area would be:

- Identify the type of professional misconduct which currently causes most harm and address that. This misconduct may include but exclusive to charlatans, or related to low quality care, sexual abuse, practicing under the influence of drugs, or extreme mistreatment of patients (such as slapping and yelling at laboring women). The misconduct can be addressed through improving pre-service education in that area, through a shared common curriculum and communications to communities regarding this misbehavior and a toll-free number to report such misbehavior.

- In the medium term, an independent, fair process of adjudicating reports of health worker misconduct needs to be developed. In addition, a program should be developed to give assistance to health workers with mental illness or substance abuse problems.

b. **Financing Schools:** Although, the financing of schools generally falls outside of the purview of HRH regulation, if the federal and state governments act to decrease uncertainty in school finance, they can create a more positive regulatory market for the founding and expansion of health professional schools. For example, the federal and state governments can make it clear that external (from outside of Somalia) financing of health professional schools is not only allowed but is welcome. In addition, the Ministry and states can reach out to the Somali Diaspora and encourage them to pay for the health professional education of their extended family members in Somalia. The federal and state governments can also improve financing of technical health schools by setting up low interest or interest-free revolving health educational loans such as Afya Elimu (https://www.afyaelimu.co.ke/ ) in Kenya which was started by USAID or Dana Cita in Indonesia which is run as a private company.

## 2.9 Occupational Health and Staffing Standards

**Analysis:** Since the Somali Ministry of Health has the authority to regulate the occupational health of health workers, this was assessed at the federal level and all the states. The federal level and all the states were at stage one in the HRH maturity matrix.

**Recommendations:** The most immediate priorities would be to 1) determine what are the greatest occupational risks for health workers in Somalia (for example: infection, sharps injuries, stress, security, musculoskeletal injuries, etc.), 2) create a template for basic

occupational health plans and implementation, and 3) implement these plans including identification of occupational health focal points, training of workers on safe practices, and purchase and installation of sharps disposal containers etc.

## 3. Building Coherence between Health Workforce Regulation and Health Policies, Strategies, and Programmatic Intervention

The NHPC acts as a regulatory framework that preserves the quality of public health services, the occupational healthcare, the infectious disease control and the pursuit of best practices. These are strengthened by the health policy and strategic and programmatic directions aiming to achieve a set of specific goals and outcomes, whilst emphasizing the pursuit of the NHPC rules and regulations. The health sector financing and human resource development strategies have a great bearing on the consolidation of the HRH and health system regulatory framework. The implementation of a successful health policy will positively impact on the health workforce when directed to bridge the severe shortages encountered and ensuring their effective training, remuneration, safety, health welfare and equitable deployment to meet the population health needs, especially those living in the rural or underprivileged geographical areas. The Somali health policy regards the HRH regulation as a key priority, calling for the establishment of health professional associations. The professional organizations will coordinate their efforts with the Federal Ministry of Health and Social Care on regulation aspects, such as the accreditation of preservice health training institutions, certification, registration, licensing of health professionals and in establishing byelaws, acts and codes of practice. The health policy endorsed the creation of a National Health Professional Councils (NHPCs) at the federal MOH level to regulate the health workforce, both in-service and pre-service level and the public and private health sector care providing facilities. The national health policy envisaged that the regulatory norms would improve the performance capacity of the different professions and establish a continuing Professional Development (CPD) program that will enhance health workers' professional knowledge/skills and their occupational health and safety.

Establishing a coherence between the national health policy and health workforce regulation raises the imperative of closely monitoring the HRH regulatory framework to ensure its coherence with the policy frameworks. Monitoring the latter will ensure the health workforce coherence with the sectoral and sub-sectoral policies and inform the related strategies and programmatic interventions. The successful implementation of the health workforce regulation will be continually assessed by the HRH information system, with the establishment of HRH observatory, that can help generate the relevant HRH data and develop measurable indicators against agreed benchmarks on training, deployment, performance, and retention. Considering the accepted operational performance, the regulatory processes will generate greater transparency and accountability. Accordingly, the health policy and strategic plans should pursue options that could be adequately supported by the available health workforce and/or allow the necessary policy modifications to ensure the availability of the necessary workforce

categories and density to warrant a high level of coherence between these vital health system instruments.

### Postgraduate training in family medicine (FM)

A considerable number of medical graduates fail to secure employment opportunities in the public and private sector hospital settings and are hence obliged to open small outpatient clinics towards self-employment and livelihood generation. Organizing training programs in family medicine (FM) with the joint support of the Somali Medical Association and NHPC both at federal and state level are relevant to consider. These training activities could be offered through a standard sandwich residency program of family medicine for these newly graduating physicians. The FM residency will render these graduates more conscious about their educational capacities and guide their community serving motivation. In addition, these physicians can be given training and support (low-cost loans, equipment and supply lists, business plans, etc.) to start their own practices.

### Fitness to Practice

The Law Commissions' recommendations concerning fitness to practice stipulates that to practice in one of the regulated health and care professions, a person must be registered with the relevant regulatory body and comply with the standards of conduct, performance and follow the behavior they set. Where there is a concern about a registrant's ability to comply with, or an alleged breach of, those standards, the regulatory bodies can investigate whether that person is fit to practice and, if necessary, take appropriate action. While the fitness to practice procedures may overlap with these systems, their overarching objectives are to protect public safety, maintain public confidence in the profession and declare and uphold proper professional standards and conduct.

## 4. Bridging the Shortage of the Health Workforce with Innovative Strategies

The ongoing efforts of health workforce regulation is reflective of the government commitment to undertake radical and speedy regulatory measures to substantially bridge human resources gap among the underprivileged and hard to reach population groups and increase their capacity as outlined below:

**i. The establishment of public sector run training institutions:**

To promote equity in health services delivery and deploy health professionals in underprivileged settings, the government must select and train the needed health professions who upon graduation will be ensuring to return and serve in their communities. These training institutions will allow the non-haves and marginalized community members to join with new health graduates entering the workforce.

### ii. Addressing the workplace structural and operational challenges for HRH Motivation and Retention

While growing the domestic supply of nurses and midwives, a key strategy is also to address workforce shortages, by addressing structural and other workplace problems and support both new graduates and the retention of more experienced staff. These critical shortages should not be tackled by increasing the supply of new graduates alone. The creation of a safe and supportive work environment is important to the long-term success of the current efforts to expand the workforce and retain nurses and midwives within the Somali health care system.

### iii. Establishing Clinical Guidelines to Improve the Quality and Scope of Practice:

The establishment of clinical guidelines is necessary to improve professional competence and the quality of care, increase efficiency and reduce malpractices in the healthcare delivery system. Such guidelines are expected to promote best practices, that approach standard benchmarks for quality of care within low-income countries such as Somalia. As the various cadres of the health workers pursue accepted professional practices and appropriate standards of care, the risk of malpractice and negligence is minimized. In circumstances where it is neither appropriate nor possible to follow the set guidelines, it must be incumbent upon the concerned health professionals to document those reasons that made the guidelines untenable. The compliance with the set clinical guidelines will scale up the practice quality and the capacity of health professionals and facilitate task sharing and task shifting with realistic protocols.

### iv. Task Sharing and Task Shifting

Training allied health science professionals and clinical officers on specialized technical tasks through intensive training courses and curricula of technical services for which skilled health workers trained on the domain are in short supply or not available. These include mental health technicians, orthopedic technicians, dental hygienist, ophthalmic and ear-nose-and through (ENT) technicians and Clinical Officers. Task shifting strategies are also to be used in the rural underprivileged population groups to address reproductive, maternal, neonatal and child health care services through the training of female community Health workers (Marwo Caafimaad) and community-based Auxiliary/Assistant Community Midwives. The technicians and community health workers to be trained will follow a curriculum designed for each category conducted by trained health professionals and organized in facilities that have sufficient operating environment.

Research from LMICs and other African countries published in the past few years has demonstrated the benefits of task shifting to improve service delivery and quality of health care staff, while achieving better outputs and Universal Health Coverage. It also brings about effectiveness and acceptability to the role of health workers.

# 5. Leadership and Collaboration

To improve the health workforce compliance with the NHPC regulatory framework, a regular oversight mechanism of leadership is necessary. This will enable guidance and support of the federal and state level senior and midlevel leaders of the health system to those operating at the health facility level. The health ministries and their national and international implementing partners also need to create a coherent leadership development and implementation platform, while building collaborative partnerships at the same time. This leadership and management tier must make the extra mentoring effort and provide supportive supervision to the various health professional groups and disciplines. This approach will also enable the leaders to assess the health workforce competences and consider the planning of professional development training programs, while maintaining the set professional standards, as well as the technical and behavioral competences of the health workforce. Complementary HRH solutions are also necessary to continuously build up the number of qualified health workers and enhance their competence and performance capacity to effectively respond to the health needs of the population. To harmonize the technical roles of each workforce category, the WHO standard classification can be used to characterize the health professionals' operations at all levels of care.

## Human Resource Information System

Although the Somali national and state level health management information system has improved, the human resources information system (HRIS) component remains, to a large degree, incapable of promptly responding to the queries raised by the health care leaders for effective planning and implementation and for improving the health care service delivery. The HRIS will enable leading managers of the health services to track the health workforce performance, identify challenges and devise the appropriate solutions that will enable them to use the generated information to effectively lead and manage the health workforce implementation process. With the HRH regulation system in place, the HRIS will need to track the different workforce professional groups relative to training, certification, licensing deployment, retention, and performance. A national HRH data base that the states' health authorities could also adhere to, may be established and all health occupations captured in the system.

A well-coordinated comprehensive HRH information system encompassing the wider range of educational and service delivery institutions as well as the public and private sector practicing health workforce needs to be established. Its effective ongoing pursuit will improve the evidence based decision-making processes such as the setting of strategic policies and HRH technical, managerial aspects and other related innovations contributing to UHC and the attainment of SDGs.

# Special issues

## 1) Mental Health

**Analysis:** It was noted that mental health is a particular challenge in Somalia. One in three Somalis was estimated in 2011 by WHO, to suffer from a mental illness such as anxiety, depression, or post-traumatic stress disorder (PTSD). There is an extreme shortage of trained mental health professionals combined with a stigma of seeking mental health care. There currently is no training in the country for psychiatrists or psychologists or mental health counselors.

**Recommendations**: We recommend the creation of a workforce pyramid of mental health workers. The base of this pyramid will be community members, religious leaders, and community leaders who have training in mental health first aid. Mental health first aid enables people to identify community members who are undergoing a mental health crisis and to help them find assistance. The second level of caregivers on the workforce pyramid would be community mental health workers. After that would be mental health counselors, clinical psychologists, and psychiatrists. We also recommend that due to the strong stigma against psychiatric disease and the reluctance to seek treatment, that there be a strong telemedicine component to the mental health approach. This can be low-tech mobile phone to mobile phone telemedicine and can include suicide hotlines, mental health hotlines, and standard mental health telemedicine (diagnosis, talk therapy, symptom and compliance monitoring, etc.).

## 2) Telemedicine

**Analysis:** Somalia has yet to tap into the potential of telemedicine to provide medical care to rural and remote communities or communities with high levels of insecurity. This is especially timely as telemedicine has proved extremely valuable during COVID-19 lockdowns and even before COVID, telemedicine was used successfully in Rwanda and other LICs. We were unable to find evidence of current telemedicine going on within Somalia and we could find no federal or state policy on telemedicine.

**Recommendations:** We suggest that the federal government in close collaboration with the states can remove the uncertainty and lack of clarity about telemedicine by creating a set of policies on telemedicine. Such policies can determine the conditions under which telemedicine would be legal in Somalia; what cadres can engage in telemedicine and what services they can provide. For example, which cadres can provide diagnosis and treatment, which cadres can provide triage and referral, which cadres can do chronic disease management, which cadres can provide public health education and support via telemedicine, etc. The government may want to determine if physicians licensed in other countries may provide telemedicine in Somalia, targeting the Somali diaspora and if so, what platforms they can use. The government may also want to adopt telemedicine diagnosis and treatment guidelines to ensure that the quality of care provided via telemedicine remains high.

### 3) Non-Physician Providers

**Analysis:** There was general agreement amongst those interviewed that in order to advance the health of all Somalis within a reasonable amount of time, non-physician providers would have to be trained in almost all technical areas including midwifery/obstetrics, internal medicine, pediatrics, surgery, anesthesiology, dentistry, pharmacy, and laboratory medicine. Some donors and NGOs have trained non-physician providers in Somalia, but they are not universally recognized in the country and there are few or no sustainable training programs for them.

**Recommendations:** The next step would be to perform a literature review on task sharing and non-physician providers in Africa and gather lessons learned and best practices. Once the decision is made on which new professionals will be introduced, the details of the professions can be designed, including their length of training, their scopes of practice, location and terms of practice, and supervision. After that, the federal and state governments would need to establish posts for these workers and establish public training programs or incentivize the private sector to establish training programs**.** The federal and state governments led by their ministries of health should pursue UHC strategy and make every possible effort for health workforce utilization and remedy the prevailing shortage as quickly as possible.

### 4) Managed Migration

Eighty seven percent (87%) of Somalis are under the age of 25. It is doubtful that the Somali economy will be able to absorb all these workers. In the long term, as Somalia trains sufficient numbers of health workers, the federal government and states can start to sign bilateral agreements with other countries for the temporary migration of their health workers. This strategy will respond to the health professionals growing need to gain experience and professional development capacities, while encouraging return migration to effectively utilize the skills and expertise they have gained.

This strategy may be considered for the six Middle Eastern States of the Gulf Cooperation Council, and the UK now hosting the largest Somali community in Europe, The Somali government can also consider facilitating the establishment of English language health professional schools in Somalia to produce English speaking health workers for the labor market.

## Recommendations and Way Forward

The bulk of our recommendations are built around certain themes, as listed below.

### 1. Building Political Commitment and Dedicated Leadership

Building political commitment and a dedicated leadership at the highest level for the effective implementation of the deliberated health regulatory framework and improvement of health outcomes is essential by:

- Undertaking the necessary efforts to mobilize a critical mass of political support at federal, state, district and subdistrict level and improve the training, deployment, performance, and the retention of the health workforce, while strengthening the PHC services network through the active involvement of the local communities in the delivery of health services at the grassroots level.
- Eliminating the risk of inappropriate practices/interventions or giving incorrect advice to the care seeking population.
- Substantiating the political will towards providing the requisite funding support necessary to enable them to undertake appropriate interventions such as fulfilling the HRH contribution to the health system and attaining the SDGs.
- Bridging the gaps by reducing the health workforce shortage within public health sector, while urging professional heath organizations to actively participate in the policy dialogue process and link the demand and supply dimension of the health workforce and improve their educational environment for capacity building purposes.

## 2. Introducing Interventions that Address the HRH Shortage in the Health System

- Building effective HRH planning and Implementation capacity at all levels to reduce the health workforce shortage and avert the challenge that this poses to the attainment of UHC and SDGs by promoting more equitable distribution and retention of higher skilled cadres at district hospitals and health centers (medical and clinical officers) and BHUs (nurses and midwives) care provision levels to expand the scope of practice and service delivery.
- Ensuring that the NHPC national and state level regulatory framework eases the restrictive strategies that limit the roles of midlevel skilled health professionals such as clinical officers, nurses, and midwives, and those of the lower health workforce cadre that limit access to cost-effective lifesaving interventions that these health workers could effectively perform.
- The deployment of sufficient number of mid-and-lower-level health workers to improve the scope of practice while rendering the salaries at a reasonable level thus reducing the cost of providing lifesaving intervention envisaged within the EPHS domains.
- Strengthening the planning and decision-making capacity of the health workforce to bridge the existing shortage at all levels of the health system through the creation of a well-functioning human resource information system for evidence-based policy and action and the delivery of effective outreach programmatic interventions to the rural and nomadic settlements in all districts.
- Improving the health workforce employment conditions by providing decent remunerations and allowances, particularly in difficult areas, to motivate their deployment in remote districts and remote rural settings.

- Encouraging the retention of female employees in the health sector by ensuring their right for the deliberated four months of paid maternity leave and the right for two hours leave for child breastfeeding on every working day for a period of one year starting from the day she resumes her service and ensuring the government support for the financially non-affording health facilities to avoid dismissal or to discourage women employment in the sector.
- Paying special attention to the severe deficiencies in several public health fields and technologies that are critical for health services delivery, including mental health, biomedical engineers/technicians and several other skilled health professionals that operationalize Basic and Comprehensive EmONC facilities. The fairly low capacity and motivation of non-specialist health workers needs to be enhanced enabling them to provide quality mental-health services to all people, and gradually remove the stigma associated with mental disorders.

## 3. Pursuing the NHPC Act Led Health Workforce Regulatory landscape through Registration, Accreditation, and Licensing, while Ensuring Regular Coordination between the Federal and States' health authorities

### a) Registration

- Promoting the health and safety of the care seeking population through the registration of the health workforce actively employed by the public or private health sector or by international organizations, while encouraging those in search for job opportunities to register through the NHPC health workforce registry, and if meeting the set requirements to maintain their registration.
- Providing guidance to the registrants on how to access and pursue the standards of competencies set through the NHPC at federal or state level and link registration with the education and training that the different health professionals have attained,
- Assisting the newly registered professionals in enhancing their knowledge and skills in their respective fields of practice to emphasize public protection and safety measures.

### b) Licensing

- Ensuring the federal and state health authorities will jointly undertake the licensing of the registered health categories of physicians, dentists, pharmacists, nurses, and midwives, while empowering the state health authorities in licensing all other categories of health workers including community health workers within their states in coordination with their respective state health professionals' associations.
- Aligning licensing with the nature and duration of training that the different categories of health workers have received, and the competencies harnessed within their respective fields of health care practices.

- Instructing laboratory testing of human specimen, ambulatory surgeries, emergency medical and CEmONC services to operate only in facilities that are registered and licensed in accordance with the provisions of the NHPC Act.
- Establishing health facilities' licensing authorities at federal and state level in compliance with the NHPC set standards for hospitals and other health facilities and carry out regular on-site visits to validate the present health service standards, competencies, and scope of practice of the deployed health workforce and their skill mix, along with the necessary enacted safety measure, sanitation, and the overall quality of care.
- Implementing the NHPC endorsed operational/clinical guidelines that are linked to the skills that the professionals are licensed for, supported by supervised self-assessment exercises conducted with the help of mentors by in-service training until health workers' performance is optimized.

### c) Accreditation

- Assessing the training programs of the registered post-secondary allied technical and health professional training institutes and higher health academic institutions, granting accreditation to those institutions if they meet the regulatory required standards.
- Organizing inter-university conferences to promote accreditation as a measure of academic quality advancement that enables them to confirm to a recognized set of service and operational standards.
- Encouraging academic institutions to undertake a self-assessment of their accreditation implementation and translate the evaluation results into plans to leverage change through education and research.
- Promoting partnerships for technical cooperation between national academic institutions for establishing shared clinical training settings, diagnostic training facilities, computer labs, technical simulation labs, and capacity building for the teaching faculty, while facilitating the conduct of operational research.

## 4. Occupational Health (OH)

- Conducting a national survey on OH in all health care providing facilities across the country detecting the occurrence of such hazards and define the priority challenges to address to ensure the safety of the health workforce.
- Promoting OH services for all health staff working in hospitals and health facilities with preventive approaches being given the highest priority such as adequate PPE, running water, soap, safe sharps disposal, and Post-Exposure Prophylaxis (PEP). Included is the adequate handling & disposal of biohazards and medical radiation, decontamination rooms and adequate cleaning and hygiene procedures.

- Integrating the capacity building of skilled professionals on OH in the HRH health sector development plan and establish training curricula for these interventions to produce sufficient professionals engaging in OH implementation in their respective environments of service delivery.
- Producing standards and limit values for occupational exposures which should be in consonance with national occupational health programs and labor regulations.
- Reviewing the registration systems of occupational diseases and accidents in the country context and covering the basic occupational health and safety measures in compliance with the nationally set standards for action.
- Recognizing the health workers' rights for availing sick leaves both in the public and private health sector.

## 5. Professional misconduct deviating from the benefit of the patient

- Promoting the knowledge and awareness of the health workforce about their professional environment and the operational and ethical standards of practice that govern and regulate their roles and responsibilities in the health system.
- Improving communication between the health professionals accused of misconduct or malpractice and the client, as complaints are usually instigated due to lack of communication between the family of a patient and a professional or paramedic.
- Educating the health care staff on the risks of misconduct, improving their continuous learning on how to exercise good judgment for averting the risks of malpractice complaints.

## 6. Organizing CPD learning opportunities

- Establishing Continuing Professional Development (CPD) programs through training workshops, conferences, teaching best practice techniques and e-learning and study tours for different categories of skilled health professionals to improve the performance of the health workforce and enhance the quality of care of the facilities in which these health professionals operate.
- Regulating the HRH CPD training activities to enable them to fulfil the tasks and duties that they have been licensed for. This is especially vital, when specific duties are contextualized as integral parts of the roles and responsibilities that different cadres of health workers must accomplish during the course of their service.
- Encouraging registered and licensed health professionals to join CPD educational activities to remain eligible to practice in the public or private health sectors.
- Organizing CPD training programs for the prevention and control of infections in all hospitals and health facilities

## 7. Task Sharing and Task Shifting

- Enabling the transfer of health professional skills to a lower tier of service providers within the health services' network ensuring the support of the HRH set regulatory norms and establish a base for its development and sustainability for expanding the capacity pool of the health workforce.
- Supporting the task sharing and shifting processes with good mentorship arrangements and regular supportive supervision where skilled professionals are given direct responsibilities for this targeted task sharing and task shifting health work.
- Ensuring that prior to the task shifting, the new health workers are engaged with the new tasks' focused specific training that is successfully supervised prior to its skillful implementation. The shifted tasks are later incorporated into the staff members' formal job description and appraisal, which will expand the coverage of these services to a wider care-seeking population or specific catchment area in which the task shifting and sharing recipient cadre is formally deployed.
- Monitoring and supervising the district and subdistrict level task sharing and task shifting executed processes, while ensuring that the performing staff has acquired the competence level of expertise, accountability, and leadership on the newly assigned public health services and programmatic interventions.
- Encouraging the highly skilled and specialized professionals to provide services requiring a higher level of technical expertise and offering important in-service training for capacity development to less skilled staff.
- Extending the task sharing and task shifting initiatives with the organization of the missing or orphan public health capacities in the country, such as the designing and implementation of training programs on:

a) mental health care technicians by offering this course to experienced male and female nurses or Clinical Officers;

b) Caesarean Section surgeons by training General Practitioners to make many of the districts lacking CEmONC surgeons fully operational;

c) Launching on-line training on Family Medicine and Family Practice physicians especially for district hospitals and Health Centers;

d) X-ray technicians;

e) Neonatal Care Nurses and

f) Oral Hygiene Technicians.

Similarly, in the hard-to-reach communities, UHC will not be possible without the large-scale training of Female Community Health Workers "Marwo Cafimaad" and "Assistant Midwives" who reside in their communities and provide a broad range of services at the grassroots' level.

## 8. Expanding the Use of Female Community Health Workers (Marwo Caafimaad) and Assistant CMWs

- Using *Marwo Caafimaad* to address the growing shortage of health workers, providing the maximum possible coverage to the hard-to-reach rural areas and nomadic communities to safely and effectively deliver a range of maternal, neonatal and child health related interventions, in addition to delivering general community awareness, advocacy, nutrition and disease surveillance interventions liaising closely with their district teams on any suspected or perceived increase in the morbidity and/or mortality in their respective catchment area populations.

- Providing the trained FCHWs and Assistant CMWs the appropriate recognition, and supervisory support as integral vital members of the district health system offering them some minimal standard remuneration to sustain their performance in the community.

- Improving the communication and distance learning of *Marwo Caafimaad* with their PHC teams through the use of mobile phones that are widely available in the rural areas, particularly in a growing number of nomadic communities for the communication and referral of high-risk pregnancies, coordination with outreach district teams and send early warnings on possible infectious disease outbreaks.

- Using mobile health (mHealth care) solutions that could bring about a revolution in health care in the Somali context considering the enormous reach and penetration this technology can effectively harness for health care delivery, where access is the key barrier, offering opportunities for distance learning, supportive monitoring, and operations guidance.

- Participating in the delivery of minimum standards of health care that can be potentially overwhelmed by Tuberculosis, HIV/AIDS and Malaria epidemics and hence concerted political will and funding support is required to control these public health challenges by harnessing support of the national domestic sources and international partners.

## 9. Health Facilities and their Service Delivery Standards

- Assuming health services' delivery roles and responsibilities at regional, district and subdistrict levels by the respective Somali Federated States and their Ministries of Health in close collaboration with the Federal Ministry of Health and other national and international partners
- Assessing the performance of health care facilities' compliance with their EPHS specific service delivery and managerial roles and standards assigned and performance for their effective accreditation and licensing.
- Ensuring that the basic equipment assigned to each level of care is readily available and operated by trained staff along with the relevant safety precautions across the board

- Undertaking the laboratory diagnostic testing necessary for routine service delivery as per the standards set for each level of care and access to essential medicines and essential services and trained staff and their availability sustained.
- Providing child health preventive and curative care services and the diagnosis, management or referral of communicable and non-communicable diseases

## 10. Family Medicine and Family Practice

- Introducing the family medicine and practice at regional, district and health center levels of care as a strategy aimed at building a PHC foundation that promotes a people centered service delivery where trained family practitioners are deployed in these facilities to provide quality EPHS services with greater access and effectiveness that increases patient satisfaction.
- Improving diagnostic accuracy through family medicine, with better case management and reduced hospitalization, covering the local disease conditions including NCDs
- Addressing the health problems of the family medicine practicing physician catchment area communities in the context of the residential environment, within the locally existing cultural networks and norms of the target communities
- Drawing benefits from the EPHS recent review and deliberation of the national essential drug list that will facilitates the launching of and integrating family medicine in the EPHS PHC framework and implementation.
- Establishing case management guidelines where applicable, while rationalizing the referral support across the network of the health services system,
- Upgrading general practitioners to family physicians by providing 6-month online course that has been developed by WHO in partnership with the American University of Beirut, where this interim arrangement could be later complemented by another 6-months training to complete the full family physicians' course.

## Annex 1: The HRH Maturity Matrix

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| ***MOH HRH Unit*** | ***Federal:*** *Federal HRH unit with capacities across all the 8 other maturity model components* ***States:*** *State level HRH units with similar functions* | *No HRH unit exists or essentially non-functional.* | *Small HRH unit with limited staff and limited or no budget for expenses beyond salaries. Unit does not have the capacity to perform the 8 regulatory functions.* | *Medium sized HRH unit that has the capacity (in staff and non-salary budget) to perform the 8 basic regulatory functions.* | *Medium to large sized HRH unit with capacity to provide technical assistance to States and other HRH stakeholders.* | *Sufficient HRH unit that is able to conduct HRH research.* |
| **Federal level** | | | A small unit exists at the Federal level. | | | |
| **BRA (Benadir Regional Authority)** | | | A small unit exists at the State level. | | | |
| **Galmudug** | | | A small unit exists at the State level. | | | |
| **Hirshabelle** | | | A small unit exists at the State level. | | | |
| **Jubaland** | | | A small unit exists at the State level. | | | |
| **Puntland** | | | A small unit exists at the State level. | | | |
| **South West** | | | A small unit exists at the State level. | | | |
| **Somaliland** | | | | | | |
| ***HRH legislation*** | ***Federal:*** *Creates legislation in close collaboration with the states on the 5 most recognized cadres** | *Identification of key issues with participation of stakeholders. Consensus around whether a new HRH Act or amendments to* | *Legislation drafted with stakeholders including Ministry of Health, HRH councils and/or professional associations, academia,* | *Approval, commencement, and publication of legislation.* | *Implementation through dissemination and training of HRH in their rights and duties.* | *Monitoring and evaluation of compliance and impact.* |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| | ***States:*** *Create legislation for all other cadres* | *existing legislation are needed.* | *and legislature or parliament.* | | *Issuance by Councils and/or ministry of health of rules or regulations.* | |
| **Federal level** | | | Legislation has been drafted at the Federal level | | | |
| **BRA (Benadir Regional Authority)** | **No** | | Legislation has been drafted at the State level | | | |
| **Galmudug** | No | No state level HRH legislation exists | | | | |
| **Hirshabelle** | | No state level HRH legislation exists | | | | |
| **Jubaland** | | No state level HRH legislation exists | | | | |
| **Puntland** | **Yes** | | | There is a health law and a health council law, but no specific HRH law. | | |
| **South West** | **yes** | MOH has HRH act/ policies but they do not cover all required HRH standards | | | | |
| **Somaliland** | | | | | | |
| ***Registration System and Use of Registration Data*** | ***Federal:*** *In close collaboration with the states, selects 1 HRIS for the whole country. Tracks & analyzes the 5 recognized cadres.* ***States:*** *Track & analyze all other cadres. (One* | *Registration is not legally required for HRH to practice or Registration is lifelong (i.e. renewal not required}. The register is primarily a paper-based system.* | *Renewal of registration (or license)is required. Both paper and electronic (e.g. Excel) system for registration is used. Registration system can answer basic queries (e.g. number of HRH in the country).* | *Registration system (including licensure and re-licensure) is primarily electronic (use of software). Database includes all public sector* | *Registration system is completely electronic and includes all public and private sector HRH. Database displays various registration statuses of HRH. Database can be programmed to* | *Registration, licensure and re-licensure services are available online or are de-centralized. Registration database can exchange data with other health* |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| | *system, each state with their own username and password)* | | | *HRH and is regularly updated. Registration system can be queried to generate workforce reports.* | *automatically generate workforce reports.* | *information systems. Registration data used by decision makers for workforce policy and planning.* |
| **Federal level** | | Registration at the Federal and State level exists but is only voluntary. Mandatory registration is expected to begin in 2022 | | | | |
| **BRA (Benadir Regional Authority)** | **Yes** | Associations have voluntary membership registration. | | | | |
| **Galmudug** | **No** | No HR registration system existing in Galmudug state | | | | |
| **Hirshabelle** | | Voluntary registration exists at the State level | | | | |
| **Jubaland** | | Voluntary registration exists at the State level | | | | |
| **Puntland** | **Yes** | Associations have voluntary membership registration. Non-members are not included. Have started a trial in one jurisdiction. | | | | |
| **South West** | **No** | No registration exists at the State level | | | | |
| **Somaliland** | | | | | | |
| ***Licensure Process*** | ***Federal:*** *In close collaboration with the states, licenses the 5 recognized cadres* | *Licenses not required to practice* | *Licenses are issued with initial registration (no separate licensure examination)* | *An examination or assessment process is in place for initial registration and licensure.* | *Examination or assessment content meets national competency standards.* | *Registration and initial licensure examination content is* |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| | ***States:*** *License all other cadres* | | *Renewal of license is required at intervals specified by the regulatory authority.* | *The examination or assessment is paper-based. National competency standards are being developed.* | *Various statuses of licenses issued (i.e. conditional, suspended). Licensure verification process facilitates entry of foreign educated HRH into workforce* | *updated regularly. Examination content aligns with global guidelines or regional competency standards. The licensure status of an HRH is available to the public either via website or viewing in person.* |
| **Federal level** | | Licensing at the Federal and State level exists but is only voluntary. Mandatory Licensing for practices is expected to begin in 2022 | | | | |
| **BRA (Benadir Regional Authority)** | **Yes** | Associations have voluntary membership registration. | | | | |
| **Galmudug** | **No** | No HR registration system existing in Galmudug state | | | | |
| **Hirshabelle** | | Voluntary licensing exists at the State level | | | | |
| **Jubaland** | | Voluntary licensing exists at the State level | | | | |
| **Puntland** | **Yes** | Associations have voluntary membership registration. Non-members are not | | | | |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| | | included. Have started a trial in one jurisdiction. | | | | |
| **South West** | **No** | No voluntary licensing exists at the State level | | | | |
| **Somaliland** | | | | | | |
| ***Scope of Practice (SOP)*** | ***Federal:*** *In close collaboration with the states, defines SOP for the 5 recognized cadres* ***States:*** *Define SOPs for all other cadres* | *SOP not defined by legal statute or regulation. SOP may be decided by the employer or based on health facility needs.* | *Council has the authority to formally define the SOP. SOP are under development. SOP reviewed or revised within 10 years.* | *Nationally standardized SOP for HRH categories. SOP is based on HRH job descriptions. SOP reviewed or revised within last five years.* | *SOP includes essential HRH competencies. The SOP are regularly and systematically reviewed and revised. SOPs allow for individuals to make decisions about task shifting or task sharing* | *All SOP align with global guidelines and standards for HRH. SOP reviewed and revised according to global standard. SOP dynamic, flexible, and inclusive, not restrictive.* |
| **Federal level** | | No nationally accepted SOP exists. However, SOPs are available at the level of individual facilities level. | | | | |
| **BRA (Benadir Regional Authority)** | **Yes** | SOPs are available only at the facility level for some professionals. | | | | |
| **Galmudug** | | SOPs are available only at the facility level for some professionals. | | | | |
| **Hirshabelle** | | SOPs are available only at the facility level for some professionals. | | | | |
| **Jubaland** | | SOPs are available only at the facility level for some professionals. | | | | |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| **Puntland** | **Yes** | SOPs are available only at the facility level for some professionals. | | | | |
| **South West** | **Yes** | Decision based on health facility needs | | | | |
| **Somaliland** | | | | | | |
| ***Continuing Professional Development (CPD)*** | ***Federal:*** *In close collaboration with the states, determine CPD for the 5 recognized cadres* ***States:*** *Determine the CPD for all other cadres* | *CPD is voluntary. CPD framework for HRH may be in planning stages.* | *Council has a mandate in legislation to require CPD. National CPD framework for HRH is developed. Implementation of CPD requirement is in pilot or early stages* | *CPD program for HRH is finalized and nationally disseminated. CPD is officially required for re-licensure. Strategy in place to track compliance.* | *Electronic system in place to monitor CPD compliance. Penalties for non-compliance with CPD exist. Available CPD includes content on national HIV service delivery guidelines for HRH.* | *Multiple types of CPD are available including web-based and mobile-based models. CPD content aligns with regional standards or global guidelines. Regular evaluations of CPD Program carried out.* |
| **Federal level** | Each State below has identified priority topics for training. | No national CPD program exists. However, on-the-job training is organized for professionals at facility level. Overall topics: Basic emergency care & triage, BEMONC/ CEMONC, Imam guidelines, IMCI, family planning and GBV, HMIS/ disease surveillance, clinical guidelines | | | | |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| **BRA (Benadir Regional Authority)** | **Yes** | Priorities: CEMOC, BEC, ICU & Mass Casualty, IMCI training, Surgical training, trauma management course | | | | |
| **Galmudug** | **Yes** | HWs are regularly provided Training for service Delivery | | | | |
| **Hirshabelle** | | | | | | |
| **Jubaland** | | | | | | |
| **Puntland** | **Yes** | Priorities: CEOC, BEC, ICU & Mass Casualty, IMCI training | | | | |
| **South West** | | | | | | |
| **Somaliland** | | | | | | |
| ***Accreditation of Pre-Service Education (PSE)*** | ***Federal:*** *In close collaboration with states sets some basic joint criteria for PSE accreditation for the 5 recognized cadres, in collaboration with MOE, etc.* ***States:*** *Accredit PSE for all other cadres* | *Council does not have legal authority to approve pre-service HRH schools or programs* *Public schools/ programs may be "endorsed" by the council.* | *Council has legal authority to approve pre-service schools/ programs.* *Council issues standards for accreditation of HRH schools /programs* *No time limit or expiration date on accreditation approval.* | *Initial assessment visits are carried out by the council or their designated authority.* *Standards for accreditation are regularly reviewed and revised.* *Requirement for accreditation renewal is enforced.* | *Assessment visits are regularly carried out by an independent body. Council has an electronic system to track accreditation status.* *Various levels of accreditation granted (i.e. probationary, conditional).* | *Group independent from council makes accreditation determination for both public and private schools/programs* *Accreditation standards align with global or regional guidelines.* *Accreditation status available to the public.* |
| **Federal level** | | | Council has the authority to approve programs. However a uniform curriculum is needed. | | | |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| | | | Admission criteria may be defined at a later stage. | | | |
| **BRA (Benadir Regional Authority)** | **Yes** | | Council has the authority to approve programs. | | | |
| **Galmudug** | **No** | There is only one Midwifery school that provides a 2 year' diploma course in Midwifery | | | | |
| **Hirshabelle** | | | Council has the authority to approve programs. | | | |
| **Jubaland** | | | Council has the authority to approve programs. | | | |
| **Puntland** | **Yes** | | Council has the authority to approve programs. | | | |
| **South West** | **No** | | | | | |
| **Somaliland** | | | | | | |
| ***Professional Misconduct and Disciplinary Powers*** | ***Federal:*** *In close collaboration with the states, investigates & disciplines the 5 recognized cadres* ***States:*** *Investigate & discipline all other cadres. Report loss of license or practice restriction to Federal government.* | *Council does not have authority to manage complaints and impose sanctions. Standards of professional conduct may not be defined.* | *Legislation authorizes council to define standards for professional conduct. Council has authority to investigate or initiate inquiries into professional misconduct. Basic types of complaints and sanctions exist.* | *Complaint investigation and misconduct hearings are separate processes. A range of disciplinary measures (penalties, sanctions, conditions) exist. Appeals processes are available and accessible.* | *The processes and documentation of complaints and sanctions is transparent. Processes and timelines are in place to review and remove penalties and sanctions. Processes are in place for member of the public to lodge a complaint.* | *Professional conduct standards align with regional standards or global guidelines. The complaint management process is regularly evaluated for transparency and timeliness. Information on complaints and sanctions is* |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| | | | | | | *available to the public.* |
| **Federal level** | | Council does not have disciplinary powers | | | | |
| **BRA (Benadir Regional Authority)** | **Yes** | | Medical Association has been operational but a medical council does not currently exist. | | | |
| **Galmudug** | **No** | A disciplinary council of professionals does not currently exist | | | | |
| **Hirshabelle** | | Council does not have disciplinary powers | | | | |
| **Jubaland** | | Council does not have disciplinary powers | | | | |
| **Puntland** | **Yes** | | Medical Council has been operational less then 1 year. | | | |
| **South West** | **No** | Council does not have disciplinary powers | | | | |
| **Somaliland** | | | | | | |
| ***Occupational Health of Health Workers (OH)*** | ***Federal:*** *In close collaboration with the states, regulates tertiary hospitals (hospitals with an ICU)* ***States:*** *Regulates OH of all other health facilities* | *No occupational health regulation or regulation is not enforced.* | *Basic OH Regulation in place and enforced. OH risks prioritized (e.g.: Infection Prevention & Control, sharps injuries, stress, security, musculo-skeletal injuries). Every health facility has a basic facility OH risk assessment and plan developed and implemented. Adequate PPE and relevant* | *Presence of a dedicated government OH unit. Occupational injury database operational and injuries reported, analyzed and acted on. Every health facility has an OH focal point and basic occupational health material and* | *More advance facility OH plans developed and implemented. Each facility has more advanced occupational health equipment (eye wash stations, emergencies decontamination showers, patient lifts, panic buttons, negative pressure rooms, etc.).* | *OH Standards align with global standards, including unannounced inspection visits and OH requirements for health facility certification. OH plans include sexual harassment* |

| | Division of Labor | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
|---|---|---|---|---|---|---|
| | | | *vaccinations available to all health workers. OH integrated into PSE. System for anonymous reporting of OH* | *equipment in place and health workers are trained to use it. (fire extinguishers, PEP, sharps boxes, etc.)* | *Regulation of medical radiation, biohazards, and medical waste. Mandatory annual TB mask fitting &* | *prevention and reporting.* |
| **Federal level** | | No OH regulations exist | | | | |
| **BRA (Benadir Regional Authority)** | **Yes** | Regulations are defined but not enforced. | | | | |
| **Galmudug** | **No** | No OH regulations and policies exist | | | | |
| **Hirshabelle** | | No OH regulations exist | | | | |
| **Jubaland** | | No OH regulations exist | | | | |
| **Puntland** | **Yes** | Regulations are defined but not enforced. | | | | |
| **South West** | **Yes** | OH regulations are developed but not effective due to inadequate low enforcement | | | | |
| **Somaliland** | | | | | | |

* Although Somaliland was invited for the consultations, no representation was received and hence its status of implementation for the various functions has not been obtained.

## Annex 2: All data tables

**Table 2: Gender Distribution of key professional categories in Benadir Regional Administration (BRA)**

| Professional Category | Urban | | | | Total |
|---|---|---|---|---|---|
| | Public | | Private | | |
| | Male | Female | Male | Female | |
| Medical Doctors/ Dentists | 213 | 149 | 245 | 61 | **668** |
| Nurses | 413 | 577 | 176 | 272 | **1438** |
| Midwives | 0 | 286 | 0 | 115 | **401** |
| Pharmacists and Pharmacist Technicians | 38 | 25 | 86 | 42 | **191** |
| Laboratory Technicians, | 69 | 84 | 107 | 79 | **339** |
| Other Health Technicians and X-ray Technicians | 16 | 2 | 0 | 0 | **18** |
| Other Health Workers | 213 | 1328 | 34 | 19 | **1594** |
| **Total** | **962** | **2451** | **648** | **588** | **4,649** |

**Table 3: Distribution of key professional categories in Galmudug State of Somalia**

| Professional Category | Urban | | | | Rural | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Public | | Private | | Public | | Private | | |
| | Male | Female | Male | Female | Male | Female | Male | Female | |
| Medical Doctors | 14 | 5 | 32 | 14 | 0 | 0 | 0 | 0 | **65** |
| Dentists | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | **1** |
| Nurses | 69 | 75 | 44 | 63 | 25 | 27 | 18 | 20 | **341** |
| Midwives | 0 | 94 | 0 | 30 | 0 | 14 | 0 | 6 | **144** |
| Pharmacists | 27 | 11 | 10 | 7 | 0 | 0 | 0 | 0 | **55** |
| Laboratory Technicians, | 34 | 15 | 43 | 19 | 8 | 5 | 2 | 4 | **130** |
| Other Health Technicians, x-ray | 5 | 2 | 3 | 6 | 1 | 0 | 0 | 0 | **17** |
| Other Health Workers | 62 | 160 | 6 | 14 | 36 | 83 | 6 | 15 | **382** |
| **Total** | **211** | **362** | **139** | **153** | **36** | **83** | **26** | **45** | **1,135** |

**Table 4: Gender Distribution of key professional categories in Hir-Shabelle State of Somalia**

| Professional Category | Urban | | | | Rural | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Public | | Private | | Public | | Private | | |
| | Male | Female | Male | Female | Male | Female | Male | Female | |
| Medical Doctors | 23 | 4 | 33 | 4 | 6 | 0 | 0 | 0 | **70** |
| Dentists | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Nurses | 280 | 80 | 75 | 7 | 63 | 48 | 0 | 0 | **553** |
| Midwives | 0 | 38 | 0 | 35 | 0 | 42 | 0 | 0 | **115** |
| Pharmacists and Pharmacist Technicians | 30 | 7 | 15 | 16 | 16 | 8 | 0 | 0 | **92** |
| Laboratory Technicians, | 40 | 12 | 38 | 29 | 18 | 3 | 0 | 0 | **140** |
| Other Health Technicians, and X-ray Technicians | 45 | 37 | 54 | 67 | 25 | 13 | 0 | 0 | **241** |
| Other Health Workers | 425 | 100 | 113 | 46 | 59 | 65 | 0 | 0 | **808** |
| **Total** | **843** | **278** | **328** | **204** | **187** | **179** | **0** | **0** | **2,019** |

**Table 5: Gender Distribution of key professional categories in Jubbaland State of Somalia**

| **Professional Category** | **Urban** | | | | **Rural** | | | | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| | **Public** | | **Private** | | **Public** | | **Private** | | |
| | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** | |
| Medical Doctors | 18 | 3 | 33 | 4 | 0 | 0 | 0 | 0 | **58** |
| Dentists | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Nurses | 101 | 85 | 28 | 12 | 45 | 54 | 0 | 0 | **325** |
| Midwives | 0 | 154 | 0 | 12 | 0 | 81 | 0 | 0 | **247** |
| Pharmacists and Pharmacist Technicians | 29 | 4 | 14 | 0 | 14 | 0 | 0 | 0 | **61** |
| Laboratory Technicians | 23 | 8 | 22 | 6 | 11 | 0 | 0 | 0 | **70** |
| Other Health Technicians, and X-ray Technicians | 105 | 7 | 37 | 0 | 0 | 0 | 0 | 0 | **149** |
| Other Health Workers | 195 | 93 | 34 | 19 | 114 | 92 | 0 | 0 | **547** |
| **Total** | **471** | **354** | **168** | **53** | **184** | **227** | **0** | **0** | **1,457** |

**Table 6: Distribution of key professional categories in Puntland State of Somalia**

| **Professional Category** | **Urban** | | | | **Rural** | | | | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| | **Public** | | **Private** | | **Public** | | **Private** | | |
| | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** | |
| Medical Doctors | 38 | 14 | 83 | 28 | 34 | 13 | 0 | 0 | **210** |
| Dentists | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | **5** |
| Nurses | 94 | 199 | 82 | 140 | 84 | 176 | 0 | 0 | **775** |
| Midwives | 0 | 204 | 0 | 41 | 0 | 181 | 0 | 0 | **426** |
| Pharmacists | 22 | 26 | 55 | 19 | 19 | 23 | 0 | 0 | **164** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Laboratory Technicians, | 15 | 7 | 38 | 10 | 13 | 6 | 0 | 0 | **89** |
| Other Health Technicians, x-ray | 22 | 9 | 36 | 11 | 20 | 8 | 0 | 0 | **106** |
| Other Health Workers | 56 | 105 | 41 | 27 | 49 | 93 | 0 | 0 | **371** |
| **Total** | **248** | **564** | **339** | **276** | **219** | **500** | **0** | **0** | **2146** |

**Table 7: Distribution of key professional categories in Southwest State of Somalia**

| **Professional Category** | **Urban** | | | | **Rural** | | | | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| | **Public** | | **Private** | | **Public** | | **Private** | | |
| | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** | |
| Medical Doctors | 19 | 20 | 32 | 15 | 5 | 5 | 0 | 0 | **96** |
| Dentists | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | **2** |
| Nurses | 89 | 182 | 67 | 176 | 89 | 140 | 0 | 0 | **743** |
| Midwives | 209 | 0 | 33 | 0 | 156 | 0 | 0 | 0 | **398** |
| Pharmacists | 10 | 15 | 18 | 9 | 10 | 20 | 0 | 0 | **82** |
| Laboratory Technicians, | 5 | 11 | 9 | 33 | 7 | 18 | 0 | 0 | **83** |
| Other Health Technicians, x-ray | 7 | 21 | 17 | 23 | 9 | 15 | 0 | 0 | **92** |
| Other Health Workers | 112 | 39 | 18 | 24 | 89 | 52 | 0 | 0 | **334** |
| **Total** | **451** | **288** | **196** | **280** | **365** | **250** | **0** | **0** | **1830** |

**Table 8: Trainings offered by the Different Academic Institutions from Five States and BRA**

| **No** | **Skilled Professionals being trained** | **Galmudug** | **BRA** | **Hir-Shabelle** | **Jubbaland** | **Puntland** | **SWS** | **Total training courses** |
|---|---|---|---|---|---|---|---|---|
| 1. | Medicine and Surgery | 1 | 17 | 0 | 1 | 2 | 1 | 22 |
| 2. | Dentistry | 0 | 2 | 0 | 0 | 1 | 1 | 4 |
| 3. | Nursing | 8 | 18 | 9 | 3 | 7 | 10 | 55 |
| 4. | Midwifery | 2 | 13 | 7 | 2 | 8 | 10 | 42 |
| 5. | Pharmacists | 0 | 3 | 3 | 0 | 2 | 7 | 15 |
| 6. | Medical Laboratory | 4 | 17 | 7 | 1 | 6 | 9 | 44 |
| 7. | Public Health | 7 | 17 | 9 | 3 | 6 | 9 | 51 |
| 8. | Nutrition | 0 | 4 | 0 | 1 | 4 | 0 | 9 |
| 9. | Clinical Medicine/ Clinical Officer | 0 | 2 | 0 | 0 | 1 | 0 | 3 |
| 10. | Optometry | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 11. | Community Health | | | | | 2 | | 2 |
| **Total** | | **22** | **94** | **37** | **11** | **39** | **45** | **248** |

**Table 9: Academic Health Training Programs organized at the Federal and States' level Universities and Colleges: Yearly Induction, currently enrolled and Past graduation**

| SN | State/Region | Universities/Colleges | Intake per year | Enrolled | Graduation |
|---|---|---|---|---|---|
| 1. | BRA | 18 | 6073 | 40656 | 14,448 |
| 2. | Hir-Shabelle | 9 | 355 | 1980 | 575 |
| 3. | Galmudug | 9 | 359 | 1645 | 580 |
| 4. | Jubbaland | 4 | 204 | 1195 | 343 |
| 5. | Puntland | 8 | 1810 | 4534 | 5,664 |
| 6 | Southwest | 11 | 1227 | 2205 | 679 |
| | Total | 59 | 10,028 | 52,215 | 22,289 |

**Table 10: Estimated Annual Supply of Physicians, Nurses and Midwives**

| Categories being Trained | States/Region | Intake/year | Enrolment | Graduation |
|---|---|---|---|---|
| Physicians | Puntland | 64 | 309 | 229 |
| | BRA | 1185 | 10850 | 3671 |
| | Jubbaland | 26 | 184 | 15 |
| | Galmudug | 8 | 81 | 18 |
| | Southwest | 17 | 26 | 0 |
| | Hirshabele | 0 | 0 | 0 |
| | **Sub Total** | **1300** | **11450** | **3933** |
| Qualified Nurses | Puntland | 230 | 850 | 2012 |
| | BRA | 1405 | 11090 | 4975 |
| | Jubbaland | 18 | 455 | 238 |
| | Galmudug | 137 | 707 | 258 |
| | Southwest | 465 | 879 | 185 |
| | Hirshabele | 149 | 678 | 316 |
| | **Sub Total** | **2404** | **14659** | **7984** |
| Qualified Midwives | Puntland | 473 | 925 | 899 |
| | BRA | 529 | 1656 | 323 |
| | Jubbaland | 57 | 217 | 61 |
| | Galmudug | 36 | 106 | 43 |
| | Southwest | 166 | 308 | 113 |
| | Hirshabele | 50 | 199 | 155 |
| | **Sub Total** | **1311** | **3411** | **1594** |
| | **Grand Total** | **5015** | **29520** | **13511** |

The above table provides the number of Physicians, Nurses and Midwives Trained in the Different Pre-service Academic Institutions, along with their Intake, Enrollment and graduation status.

** Sixty percent of the pre-service intake are estimated to graduate and search for employment opportunities i.e., 780 physicians, 1442 nurses and 786 qualified midwives each year

**Table 11: Total Health Work Force with Key Categories being Delineated Offering their Services at the BRA and in the Five States of Galmudug, Hir-Shabelle, Jubbaland, Puntland and Southwest**

| Professional Category | Urban | | | | Rural | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Public | | Private | | Public | | Private | | |
| | Male | Female | Male | Female | Male | Female | Male | Female | |
| Medical doctors | 325 | 195 | 458 | 126 | 45 | 18 | 0 | 0 | **1167** |
| Dentists | 1 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | **8** |
| Nurses | 1046 | 1198 | 472 | 670 | 306 | 445 | 18 | 20 | **4175** |
| Midwives | 0 | 985 | 0 | 266 | 0 | 474 | 0 | 6 | **1731** |
| Pharmacists & Pharmacist Technicians | 156 | 88 | 198 | 93 | 59 | 51 | 0 | 0 | **645** |
| Others | 1396 | 2093 | 686 | 396 | 439 | 473 | 8 | 19 | **5510** |
| **Total** | **2924** | **4559** | **1821** | **1551** | **849** | **1461** | **26** | **45** | **13236** |

# Annex 3: List of participants interviewed

**Health Professional Schools**

| S. No. | Name of Key Informant | Institution | Designation |
|---|---|---|---|
| 1 | Dr Lul Mohamed | Jazeera University(Private) | Dean faculty of Medicine |
| 2 | Rahmo Mo'alim Muuse | Midwifery School | Lecturer |
| 3 | Abdifatah Hashi Gabow | Bay Regional Hospital | Hospital Director |
| 4 | Dr Mohamed Isak | Somalia Sudanes Hospital (Private) | Hospital Director |
| 5 | Dr Abdi Nur | Som. National University (SNU) | Dean Faculty of Medicine |
| 6 | Dr Mohamed Abdirahman Omar | Banadir Hospitals (Public) | Head of Pediatric Department |
| 7 | Dr Mohamed Yusuf | Somali Medical Association | President |
| 8 | Fadumo Abdi Rabbi | Somali Midwifery Association | General Secretary |
| 9 | Prof. Mohamed Mohamud Hassan Biday | Benadir University (BU) | Rector |
| 10 | Prof Tahlil Abdi Afrah | Benadir University (BU) | Dean Faculty of Medicine. |
| 11 | Prof Hassan Warsame Nur | Benadir University (BU) | Dean Faculty of H Sciences |
| 12 | Prof Mohamed Mouse Jibril | Amoud University (AU), Borama, Somaliland | Vice President for Academic Affairs |
| 13 | Prof Yusuf Hared | Amoud University (AU), Borama, Somaliland | Director Department of Research-AU |
| 14 | Prof. Sharif Osman | Mogadishu University | Advisor to the Rector on Academic Development Affairs |
| 15 | Mr. Walid Abdulkadir Osman | Mogadishu University | Associate Dean of the faculty of Health Sciences, Lecturer - Faculty of Medicine |

**Focus Group Discussion with Young Physicians**

| S. No. | Name | Institution |
|---|---|---|
| 1 | Dr. Abdifetah Abdiaziz Dahiye | Benadir University |
| 2 | Dr. Abdulkadir Abdullahi Mohamed | Plasma University |
| 3 | Dr. Yasin Mohamed Yusuf | Jamhuriye University |
| 4 | Dr. Abdishakur Mohamed Abdulkadir | Mogadishu University |
| 5 | Dr. Abdihakin Kamal Hussein | University of Somalia |
| 6 | Dr. Fatima Haji Ali | Jazeera University |

## Annex 4: List of MOH staff interviewed

| S. No | Name of Key Informant | Designation |
|---|---|---|
| ***Federal level/BRA*** | | |
| 1 | Ibrahim Mohamed Nur | Director of Human Resource for Health and Training |
| 2 | Rashid Mohamed Abdi | Head of Registration and Accreditation |
| 3 | Khalid Ali Madoobe | Head of Training and Development Officer |
| 4 | Mohamed Salad Hared | HR Officer |
| 5 | Ramlo Feysal Warsame | HR Officer |
| 6 | Abdikarim Mohamed Ahmed | HR Officer |
| 7 | Abdullahi Yusuf Mohamed | HR Officer |
| ***Galmudug*** | | |
| 1 | Abdiwali Mohamed Ahmed | Director General DG |
| 2 | Liban Ahmed Omar | Admin and Finance Director |
| 3 | Abdihakin Mohamed Dirie | Policy and Planning Director |
| 4 | Abdullahi Warsame Abtidon | Public Health Director |
| 5 | Maslah Mohamed Abdi | Head of M&E |
| ***Hirshabelle*** | | |
| 1 | Tahlil Ibrahim Abdi | Director General - MOH |
| 2 | Ahmed Husein Gaal | HR Director MoH |
| 3 | Ibrahim Abdiqadir Haji | RMO Middle Shabelle |
| 4 | Ahmed Khalif | RMO Hiiran |
| 5 | Zakaria Abdi Hashi | Head of WASH, MoH |
| ***Puntland*** | | |
| 1 | Edil Hassan | Director General - HR Department, MOH |
| 2 | Abdirisak Artan | Head - HMIS, MOH |
| 3 | Dr Mohamed Mohamud Mohamed | Director of Planning and Policy, MOH |
| 4 | Abdirizak Mohamed Cartan | HMIS Manager, MOH |
| 5 | Ali Sheikh Ahmed | Central HR Officer, MOH |
| 6 | Khadar Ahmed Ali | Regional Officer, MOH |
| 7 | Abdirzak Abshir Hersi | Director of Primary Health Care, MOH |
| ***South West State*** | | |
| 1 | Abdi Ali Dogey | Director ofADM /HRH, MOH |
| 2 | Ayan Mohamed kulow | HR Assistant, MOH |
| 3 | Jamal Sheikey Yusuf | Acting Reginal HR, MOH |
| 4 | Abdirashid Adan Osman | Acting Reginal HR, MOH |
| 5 | Musdaf Mohamed Ahmed | Acting Reginal HR, MOH |
| ***Jubbaland*** | | |
| 1 | Mohamed Abdulkadir Aden | Director HR and admin finance |
| 2 | Abdirahman Mohamed Ibrahim | HR Officer |
| 3 | Ibrahim Farah Ahmed | Admin finance officer |

## Annex 5: List of Documents Reviewed

| S. No. | Name | Publishing body | Year of publication | Salient points |
|---|---|---|---|---|
| 1 | The UK Partnerships For Health Systems (UKPHS) Scooping Assessment Meeting: Key Informant Interview Report | Tropical Health and Education Trust (THET), Liverpool School of Tropical Medicine (LSTM), UK Partnerships for Health Systems programme (UKPHS) | 2020 | • Use of participatory stakeholder approach<br>• Contains findings from the Federal Ministry of Health, Ministries of Health at State level and other key health system stakeholders on health system priorities |
| 2 | National Health Professionals Council Act | Federal Ministry of Health, Somalia | Nov-19 | Legislation currently under consideration in Parliament to set up a National Council for regulation of health professionals |
| 3 | Somalia Recurrent Cost And Reform Financing (RCRF) Project II: Project Operations Manual | Federal Government of Somalia | Aug-20 | Deals with the implementation of the RCRF II Project in the areas of:<br>• administration and coordination<br>• financial management<br>• procurement<br>• monitoring and evaluation<br>• corruption and fraud mitigation<br>Originally created in Oct 2015, revised regularly |
| 4 | Draft Somalia Community Health Strategy (Annex 2: Stakeholder report) | Mannion Daniels | Apr-15 | Consists of<br>• Summaries of consultations undertaken in July-Aug 2014 by various stakeholders/ agencies<br>• Literature review of community health programmes in Pakistan, Ethiopia, South Africa,<br>• Summary of evidence on community based strategies delivering improved health outcomes<br>• Summary of studies on financial incentives<br>• Proposed job descriptions for Community Health Workers (CHWs) and Female Health Workers (FHWs) |

| S. No. | Name | Publishing body | Year of publication | Salient points |
|---|---|---|---|---|
| 5 | Somalia Population Estimation Survey 2014 | United Nations Population Fund (UNFPA) | Oct-14 | • First comprehensive estimate on the Somali population in over four decades (previous information in 1975 census)<br>• Nationwide survey conducted from late 2013 to early 2014<br>• Data obtained from 250,000 households in urban, rural, nomadic settings and camps for the internally displaced people (IDPs).<br>• Includes the estimated size of the Somali population by region for the above categories |
| 6 | Somali Health Policy: The Way Forward Prioritization Of Health Policy Actions In Somali Health Sector (Approved By The Health Advisory Board) | Federal Ministry of Health, Somalia; Ministry of Health, Puntland; and Ministry of Health, Somaliland | Sep-14 | • Consultations organized at each health authority level, led by the Somali Federal Ministry of Health (MOH), the Puntland MOH and Somaliland MOH<br>• Consists of health policy priority directions generated through consensus, made in coherence with the formulated zonal health strategic plans for their effective implementation |
| 7 | Midwifery Deployment and Retention Policy | Federal Ministry of Health and Human Services, Somalia | Dec-19 | • Policy aimed at helping the Somali Federal Government through the Ministry of Health to train, employ, deploy and retain an adequately skilled and motivated health workforce for quality service delivery<br>• Applicable to all staff working within the Ministry of Health<br>• Guidelines to address current gaps in the Somali health sector with regards to maternal health |

| S. No. | Name | Publishing body | Year of publication | Salient points |
|---|---|---|---|---|
| 8 | Health Sector Strategic Plan (HSSP): Second Phase 2017-2021 | Federal Ministry of Health and Human Services, Somalia | Oct-17 | Consists of:<br>• Nine strategic priorities based on the New Somali Health Policy and the National Development Plan<br>• Current document covers federal level and plans for Jubbaland, South-West, Galmudug and Hirshabelle States as well as Banaadir Region.<br>• Health Sector Strategies have been developed separately for Puntland and Somaliland for the same period. |
| 9 | Reproductive, Maternal, Neonatal, Child and Adolescent Health Strategy 2020-2024 | Federal Government of Somalia | Dec-19 | • Developed using participatory process<br>• Includes insights from all key stakeholders such as government functionaries at all levels, UN agencies particularly WHO, UNICEF and UNFPA, donors, other health development partners, international Non/governmental organizations (iNGOs) and Civil Society Organizations (CSOs) |
| 10 | Essential Package of Health Services Somalia, 2020 (Final Draft) | Federal Ministry of Health, Somalia | 20-Jan-20 | • Developed using intensive consultations between the Ministries of Health and the health partners across the country.<br>• Builds on experiences and learning from the implementation of EPHS 2009<br>• Reviews experiences and learnings from countries in the continent and around the world who are facing similar social, political and economic circumstances |
| 11 | The Somali Human Resources For Health Development Policy 2016-2021 | Federal Ministry of Health, Somalia; Ministry of Health, Puntland; and Ministry of Health, Somaliland | Apr-16 | Important inclusions:<br>• Number of Health Training Institutions, their Enrolment Status and Production<br>• Supply demand gap for 3 key HWF categories (Physicians, Registered Nurses, Registered Midwives) |

| S. No. | Name | Publishing body | Year of publication | Salient points |
|---|---|---|---|---|
| 12 | Somali Midwifery Strategy 2018-2023 (Final Draft) | United Nations Population Fund (UNFPA) | 25-Mar-20 | • Developed through a highly participative process, with all Somali states represented and consulted.<br>• Strategy is in line with the National Development Plans, Health Sector Strategic Plans, and Sustainable Development Goals<br>• Includes inputs from Midwifery leads, associations (Somaliland Nurses and Midwives Association - SLNMA, Somali Midwives Association - SOMA and Puntland Association of Midwives - PAM), key universities and training institutes, as well as broader health system stakeholders from the Ministries of Health (Ministry of Health Development in Somaliland, Ministry of Health and Human Services in Federal Government of Somalia, Ministry of Health in Puntland, Federal States reproductive health leads), health regulatory body focal points, service planners and systems leadership |

## Annex 6: Literature review references

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
|---|---|---|---|
| 1 | Al Hilfi TK, Lafta R, Burnham G. **Health services in Iraq**. Lancet. 2013;381(9870):939-948. doi:10.1016/S0140-6736(13)60320-7 | https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)60320-7/fulltext | • A quarter of medical graduates leave the country, whereas many health workers fled or were killed during times of conflict in Iraq.<br>• Policies to encourage repatriation of Iraqi doctors to Iraq have been unsuccessful. |
| 2 | Baba A, Martineau T, Theobald S, et al. **Developing strategies to attract, retain and support midwives in rural fragile settings: participatory workshops with health system stakeholders in Ituri Province, Democratic Republic of Congo**. Health Res Policy Syst. 2020;18(1):133. Published 2020 Nov 4. doi:10.1186/s12961-020-00631-8 | https://health-policy-systems.biomedcentral.com/articles/10.1186/s12961-020-00631-8 | • Most policies describing rural attraction and retention of health workers were not implemented in real life, whereas others were only partially implemented.<br>• Informed by a qualitative participatory research design, contextual solutions and strategies are proposed in the study. |
| *3* | Bdaiwi Y, Rayes D, Sabouni A, et al. **Challenges of providing healthcare worker education and training in protracted conflict: a focus on non-government controlled areas in** | https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-020-00287-9 | • Healthcare education is hindered by lack of local leadership and governance, coordination and collaboration between stakeholders, competition between stakeholders, insufficient funding, lack of accreditation or recognition of qualifications, insufficient physical space for teaching, exodus of faculty affecting teaching and training, prioritization of physicians over non-physicians, informally trained healthcare workers, politicization of healthcare, changing healthcare needs, and ongoing conflict. |

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
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| | **north west Syria**. Confl Health. 2020;14:42. Published 2020 Jul 8. doi:10.1186/s13031-020-00287-9 | | • Locally implementable strategies and dedicated funding help support the retention and return of health workers during post-conflict rebuilding. |
| 4 | Bertone MP, Samai M, Edem-Hotah J, Witter S. **A window of opportunity for reform in post-conflict settings? The case of Human Resources for Health policies in Sierra Leone, 2002-2012**. Confl Health. 2014;8:11. Published 2014 Jul 23. doi:10.1186/1752-1505-8-11 | https://conflictandhealth.biomedcentral.com/articles/10.1186/1752-1505-8-11 | • In Sierra Leone, the political context, funding availability and allocation, and a sense of need for radical change were key determinants for successful development and implementation of HRH policies.<br>• A "window of opportunity" for reform did not emerge immediately after conflict ceased, but eight years later due to the convergence of various political and non-political factors. |
| 5 | Bertone MP, Martins JS, Pereira SM, Martineau T, Alonso-Garbayo A. **Understanding HRH recruitment in post-conflict settings: an analysis of central-level policies and processes in Timor-Leste (1999-2018)**. Hum Resour Health. 2018;16(1):66. Published 2018 Nov 29. doi:10.1186/s12960-018-0325-5 | https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-018-0325-5 | • Qualitative case study of official documents and key informant interviews describing twenty years of HRH recruitment in post-conflict Timor-Leste.<br>• As aid dependency decreased, national actors became more important, which resulted in a fragmented institutional landscape with diverging agendas and lack of inter-sectoral coordination.<br>• Fragmentation resulted in poor long-term strategic development of HRH and the health sector. |

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
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| 6 | Bou-Karroum L, Daou KN, Nomier M, et al. **Health Care Workers in the setting of the "Arab Spring": a scoping review for the Lancet-AUB Commission on Syria**. J Glob Health. 2019;9(1):010402. doi:10.7189/jogh.09.010402 | http://jogh.org/documents/issue201901/jogh-09-010402.pdf | • Conflict resulted in inadequate competencies, lower quality of education, and limited professional development for health workers.<br>• Violence against health workers, from being arrested to being tortured and killed, was not uncommon in conflict settings, breaching humanitarian law and medical neutrality. |
| 7 | Bou-Karroum L, El-Harakeh A, Kassamany I, et al. **Health care workers in conflict and post-conflict settings: Systematic mapping of the evidence**. PLoS One. 2020;15(5):e0233757. Published 2020 May 29. doi:10.1371/journal.pone.0233757 | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7259645/ | • In conflict settings, violence against health workers is most commonly studied and reported on.<br>• In post-conflict settings, workforce performance is most studied and reported on. |
| 8 | Chol C, Negin J, Garcia-Basteiro A, et al. **Health system reforms in five sub-Saharan African countries that experienced major armed conflicts (wars) during 1990-2015: a literature review**. Glob Health Action. 2018;11(1):1517931. | https://www.tandfonline.com/doi/full/10.1080/16549716.2018.1517931 | • Angola, Eritrea, Ethiopia, Mozambique, and Rwanda have adopted policies emphasizing community health worker training and distribution to promote primary health care post-conflict and in rural areas.<br>• Caution remains warranted to adequately address challenges related to absenteeism and the quality of care community health workers deliver. |

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| | doi:10.1080/16549716.2018.1517931 | | |
| 9 | Durham J, Pavignani E, Beesley M, Hill PS. **Human resources for health in six healthcare arenas under stress: a qualitative study**. Hum Resour Health. 2015;13:14. Published 2015 Mar 29. doi:10.1186/s12960-015-0005-7 | https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-015-0005-7 | • Official document analysis and key informant interviews on HRH management in Afghanistan, Central African Republic, DRC, Haiti, Palestinian Territories, and Somalia.<br>• Countries are faced with fragmented and crowded HRH spaces with weak regulatory frameworks and capacities to regulate, allowing non-state providers to grow in numbers. |
| 10 | Edward A, Branchini C, Aitken I, Roach M, Osei-Bonsu K, Arwal SH. **Toward universal coverage in Afghanistan: A multi-stakeholder assessment of capacity investments in the community health worker system**. Soc Sci Med. 2015;145:173-183. doi:10.1016/j.socscimed.2015.06.011 | https://www.sciencedirect.com/science/article/pii/S0277953615003433 | • Community health worker programs in Afghanistan resulted in deployment of over 28,000 community health workers, who report regular supervision and adequate resources in most cases.<br>• Compensation mechanisms, transport availability, and, to a lesser extent, commodities remain barriers. |

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
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| 11 | Finlay JL, Crutcher RA, Drummond N. **'Garang's Seeds': Influences on the Return of Sudanese-Canadian Refugee Physicians to Post-Conflict South Sudan**. J Refugee Stud. 2011;24(1):187-206. doi.org/10.1093/jrs/feq047 | https://academic.oup.com/jrs/article-abstract/24/1/187/1594448?redirectedFrom=fulltext | • Targeted return assistance programs can successfully support a reversal of 'brain drain' migration of refugee health workers.<br>• Health workers trained in Cuba after which they immigrated to Canada, before being supported to return and integrate into the post-conflict Sudanese health system. This was encouraged by sustained contacts with Sudan-based political parties, illustrating the need for government support to build for the future. |
| 12 | Fox S, Witter S, Wylde E, Mafuta E, Lievens T. **Paying health workers for performance in a fragmented, fragile state: reflections from Katanga Province, Democratic Republic of Congo**. Health Policy Plan. 2014;29(1):96-105. doi:10.1093/heapol/czs138 | https://academic.oup.com/heapol/article/29/1/96/601643 | • Performance-based financing for health workers in the DRC did not change service delivery performance, likely due to the baseline presence of reliance on user fees and the need to increase workload to meet the performance targets.<br>• There may be a role for such financing in fragile settings, but they must be rooted in wider financing and human resource policy reforms to ensure workforce motivation to increase performance. |
| 13 | Fujita N, Zwi AB, Nagai M, Akashi H. **A comprehensive framework for human resources for health system development in fragile and post-conflict states**. PLoS Med. 2011;8(12):e1001146. | https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001146 | • Framework of HRH development in fragile and post-conflict states, drawing from experiences in Afghanistan, the DRC, and Cambodia.<br>• Solely focusing on training health workers is insufficient.<br>• Production/Training, deployment, and retention must be intertwined and embedded within financial, legal, and policy contexts. |

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| | doi:10.1371/journal.pmed.1001146 | | |
| 14 | Honein-AbouHaidar G, Noubani A, El Arnaout N, et al. **Informal healthcare provision in Lebanon: an adaptive mechanism among displaced Syrian health professionals in a protracted crisis** [published correction appears in Confl Health. 2019 Oct 8;13:44]. Confl Health. 2019;13:40. Published 2019 Aug 28. doi:10.1186/s13031-019-0224-y | https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-019-0224-y | • Syrian informal healthcare workers in Lebanon fill a gap in the formal health sector, but subject to fear of arrest and discrimination.<br>• Policies are lacking to allow integration of informal health workers to meet the needs of local and refugee populations, despite their critical role in fulfilling those gaps. |
| 15 | Mangwi Ayiasi R, Rutebemberwa E, Martineau T. **"Posting policies don't change because there is peace or war": the staff deployment challenges for two large health employers during and after conflict in Northern Uganda**. Hum Resour Health. | https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-019-0361-9 | • Deployment policies in Uganda did not change due to conflict, largely due to risks associated with conflict-ridden health facilities and thus danger for staff.<br>• Bonding agreements were introduced to recruit and staff facilities. |

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
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| | 2019;17(1):27. Published 2019 Apr 17. doi:10.1186/s12960-019-0361-9 | | |
| 16 | Martineau T, McPake B, Theobald S, et al. **Leaving no one behind: lessons on rebuilding health systems in conflict- and crisis-affected states**. BMJ Glob Health. 2017;2(2):e000327. Published 2017 Jul 28. doi:10.1136/bmjgh-2017-000327 | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5656126/ | • Case studies from health systems rebuilding post-conflict in Sierra Leone, Zimbabwe, northern Uganda, and Cambodia are reported, highlighting communities', health workers', and systems' need to recover from the debilitating effects of conflict.<br>• Coordination of multiple actors, addressing power imbalances and capacity building for inclusive, sustainable and responsive nationally and locally owned institutions are essential to the delivery of equitable and effective health services. |
| 17 | Mashange W, Martineau T, Chandiwana P, et al. **Flexibility of deployment: challenges and policy options for retaining health workers during crisis in Zimbabwe**. Hum Resour Health. 2019;17(1):39. Published 2019 May 31. doi:10.1186/s12960-019-0369-1 | https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-019-0369-1 | • Before the crisis, health workers were allowed to look for jobs on their own, while during the crisis, they were given three choices and after the crisis the preference choice was withdrawn.<br>• Flexibility in implementing deployment policies during crises may contribute to the retention of health workers. |

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
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| 18 | Mateen FJ, McKenzie ED, Rose S. **Medical Schools in Fragile States: Implications for Delivery of Care**. Health Serv Res. 2018;53(3):1335-1348. doi:10.1111/1475-6773.12709 | https://onlinelibrary.wiley.com/doi/abs/10.1111/1475-6773.12709 | • Fragile states were twice as likely to have fewer than two medical schools than nonfragile states.<br>• Fragile states lack the infrastructure to train sufficient numbers of medical professionals to meet their population health needs. |
| 19 | Najafizada SA, Labonté R, Bourgeault IL. **Community health workers of Afghanistan: a qualitative study of a national program**. Confl Health. 2014;8:26. Published 2014 Dec 1. doi:10.1186/1752-1505-8-26 | https://conflictandhealth.biomedcentral.com/articles/10.1186/1752-1505-8-26 | • Delivery of a national Basic Package of Health Services program in Afghanistan with emphasis on community health workers for maternal and child health care delivery.<br>• Societal gender dynamics influence task allocation for maternal and child health among Afghan community health workers.<br>• Volunteerism and community participation support community health worker programs. |
| 20 | Pavignani E. **Human resources for health through conflict and recovery: lessons from African countries**. Disasters. 2011;35(4):661-679. doi:10.1111/j.1467-7717.2010.01236.x | https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-7717.2011.01236.x | • Success stories of fragile states rebuilding their health systems and HRH post-conflict are rare due to hurdles outside the health system, mostly those of political and administrative nature.<br>• The post-conflict integration of mutually segregated health workforces represents a challenge and should be prepared, resourced, and cautiously approached. |
| 21 | Raven J, Wurie H, Idriss A, Bah AJ, Baba A, Nallo G, Kollie KK, Dean L, Steege R, Martineau T, Theobald S. **How should community health workers in** | https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00494-8 | • Qualitative study exploring the management of and challenges faced by community health workers in Sierra Leone, Liberia, and the DRC.<br>• The role of community health workers as connection between communities and health systems is critical due to the trusting relationships. |

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
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| | **fragile contexts be supported: qualitative evidence from Sierra Leone, Liberia and Democratic Republic of Congo**. Hum Resour Health. 2020 Aug 8;18(1):58. doi: 10.1186/s12960-020-00494-8. | | • Chronic fragility exacerbates the challenges faced by community health workers, such as challenges with supervision, scarcity of supplies, inadequate community recognition and unfulfilled promises about allowances |
| 22 | Rayes D, Meiqari L, Yamout R, et al. **Policies on return and reintegration of displaced healthcare workers towards rebuilding conflict-affected health systems: a review for The Lancet-AUB Commission on Syria**. Confl Health. 2021;15(1):36. Published 2021 May 7. doi:10.1186/s13031-021-00367-4 | https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-021-00367-4 | • Few policies are in place to repatriate and reintegrate conflict-displaced health workers in post-conflict settings.<br>• HRH displacement is more strongly influenced by push factors from conflict-affected settings than pull factors from receiving countries. |
| 23 | Roome E, Raven J, Martineau T. **Human resource management in post-conflict health systems: review of research and knowledge gaps**. Confl Health. 2014;8:18. Published 2014 Oct 2. | https://conflictandhealth.biomedcentral.com/articles/10.1186/1752-1505-8-18 | • Most research to date has focused on HRH supply issues, pre-service education and training, pay, and recruitment.<br>• Performance-based incentives, management and supervision, work organization and job design, and performance appraisal remain important research gaps. |

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
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| | doi:10.1186/1752-1505-8-18 | | |
| 24 | Russo G, Pavignani E, Guerreiro CS, Neves C. **Can we halt health workforce deterioration in failed states? Insights from Guinea-Bissau on the nature, persistence and evolution of its HRH crisis**. Hum Resour Health. 2017;15(1):12. Published 2017 Feb 7. doi:10.1186/s12960-017-0189-0 | https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-017-0189-0 | • Improving health system governance and quality of training must take precedence over expanding HRH in fragile states, as there are no quick fixes to addressing health workforce gaps in fragile states.<br>• Rebuilding HRH in (post-)conflict settings must consider historical developments, socioeconomic contexts, quality of training, and political determinants. |
| 25 | Safi N, Naeem A, Khalil M, Anwari P, Gedik G. **Addressing health workforce shortages and maldistribution in Afghanistan**. East Mediterr Health J. 2018;24(9):951-958. Published 2018 Dec 9. doi:10.26719/2018.24.9.951 | http://www.emro.who.int/emhj-volume-24-2018/volume-24-issue-9/addressing-health-workforce-shortages-and-maldistribution-in-afghanistan.html | • Training institutions in remote provinces, new cadres of community-based health practitioners, targeted recruitment and deployment to rural areas, financial incentives, and family support were successful interventions to expand community health worker capacity in Afghanistan.<br>• Barriers remain, including limited female health worker mobility, retention of volunteer community-based health workforce, competition from the private sector, and challenges of expanding scopes of practice of new cadres. |

| S. No | Reference (in World Bank Format) | Web Link | Main Points/Notes/Comments |
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| 26 | Silove D, Rees S, Tam N, Liddell B, Zwi A. **Staff management and capacity building under conditions of insecurity: lessons from developing mental health service and research programs in post-conflict Timor-Leste**. Australas Psychiatry. 2011;19 Suppl 1:S90-S94. doi:10.3109/10398562.2011.583076 | https://journals.sagepub.com/doi/10.3109/10398562.2011.583076 | • The psychosocial needs of health workers in post-conflict setting must be carefully managed and considered in capacity-building programs.<br>• Development initiatives must actively and early identify the needs and career objectives of health workers to best develop HRH policies and programs. |
| 27 | Van der Veen A, Van Pietersom T, Lopes Cardozo B, Rushiti F, Ymerhalili G, Agani F. **Integrating staff well-being into the Primary Health Care system: a case study in post-conflict Kosovo**. Confl Health. 2015;9:21. Published 2015 Jul 13. doi:10.1186/s13031-015-0048-3 | https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-015-0048-3 | • Integration of mental health and well-being of primary health workforce in post-conflict rebuilding in Kosovo through raising awareness and establishing training modules for knowledge of and skills in stress management.<br>• The curriculum developed for the training was integrated in the professional staff development program for family doctors and nurses in Kosovo. |
| 28 | Witter S, Bertone MP, Chirwa Y, Namakula J, So S, Wurie HR. **Evolution of policies on human resources for health: opportunities and constraints in four** | https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-016-0099-0 | • Windows of opportunity for reform may occur post-conflict but often take longer to arise due to a constellation of leadership, financing, and capacity, and limited ability for evidence-based policy making and policy implementation.<br>• Key challenges include achieving the necessary fiscal space, political consensus, willingness to pursue public objectives over |

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| | **post-conflict and post-crisis settings**. Confl Health. 2017;10:31. Published 2017 Jan 18. doi:10.1186/s13031-016-0099-0 | | private, and personal and institutional capacity to manage technical solutions. |
| 29 | Witter S, Falisse JB, Bertone MP, et al. **State-building and human resources for health in fragile and conflict-affected states: exploring the linkages**. Hum Resour Health. 2015;13:33. Published 2015 May 15. doi:10.1186/s12960-015-0023-5 | https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-015-0023-5 | • Reintegration of factional health staff post-conflict may be linked to reconciliation and peace-building.<br>• Evidence surrounding the role of HRH in wider state-building processes in post-conflict settings remains limited. |
| 30 | World Bank. **Specialist surgical workforce (per 100,000 population)**. 2021. Accessed May 5, 2021. Available at: https://data.worldbank.org/indicator/SH.MED.SAOP.P5?locations=SO-F1 | https://data.worldbank.org/indicator/SH.MED.SAOP.P5?locations=SO-F1 | • In 2014, Somalia had 0.16 surgeons, obstetricians, and anesthesiologists (i.e., specialist surgical workforce) per 100,000 population.<br>• In 2015, fragile and conflict affected situations had 3.13 specialist surgical workforce per 100,000 population<br>[Note: Lancet Commission on Global Surgery target is set at least 20 specialist surgical workforce per 100,000 population.] |

## Annex 7: Presentation during preliminary feedback meeting on June 10, 2021 (separate document)

## Annex 8: Presentation by Director – HRH, FMOH, Somalia at Garowe (separate document)