INTERNATIONAL JOURNAL OF POLITICAL SCIENCES AND ECONOMICS
Impact Factor (research bib) - 9,78
https://ijmri.de/index.php/ijpse , German international journals company
ISSN 2751-9708

INTERNATIONAL EXPERIENCE IN INTRODUCING THE STATE MEDICAL INSURANCE SYSTEM IN UZBEKISTAN: COMPARATIVE ANALYSIS AND DEVELOPMENT PERSPECTIVES

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Annotation: This article examines the systemic transformation of healthcare financing in Uzbekistan through the gradual introduction of the State Medical Insurance (SMI) system. As the country transitions from an input-based, rigid budgetary allocation model to an output-based strategic purchasing framework, analyzing international experience becomes critical. This study provides a comparative institutional and economic analysis of the Beveridge, Bismarck, and National Health Insurance models against the socioeconomic realities of Uzbekistan. Utilizing recent structural and macroeconomic indicators up to 2026, the paper highlights the financial achievements of the early pilot phases, maps out systemic bottlenecks such as out-of-pocket expenditures and informal sector coverage, and presents strategic pathways for ensuring long-term fiscal sustainability and clinical efficiency.

State Medical Insurance, Healthcare Financing, Strategic Purchasing, Beveridge Model, Bismarck Model, Out-of-Pocket Expenditure, Healthcare Infrastructure, Uzbekistan.

The structural modernization of the social sphere in the Republic of Uzbekistan has placed universal health coverage and sustainable healthcare financing at the forefront of national policy. Historically, the national healthcare infrastructure relied on a post-Semashko decentralized budgetary mechanism, characterized by line-item input-based funding. While this model ensured basic institutional survival during transitional economic phases, it inherently institutionalized systemic inefficiencies. Under the traditional framework, over 60 percent of the total state budget allocated to healthcare was continuously absorbed by inpatient care and tertiary prevention facilities, leaving primary healthcare severely underfunded and fragmented.

Furthermore, direct out-of-pocket expenditures by the population historically remained persistently high, accounting for 40 to 45 percent of total health spending. This high rate created substantial financial barriers and vulnerabilities, particularly for lower-income demographics. To dismantle these structural imbalances, the government initiated a phased transition toward a single-payer state medical insurance mechanism.

This policy shift began with a comprehensive pilot program in the Syrdarya region, followed by an expansion into additional territories including Karakalpakstan, Tashkent, Samarkand, Navoi, Surkhandarya, and Fergana, culminating in an integrated nationwide roll-out. The primary objective of this transition is to separate the functions of the healthcare regulator from the healthcare purchaser, optimizing fiscal efficiency while guaranteeing equitable access to high-quality medical services.

This study utilizes a combination of comparative institutional analysis, economic-statistical interpretation, and structural benchmarking. Empirical data are derived from the official statistical registries of the Ministry of Health of the Republic of Uzbekistan, the Ministry of Economy and Finance, the National Agency for Perspective Projects (NAPP), and public health evaluation databases. The international benchmarking framework evaluates three primary archetypes: the Bismarck social health insurance model (represented by Germany and South Korea), the Beveridge national health service model (United Kingdom), and mixed state-mediated purchasing models (Turkey). The analytical focus is directed toward resource

mobilization efficiency, risk-pooling capacity, provider payment mechanisms, and the mitigation of out-of-pocket expenditures.

Prior to the implementation of the state medical insurance mechanisms, the economic dynamics of Uzbekistan's public health sector revealed a stark divergence between growing budgetary allocations and operational output parameters. Despite annual increments in the nominal state budget dedicated to health services, the structural allocation of these funds was deeply skewed toward institutional maintenance rather than patient outcomes.

The lack of financial independence among public medical providers restricted their ability to implement modern managerial techniques, adjust staffing configurations, or align clinical capacity with regional epidemiological demands. This rigid line-item budgeting system frequently resulted in a high share of inefficient expenditures, estimated by public health assessments to reach up to 40 percent of total sector allocations.

Financial & Infrastructure Indicators	Baseline Status (Pre-Reform / Early Pilot)	Target / Expected Structural Realignment
Out-of-Pocket Expenditure Share	40% – 45% of total health spending	Reduced to less than 25% via risk pooling
Inpatient Resource Consumption	>60% of total state health budget	Reallocated toward Primary Healthcare (PHC)
Inefficient Healthcare Expenditure	Estimated up to 40% of allocations	Optimized through strategic purchasing
Syrdarya Region Doctor Density	17.6 per 10,000 population	Normalized toward national mean (23.0)
Syrdarya Mid-Level Staff Density	150.6 per 10,000 population	Realigned with structural optimization (103.6)

The regional distribution of human and capital infrastructure also demonstrated significant imbalances. During the baseline analysis of the Syrdarya pilot zone, the regional doctor density stood at 17.6 per 10,000 population, noticeably below the national average of 23.0. Conversely, the density of paramedical and mid-level nursing personnel was highly inflated at 150.6 per 10,000 population, compared to the national baseline of 103.6. This structural mismatch led to high doctor substitution coefficients, often exceeding 2.0 locally, while hundreds of physician posts remained structurally vacant. These data underscore the urgent need for a unified financing vehicle capable of cross-subsidizing regions and strategically purchasing services based on population health needs rather than rigid historical capacity.

The global landscape of health systems offers distinct pathways for transitioning toward universal coverage. A critical examination of these models allows Uzbekistan to avoid historical design errors and select optimal mechanisms for resource mobilization.

The Bismarckian archetype relies on mandatory, payroll-based contributions co-financed by employers and employees, managed by autonomous non-profit sickness funds. In nations like Germany and South Korea, this framework ensures high clinical standards and responsiveness. However, its implementation is deeply dependent on a highly formalized labor market.

In Uzbekistan, where informal sector employment remains a substantial economic factor—affecting approximately 38 per cent of the working population according to social and demographic assessments—a pure Bismarckian model presents severe limitations. Imposing a heavy payroll tax would risk incentivizing further informal labor shifts, while under-representing non-formal workers within the primary risk pool.

Conversely, the Beveridge model utilizes universal tax-financed revenue streams to provide healthcare as a public good, directly managed by the state. This architecture achieves superior equity and cost-containment across the entire population, as seen in the United Kingdom.

Uzbekistan's State Medical Insurance strategy aligns conceptually with this model by positioning the state budget as the core funding mechanism, thereby avoiding immediate regressive payroll taxation. However, a pure Beveridge model can suffer from chronic underfunding, lengthy queues for elective tertiary interventions, and bureaucratic rigidity if provider autonomy is restricted.

Turkey's Health Transformation Program offers an instructive middle ground. By consolidating disparate insurance funds into a single Social Security Institution and acting as a powerful strategic purchaser of services from both public and private providers, Turkey dramatically reduced out-of-pocket spending while improving clinical quality.

Turkey utilized performance-based global budgets and capitation for primary care, which serves as a highly functional reference point for Uzbekistan's ongoing structural adjustments.

The operationalization of the State Medical Insurance Fund (SMIF) as an independent single-payer entity represents a profound departure from traditional public administration. The transformation has progressed through clearly defined evolutionary phases designed to test digital infrastructures and clinical provider autonomy before nationwide scaling.

The early stage in the Syrdarya region proved essential for testing the electronic health records (EHR) registry, redefining the basic benefits package (BBP), and shifting primary care providers toward capitation-based payment models. The subsequent intermediate phase expanded these mechanisms into highly populated and economically diverse provinces—including Karakalpakstan, Tashkent, Samarkand, Navoi, Surkhandarya, and Fergana—allowing the SMIF to refine its billing, auditing, and case-mix processing capabilities. The final integration phase aims for 100 percent population coverage across all administrative regions of the Republic.

Concurrently, the broader domestic insurance market has shown rapid expansion, which indirectly supports the development of the healthcare financing ecosystem. According to data reported by the National Agency for Perspective Projects (NAPP), gross written premiums across the entire insurance sector experienced an upward trajectory, rising from 3,778 billion UZS in the first half of 2023 to 4,269 billion UZS in the first half of 2024, and expanding sharply to 6,234 billion UZS in the first half of 2025.

In parallel, claims payments grew from 883 billion UZS to 1,115 billion UZS, reaching 1,245 billion UZS by mid-2025. While voluntary general corporate policies currently dominate these commercial premium lines, this rapid capitalization and institutional maturity within the broader insurance market signal enhanced data-driven scoring capabilities and digital underwriting maturity. These advancements can be successfully transferred to public health asset management and social risk pooling frameworks.

To guarantee that the nationwide roll-out achieves structural stability, several critical policy interventions must be systematically prioritized:

- **Transition to Strategic Purchasing and Advanced Provider Payment Methods:** The historical practice of allocating fixed line-item budgets to public hospitals must be completely phased out. The State Medical Insurance Fund must fully implement case-based billing systems, such as Diagnosis-Related Groups (DRGs), for specialized and inpatient care. This ensures that funding is directly bound to the volume and clinical complexity of the care delivered. Primary healthcare facilities must be compensated through a refined capitation model, augmented by performance-linked bonuses targeting preventive screening compliance.
- **Expansion of Institutional Autonomy for Public Providers:** Public medical institutions must be granted genuine financial and managerial autonomy. Hospital directors require the legal authority to reallocate internal budget surpluses, optimize personnel configurations based on performance, and purchase medical equipment independently. Without this autonomy, provider responsiveness to strategic purchasing signals will remain heavily constrained by bureaucratic friction.
- **Formalization of Private Sector Integration:** The state medical insurance framework must establish a uniform, transparent mechanism for contracting private clinical providers. By allowing public insurance funds to follow the patient into certified private medical facilities, the state can rapidly expand domestic clinical capacity, foster healthy service-delivery competition, and reduce waiting times for advanced diagnostic procedures.

The transition of the Republic of Uzbekistan to a state medical insurance system represents a vital step toward long-term financial sustainability and social equity. By synthesizing the universal risk-pooling characteristics of the Beveridge model with the performance-driven, competitive elements of mixed strategic purchasing frameworks, Uzbekistan is building a resilient hybrid model.

Resolving structural issues—such as the high informal employment rate, high out-of-pocket spending, and historical inefficiencies in inpatient resource allocation—requires continuous optimization of provider payment mechanisms and the rapid expansion of digital health infrastructure. Ensuring that financial flows are strictly tied to measurable patient health outcomes will enable the reformed system to guarantee high-quality, universally accessible medical care for the country's growing population.

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