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Saha Naseri,[1] Merette Khalil,[2] Sala Sabrah,[3] Muhammad Homayoon Manochehr,[4] Lakhwinder Singh Sidhu,[1] Ahmad Rasekh,[4] Mohammad Abi[4] and Najibullah Safi[1]

[1]World Health Organization, Afghanistan Country Office, Kabul, Afghanistan (Correspondence to: S. Naseri: naseris@who.int). [2]World Health Organization Regional Office for the Eastern Mediterranean, Cairo, Egypt. [3]Independent Public Health Specialist, Kabul, Afghanistan.
[4]Ministry of Public Health, Kabul, Afghanistan.

Abstract

Background: Despite large-scale investment in health service delivery outsourcing, few studies have examined human resources for health (HRH) in Afghanistan.

Aims: To review the HRH situation of outsourced healthcare services in Afghanistan and evaluate nongovernment organization (NGO) investments in the health workforce.

Methods: Two questionnaires were used for data collection. One gathered information about the characteristics of HRH in 2020 and the other collected budgetary data for 2017–2020 to analyse budget allocation and expenditure by NGOs on the health workforce.

Results: A total of 25 262 (65% male, 35% female) individuals were employed by NGOs in 31 provinces of Afghanistan. There was a critical shortage of personnel and a prevalence of

gender imbalance across all provinces. Healthcare workers were mostly aged 26 to 30 years. Services were mostly provided by local NGOs and their scopes were not limited to outsourced projects. More than 75% of the budget of NGOs was allocated to the health workforce in 2017–2020, and more than 70% of allocations was spent on staff salaries, followed by other health workforce expenditure. Less than 5% was spent on capacity building.

Conclusion: There is a gross shortage and large gender imbalance in the Afghanistan health workforce. It is essential to maintain and increase current financial and technical investments to ensure sustainability and enhance the fragile health system in Afghanistan.

Keywords: Human resources for health, health system, Afghanistan, outsourcing, service delivery, Sehatmandi

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Introduction

Human resources for health (HRH) is a key component of health systems and essential for improving health outcomes. A responsive and fit-for-purpose workforce is central to achieving universal health coverage (UHC) and responding to future health challenges (1). In Afghanistan, strengthening the availability and accuracy of health workforce data is needed to enable HRH strategic planning. Chronic social and political insecurity has exacerbated the challenges facing the multifaceted health systems in Afghanistan, such as HRH shortages, maldistribution, and complex service delivery mechanisms. Poor health information systems and lack of routine gathering of HRH data result in inaccurate and incomplete data that impede effective and evidence-informed HRH policies, strategies, and practices (2).

Afghanistan faces a critical shortage of HRH. It has the second lowest health workforce density in the Eastern Mediterranean Region, with 8.7 physicians, nurses, and midwives per 10 000 population in 2018 (3,4). This figure is below the World Health Organization (WHO) critical shortage threshold level of 44.5 for achieving UHC (5). HRH in Afghanistan work in public, private, Red Crescent, security, and education sectors, but predominantly in the public sector, which includes outsource nongovernmental organizations (NGOs). As indicated in the recent HRH report developed by the Ministry of Public Health, > 50% of the national HRH come from NGOs through outsourcing by that ministry (4). However, the NGO HRH data used in that report were acquired from the Health Management Information System databases of the Ministry of Public Health, and there was no primary data collection during development of the report (4).

The outsourcing model of service delivery in Afghanistan has become noteworthy in health systems research, particularly in emergency contexts. During the last 2 decades, national and international NGOs have been contracted to provide healthcare services through the Sehatmandi, funded by the World Bank, European Commission, and United States Agency for International Development (USAID). In Afghanistan, health services are delivered as a basic package of health services (BPHS) and essential package of hospital services (EPHS). Sehatmandi is a core programme covering BPHS in 31 of 34 provinces and EPHS in 16 of 34 provinces (7). All personnel providing the BPHS/EPHS are paid through the NGOs, with the exception of community health workers based at health posts, who are considered as volunteer health workers

(8,9). In the current design of the Sehatmandi, payment to NGOs is based on performance and is divided between a lump sum (which is proposed by the NGOs during a competitive bidding process) and a fee-for-service payment that is based on 11 payment indicators. The NGOs are selected through a bidding process in which the contracts are awarded to the lowest bidder. However, there is limited knowledge about the health workers in the Sehatmandi project and the impact of NGO investments in HRH and capacity building.

The aim of this study was to explore the characteristics of the health workforce within NGOs involved in the Sehatmandi project. The study evaluated the magnitude of the investments of the NGOs in their health workforce, and the capacity-building efforts undertaken by these NGOs between 2017 and 2020.

Methods

Study design

This was a descriptive study that used quantitative methodology comprising 2 different questionnaires for data collection. The first questionnaire, in Excel format, captured demographic characteristics of health workers, such as age, gender, education, province, and type of health facility. The second questionnaire, in Word format, captured general information about the NGOs, their overall HRH investments/expenditures, and their capacity-building activities.

Study population

We included 19 NGOs currently providing BPHS/EPHS, under the Sehatmandi Project in 31 provinces in Afghanistan. The study did not include the HRH data of Parwan, Panjshir, and Kapisa Provinces, which are contracted to the Ministry of Public Health with the aim of strengthening mechanism. Many NGOs in strengthening mechanism provinces have recruited staff for management of COVID-19 cases, who were included in the study but excluded from most of the analysis. We excluded hospitals that were not part of the Sehatmandi Project and were managed by other projects. HRH included in the study were health professionals and support staff.

Study setting

The questionnaires were developed in consultation with officials of the Human Resource Directorate, Sehatmandi Coordination Office, and Performance Management Office of the Ministry of Public Health.

The 2 questionnaires were sent to the leadership of the NGOs. The Excel questionnaire was filled in by a person from the human resources department of the NGOs (assigned by the leadership of the NGOs), and the Word questionnaire was filled in by the NGO management team. All HRH data were collected from the headquarters of the NGOs and no health worker was contacted directly. Data were collected during the first quarter of 2021.

Data management and analysis

The Excel questionnaire consisted of 2 sheets; one to collect regular HRH staff data and the other to gather volunteer HRH data. All the data from the NGOs were entered into 2 Excel sheets, one for the regular HRH staff data and the other for volunteer staff data. The HRH data on both sheets were categorized by type of health profession, gender, education, age, and sector. For the first sheet, the health professions were categorized into: medical specialists, general physicians, dentists, nurses, midwives, public health officers, pharmacists, technicians, vaccinators, administration and finance staff, support staff, and others. For the second sheet, the volunteer health staff had a single category of community health workers. The Word version questionnaire was self-administered and consisted of yes/no questions, short explanatory

questions, and questions regarding HRH expenditure by the NGOs. The magnitude of the NGO investments in HRH between 2017 and 2020 was calculated in relation to potential outcomes, salaries, capacity building, and other activities. All the data were analysed using Excel.

Ethical approval

The Afghanistan Ministry of Public Health Institutional Review Board approved the study protocol and the questionnaires. The purpose of the study was explained to all NGOs. At the data analysis stage, anonymity was ensured, and the database was locked and accessible only to the research team.

Results

Profile of outsource NGOs in Afghanistan

All 19 NGOs that were contacted agreed to complete the questionnaires. All of them were providing BPHS in 31 provinces and EPHS in 16 provinces under the Sehatmandi Project. Some NGOs had BPHS/EPHS contracts for several provinces, meaning that a single NGO could provide BPHS/EPHS in several provinces. In contrast, in other provinces, such as Ningarhar and Uruzgan, several NGOs worked together to provide BPHS/EPHS. Fourteen (74%) of the NGOs were local and 5 (26%) were international (Annex 1). Eleven (58%) NGOs had > 15 years of experience delivering BPHS/EPHS in Afghanistan, 2 (10%) had > 10 years of experience, 2 had > 5 years of experience, and 4 (21%) had **Profile of HRH working with the NGOs**

HRH was categorized into several main professional categories, including: medical specialists, general physicians, nurses, midwives, dentists, pharmacists, technicians, public health workers, administration and finance workers, vaccinators, support staff, and others. Technicians in pharmacy, blood banks, laboratories, dentistry, ophthalmology, radiography, anaesthesia, orthopaedics, radiography, and physiotherapy were all grouped as technicians. Public health workers included health managers and technical staff of the Ministry of Public Health and the NGOs. Support staff included, drivers, caterers, cleaners, and security personnel. Other categories included psychosocial counsellors, nutritionists, physical therapists, community health supervisors, and first aid trainers.

There were 25 506 health workers in the NGOs implementing BPHS/EPHS in Afghanistan. A total of 199 (0.7%) health workers involved with COVID-19 projects in Kapisa, Parwan, and Panjshir Provinces as well as health workers' data that were not disaggregated by age, gender, and other indicators, were excluded from the analysis. Among the remaining 25 262 health workers working with NGOs, there were 382 (1.5%) medical specialists, 1544 (6.1%) general physicians, 3748 (14.8%) nurses, 2984 (11.8%) midwives, 58 (0.2%) dentists, 32 (0.1%) pharmacists, 1706 (6.8%) technicians, 668 (2.6%) public health professionals, 3001 (11.9%)

vaccinators, 6404 (25.0%) support staff, and 3842 (14.8%) others (Table 1). There was a density of 2.8 doctors (including specialists), nurses, and midwives per 10 000 population across all NGOs.

There was a greater density of HRH, mainly doctors, nurses, and midwives, in provinces with a larger rural population, such as Nuristan (8.3 per 10 000 population), Nimroz (6.8), Logar (6.0), Laghman (5.3), and Farah (5.3) (Table 2). However, provinces with larger cities, such as Herat (1.9) and Kandahar (1.7), had the lowest density of HRH. Kabul had the lowest (0.3) density of HRH under the Sehatmandi Project. This was because BPHS was focused on rural areas. There was a gender imbalance in the HRH, and among the 25 168 health workers, females accounted for 35% (n = 8824), which gave a male to female ratio of 1.9. This gender imbalance was prevalent across all provinces.

The age distribution of the health professionals working with the NGOs is shown in Figure 1. The highest number were in the 26–30 years age group, which corresponded to about 1 in 4 staff (32.6% female and 21.7% male). This was followed by 31–35 years (19.5% male and 16.2% female), 21–25 years (23.0% female and 7.7% male), and 36–40 years (14% male and 8.6% female). More than 75% of health personnel were aged 50% were aged

More than half (53.0%) of the female health workers had a diploma, 22.6% had completed high school, and 11.1% had no formal education (Annex 3). Among male health workers, 28.4% had a diploma, 26.4% had no formal education, and 18.2% had completed high school. Almost all personnel without formal education were in the support staff category.

For place of work, about a quarter of health personnel worked at comprehensive health centres, and 22.7% at basic health centres (22.7%), 13% at sub-health centres or district hospitals, and 12.4% at provincial hospitals (Annex 4).

HRH profile of volunteers

Data for the volunteer health workforce, namely community health workers, were reported for 26 of 31 provinces. There were 23 812 community health workers across the 26 provinces; of whom, 12 173 were female and 11 639 were male (Table 2). Among the community health workers, 34% were uneducated, 22.9% were high school graduates, 18.8% had primary school education, and 8.0% had a bachelor's degree (Table 3). Community health workers were older than the regular HRH. Around 13% of community health workers were aged 36–40 or 41–45 years, 12.4% 46–50 years, 11.6% 31–35 years, and 11.6% ≥ 65 years.

Financial profile of NGOs and investment in HRH

Some 84.0% of the NGOs received on-budget funding from the Sehatmandi Project as well as from other off-budget projects. Most of their off-budget projects were related to health issues, such as psychosocial services for returnees, urban immunization projects, emergency and disaster victims, nutrition, first aid trauma, malaria, maternal and child health, tuberculosis, water sanitation and hygiene, COVID-19, and health promotion services. Some NGOs also reported education and response to gender-based violence among their off-budget projects. The NGOs reported that their off-budget projects were funded by national organizations, but mostly international organizations, such as United Nations Development Programme, United Nations Population Fund, United Nations Children's Fund, Norwegian Church Aid, GAVI The Vaccine Alliance, International Organization for Migration, Independent Directorate of Local Governance, USAID, Global Fund to Fight AIDS, Tuberculosis and Malaria, World Food Programme, World Bank, WHO, Aga Khan Development Network, and Charities Aid Foundation. Most of the off-budget projects were to complement the Sehatmandi Project and bridge the financial gap in service delivery. All 19 NGOs reported that despite being involved with BPHS/EPHS, they signed the COVID-19 management contracts with the Ministry of Public Health in their targeted provinces. This meant that NGOs were responsible for screening and management of COVID-19 cases in those provinces. All 19 NGOs reported that they followed the staffing patterns outlined for BPHS/EPHS. Based on the budget analysis of 19 NGOs for 2019–2020 and 14 NGOs for 2017–2018, the allocated budget for HRH activities was about US$ 385 080 820 and the expenditure was around US$ 345 148 741, which accounted for ~90.0% of the allocated budget (Table 4). The missing data for 2017–2018 belonged to the NGOs that signed contracts with the Ministry of Public Health after introduction of performance-related pay in 2018. While > 75.0% of the total budget of the NGOs was allocated to HRH in Afghanistan in 2017–2020, on average, > 70.0% was spent on staff salaries, followed by other health workforce expenditure (e.g. purchasing items and rent on buildings) (Annex 5). Less than 5.0% of expenditure was for capacity building. Budgetary allocations to the health workforce (capacity building, salary, and others) as a percentage of the total budget was 76.0%, 86.0%, 76.0%, and 84.0% in 2017, 2018, 2019, and 2020 respectively (Annex 6).

Capacity-building activities

All NGOs reported their involvement in the provision of training for all types of health workers, and most (58.0%) reported that they conducted only in-service training. More than 800 in-service training programmes were reported by NGOs between 2017 and 2020. Some NGOs did not mention the number of times that each training programme was conducted; therefore, the number of training programmes was estimated to be more than the reported number. The duration of these in-service training programmes was 1 day to 3 months. The beneficiaries of the in-service training programmes were management and public health staff, clinical staff, community health workers and health supervisors, laboratory technicians, vaccinators, and

support staff. The training topics varied and represented technical and managerial issues, such as reproductive, maternal, newborn, child and adolescent health; communicable diseases including tuberculosis, HIV/AIDS, and malaria; Expanded Program for Immunization; noncommunicable diseases; mental health; information management; laboratory testing; infection prevention and control; and management and leadership. Seven (37.0%) of the NGOs reported that they supported in-service and pre-service training. The pre-service training programmes were community health nursing education and community midwifery education (2-years' training for female community health nurses and midwives), and a 1-year nutrition counselling programme. All of these were for graduate health professionals.

Although NGOs provided capacity-building training for their staff through their own budget lines, most of the training programmes were financially supported by other organizations and donors, and the NGOs supported only the implementation of these programmes. This study did not provide detailed information about the number or types of training programmes conducted by the NGOs and those supported by the donors. Additional studies are needed to provide detailed information about the capacity-building activities of the NGOs.

Discussion

The data for this study were collected during the first quarter of 2021 before the collapse of the Islamic Republic of Afghanistan in August 2021, when 19 NGOs were providing BPHS in 31 provinces and EPHS in 16 provinces under the Sehatmandi Project. Most of these NGOs were local.

The density of doctors, nurses, and midwives per 10 000 population was 2.8 across all NGOs in Afghanistan. The findings of our study contrast those in the HRH report in 2018 (4), which reported 5083 doctors, 6471 nurses, and 3607 midwives, whereas we reported 1926 doctors, 3748 nurses, and 2984 midwives. The problem of double-counting NGO data was acknowledged as a limitation of the HRH report. Because of the unavailability of the primary data from the NGOs, the Health Management Information System data of the Ministry of Public Health was used for the HRH report. Our study confirmed the double counting of NGO HRH data reported by the Health Management Information System. This inferred that the national HRH density was less than the initially reported figure of 8.7, and indicated that Afghanistan had a critical shortage of HRH compared with the WHO thresholds to achieve universal health coverage (5). For Afghanistan to build a resilient health system, the current shortage of HRH needs to be addressed, especially by creating new jobs. The budget of those implementing BPHS/EPHS needs to be increased to employ more health workers and retain current workers.

A similar study had reported that large, well-resourced cities, such as Kabul, Herat, Kandahar,

Balkh, and Ningarhar had a greater density of HRH, including private sector involvement (4). The BPHS, which includes the largest network of health facilities, is focused on rural areas. In large cities, including Kabul, unlike rural areas, the private sector and large hospitals responded to most of the health needs of the population. In Kabul, only rural health services were outsourced to NGOs, and the bulk of the population lived in the city (4.2 million vs 732 368 in rural areas) and were not covered by BPHS (11). This may be a reason why, in our study, Kabul reported the lowest density of HRH in BPHS/EPHS facilities funded by NGOs.

Gender imbalance across the health system is a major concern, possibly because of several decades of war and cultural restrictions on female mobility and education. A positive finding of our study was that most of the HRH working in NGOs were aged 25–35 years. Remarkably, among those aged

In contrast to the official HRH personnel, the volunteers had a gender-balanced but older staff. In voluntary work with limited incentives, there is less competition, and therefore, less turnover was evident among community health workers. As a result, some middle-aged community health workers have grown old working in the same position during the last 2 decades. We found that > 30.0% of community health workers were educated (high school and above) with 8.0% holding a bachelor's degree. However, community health workers were often perceived as uneducated. Given the change in the demography and educational profile of the communities, even in rural areas, there is a need for younger and educated community health workers to replace the older ones.

Most of the NGOs received off-budget funding for services supplementary to BPHS/EPHS. It was challenging to acquire accurate data for BPHS/EPHS expenditure by each individual NGO because, in the detailed financial reports of some NGOs, we identified some overlap between BPHS/EPHS and off-budget expenditure. Therefore, we used the total financial expenditure reported by each NGO and did not look at the details of the expenditure, which could have been a limitation of the study. Based on the aggregated analysis, ~75% of the NGO budget was allocated to HRH activities during 2017–2020, and the actual expenditure on the health workforce was > 85% of the total allocated budget. More than 70% of the health workforce expenditure was on salaries, which indicated that 1 of the main activities of the NGOs was to pay their staff.

Although NGOs were responsible for enhancing the professional capacity of their staff, most of the capacity-building programmes were supported with off-budget projects. Training for vaccinators and staffing for the Expanded Immunization Program were mainly supported by Gavi, and training for staff working with tuberculosis, malaria, and HIV was supported by the Global Fund. The NGOs did not report any tool or document for coordination of training activities between NGOs, the Ministry of Public Health, and international donors; such a lack of

coordination of capacity-building activities has also been reported in previous studies (2, 4). Pre-service training, such as community health nursing and community midwifery education, was supported by international organizations and donors. Some of the NGOs coordinated the implementation of these training programmes in their target provinces, and some provided complete and transparent data about their capacity-building activities. However, most NGOs were unable to, or did not, provide complete data about capacity building, or the exact number of people that they trained between 2017 and 2020. Therefore, we could not provide detailed information about the frequency of training and the exact number of people who benefited from training by NGOs.

Conclusion

A rigorous HRH information system is essential for strengthening the health system in a country. To make the best use of available resources and appropriate planning for HRH, there should be clear information about the size of the health workforce, its qualifications, distribution, and the number of new graduates that would join. The HRH data on NGOs available in the Health Management Information System need to be verified and updated. More efforts are needed to clarify the role and monitor the capacity-building activities of the NGOs in Afghanistan. A national level capacity-building plan is needed to reduce fragmentation in capacity-building at national and provincial levels. Currently, planning and deployment of the health workforce in Afghanistan are grossly inadequate and efforts are needed to maintain and augment the workforce.

Funding: None

Competing interests: None declared.

Analyse des ressources humaines pour la santé en Afghanistan

Résumé

Contexte : Malgré les investissements à grande échelle dans l'externalisation de la prestation de services de santé, peu d'études ont examiné les ressources humaines pour la santé en Afghanistan.

Objectifs : Examiner la situation des ressources humaines pour la santé dans les services de santé externalisés en Afghanistan et évaluer les investissements des organisations non gouvernementales (ONG) dans les personnels de santé.

Méthodes : Deux questionnaires ont été utilisés pour la collecte des données. Le premier a recueilli des renseignements sur les caractéristiques des ressources humaines pour la santé en 2020. Le second a récupéré des données budgétaires de 2017 à 2020 afin d'analyser les allocations budgétaires et les dépenses des ONG liées aux personnels de santé.

Résultats : Au total, 25 262 personnes (65 % d'hommes et 35 % de femmes) étaient employées par des ONG dans 31 provinces d'Afghanistan. Il y a eu une pénurie critique de personnel et une prévalence du déséquilibre entre les genres dans toutes les provinces. Les agents de santé étaient pour la plupart âgés de 26 à 30 ans. Les services étaient principalement fournis par des ONG locales et leur champ d'action ne se limitait pas aux projets externalisés. Plus de 75 % du budget des ONG a été alloué aux personnels de santé en 2017-2020 et plus de 70 % des allocations ont été consacrées aux salaires du personnel, suivies d'autres dépenses liées aux personnels de santé. Moins de 5 % ont été investis dans le renforcement des capacités.

Conclusion : Les personnels de santé afghans souffrent d'une pénurie grave et d'un important déséquilibre entre les genres. Le maintien et l'accroissement des investissements financiers et techniques actuels sont essentiels pour assurer la durabilité et renforcer le fragile système de santé en Afghanistan.

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WHO EMRO | Analysis of human resources for health in Afghanistan

: استُخدم استبيانان لجمع البيانات؛ استخدم أحدهما لجمع معلومات عن خصائصطرق البحث
الموارد البشرية الصحية في عام 2020 ، كما استخدم الآخر لجمع بيانات عن ميزانيات المدة
2017-2020 لتحليل مخصصات الميزانيات والنفقات التي تُنفِقها المنظمات غير الحكومية
على القوى العاملة الصحية .

: كان ما مجموعه 25262 فردًا (65% من الذكور و 35% من الإناث) يعمل لدى منظماتالنتائ ج
غير حكومية في 31 ولاية في أفغانستان . وكان ثمة نقص حاد في الموظفين، وكان اختلال
التوازن بين الجنسين منتشرًا في جميع الولايات . وكان معظم العاملين في مجال الرعاية
الصحية تتراوح أعمارهم بين 26 و30 عامًا . وكانت المنظمات غير الحكومية المحلية هي التي
تقدم معظم الخدمات، ولم تكن نطاقات عملها محصورة على المشاريع المسنَدة إلى جهات
خارجية . وكان أكثر من 75% من ميزانيات المنظمات غير الحكومية مخصصًا للقوى العاملة
الصحية في المدة 2017-2020 ، وأُنفقَ أكثر من 70% من المخصصات على رواتب الموظفين،
يليه الإنفاق على سائر القوى العاملة الصحية . وأُنفقَ أقل من 5% على بناء القدرات .

: ثمة نقص جسيم في القوى العاملة الصحية في أفغانستان، وهي تعاني من اختلالالاستنتاجات
كبير في التوازن بين الجنسين . ومن الضروري الحفاظ على الاستثمارات المالية والتقنية
الحالية وزيادتها لضمان استدامتها وتعزيز النظام الصحي الهش في أفغانستان .

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