Cluster approach as an instrument for medical tourism development in Ukraine

Abstract. The paper substantiates the advisability of developing domestic medical tourism based on the cluster approach. A comparative analysis of the main factors determining the competitive ability of medical tourism in Ukraine and foreign countries has been conducted. The interpretation and essence of the definitions «medical tourism industry» and «medical tourism cluster» have been specified. A sectoral model of the medical tourism cluster provided for vertical and horizontal integrative links has been developed. A model of the cluster approach to development of medical tourism in Ukraine has been suggested.

Keywords: Tourism; Cluster; Medical Tourism Industry; Medical Tourism Cluster

JEL Classification: D69; F15; F29; I19; R11

1. Introduction. Economic and political instability in Ukraine has an adverse effect on the domestic tourism market. As compared to 2012, the number of foreign nationals who entered Ukraine in 2014 for organized tourism purposes dropped by 45.64%. Over that period, the number of domestic tourists departing for other countries shrank by 68.60% [1; 2]. There is a negative trend in economic activities of tourist enterprises and other tourism industry entities. To preserve and develop the tourism sphere of Ukraine, it is expedient to adopt a strategy of diversification [3].

Medical tourism, which turned in the 21st century into an individual type of the tourism industry, can become one of the new tourism market segments. In 2015, profit growth in this industry is expected up to $500 billion [4]. Formation of medical tourism clusters should become a state-of-the-art tool to solve the problem of medical tourism development in Ukraine.


3. Purpose. The purpose of this paper is to substantiate the use of the cluster approach to domestic medical tourism, develop conceptual models of medical tourism clusters.

4. Results. If the medical cluster was external to the tourism sphere in the late 20th century, the situation has rapidly changed over the last decade towards transformation of medical tourism into an individual segment of the world tourism market. Over the past 10 years, sustainable development of the medical tourism industry has been determined by several causes:

- the increase in the cost of treatment in developed countries;
- the emergence of a new segment of consumers of medical services who prefer to combine high quality low-cost treatment with an opportunity to get vivid impressions from travels to other countries;
- the impossibility of receiving immediate necessary medical care (waiting lists) in the EU countries and Middle East countries;
- the lack of high quality medical care and appropriate treatment and diagnosis technologies in a number of countries of the world.
The factors of a country's promising outlook for medical tourism are as follows: the level of development of medicine and medical technologies; cost of diagnosis and treatment; the development of the transport and hotel sectors; the country's level of linguistic integration; the legislative framework; the image of the state; the country's location on the map of the world [22].

In order to determine prospects for the development of domestic medical tourism, a comparative analysis of medical costs at clinics under research institutions and state-owned and private medical preventive institutions of Ukraine and foreign countries was carried out (Table 1). Countries with high dynamics of medical tourism development were selected for a comparative analysis.

The USA and Great Britain are the leaders of outbound medical tourism. US nationals employ outbound medical tourism services considering that medical insurance does not offset to the full extent expenses for dental care services and treatment of serious chronic diseases, while medical care costs are high at American clinics.

A larger portion of the population of Great Britain is insured within the compulsory medical insurance system, but patients should make an appointment and be waitlisted in order to get tertiary medical advice or treatment at appropriate clinics. Waiting in a queue for elective operations can last several months, while treatment at private clinics is expensive [23].

Poland, India, Thailand, Singapore, and Mexico are the countries with high dynamics of inbound medical tourism development. The key reason for the development of this segment of the tourism market in the above-mentioned countries lies in the low cost of medical care in spite of its adequate quality. However, even as compared with these countries the cost of medical intervention at clinics and medical preventive institutions of Ukraine is lower. The cost of coronary artery bypass grafting at the Clinic of New Technologies housed by the Amosov National Institute of Cardiovascular Surgery, for example, amounts to UAH 59,900 – 67,900, which is equivalent to US$ 2,496 – 2,829 as of April 2015. A similar operation in the US costs US$ 113,000. Such a difference in prices for surgical intervention is due to the difference in the pay rates of medical staff (Table 1).

Consequently, the low cost of medical care in Ukraine can become one of the factors of ensuring competitiveness of domestic inbound medical tourism. It seems that additional advantages for development of inbound medical tourism in Ukraine can include the adequate level of equipment of highly-specialized and private medical preventive institutions with medical devices, absence of waiting lists practice, a visa-free regime for many countries and the place of Ukraine on the map of the world.

The medical tourism industry can be regarded as an advanced socioeconomic system that is formed by a body of enterprises, which meets or ensures meeting human needs for health resumption and preservation (Figure 1).

It seems possible, when introducing a cluster technology, to pool intellectual, educational research and medical research capabilities, medical and material and technical resources, facilitate efficient utilization of public and other investment innovative resources for the purpose of medical tourism sustainable development and ensuring its competitiveness in the world market.

The sectoral model of the medical tourism cluster integration should provide for both vertical and horizontal integrative links illustrated in Figure 2.

Vertical integration represents a system process of amalgamation of enterprises that ensure different stages of medical tourism organization. The cluster model of integration pertains to network forms, which provides for a system of relations among owners of assets in order to satisfy common needs [24].

In respect to medical tourism for coronary artery bypass grafting purposes, for example, a patient, as a rule, arrives in a country with an accompanying person. In order for such a person to stay provisions should be made for accommodation at a hotel situated a short distance from the medical preventive institute. Upon an inpatient discharge, it seems advisable to send him into a health resort institution located not far from a city. If the patient selects a tourist product providing for return to the home country after discharge from hospital, it is expedient to provide for transfer in the company of medical personnel and/or transportation of patients and accompanying medical personnel on specialized medical airplanes, airplanes of airlines performing regular and charter flights. Consequently, the specifics of a cardiology tourism cluster consist in vertical integration of two producers of medical services (cardiology clinics and health resort institutions), hotels, airlines, specialized transfer and so on.

Modern medical eye surgery technologies enable to perform cataract surgeries in the outpatient setting. Therefore, it is advisable to include hotel accommodation packages for both patients and accompanying persons.

The two examples above explain the expediency of using the principle of coordination when implementing the sectoral model of the medical tourism cluster integration.

Effective performance of producers of medical services is ensured in the sectoral model of the medical tourism cluster integration by horizontal integration of parties to contractual relationship: producers-intermediaries; medical and care-taking personnel and buyers of medical tourism services.

**Figure 1:** Structure of the medical tourism industry

![Structure of the medical tourism industry](http://www.forum.masterforex-v.org/.../20910)

**Figure 2:** Sectoral model of the medical tourism cluster integration

![Sectoral model of the medical tourism cluster integration](http://www.forum.masterforex-v.org/.../20910)


---

**Table 1: Payment for labor of physicians in Ukraine and foreign countries, 2014**

<table>
<thead>
<tr>
<th>Country</th>
<th>Salaries of physicians (US$ per month)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ukraine</strong></td>
<td></td>
</tr>
<tr>
<td>1. USA</td>
<td>14,500</td>
</tr>
<tr>
<td>2. Switzerland</td>
<td>7,800</td>
</tr>
<tr>
<td>3. Great Britain</td>
<td>7,000</td>
</tr>
<tr>
<td>4. Singapore</td>
<td>6,000</td>
</tr>
<tr>
<td>5. Germany</td>
<td>5,500</td>
</tr>
<tr>
<td>6. Thailand</td>
<td>2,936</td>
</tr>
<tr>
<td>7. Poland</td>
<td>1,500</td>
</tr>
<tr>
<td>8. Latvia</td>
<td>1,100</td>
</tr>
<tr>
<td>9. Russian Federation</td>
<td>566</td>
</tr>
<tr>
<td>10. Georgia</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: According to figures from the State Statistics Service of Ukraine [1]; according to the findings of the analysis carried out by the Forex Academy and exchange business experts Masterforex-V.
Activities of producers-intermediaries involve a range of issues related to arranging a tourist trip, searching for and making agreements with producers of medical services, transportation, accommodation, etc. Medical tourism agencies ensure the organization of high quality and affordable medical services before and after treatment, care in the course of treatment, and compilation of a treatment plan in concert with physicians of foreign and domestic clinics, assessment of the price/quality ratio at domestic and foreign medical preventive institutions. The producers – intermediaries in the medical tourism cluster are as follows:

• national tourism enterprises. The overwhelming majority of travel companies of Ukraine consider medical tourism as one of the kinds of their business but only a small number of them specialize in this type of tourist activity;
• medical preventive institutions, the organizational set-up of which provides for structural subdivisions engaged in organizing of medical tourism. For example, Medical Company «Hippocrates Clinic» has a separate structural subdivision charged with medical tourism known as «Hippocrates Inter-MedService Assistance»;
• foreign medical tourism representative offices in Ukraine, whose main function is to provide expert advisory services associated with different kinds of medical programs and travels. For example, from 2012 TNTS-Ukraine has operated on the territory of Ukraine as an official representative of the Medical Tourism Association of Turkey.

Care-taking personnel include the employees of the enterprises, who constitute a partnership network vis-a-vis producers of medical services. This category embraces professional advisors, operators, experts in assistance services, translators/interpreters, and officers of the divisions and departments of examination, marketing, software, and hotel reservation for accommodation of patients and accompanying persons and other visitors.

Medical personnel include experts with a background of medical education, who work directly at institutions – producers of medical services and other enterprises that compose the medical tourism cluster. The staff of the enterprises, producers – intermediaries, includes medical personnel who fill positions of medical examiners, medical advisors, accompanying persons for transportation and transfer, medium-level medical personnel of hotels.

Buyers of services, who are in contractual relations with producers of services, constitute a special entity of horizontal integration with the producer of medical tourism services. It is wise to divide buyers of medical tourism services into the following categories:

• ultimate consumers of medical tourism services (patients), who personally pay for a tourist product;
• legitimate representatives of service consumers – parents of minor children; representatives of individuals who are not able to make or utter their decision. Legally incapable persons and those in a comatose condition fall under this category. Representatives, who may spend funds subject to agreement or by will, make decisions to go to another country in order to receive medical care on behalf of such persons;
• indirect customers – legal entities (insurance companies, medical institutions in the medical tourist’s home country), which conclude appropriate agreements with a producer of services.

Using the cluster approach to medical tourism in Ukraine should not only develop new modern tourist products for different segments of medical and wellness tourism but also have a multiplier economic effect owing to development of related branches of the national economy.

A model of the cluster approach to medical tourism development in Ukraine is illustrated in Fig. 2. It provides for Ukraine’s entry into the international medical tourism market. Specialization of clusters provides an opportunity to develop modern medical products for different segments of the medical tourism market. We suggest distinguishing clusters of diagnostic medical and wellness tourism. Such a suggestion is due not only to the specific nature of activities of medical care providers but also to the destinations of national medical tourism.

Medical care providers who render diagnostic and treatment services are situated, as a rule, at major medical centers housed by medical research institutes, leading medical preventive institutions.

For example, diagnosis and treatment of eye diseases with the application of innovative technologies for aliens are conducted at Kyiv City Clinical Hospital «Eye Microsurgery Centre», Eye Microsurgery and General Ophthalmology Center of Clinical Hospital «Petrovnya», V. P. Filatov Institute for Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine (city of Odessa) and the «Noviy Zir» (New Eyesight) chain of clinics. Besides, the latter has foreign branch offices in the UAE and Germany. So, the cities of Kyiv and Odessa can be destinations of the tourism cluster involving receiving eye microsurgery services.

A region rather than a particular city is the destination of wellness tourism clusters. For example, the Carpathian region has mineral water resources with curative properties composed of 16 deposits with a total daily discharge of 4.6 million liters [14]. According to figures from the State Statistics Service of Ukraine, 166 specialized accommodation facilities designed for 28,744 holiday-makers operated in the region in 2014 [25]. 788 physicians and 2,637 medium-level medical personnel members deliver medical care at these facilities [1]. Therefore, a cluster of balneological health tourism can be formed in the Carpathian region’s destination territory.

Consequently, the essence of the definition of medical tourism cluster can be identified as a group of producers of medical tourism services and tourism enterprises integrated by the single technological process of providing services to the destination visitors or entities involved in developing a tourist product and focused on travelling organizing in order to receive medical care or for recreational purposes.

5. Conclusions. Summarizing the above analysis, it may be concluded that Ukraine has a basis for medical tourism development, i.e. a relatively low cost of diagnosis, treatment and health improvement at domestic health care facilities; an adequate level of utilizing modern medical technologies and equipment at clinics hosted by medical research institutes and private health care facilities; the country’s location on the map of the world.

Using the cluster image, medical preventive institutions and health resorts of Ukraine can have opportunities to access financial resources. This is not the only one of the factors of stabilizing the situation in the area of tourism in Ukraine in the politically and economically volatile environment but also it will hamper outflows of highly skilled medical workers, raise the level of delivering medical care to domestic patients.

Implementation of the cluster approach will make it possible to ensure domestic medical tourism development, become a source and multiplier of regional and nation-wide economic growth due to related branches. References

Dear Colleagues!

The Economic Annals-XI Journal is indexed in Scopus.

Publishing your articles in the Economic Annals-XI Journal is your advance in the international research space and prospect of career development!

«Improving research results through analytical power» (Scopus)

http://hoskin.info/ea/