

Medical Tourism in The Bukhara Region: A Porter's Diamond Analysis of Potential and Challenges

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Abstract: Medical tourism has emerged as one of the fastest-growing sectors in both developed and developing economies. Its expansion is driven by increasing demand for affordable and high-quality healthcare services across borders. Uzbekistan is gradually positioning itself within this global trend, while regions such as Bukhara demonstrate considerable potential for further development.

This study explores the development of medical tourism in the Bukhara region through the application of Porter's Diamond Model. It evaluates key determinants influencing competitiveness and identifies existing barriers that limit the region's ability to attract international patients.

The findings of the study provide practical recommendations aimed at improving marketing strategies, strengthening inter-sectoral cooperation, and enhancing the adoption of international standards.

Keywords: Medical tourism, Bukhara region, diamond analysis, competitiveness, healthcare infrastructure.

Introduction: It is generally accepted that when individuals face health-related problems, they seek the most effective treatment available. If such treatment is not accessible in their own country, medical care abroad may become an alternative solution, forming the basis of medical tourism. In modern conditions, medical tourism is characterized by patients traveling abroad to access medical services unavailable or limited in their home country (Connell, 2011). The medical tourism market is characterized by an increasing number of countries competing to attract patients through the provision of diverse medical, surgical, and dental services (Horowitz et al., 2007). According to global healthcare rankings, countries such as Turkey, the United Arab Emirates, and Thailand consistently rank among the leading medical tourism destinations due to their strong infrastructure, cultural accessibility, and internationally recognized medical professionals (Murad, 2025).

Patients seeking safe and reputable medical care often evaluate their treatment options through specialized medical tourism agencies, many of which provide comprehensive services including documentation support, consultation, and recovery planning. At present, medical tourists travel across international borders to access a wide range of treatments, including cosmetic surgery, dental care, bariatric procedures, assisted reproductive technologies, ophthalmologic and orthopaedic services, cardiac surgery, organ transplantation, and other specialized medical interventions (Horowitz et al., 2007).

Uzbekistan has recognized medical tourism as part of its broader economic diversification strategy. However, despite the growing flow of regional patients, the country remains a relatively small player in the global market, accounting for only around 0.1% of the total market share. To position Uzbekistan as a competitive medical tourism destination, a comprehensive approach is required, addressing legal frameworks,

infrastructure development, human resources, digital technologies, inter-sectoral cooperation, and regional development (Nuritdin o'g'li, 2025).

One of the major barriers to competitiveness remains the lack of internationally accredited hospitals, which reduces foreign patients' trust and limits Uzbekistan's ability to attract international medical tourists. In this context, Bukhara Region was selected as a case study due to its strong cultural tourism reputation, existing inflow of foreign visitors, and untapped potential for integrating healthcare and tourism services. While previous studies have mainly focused on national-level medical tourism development, limited research has examined regional competitiveness factors in Bukhara Region. Therefore, this study analyzes Bukhara's medical tourism potential based on Michael Porter's Diamond Model and proposes strategies to enhance its competitiveness in the international medical tourism market.

LITERATURE REVIEW

Medical tourism literature mainly focuses on patient mobility, healthcare costs, and destination competitiveness. Milica Bookman and Karla Bookman (2007) state that lower treatment costs, shorter waiting times, and better medical technologies are the main factors encouraging people to seek healthcare services abroad. Their research highlights the economic side of medical tourism development.

From a tourism perspective, Michael Porter (1990) developed the Diamond Model, which explains how factor conditions, demand conditions, supporting industries, and firm strategy influence destination performance. This model is used in this study to analyze Bukhara's medical tourism potential and identify future development opportunities.

METHODS

This study employs a qualitative case study approach, focusing on the Bukhara region. The analysis is

conducted using Porter's Diamond Model, following the approach applied in previous studies such as Jabbari et al. (2012), to assess the key factors influencing the development of medical tourism. In addition, a comparative analysis is used to evaluate Uzbekistan's position relative to other medical tourism destinations.

RESULTS

Uzbekistan is increasingly emerging as a medical tourism hub in Central Asia, primarily driven by the growing number of patients arriving from neighboring countries.

However, a regional comparison reveals that the Bukhara region has a relatively lower number of international patients compared to Tashkent and Samarkand, suggesting that the region is not fully utilizing its existing potential in the field of medical tourism.

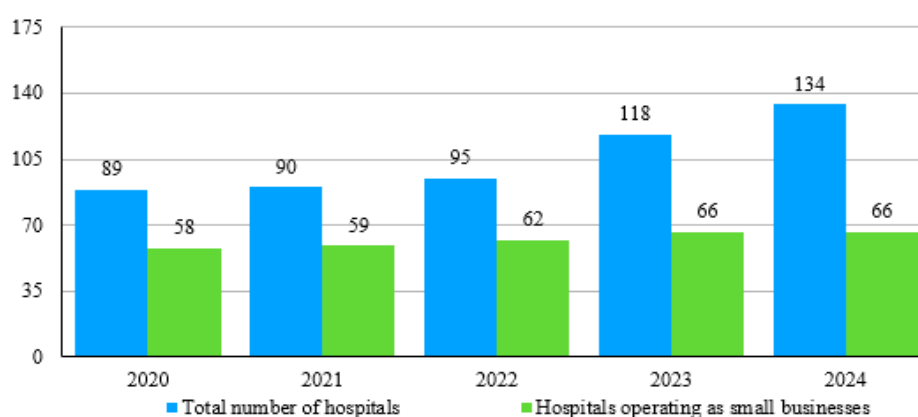
At the same time, the healthcare system in the Bukhara region demonstrates strong foundational capacity, characterized by the presence of numerous medical education institutions and an expanding private healthcare sector, which together enhance service capacity and strengthen the professional workforce. Furthermore, international cooperation is actively developing, contributing to knowledge exchange and the improvement of medical services.

Diamond analysis

1 Factor conditions

The key factor conditions supporting the development of medical tourism include favourable climate, geographical location, natural resources, investment in private healthcare, effective marketing through global web resources, availability of qualified medical professionals, and cost advantages. (Lee & Spisto, 2007)

Figure 1. Number of hospital institutions in Bukhara region (2020–2024)



Source: State Statistics Committee of the Republic of Uzbekistan.

The climate of the Bukhara region is characterized by a sharply continental and arid climate, with average annual temperatures ranging between 15.8°C and 17.4°C (Ergasheva et al., 2025). These climatic conditions provide significant advantages for the development of medical tourism, particularly for visitors from colder regions, as warm weather positively influences recovery and rehabilitation processes. According to Nematov and Shadyeva (2021), the Bukhara region possesses significant natural and ecological potential for the development of medical tourism, including clean air, healing vegetation and favourable microclimatic conditions in areas such as Mohi Khossa and Tudakul, which support health improvement and rehabilitation processes.

The development of healthcare infrastructure is an integral part of enhancing the competitiveness of medical tourism. In the Bukhara region, the number of hospitals has been steadily increasing in recent years. As shown in Figure 1, the total number of hospitals reached 134 in 2024, which is 16 more than in 2023. In addition, 66 of these institutions operate as small business entities, reflecting the

growing role of the private healthcare sector. For instance, the establishment of private medical centers such as Himchan Hospital, equipped with advanced medical technologies, reflects the increasing involvement of foreign investment and the modernization of healthcare services in the Bukhara region. These trends indicate the expansion of medical infrastructure and its contribution to the development of medical tourism in the region. In addition, the number of doctors of all specialties in the Bukhara region reached 6.7 thousand in 2024, increasing by 0.1 thousand compared to 2023. This indicates the gradual development of human resources in the healthcare sector (Bukhara Regional Department of Statistics, 2025).

An essential element of healthcare development is medical education. In the Bukhara region, institutions such as Bukhara State Medical Institute provide training at undergraduate, graduate and postgraduate levels and host more than 10,800 students. The institute employs highly qualified academic staff, including professors and PhD holders, and conducts clinical training in more than 60 clinics and diagnostic centers. Furthermore, it maintains active international cooperation with over 180 foreign universities and organizations in 25 countries and hosts more than 2,100 international students. These factors contribute to knowledge exchange and strengthen the human resource base of the healthcare sector (Center for Higher Education Development Research, n.d.).

2 Demand conditions

The Bukhara region has several factors that can attract medical tourists. One of the key advantages is the well-developed tourism infrastructure. Bukhara is a major destination for religious, cultural and historical tourism, and the number of visitors has been increasing in recent years. This creates a supportive environment where patients can access not only medical services but also a wide range of additional services such as accommodation, transportation and cultural activities. In addition, similar to major cities such as Tashkent and Samarkand, the Bukhara region is actively developing private healthcare through public-private partnerships. The establishment of new private hospitals contributes to improving service capacity and enhances the region's potential to attract medical tourists. However, further improvements in international service standards are required to fully utilize this potential.

3 Related and supporting industries

The development of medical tourism, in turn, depends on the continuous improvement of related and supporting industries. According to Corbos et al. (2024), tourism infrastructure includes transport systems (such as roads and airports), accommodation facilities, food services, and digital and communication infrastructure. These elements of tourism infrastructure in the Bukhara region are relatively well developed. According to the Bukhara Regional Department of Statistics (2025), the total number of visits by foreign tourists to the region reached 44.8 thousand in 2024, indicating its growing attractiveness as a travel destination. Bukhara is considered one of the key tourism centers of Uzbekistan, supported by its rich cultural heritage and established tourism facilities. The presence of international hotel chains such as Wyndham and Ramada Encore by Wyndham Bukhara further demonstrates the development of the hospitality sector and the region's capacity to accommodate foreign visitors.

Another important element of this factor is the level of visa policy and travel accessibility. According to the International Trade Administration (2025), the number of foreign tourists increased by 20% in 2024, reaching 8 million visitors, while tourism service exports rose from \$2.14 billion in 2023 to \$3.52 billion in 2024. In addition, Uzbekistan has introduced visa-free regimes for citizens of 90 countries and simplified e-visa procedures for 56 countries, which significantly improves accessibility for international visitors. The government is also actively investing in tourism infrastructure, including increasing international flight connections and improving conditions for pilgrimage tourism. These developments create favourable

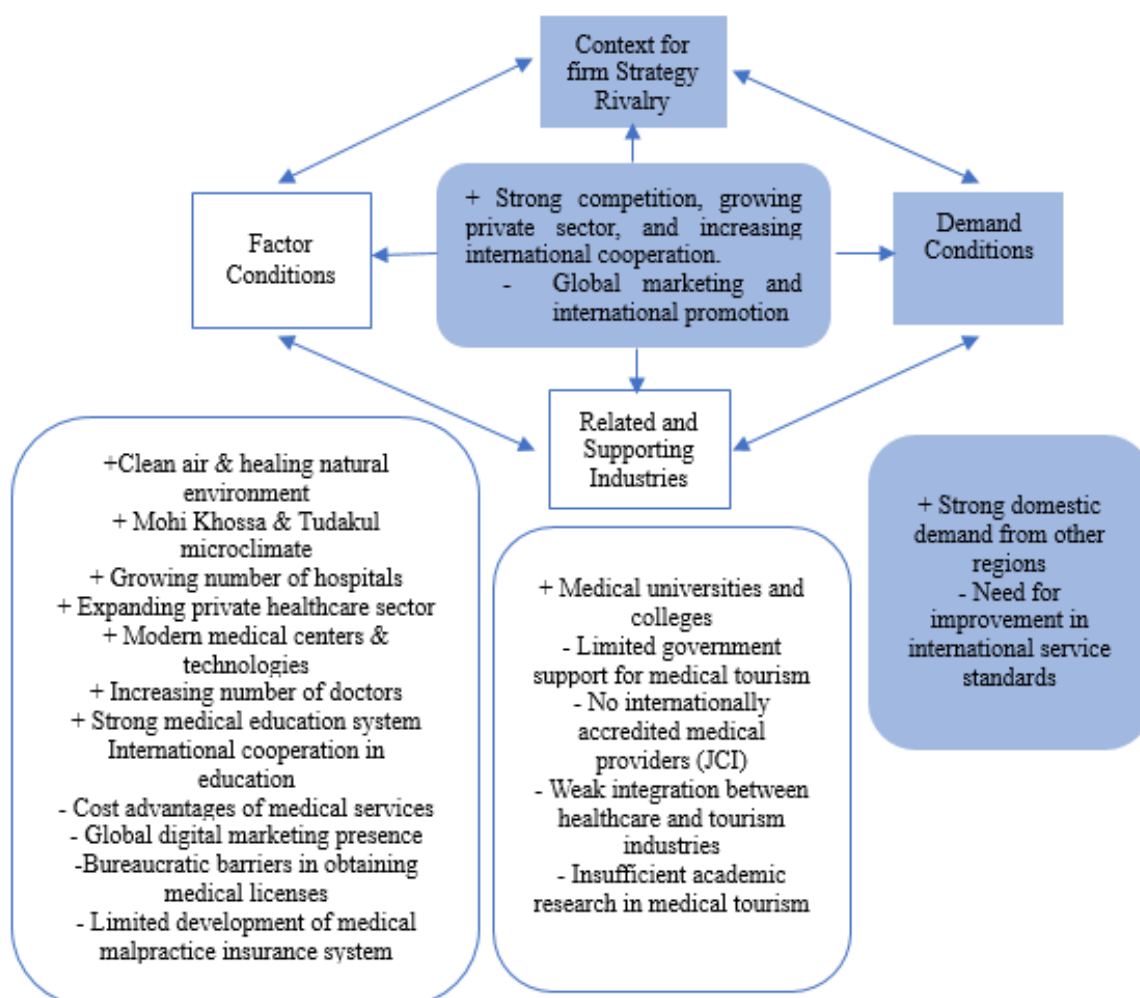
conditions for attracting international patients and enhancing the country's competitiveness in medical tourism.

4 Context for firm strategy and rivalry

According to Jabbari et al. (2012), there is intense competition among domestic and international medical and tourism providers. In the Asian context, Uzbekistan faces competition at multiple levels, particularly from neighboring Central Asian countries such as Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan. However, the development of medical tourism in these countries remains relatively limited. As a result, Uzbekistan, according to recent reports, has increasingly emerged as an attractive destination for medical tourists from the region, especially for middle-income patients seeking more affordable and higher-quality healthcare services. In many cases, patients travel to Uzbekistan to access specialized treatments that are not available in their home countries. However, stronger competition comes from countries

such as Turkey, the United Arab Emirates, Saudi Arabia, India, and Thailand, which have more advanced healthcare systems and internationally accredited hospitals. This indicates that the main competitive pressure comes from more developed medical tourism destinations rather than neighboring countries. Figure 2 presents a comparison of countries that have actively pursued international accreditation for their healthcare institutions.

Although the Bukhara region has considerable tourism potential and the number of medical institutions, educational facilities, and qualified healthcare professionals is gradually increasing, the lack of internationally recognized accreditation systems (such as Joint Commission International certification) remains a significant challenge. Without such standards and unique value-added services, the region may face difficulties in gaining international recognition.



Medical Tourism Competitiveness Analysis: Bukhara Region

Source: Adapted from Jabbari et al. (2012) and supplemented with regional data

As noted by Jabbari et al. (2012), relying solely on cost advantages without developing competitive strengths may lead to a loss of market share. Therefore, without improvements in quality and international accreditation, the outflow of patients to foreign

countries may continue, and attracting international medical tourists will remain a challenge in the coming years. Currently, there are no internationally accredited hospitals in the Bukhara region. At the national level, only a limited number of healthcare institutions in Uzbekistan have obtained international accreditation, mainly located in Tashkent.

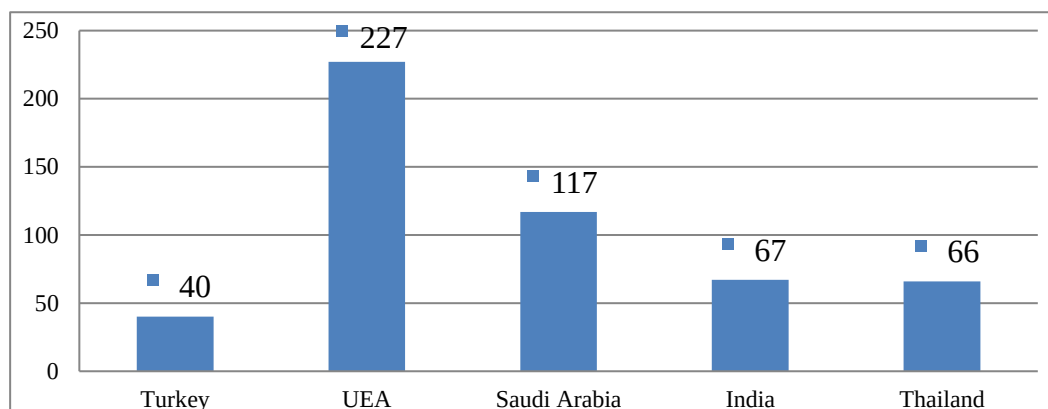


Figure 2. Number of JCI-accredited hospitals in selected countries.

Source: Joint Commission. (2025). Find accredited international organizations. <https://www.jointcommission.org/en/about-us/recognizing-excellence/find-accredited-international-organizations>.

DISCUSSION

At the national level, Uzbekistan demonstrates a relatively higher level of development in medical tourism compared to other Central Asian countries. The country actively provides a range of medical services to neighboring states, particularly in areas such as dental care, orthopedics and cardiac treatment, as well as diagnostic services, which are characterized by relatively high quality and affordability.

However, when considering the Bukhara region, further improvements are required. The findings of this study indicate that while factor and demand conditions can be considered relatively satisfactory, significant gaps remain in other components of the Diamond Model, particularly in related and supporting industries and the context for firm strategy and rivalry. This suggests that strengthening these areas is essential to enhance the overall competitiveness of medical tourism in the region. To enhance the competitiveness of medical tourism in the Bukhara region, several measures should be considered. First, it is important to improve the capacity of medical service providers by encouraging international accreditation and strengthening professional qualifications. Second, greater efforts should be made to develop effective marketing strategies, particularly through digital platforms and social media, in order to increase international visibility.

In addition, stronger cooperation between hospitals, tourism organizations, and insurance companies should be established to create an integrated medical tourism system. It is also essential to improve transparency, especially in terms of pricing information provided by healthcare institutions, to build trust among international patients.

Furthermore, the development of collaboration platforms between the public and private sectors can support more coordinated growth of the industry. Finally, introducing systems for monitoring patient satisfaction and service quality would contribute to continuous improvement and long-term competitiveness.

CONCLUSION

The Bukhara region has strong potential to become a competitive destination for medical tourism, but this potential has not yet been fully realized. While the region benefits from relatively favourable factor and demand conditions, several important challenges still remain. In particular, limited integration with international platforms, low adoption of global accreditation standards, and weak coordination among supporting industries continue to restrict further development. To address these issues, it is necessary to adopt a more comprehensive and coordinated approach that focuses on digitalization, international cooperation, and improving service quality. Such

efforts would help strengthen the region's position and ensure its long-term competitiveness in the global medical tourism market.

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