

## Enhancing Healthcare in Afghanistan from 2015 Through 2020: The Impact of Human Resource Management

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Received: 09 July 2026 | Received Revised Version: 27 July 2026 | Accepted: 08 August 2026 | Published: 25 August 2026

Volume 08 Issue 08 2026 | DOI: 10.37547/tajmei/Volume08Issue08-03

### Abstract

*This study explores the influence of Human Resource Management (HRM) on advancing healthcare in Afghanistan from 2015 to 2020 relying on data collected by international organizations and the government of Afghanistan. During this period HRM became a pivotal strategy for addressing critical workforce shortages, infrastructural gaps, and limited access to essential healthcare services. Using HRM approaches, the Ministry of Public Health leveraged collaborations with international organizations to secure vital financial and technical resources, which facilitated infrastructure development, workforce training, and healthcare service improvements. Despite challenges such as administrative corruption and political influence, HRM initiatives contributed to workforce stabilization and improved healthcare accessibility. An analysis of the data revealed Afghanistan fell much below global health standards regarding healthcare manpower as well as medical facilities and resources. Specialist doctors and healthcare professionals were particularly scarce, especially in rural regions and provinces. The objective of the study is to assess the effectiveness of HRM strategies in improving healthcare delivery, particularly in underserved areas. This study further examines the role of international collaborations and offers recommendations for sustaining and advancing healthcare improvements in Afghanistan. Results indicate that while HRM interventions led to progress in infrastructure, access, and human resource development, significant disparities remain in gender representation, specialty distribution, and rural healthcare coverage.*

**Keywords:** Human resource management, Healthcare workforce, Healthcare access, Healthcare quality, Gender disparity in Health

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**Cite This Article:** Rahmani, A. R. (2026). Enhancing Healthcare in Afghanistan from 2015 Through 2020: The Impact of Human Resource Management. The American Journal of Management and Economics Innovations, 8(08), 42–51. <https://doi.org/10.37547/tajmei/Volume08Issue08-03>

### Introduction

Human Resource Management (HRM) plays a critical role in strengthening health systems, especially in countries recovering from conflict like Afghanistan. According to the World Health Organization (WHO), strong HRM improves healthcare delivery, reduces

inequities, and moves systems closer to universal health coverage, particularly in low-income nations (WHO, 2020).

This paper examines the impact of HRM reforms on Afghanistan's health system between 2015 and 2020. It also looks at persistent challenges such as workforce

shortages, gender disparities, and weak governance that continue to threaten healthcare delivery in the country.

### Health System Challenges Before 2015

Before 2015, Afghanistan's healthcare system was severely underdeveloped. There was a major shortage of qualified professionals, with just 4.6 doctors, nurses, and midwives per 10,000 people—far below WHO's recommended levels (Safi, 2018). In Afghanistan more than 70% of the people live in rural provinces, while around 60% of the health workforce (HRH) is concentrated in the four major cities (ACCORD, 2014). This imbalance was especially harmful to women in rural areas, who often couldn't access care due to cultural norms and a lack of female providers.

These problems were made worse by low graduation rates among women, poor health education infrastructure, insecurity, and the legacy of underinvestment during Taliban rule (Safi, 2018). Corruption and poor governance also contributed. Political favoritism often shaped hiring decisions, undermining public trust and limiting the recruitment of skilled professionals (Kabul Now, 2020).

In 2015, Afghanistan ranked 171st out of 188 countries on the Human Development Index (UNDP, 2015). Maternal mortality was extremely high, estimated at 1,291 deaths per 100,000 live births (WHO, 2018). The situation for children was also dire: neonatal and under-five mortality rates were estimated at 22 and 55 per 1,000 live births, respectively. In 2018, nearly half of all children under five were vitamin A deficient, and 41% were stunted. Communicable diseases remained widespread, accounting for more than 60% of outpatient visits, with tuberculosis alone responsible for an estimated 13,000 deaths and 60,000 cases annually (WHO, 2018).

The core of many of these issues was the inadequate health workforce. Clinics in remote areas struggled to attract or retain trained staff. Even basic medical equipment was lacking in many facilities, and international funding was essential just to keep services running (Galustov, 2014).

### HRM Reforms and Strategies (2012–2020)

To address Afghanistan's healthcare challenges, the Ministry of Public Health (MoPH) launched a series of reforms under the National Health Workforce Plan (2012–2016), aiming to strengthen the healthcare

workforce and align the country's system with international standards (WHO, 2011).

A key initiative was the rollout of the Human Resource Management Information System (HRMIS), which helped standardize HR activities and improve data collection for planning, recruitment, and retention (MoPH, 2016). A national health workforce observatory was also created to support evidence-based decision-making (WHO, 2011; MoPH, 2016).

International support from WHO, UNICEF, and USAID played a vital role, contributing technical and financial assistance for infrastructure, training, and expanding community-based services (WHO, 2018).

The MoPH also introduced financial and non-financial incentives to encourage deployment in rural and underserved areas. Targeted recruitment campaigns were launched, and advocacy efforts aimed to improve complex civil service laws to allow for better hiring, promotion, and staff planning. Collaborations with public and private health science institutes supported the enrollment of female students and the expansion of professional cadres (MoPH, 2016; Safi et al., 2018).

Salary structures were adjusted to encourage workers to stay in their home communities, and partnerships with the Ministry of Higher Education helped expand training programs and accreditation. An in-service training tracking system was created, and pharmacists and other staff received specialized training (Ihsanullah et al., 2012; MoPH, 2016).

By 2020, additional HRM efforts had supported initiatives addressing gender-based violence, substance abuse, and public health promotion. Evidence-based strategies targeted health and nutrition behaviors, while community-based outreach expanded into nomadic and remote areas (MoPH, 2016; Safi et al., 2018).

These efforts produced measurable results. Afghanistan's maternal mortality rate dropped to 620–638 per 100,000 live births by 2022—a nearly 50% improvement from the 2018 figure (World Bank, 2023; UNICEF, 2022).

### Challenges in Implementation

Despite major progress, HRM's impact was constrained by long-standing systemic barriers. Politically driven hiring, corruption, and bureaucratic inefficiencies continued to undermine the push for a merit-based system.

Several key studies point to these obstacles:

**Senior-Level Corruption:** Abuse of authority, unlawful dismissals, and the appointment of overpaid advisors created inefficiencies (Shaigan, 2018).

**Bribery Networks:** Investigations revealed corruption within the Ministry of Public Health and Parliament (The Killid Group, 2020).

**Local Mismanagement:** Provincial health departments faced serious gaps in medical equipment, staffing, and service quality (Kabul Now, 2020).

These challenges often reduced the effectiveness of otherwise well-designed reforms, especially in rural and underserved areas. However, the HRM framework established during this period remains a foundation for future improvements.

## Methods

This study draws on the author's experience working with the Ministry of Public Health in Afghanistan and on previously unpublished human resources data compiled by the Deputy Ministry for Policy and Planning (2020). It builds upon HRM efforts begun between 2012 and 2016 (WHO, 2011), including the development of the HRMIS and the national HR observatory.

As a former Human Resources Manager at the MoPH, the author participated in the recruitment, retention, and deployment of staff across all provinces. Duties included overseeing hiring exams for graduates of public and private health institutes, coordinating with the Directorate of Policy and Planning, and supporting the implementation of the Human Resource Development Strategy 2016–2020.

Data were drawn from internal MoPH reports that documented workforce totals, gender distribution, and staffing gaps in all 34 provinces. These reports were compiled between 2018 and 2019, based on official HR formats used by the MoPH for strategic planning and donor coordination.

The data used in this study were collected by Afghan government agencies during routine monitoring and evaluation of the health sector. The Ministry of Public Health played a key role in starting the collection of human resources (HR) data in 2015. With help from the EPOS project, the Ministry organized training workshops for HR managers at both central and provincial levels.

To support this effort, the Ministry created a national Human Resources Information System (HRMIS). This system helped the Ministry gather what it considered accurate data on health workers employed by the government across Afghanistan.

Because many health services were also provided by NGOs, the private sector, and other groups—including the security and education sectors and the Afghan Red Crescent Society—the Ministry expanded its data collection. It worked with the Human Resources Development Board (led by the General Directorate of Policy and Planning) and the General Directorate of Human Resources to include these groups. This broader data collection took place from 2015 to 2020.

Permission to analyse these data was granted by the HR Directorate and HR resource planning department within MOPH in 2020. These data were used primarily for strategic planning and donor reporting during the 2015–2020 period. The author wishes to thank each of these departments for granting access to HR datasets used in this study.

The data sources included all healthcare providers in Afghanistan. While the data were not gathered through formal academic research methods, the Ministry used standardized procedures. These included entering information into the HRMIS and using a uniform data format developed by the Ministry.

There were some limitations. These included possible bias in reports and difficulties in ensuring data quality, especially in insecure areas. Still, the datasets are a key resource for national health planners and international donors.

Although the data are not complete, they offer a useful view of HR trends and healthcare delivery in Afghanistan during the study period. Policymakers and planners can use this information to support better decisions.

## Results

### Analysis of Workforce Shortages

Despite major HRM efforts, by 2019–2020 the Afghan healthcare system still fell short of WHO's recommended staffing levels. For a population of 32 million, the WHO standard of 23 healthcare workers per 10,000 people translates to 73,600 professionals (Safi et al., 2018). But the workforce at that time totaled only

52,495, leaving a deficit of 21,105 (Deputy Ministry for Policy and Planning Office, 2020).

Table 1 and Graph 1 (based on MoPH data) illustrate both the healthcare workforce distribution and how it

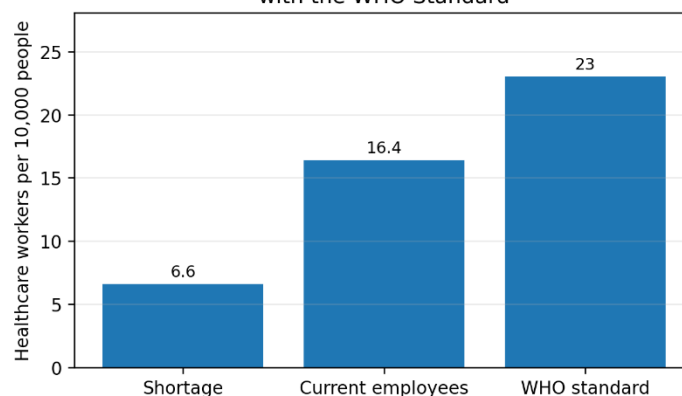
compares to WHO benchmark. These data show the critical healthcare workforce shortage in 2019 and 2020, and the disparity between resources and international benchmarks (Deputy Ministry for Policy and Planning Office, 2020).

**Table 1**

| Healthcare Professionals in Afghanistan in 2019-2020 |              |
|------------------------------------------------------|--------------|
| Health Professions                                   | Total number |
| Doctors (including specialists)                      | 11061        |
| Dentists                                             | 876          |
| Dental health technicians                            | 415          |
| Midwives                                             | 5098         |
| Nurses                                               | 11483        |
| Public Health                                        | 4806         |
| Pharmacists                                          | 1037         |
| Pharmacy technicians                                 | 1228         |
| Anesthetists                                         | 276          |
| Physiotherapist                                      | 312          |
| Other technicians**                                  | 2963         |
| Others ***                                           | 12940        |
| Total                                                | 52495        |

**Graph 1**

Comparison of 2019-2020 Healthcare Workforce with the WHO Standard



**Discussion of Graph 2:**

Graph #2 describes the number of healthcare professionals by province available to provide medical care in Afghanistan, compared to the WHO standard across all provinces in Afghanistan (Deputy Ministry for Policy and Planning Office, 2020).

Until 2020, despite some HR interventions, many provinces continued to suffer from severe shortages of healthcare professionals, based on data collected during 2019–2020. For instance, Helmand and Paktika had healthcare worker densities of 6.9 and 5.6 per 10,000 people, respectively, which were significantly lower than the WHO benchmark. Graph 2 shows that, despite HR interventions, many provinces—such as Farah, Ghazni, and Kunar, with healthcare worker densities between 9.5 and 12.2 per 10,000—continued to experience substantial shortages.” (Deputy Ministry for Policy and Planning Office, 2020).

Some provinces, while still falling short of the WHO standards, showed relatively better healthcare coverage than some others. For example, Herat, with a density of 21.3 healthcare workers per 10,000 people, came close to the benchmark, reflecting a comparatively stronger provision of health services than in most other regions. Provinces like Nimruz, Jawzjan, and Samangan, each

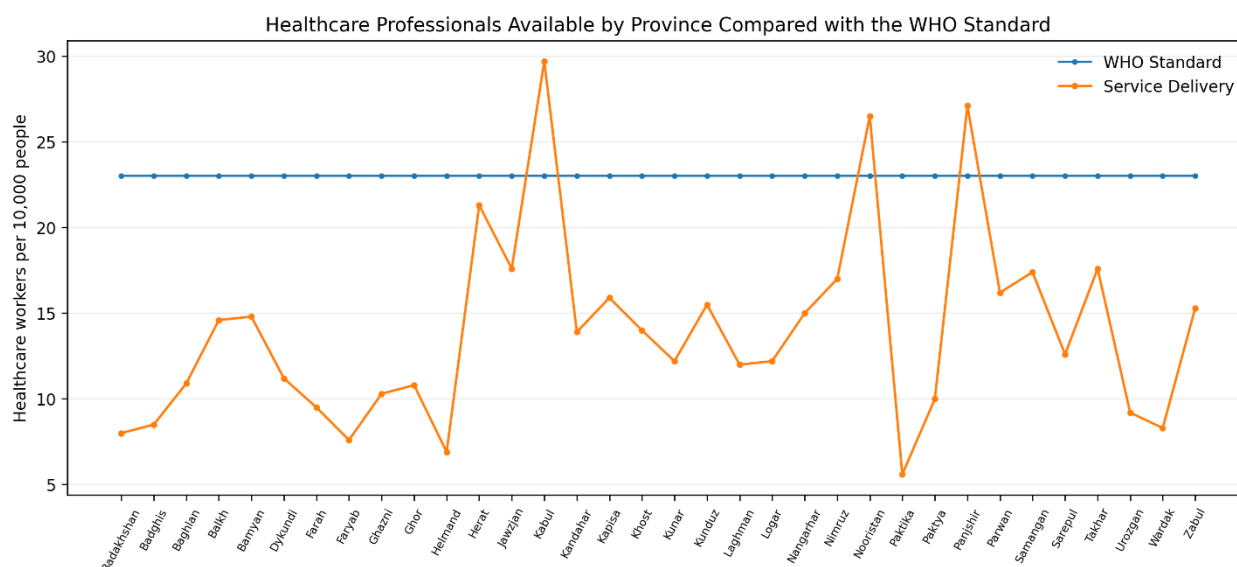
with densities of around 17, reflect less severe shortages (Deputy Ministry for Policy and Planning Office, 2020).

A few provinces met or surpassed the WHO standards. Kabul, Panjshir, and Nooristan, with densities of 29.7, 27.1, and 26.5, respectively, indicating better resource allocation and distribution of healthcare workers in these regions, reflecting more satisfactory levels of healthcare service provision (Deputy Ministry for Policy and Planning Office, 2020).

Workforce shortages greatly affected healthcare delivery, particularly in rural and underserved areas, where the ratio of healthcare workers was alarmingly low. In urban areas, there were 2.97 workers per 1,000 people, but in rural areas, this number dropped to 0.56 per 1,000 (Deputy Ministry for Policy and Planning Office, Ministry of Public Health, 2020).

Graph 2 also reveals the contrasts between urban and rural areas in terms of healthcare service distribution. Cities like Kabul benefit from superior infrastructure and resources, allowing them to meet or exceed the WHO benchmarks. In contrast, many rural provinces such as Helmand and Paktika suffered from significant imbalances, exposing a persistent gap in the healthcare workforce distribution.

**Graph 2**



### Breakdown by Healthcare Professional Categories

To better comprehend the structure and potential of Afghanistan's healthcare workforce, the breakdown by professional categories was examined.

This examination, shown in Table 2, shows distribution across various healthcare roles and identifies some gaps in core specialties. Such examination is crucial to determine workforce imbalances and inform directed

HRM interventions towards optimizing healthcare delivery.

For Table 2, a percentage formula was used to calculate the proportion of healthcare providers in various specialty areas:  $\text{Percentage} = (\text{Number in category}) / (\text{Total workforce}) \times 100$ .

Table 2 data (Deputy Ministry for Policy and Planning Office, 2020) also illustrates that in 2019-2020 the healthcare workforce in Afghanistan was heavily weighted toward categories such as generalist physicians and nurses, comprising 21.07% and 21.88% of the workforce, respectively. However, the number of professionals in specialty areas remained insufficient for

effective healthcare service delivery. For example, critical specialties like anesthetists (0.53%) and physiotherapists (0.59%) were severely underrepresented, limiting the country's capacity to provide surgical and rehabilitative care (Deputy Ministry for Policy and Planning Office, 2020).

The persistent shortage of specialized healthcare workers in Afghanistan has created a complex crisis. This shortage has contributed to increased mortality rates, widened health disparities, and compromised the quality and credibility of the healthcare system. Populations needing specialized care were thus disproportionately affected.

**Table 2**  
Healthcare Workforce Categories in 2019-2020

| Health Profession                  | Total number | % of Total | Comment on Workforce                                              |
|------------------------------------|--------------|------------|-------------------------------------------------------------------|
| Physicians (including specialists) | 11,061       | 21.07%     | A critical part but short of the required total.                  |
| Dentists                           | 876          | 1.67%      | Fairly low, showing potential gaps in dental care.                |
| Dental health technicians          | 415          | 0.79%      | Small part, supports the limited number of dentists.              |
| Midwives                           | 5,098        | 9.71%      | Significant for mother and baby's health, but still needs growth. |
| Nurses                             | 11,483       | 21.88%     | A large number, vital for patient care, but still insufficient.   |
| Public Health Workers              | 4,806        | 9.16%      | Important for primary care and education, moderate presence.      |
| Pharmacists                        | 1,037        | 1.98%      | Relatively low, may indicate challenges in medication management. |
| Pharmacy technicians               | 1,228        | 2.34%      | Supports pharmacists, but still low.                              |
| Anesthetists                       | 276          | 0.53%      | Critical for surgeries, extremely low frequency.                  |
| Physiotherapists                   | 312          | 0.59%      | Very low, indicating potential issues in rehabilitative care.     |
| Other Technicians                  | 2,963        | 5.65%      | Supports various medical functions, moderate presence.            |
| Others                             | 12,940       | 24.66%     | Represents various roles, a significant circumstance.             |
| Total                              | 52,495       | 100%       | Overall workforce, still insufficient.                            |

### Gender and Regional Disparities

In 2020, women represented only 28% of the healthcare workforce, which significantly affected the provision of culturally sensitive healthcare, especially for women in rural areas. This disparity worsened maternal and child health challenges, adding to maternal mortality rates, poor reproductive health, and reinforcing intergenerational cycles of poor health (Deputy Ministry for Policy and Planning Office, 2020; Safi et al., 2018).

### International Collaboration and Resource Allocation

Between 2017 and 2020, international organizations played an increasingly crucial role in supporting Afghanistan's healthcare infrastructure. These collaborations provided essential financial support, with over 75% of the Ministry of Public Health's budget allocated to healthcare workers' salaries during this period (Naseri et al. 2023).

**Table 3**  
Budget Allocation Breakdown

| Expenditure Category                    | Percentage of Budget |
|-----------------------------------------|----------------------|
| Salaries for Healthcare Workers         | 70%                  |
| Training Programs                       | <5%                  |
| Other Healthcare Workforce Expenditures | 25%                  |

Table 3 outlines how most international funding was used for healthcare workers' salaries, with minimal investment in long- and short-term workforce development (Naseri et al., 2023, p. 1).

Some of the persistent shortages of skilled professionals are likely due to the resulting minimal investment in professional training within Afghanistan's MoPH (Safi et al., 2018). This lack of investment has exacerbated health inequities, particularly among rural populations. Insufficient training undermines the system's ability to respond effectively to emergencies, perpetuates shortages of professional healthcare workers, and erodes public trust in healthcare services (Médecins Sans Frontières, 2022).

### Impact on Healthcare Access and Quality

HRM initiatives have significantly impacted healthcare access and perceived quality, particularly in underserved areas. For example, as of 2016, HRM recruitment drives and incentive programs were planned to increase the number of healthcare professionals serving in rural regions (MoPH, 2016).

Further, the installation of new diagnostic equipment in hospitals (Qadir et al., 2023, p. 2), along with improvements in the quality and accessibility of a defined range of tertiary services, indirectly enhanced patient satisfaction. The Ministry of Public Health

(MoPH) set a target of increasing patient satisfaction by 10% between 2015 and 2020, as measured by the Balance Score Card. The results of this assessment, recorded in the Health Management Information System (HMIS) of the Ministry (MoPH, 2016, p. 71), indicate that the targeted improvement was achieved during the study period. Additionally, these service enhancements reduced the need for overseas referrals, reflecting the tangible benefits of improved local healthcare capacity and HRM strategies.

The new diagnostic equipment was not merely an infrastructure upgrade; rather, the Ministry of Public Health had long recognized a significant human resource gap in the use, maintenance, and management of such machinery. For this reason, this HRM issue was addressed by Ministry of Public Health (MoPH, 2016). Its importance was also confirmed by the World Health Organization.

Access to proper diagnostic tools was essential to ensure that trained medical personnel were available who could effectively apply their skills. This initiative was both encouraged by HRM (MoPH, 2016), and supported key HRM objectives such as capacity utilization, service quality improvement, and staff performance, and is therefore considered partially a result of HRM implementation. According to the WHO report, this initiative was implemented and operationalized in 17

hospitals in central Kabul and across 12 provinces of Afghanistan (WHO, 2018) and (Qadir et al., 2023).

The training programs were conducted by the Ministry of Public Health with support from WHO and other international partners. These trainings were part of MoPH's official HRM strategy, as outlined in the National Health Strategy 2016–2020. While donor agencies funded and supported implementation, the programs were planned and integrated within HRM frameworks, focusing on workforce development, deployment, and retention.

By 2016, training programs under HRM had further strengthened healthcare quality. Specialized training for pharmacists, nurses, and midwives enhanced professional competencies and improved service delivery in rural and urban regions. The introduction of continuous in-service training ensured that healthcare workers remained updated with the latest protocols and practices, thereby improving overall service quality (MoPH, 2016).

Community-based health services, supported by HRM efforts, extended essential health services to nomadic and remote populations by 2016. The implementation of incentive programs encouraged healthcare providers to serve in these challenging locations, thereby reducing geographical disparities in healthcare access (MoPH, 2016).

By 2018, access to health services had risen significantly, with 87% of the population having access (WHO, 2018) compared to just 9% in 2002 (Rahimzai et al., 2013, p. 1).

Nearly half of the population could reach a healthcare facility within 30 minutes, while 87% could do so within two hours (MoPH, 2016; WHO, 2018).

Collectively, HRM initiatives, including enhanced recruitment, gender-sensitive training, technological advancements, and expanded rural healthcare outreach, contributed to substantial improvements in healthcare access and quality in Afghanistan between 2015 and 2020.

## Conclusion

The studies reviewed highlight the significant yet incomplete progress that occurred within the context of HRM strategies in Afghanistan's healthcare sector between 2015 and 2020. These strategies notably

improved healthcare delivery, particularly in underserved regions, as well as patient satisfaction.

Despite these advances, critical gaps remain in healthcare in Afghanistan. While HRM-focused initiatives have enhanced workforce skills, shortages persist in vital specialties such as anesthesiology and advanced medical fields, underscoring the need for sustained investment and development.

To further close these gaps, Afghanistan must continue to prioritize strengthening specialty medical services. This requires increased investment in health education, improved retention strategies for healthcare professionals, upgraded infrastructure, and expanded international cooperation. These efforts should aim to create an integrated, resilient, and equitable healthcare system capable of addressing the diverse needs of Afghanistan's population.

Moreover, gender disparities within the workforce remain a critical challenge. As of 2020, women made up only 28% of the healthcare workforce, limiting the sector's ability to provide culturally sensitive care and address maternal and child health outcomes (Deputy Ministry for Policy and Planning Office, 2020). This underrepresentation significantly affected maternal mortality rates, reproductive health, and intergenerational health outcomes. To address these challenges, increasing investments in women's healthcare education, actively recruiting and retaining female healthcare workers, improving maternal and child health services, and fostering gender equality in healthcare policies are essential. A special focus on rural areas is imperative, as these regions face the most acute gender and healthcare disparities. Strengthening partnerships between government agencies and educational institutions will also be critical to cultivating a skilled pipeline of female healthcare professionals.

Given the current situation in Afghanistan, the international organizations that previously operated within the framework of strengthening the country's health system have now been reduced to only a few major agencies, which still continue to work toward improving the system. However, most smaller organizations have ceased their operations in Afghanistan.

Furthermore, foreign collaboration and contributions continue to be the cornerstone of the industry's development. Throughout history, foreign cooperation and HRM, have been central to healthcare progress.



However, sustainable development calls for a shift toward professional training, resource exchange, and infrastructure construction. Greater engagement with international health organizations and donor nations can assist Afghanistan in aligning its healthcare plans with global best practices while providing equitable resource distribution.

HRM methods have played an important role in laying a vital foundation for healthcare progress in Afghanistan. However, achieving a sustainable and equitable healthcare system requires a continued focus on strengthening specialty medical services, addressing gender disparities, promoting rural healthcare development, and enhancing international cooperation. A comprehensive approach involving administrative reforms, robust financial strategies, and gender equity should ensure lasting improvements in healthcare delivery and outcomes for all Afghans.

As a researcher conducting this study from outside Afghanistan, I faced several challenges that also represent key limitations of the work. Chief among them was the lack of access to active institutions and relevant stakeholders within the country. This restricted the possibility of incorporating more recent data or conducting updated field interviews. Instead, the analysis relied heavily on my own professional experience and contextual knowledge, as well as firsthand data collected during the 2015–2020 period. While this data was valuable and gathered during a time of relative governmental stability, the dramatic political and institutional changes following the collapse of the Republic in 2021—along with the departure of many civil servants—mean that it may no longer fully reflect the current realities on the ground.

### Acknowledgments

I would like to express my sincere gratitude to the Department of Public Administration, University of Lucknow, for providing me with the academic atmosphere, guidance, and institutional support that enabled the successful completion of this study. I'm deeply thankful for the facilities and resources made available to me throughout the course of my research. I am also thankful to my close friends for their continuous encouragement and moral support during difficult moments.

Most importantly, I extend my heartfelt appreciation to my beloved family, who, despite the long separation and

difficult circumstances, have unconditionally supported me with remarkable compassion, tolerance, and emotional strength. Their unwavering support and ability to bring me peace of mind have been a source of motivation throughout this academic journey.

Finally, I would like to thank, with heartfelt thanks, a very special friend whose kindness, warmth, and unobtrusive presence have been a valuable source of solace and inspiration throughout this endeavor.

This study was entirely funded by the author.

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