



**ADA UNIVERSITY  
SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS  
MASTER OF PUBLIC ADMINISTRATION**

**CAPSTONE PROJECT SUBMITTED IN  
PARTIAL FULLFILMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF PUBLIC ADMINISTRATION**

**Medical Staff Shortages in Regional Healthcare: Challenges and Solutions.**

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Baku, May 14<sup>th</sup>, 2025

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## **Abstract**

This capstone paper examines the long-lasting shortage and unequal distribution of medical staff in Azerbaijan's regional healthcare system. The topic was chosen due to its critical impact on healthcare accessibility and effectiveness in the regions. The paper identified the root causes of staff shortages such as internal and external brain drain, educational disengagement, and over-centralized infrastructure. The paper proposes the most suitable, evidence-based policy solutions to address the existing problems.

Methodologically, the research compares national healthcare statistics with international benchmarking standards through WHO and OECD, and qualitative insights from interviews with Azerbaijani healthcare professionals experienced in rural work. The mixed-methods approach ensured a deep understanding of both sides that contribute to the issue.

The paper concludes by recommending a step-by-step implementation of a National Health Professional Retention and Diaspora Reintegration Program as the most effective solution, supported by educational pipeline reforms and mobile medical clinics to address short-term access gaps. These integrated measures aim to improve workforce retention, regional equity, and long-term system resilience.

**Keywords:** Healthcare Workforce, Regional Disparities, Brain Drain, Medical Staff Shortages, Healthcare Accessibility

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## Abbreviations:

**WHO** – World Health Organization

**OECD** – Organisation for Economic Co-operation and Development

**EAIP** – Equal Access Infrastructure Plan

**TABIB** – Administration of Regional Medical Divisions

**SAMHI** – State Agency for Mandatory Health Insurance

**MHI** – Mandatory Health Insurance

**AZN** – Azerbaijani Manat

## Introduction:

### Context of the Policy Problem

Over the past decade, Azerbaijan has launched important reforms in its healthcare system, most notably the implementation of Mandatory Health Insurance (MHI) and the creation of the Administration of Regional Medical Divisions (TABIB). These reforms were aimed to improve the quality and equity of healthcare services provided. MHI was fully rolled out by 2021, with the State Agency for Mandatory Health Insurance (SAMHI) tasked with pooling funds and purchasing services, while TABIB assumed operational control over most public healthcare institutions. This structural realignment was designed to separate funding, provision, and regulation functions in order to professionalize governance and improve outcomes (World Health Organization, 2024; World Bank, 2023).

Despite these reforms, the system is facing a continuous issue of long-standing structural inequalities. Urban centers, particularly Baku, receive a disproportionately high share of resources, qualified staff, and modern infrastructure, while regional and rural areas remain severely underserved (Eurasianet, 2021; WHO, 2024). According to recent WHO and World Bank assessments, this “regional gap syndrome” has led to major discrepancies in care access, quality, and outcomes. For example, Baku has approximately 95 doctors per 10,000 residents, compared to fewer than 15 per 10,000 in southern regions such as Lankaran or as low as 10 per 10,000 in mountainous western districts (Eurasianet, 2008; WHO, 2024).

The issue of inequitable infrastructure investment outside urban centers has been present for decades. The issue was laid down from the start. For example, during the oil boom, new hospitals were built, but many of them lacked the basic infrastructure such as water supply, power, or modern equipment. This weak infrastructure caused problems with provision of essential medical services effectively (Baku Research Institute, 2022). This left many rural health facilities either nonfunctional or avoided by patients, who increasingly bypass local services in favor of traveling to urban areas or even abroad for care (Trade.gov, 2023).

### Definition of the Policy Problem within the Current Framework

Despite major structural reforms such as the introduction of MHI and the establishment of TABIB, Azerbaijan's healthcare system continues to suffer from an acute shortage and unequal distribution of medical staff across regions. These institutions, while designed to improve healthcare delivery and financing, currently lack the authority, flexibility, or strategic tools to correct the geographically uneven distribution of healthcare professionals (WHO, 2024; World Bank, 2023). Internal migration of health workers toward cities and private clinics, combined with external emigration, continues to drain medical personnel from rural areas (Migration & Refugees Section, 2020). The system also struggles to retain graduates from state-funded medical education programs, with many choosing to work abroad or in private urban clinics (Baku Research Institute, 2022). The policy environment lacks solid strategies to properly incentivize rural medical practice.

Although some previous efforts, such as mobile clinics under the PROACT-Care initiative have demonstrated success, they have not been institutionalized or scaled (WHO, 2021).

Although medical education reforms have begun with support from the WHO, clinical training and preparation for rural practice are still not fully modernized. As a result, many young professionals remain uncertain about building careers outside of major cities (WHO, 2023). Thus, while Azerbaijan has made progress in reorganizing and funding its healthcare system, the current policy environment lacks sufficient mechanisms to ensure the equitable deployment and retention of medical personnel in underserved regions. The gap between structural reforms and human capital deployment is the core of the country's healthcare access problem.

## Statement of Intent

This paper has been prepared to support the State Agency on Mandatory Health Insurance of Azerbaijan in addressing a real tough challenge to the delivery of equitable healthcare services: the shortage and uneven distribution of medical personnel in regional areas. The intent of this paper is to offer a comprehensive, evidence-based analysis of the underlying factors contributing to this issue and to provide feasible policy recommendations that align with the Agency's mission to ensure universal access to quality healthcare as well as the general betterment of the healthcare provision in the country.

Recognizing that workforce shortages in rural healthcare facilities threaten the effectiveness of the mandatory health insurance model, this report examines the structural and systemic

causes behind these disparities, this includes internal migration trends, educational bottlenecks, and institutional centralization. The analysis draws on national data, comparative international benchmarks, and policy frameworks from relevant health systems to ensure that the proposed recommendations are both feasible and tailored to the Azerbaijani context.

The insights and proposals offered here are intended to inform the Agency's ongoing strategic planning and help facilitate long-term improvements in workforce deployment, regional service coverage, and system-wide healthcare resilience.

## Roadmap of the paper

This paper looks into the issue of medical staff shortages in regional areas of Azerbaijan and the resulting barriers to equitable healthcare access. It aims to analyze the structural, educational, and institutional factors contributing to this issue and provide evidence-based policy suggestions to counter it.

The paper begins by elaborating in great detail the methodological approach, which combines national and regional statistical analysis, international benchmarking, and expert interviews. This section explains how healthcare indicators were selected, what was the logic behind the calculations, and why they were compared to WHO and OECD standards.

Following this, the problem description is presented in detail, providing an overview of the healthcare accessibility challenges in Azerbaijan caused by the shortage of medical staff. It