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Грудцын Н.А., Чистобаев А.И.

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MARKETING STRATEGIES FOR PROMOTING GLOBAL AND REGIONAL MEDICAL TOURISM MARKETS

Nikolai A. Grudtsyn¹, Anatoly I. Chistobaev²

^{1,2} Institute of Earth Sciences, St. Petersburg State University, St. Petersburg, Russia

¹ poxes@yandex.ru

² chistobaev40@mail.ru

Abstract. The article covers current issues of interdisciplinary research in the field of marketing strategies development for advancing medical tourism – a growing trend in health preservation systems at the global and regional levels. It is demonstrated that with a comprehensive approach to researching the marketing of medical tourism, it becomes possible to establish the demand and supply with regard to medical, wellness, cultural-educational, and recreational facilities, as well as the functionally associated elements of infrastructure. The object of marketing research in medical tourism is defined as a set of evaluative characteristics of the internal and external environments of medical institutions, medical tourists' requests, market parameters, competitors and contractors, equipment and goods suppliers, and intermediaries. The subject of such research should be seen in the interrelations between marketing and tourism, tourism and medicine, and marketing and medicine. Medical tourism marketing is defined as the systematic and coordinated use of methods and tools aimed at attracting clients from other countries and regions by promoting unique medical services and attractive tourist packages. The article proposes methods (SWOT analysis, Porter's Five Forces, Ansoff Matrix, etc.) and a set of tools (customer incentives, information provision, verified assessment system, partnership, internet network, real-time communication, etc.) to be used for marketing research in medical tourism. The levels of Internet usage by country and the impact of this trend on the digitalisation of medical tourism marketing are demonstrated. One of the marketing strategy tools – mobile applications – is characterised when applied to the conditions of some foreign countries and Russia. Map charts of Russia provided reflect the geographical (region-wise) features of obtaining state and municipal services, which can be productively used in marketing strategies for medical tourism.

Keywords: health preservation, strategic development, medical tourists, infrastructure, government and municipal services, mobile applications

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МАРКЕТИНГОВЫЕ СТРАТЕГИИ ПРОДВИЖЕНИЯ НА ГЛОБАЛЬНЫЙ И РЕГИОНАЛЬНЫЕ РЫНКИ МЕДИЦИНСКОГО ТУРИЗМА

Николай Алексеевич Грудцын¹, Анатолий Иванович Чистобаев²

^{1,2} Институт наук о Земле, Санкт-Петербургский государственный университет, г. Санкт-Петербург, Россия

¹ poxes@yandex.ru

² chistobaev40@mail.ru

Аннотация. В статье освещаются актуальные вопросы междисциплинарных исследований в области разработки маркетинговых стратегий развития медицинского туризма – растущего тренда в системах здоровьесбережения глобального и регионального уровней. Показано, что при комплексном подходе к исследованию маркетинга медицинского туризма становится возможным выявление спроса и предложений на медицинские, оздоровительные, культурно-познавательные и рекреационные объекты, а также функционально связанные с ними элементы инфраструктуры. Определен объект маркетинговых исследований медицинского туризма как совокупность оценочных характеристик внутренней среды и внешнего окружения медицинских учреждений, спектра запросов медицинских туристов, параметров рынка, конкурентов и контрагентов, поставщиков оборудования и товаров, посредников. В качестве предмета исследований установлены взаимосвязи между маркетингом и туризмом, туризмом и медициной, маркетингом и медициной. Сформулирована дефиниция маркетинга медицинского туризма как систематическое и координированное использование методов и инструментария привлечения клиентов из других стран и регионов путем продвижения уникальных медицинских услуг и привлекательных туристских пакетов. Предложены методы (SWOT-анализ, пяти сил Портера, матрица Ансоффа и др.) и совокупность инструментов (стимулирование клиентов, обеспечение информацией, верифицированная система оценок, партнерство, сеть Интернет, оперативная коммуникация, участие в выставках и конференциях, пакетные предложения услуг, мобильные приложения) маркетинговых исследований в



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области медицинского туризма. Освещены уровни использования сети Интернет по странам мира и влияние данного тренда на диджитализацию маркетинга медицинского туризма. Охарактеризован в приложении к условиям некоторых зарубежных стран и России один из инструментов маркетинговой стратегии – мобильные приложения. На картосхемах России (в разрезе ее регионов) отражены географические особенности получения информации государственных и муниципальных услуг, которые могут быть продуктивно использованы при маркетинговых стратегиях медицинского туризма.

Ключевые слова: здоровьесбережение, стратегическое развитие, медицинские туристы, инфраструктура, государственные и муниципальные услуги, мобильные приложения

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Introduction

Medical tourism is aimed at patients coming from foreign countries or other regions of their country who need quality medical care at affordable prices [8, 33]. Its specifics and spatial organisation determine the need to develop an appropriate management mechanism that would be based on methodological constants and techniques of management and marketing. We studied the methodological foundations of the cluster approach as applied to medical tourism in a special article published in the Geographical Bulletin [13].

Based on the most widely accepted definition of marketing as a human activity aimed at satisfying needs and desires through exchange [23], the primary function of marketing research is to increase consumption and consumer satisfaction, expanding the range of consumer choices. Marketing addresses analytical, production, sales (provision of goods/services), and managerial (including control) tasks. The internal environment and external context of an institution/organisation, real and potential consumers, market parameters, macro-environmental factors, potential competitors and counterparts, equipment and goods suppliers, and intermediaries are the objects, while establishing connections between them is the subject of marketing research. Medical tourism marketing is driven by the need for specific medical services and the demand for them in the market. This demand is influenced by individuals' financial capacity and their psychological traits when they use both medical and non-medical services. Additionally, consumers' awareness of the offerings provided by medical institutions or tourism companies, along with the supporting infrastructure.

An analysis of a bibliographic dataset on medical tourism, comprising 1,535 publications dated between 1952 and 2020 [14], revealed that the term ‘marketing’ is mentioned in the titles of 26 articles, in the abstracts of 111 articles, in 65 index keywords, and 33 author keywords. In 159 publications (representing approximately 10.4% of the total dataset), the term “marketing” appeared either in the title, abstract, or keywords.

Both Russian and foreign literature on tourism and medical tourism marketing covers a wide range of topics, including marketing in general [2, 15-16, 19, 21, 37, 40], state marketing and international relations in medical tourism [3-4, 11], concepts and marketing tools [1, 7, 12, 20, 37, 23, 29, 30, 34], marketing programs in medical tourism [27], regional studies in the field of tourism, medicine and recreation [24, 26, 31, 38 - 39].

Our study does not duplicate the mentioned publications. Instead, it aims to develop a comprehensive approach to substantiating the toolkit of marketing strategies applied to the specific type of geospatial strategy in medical tourism. It is this circumstance that determines the scientific novelty and practical significance of this article.

The goal of the research is to determine the functions, development methods, and implementation tools of marketing strategies aiming to advance medical tourism as one of the components of public health preservation at various hierarchical levels.

Data Base and Research Methodology

The study is based on the authors' findings obtained during research under grants from the Russian Foundation for Basic Research (2018–2021) and the Russian Science Foundation (2023–2024) and devoted to a comprehensive assessment of the phenomenon of marketing in medical tourism as an element of the tourist-recreational system and one of the ‘green economy’ sectors.

The study utilises a wide range of well-known methods and tools for analysing the marketing environment, including Porter's Five Forces analysis, SWOT analysis, Ansoff matrix, competitive positioning polygon, BCG matrices, and segmentation.

The first part of the article focuses on exploring the application of marketing and strategic management tools for analysing medical tourism as an industry as a whole. The second part goes deep into analysing the implementation of various marketing strategies in medical tourism across countries and regions of different

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types. Finally, the third part aims to develop proposals for mobile applications as a digital marketing tool in medical tourism.

The adoption of such an approach and the combination of methods contribute to a comprehensive understanding of the dynamic field of medical tourism marketing.

Research Results and Discussion

Table 1 outlines the key relationships between marketing, tourism, and medicine, as relevant to the subject matter of this article.

Table 1

The relationships between marketing, tourism, and medicine

Marketing and tourism	Tourism and medicine	Marketing and medicine
Marketing in the tourism industry plays a key role in developing strategies, reinforcing tourist destination brands, and enhancing the work quality and efficiency.	Medical tourism is a relatively new phenomenon in medicine, tourism and recreation, integrating these types of activities as part of medical tourism clusters.	Marketing in medicine is aimed at promoting innovations that help attract customers to medical and healthcare institutions.

As can be deduced from the information presented in the table, the functions of medical tourism marketing entail persuading patients to choose a specific medical centre and healthcare services in a competitive market environment, creating value to maximise patient satisfaction, and establishing mutually beneficial long-term partnerships with all market actors. Therefore, medical tourism marketing involves a systematic and coordinated use of various methods and tools to attract patients from abroad or other regions of the country by creating and promoting unique packages of medical care as well as appealing and effective wellness and recreational services.

When developing marketing strategies, it is important to consider the specificities of each country and region, adapting them to the needs of the target audience. One possible approach to be employed is SWOT analysis, which allows identifying the strengths and weaknesses of the medical tourism industry and helps develop a medical tourism development strategy that would be aimed at both ensuring commercial efficiency and improving the quality and effectiveness of treatment (Table 2). Assessing threats and opportunities will enable authorities and companies engaged in medical tourism to increase their competitiveness and also quickly adapt to market changes.

Table 2

SWOT analysis of medical tourism in general

<p>Strengths</p> <ul style="list-style-type: none"> • <i>High quality and accessibility of treatment</i> (ensured with developed medical science and infrastructure); • <i>Expanded range of services</i> (satisfies patients' needs); • <i>Tourist experience integration</i> (leads to improved work quality); • <i>Economic development</i> (stimulates economic growth, attracts investment, creates jobs, develops businesses); • <i>International knowledge exchange</i> (enhances the quality of medical services). 	<p>Weaknesses</p> <ul style="list-style-type: none"> • <i>Increased competition</i> (poses challenges and risks in the functioning of elements within medical tourism clusters); • <i>Impact of international norms and regulations</i> (international standards and norms restrict specialists' individual initiatives); • <i>Dependence on production components, social, and institutional infrastructure</i> (lack of investment in infrastructure reduces the quality of services provided)
<p>Opportunities</p> <ul style="list-style-type: none"> • <i>Expansion of the medical and tourist-recreational services market</i> (the emergence of medical tourism clusters, new segments among potential patients); • <i>Implementation of technological innovations</i> (increases demand for medical and wellness services, improves the quality of treatment and customer service); • <i>Development of marketing strategies</i> (helps to attract and retain customers); • <i>International cooperation expansion</i> (enhances the importance of standards and experience exchange). 	<p>Threats</p> <ul style="list-style-type: none"> • <i>Changes in international regulations</i> (may complicate accessibility and/or increase the cost of services); • <i>Economic and geopolitical instability</i> (alters the geography and demand for medical tourism); • <i>Customer service expectations</i> (affect the reputation of a country, region, or clinic as a medical services provider); • <i>Breach of clients' personal data security</i> (data leaks pose a threat to the institution's reputation); • <i>Crisis situations in healthcare</i> (limit access to services).

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Another classic tool for assessing the competitive environment in medical tourism is **Porter's Five Forces** analysis. Here, we consider a medical tourism destination in a broad sense, which can be a medical tourism cluster, region, or country.

Threat of New Entrants. In medical tourism, barriers to entry can be high due to the need for significant investment in medical equipment and the training or recruitment of qualified personnel. However, with the growing demand for medical services abroad, new players may enter the market, offering competitive prices or specialized services.

Threat of Substitute Products or Services. Substitution can occur in the form of alternative treatment methods available in the patient's home country or by means of telemedicine, which allows for remote consultations and treatment.

Degree of Competition Among Existing Market Players. Competition in medical tourism is often intense in nature. Clinics and medical centres compete in terms of price, service quality, availability of unique medical procedures, and reputation. Tough competition is one of the reasons for the shift in medical tourism from Europe and North America to the countries in Asia and Latin America.

Power of Suppliers. Suppliers in medical tourism include manufacturers of medical equipment, pharmaceutical companies, and qualified medical workers. Their power can be particularly significant where unique medical equipment is used or highly specialised medical services are provided, as well as where highly professional medical staff is employed.

Power of Buyers. Patients in medical tourism are usually well-informed about all aspects of medical services provision and typically choose those that meet their value-for-money expectations, their idea of the medical institution's reputation based on reviews from other patients. Thus, the power of buyers in medical services is quite high.

The current state of the existing medical tourism markets and the formation of new ones can be analysed using the *Ansoff Matrix* (Fig. 1). In the most general sense, this matrix is a field formed by two axes: the horizontal axis 'company products' (divided into existing and new ones) and the vertical axis 'company markets,' which are also divided into existing and new ones. At the intersection of these two axes, four quadrants are formed.

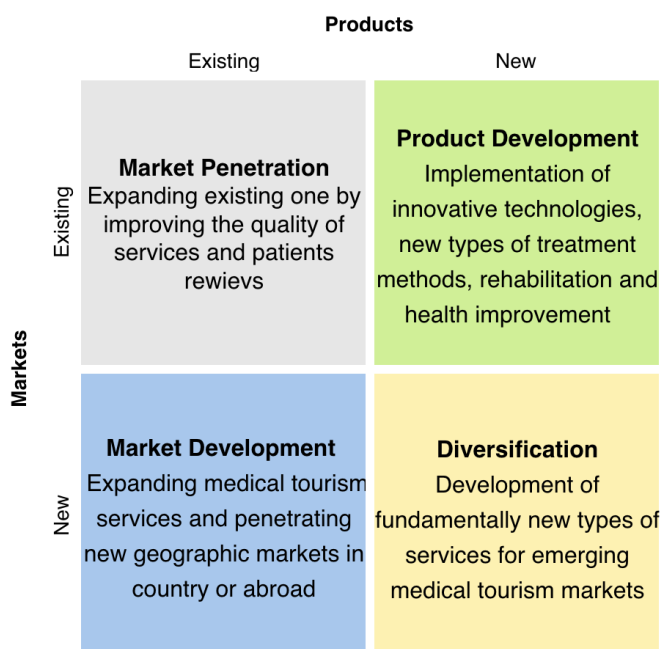


Fig. 1. An example of the use of the Ansoff matrix in medical tourism market research

Рис. 1. Пример использования матрицы Ансоффа в исследовании рынка медицинского туризма

In the study of medical tourism development, the *BCG matrix* can be used in relation to two key aspects: a matrix focused on the geography of destinations (Fig. 2) or a matrix for various fields or types of medical services (Fig. 3).

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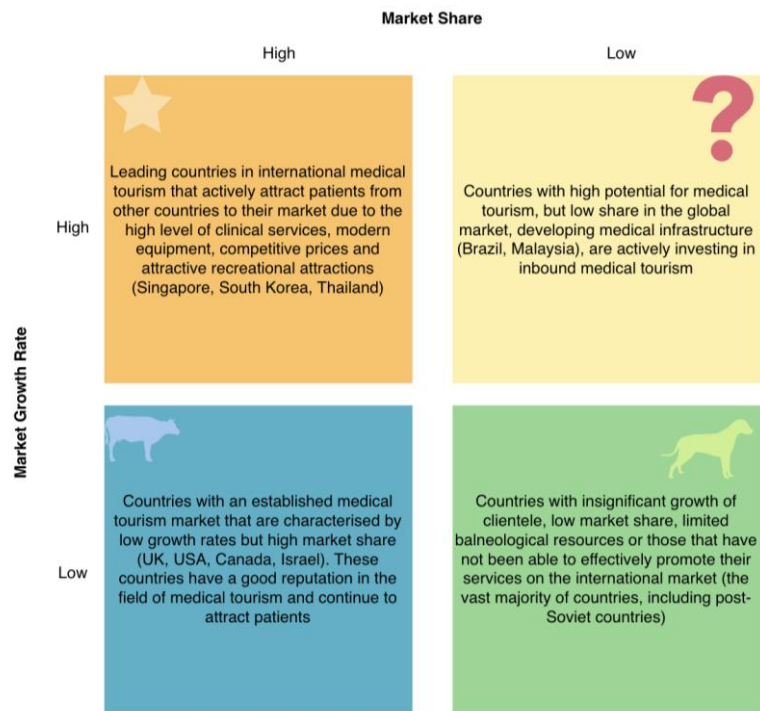


Fig. 2. BCG matrix considering geographical features of global medical tourism development

Рис. 2. Матрица BCG с учетом географических особенностей развития мирового медицинского туризма

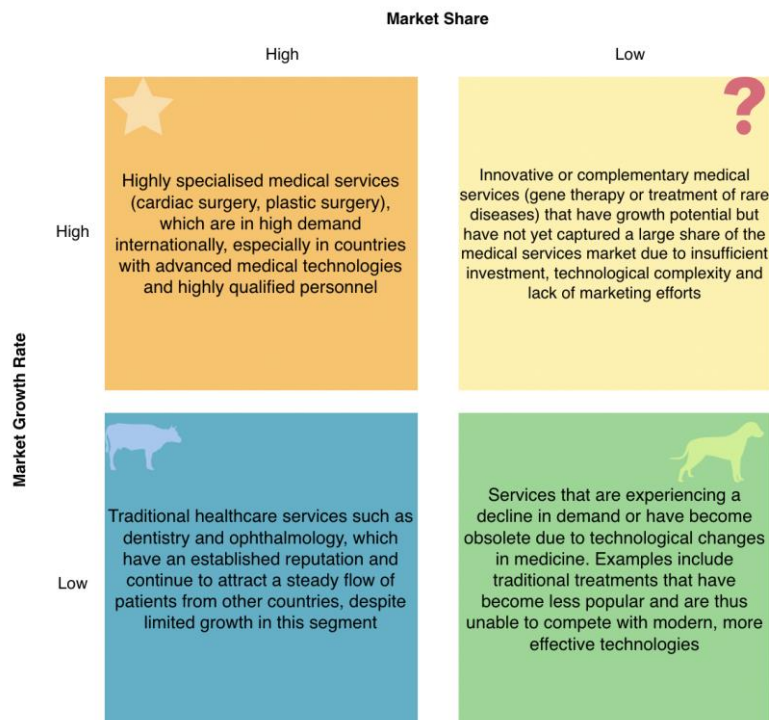


Fig. 3. BCG matrix for medical tourism by service type

Рис. 3. Матрица BCG для медицинского туризма по видам услуг

The aforementioned analytical tools, along with other strategic management methods [8, 17, 28], should form the foundation for strategic spatial planning, aiding in the establishment of medical tourism clusters at the national, regional, or municipal levels [13], as well as in the development and implementation of marketing strategies. Strategic spatial planning for the preservation of public health, which must incorporate medical tourism, is executed in a specific sequence.

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1. Analysing and assessing the current state and trends in the health preservation system in the country and/or region (including accessibility and quality of medical services), of the demographic and epidemiological situation, sustainability of development trends, regional disparities in the population health status.
2. Setting strategic goals and defining objectives for public health preservation, determining priorities in the field of medical care, disease prevention, and the development of medical and accompanying infrastructure.
3. Formulating the health preservation system development principles: sustainability, integration, accessibility, high quality, and innovation.
4. Justifying the main development directions for the health preservation system components.
5. Defining the specific steps to be taken at each stage of the strategy implementation – short-term, medium-term, and long-term – with clearly defined timeframes for implementing the activities.
6. Identifying potential scenarios for the health preservation system development based on the current trends; assessing possible changes in the external environment; selecting the priority scenario to achieve the goals set.
7. Developing a mechanism for implementing the marketing strategy: financing, regulatory support, organisational changes, and international cooperation.
8. Formulating a list of key indicators to monitor the health preservation system effectiveness, mapping medical and wellness facilities with the accompanying infrastructure, determining the demand for medical and other personnel, and establishing planned indicators for their training.

The sequence of actions and the interconnection of components of the marketing approach to strategic spatial planning in healthcare and public health preservation are presented in Fig. 4.

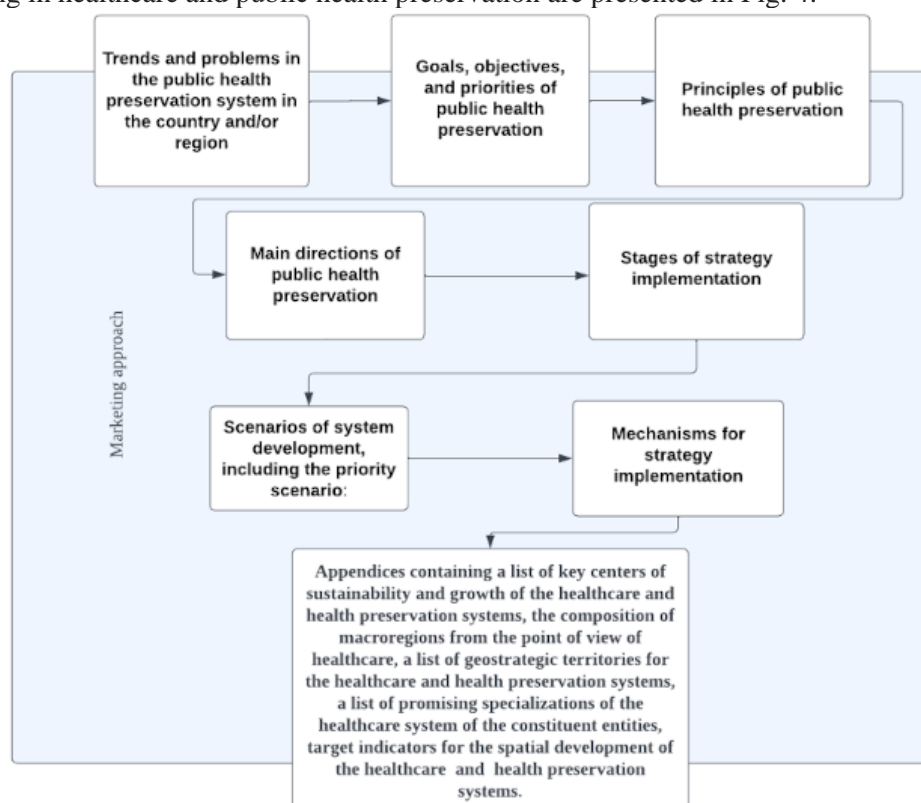


Fig. 4. Strategic planning system for the public health preservation system

Source: prepared by authors

Рис. 4. Система стратегического планирования системы сохранения здоровья населения.

Составлено авторами

The key aspects of medical tourism marketing in strategic planning include the following:

- main directions for the health preservation system development (medical tourism marketing directly impacts investment raising, medical and related infrastructure development, enhancement in the quality of medical services).
- spatial development scenarios for the country/region, including priority scenarios (medical tourism marketing can be considered a factor influencing scenario selection, investment directions, and infrastructure development).

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- mechanisms for strategy implementation (incorporation of marketing strategies and campaigns into implementation mechanisms, including plans to enhance the country's/region's image as a medical tourism destination, information campaigns, collaboration with travel agencies).

- applications (medical tourism marketing is important when considering the identification of prospective economic growth centres, especially in the context of developing medical clusters and specialised medical zones).

Thus, medical tourism marketing fits into the spatial planning strategy as a tool for stimulating economic growth and infrastructure development, enhancing the competitiveness of medical services, and strengthening the region's position in international healthcare.

Medical tourism marketing for medical institutions, tourism agencies, and government bodies can be based on a SWOT analysis (Table 3). Following its results, goals can be established, and a practical action plan can be created to increase the marketing attractiveness of medical tourism destinations.

Table 3

Medical tourism marketing SWOT analysis
SWOT-анализ маркетинга медицинского туризма

Strengths	Weaknesses
<ul style="list-style-type: none"> • Innovative marketing strategies. The use of advanced marketing methods, such as digital marketing, to attract a global audience. • Specialised offerings. Marketing focused on specific medical services (e.g., plastic surgery, dentistry) that attract target patient groups. • Branding and reputation. Creating strong brands for clinics and medical centres increases trust and attractiveness for potential clients. • International partnerships. The exchange of knowledge and experience between countries enriches marketing strategies with new ideas and approaches, cooperation with tourism agencies and other organisations facilitates the creation of comprehensive offerings. • Integration of tourist experience. The unique combination of medical and tourist services enhances the attractiveness of offerings for patients. • Treatment quality and accessibility. This is a strong marketing argument for attracting patients. • Wide range of services. Allows marketers to target different market segments. 	<ul style="list-style-type: none"> • High competition. The need to stand out among a multitude of medical service offerings. • Trust and quality issues. Difficulty in convincing potential clients of the reliability and quality of services at a distance. • Language and culture barriers in international marketing. The need to adapt marketing strategies to various cultural and linguistic contexts. • Reputation management. Negative reviews or news can quickly spread and damage reputation. Dependence on online reviews and ratings, which can be unpredictable. • Dependence on infrastructure. Limited promotional opportunities in regions with poor medical infrastructure. • High costs. Conducting effective marketing campaigns requires considerable expenditures and even capital investment.
Opportunities	Threats
<ul style="list-style-type: none"> • Digital marketing. Use of social media, SEO, and online advertising to attract a global audience. • Technological innovations. Application of the latest technologies to improve customer experience, create targeted and personalised marketing campaigns, increase the efficiency of marketing campaigns. • New markets and segments. Expanding the target audience, including new geographical markets and demographic groups. • Partnerships. Collaboration with tourism agencies and local enterprises is conducive to creating comprehensive medical service packages. • Educational and informational marketing. Providing potential clients with useful information increases trust and transparency. 	<ul style="list-style-type: none"> • Changes in international regulatory systems. Legislative initiatives can affect the accessibility and attractiveness of medical tourism, marketing strategies and opportunities. • Global crises in the economy and healthcare preservation. Pandemics and economic downturns can greatly affect the demand and availability of medical tourism. • Global geopolitical and military conflicts. These are the most common reasons for decline in tourist flow. • Reputational risks. Negative events associated with medical services can have a long-term impact on the perception of entire regions or clinics. • Competition with new players. The emergence of competitors with innovations can weaken the positions of established market players. • Technological changes. Marketing technologies require updating strategies and tools.

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Thus, medical tourism marketing helps companies to acquire clients and helps patients to find best treatment at affordable prices while enjoying a unique tourist experience. With the growing interest in medical tourism, the importance of marketing in this field will increase.

Marketing strategy tools.

Client encouragement. In the marketing strategies of medical tourism, it is important to create a comfortable and safe environment and pay attention to each patient, including through applying loyalty programs and providing discounts for regular patients, stimulating the acquired clients to come again (if applicable) and attracting new patients by means of referrals. Analysis of indicators such as customers' age, gender, medical needs, and geographical location makes it possible to offer personalised medical tourism packages.

Market segmentation. This tool allows differentiating the broad target audience into smaller subgroups, taking into account their specific needs, behaviour, and preferences. The criteria can include geographical, demographic, psychographic, and behavioural characteristics. For example, separate segments can be identified for patients seeking high-quality medical services abroad or for those looking for affordable treatment alternatives. This approach enables the development of more targeted marketing strategies, the improvement of service offerings, and the enhancement of customer satisfaction.

Branding and reputation management. Effective branding involves creating a strong and recognisable image that reflects the core values and advantages of the medical service or organisation. This is achieved through the development of an attractive visual identity, including a logo and a consistent brand style, as well as by shaping a unique brand style across all communication channels. Reputation management focuses on maintaining and improving the perception of the brand among patients, including monitoring reviews and feedback, managing crisis situations, and actively engaging on social media and professional platforms, as well as through partnerships with renowned and trusted medical institutions and specialists in the region. Particular attention is paid to creating positive customer interactions and effectively resolving their issues, which fosters trust and loyalty. It is crucial to ensure prompt responsiveness to requests via phone, email, and online chat/messengers, which helps convince patients of the right choice of destination. Timely communication is especially important given the potential language and cultural barriers for medical tourists, as well as the critical importance of human life and health. Successful branding and reputation management help establish a strong market position, increase brand awareness and service attractiveness.

Developing a reliable and verifiable rating system. Patients should have a possibility to leave reviews about their medical tourism experience on the company's website or popular online platforms. Real reviews and recommendations from patients help build trust and attract new clients. It is important to ensure that ratings meet officially established requirements for medical tourism services ISO Standards [18] as well as existing certification systems [25]. These documents can be used to boost the image of a medical destination, but they do not always meet the marketing needs. It is important to emphasise that medical tourism marketing represents a unique interdisciplinary field and it should be applied with due regard for the specific conditions of medical tourism destinations and their functioning.

Utilising various communication channels. Effective use of diverse communication channels plays a key role in medical tourism marketing. These include both traditional media, such as television and print publications, as well as digital platforms, including social media, blogs, and forums. Particular emphasis should be placed on digital marketing, which provides broad audience reach, targeted messaging, and the ability to obtain instant feedback. The integration of a multichannel communication strategy allows reaching potential customers on different platforms, creating deeper engagement and brand recognition.

Developing a unique selling proposition (USP). The purpose of this tool is to identify or create the unique medical service or product that set it apart from competitors. The USP should clearly convey the value proposition for potential clients, highlighting what makes the offering special and why customers should choose this particular service or clinic. In medical tourism, the USP may include unique medical technologies, high-quality service, competitive pricing, and/or exclusive package offerings that combine both medical and non-medical services.

Utilisation of the Internet. In the era of widespread digitalisation, with most Internet users spending several hours a day on the computer, the use of digital marketing tools is highly essential. Given that, below we will provide a more detailed analysis of this aspect. As of October 2023, the global internet user base reached 5.3 billion, representing 65.7% of the world population. However, the spread of internet access still significantly varies across different countries and regions. Among these users, 4.95 billion people, or 61.4% of the global population, were active on social media. On average, people worldwide spend 6 hours and 58 minutes per day in front of a computer screen, which has increased by nearly 50 minutes per day since 2013 [10], and the average daily time spent on social media

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by internet users globally increased to 151 minutes in 2022, up from 147 minutes the previous year. The Philippines leads in daily social media usage, with users averaging three hours and fifty-three minutes each day, while in the USA, the average daily social media usage was two hours and three minutes [35].

The global population can be segmented into 8 clusters based on the number of people with internet access, as demonstrated in Fig. 5. The between-group sum of squares is significantly greater than the within-group sum of squares, indicating good separability of clusters and high quality of clustering (the between-group sum of squares is equal to 12.165, and the within-group sum of squares – to 0.215). Such clustering might be crucial for optimising targeted online advertising strategies, including contextual ads and social media advertising, enabling effective communication with each specific target audience. This segmentation facilitates the precise identification of population groups in various countries with a high level of digital engagement, which is especially vital for companies aiming to leverage internet marketing to attract clients in medical tourism.

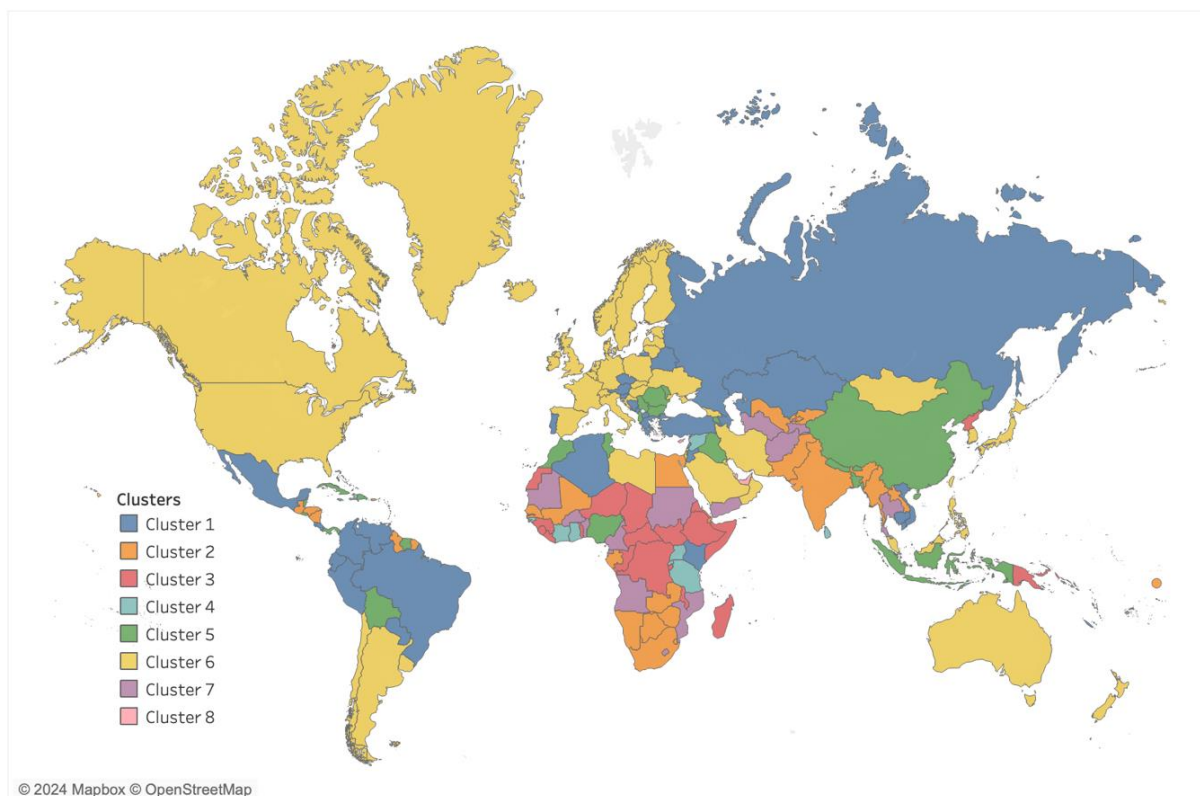


Fig. 5. Countries clustered by Internet use

Рис. 5. Кластеризация стран по уровню использования Интернета

The proportion of population interacting with government and local authorities online also indicates the appropriateness of using digital marketing tools. As of 2022 in Russia, 69.5% of men and 72.3% of women aged 15 to 72 used the Internet to access government and municipal services; compared to 2021, the growth was 3.3% for men and 2.3% for women [32].

The different ways of obtaining government and municipal services across the regions of Russia are shown in Fig. 6 and Fig. 7, while the cluster-based distinctions are demonstrated in Fig. 8. The information presented on the maps allows us to form an idea of how regions can be grouped for organising the promotion of the proposed applications and comprehensive service for medical tourists through different means.

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Fig. 6. Obtaining government and municipal services through Internet in Russian regions
Рис. 6. Получение государственных и муниципальных услуг через Интернет в регионах России



Fig. 7. Obtaining government and municipal services through alternative means across Russian regions, share of population
Рис. 7. Получение государственных и муниципальных услуг альтернативными способами по регионам России

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Fig. 8. Clustering of Russian regions based on different ways of obtaining government and municipal services
Рис. 8. Кластеризация регионов России по различным способам получения государственных и муниципальных услуг

Mobile applications as a digital marketing tool. The potential of using marketing tools to justify the development paths and spatial organisation of medical tourism can be illustrated by the use of mobile applications. It appears to be a particularly relevant example as in many developing countries internet access is primarily provided through mobile devices. In these regions, the widespread use of smartphones and tablets makes mobile applications a highly effective means for reaching potential medical tourists. By leveraging mobile apps, medical tourism providers can directly engage with a large audience that relies on mobile technology for information, communication, and services. This approach allows for the delivery of personalised content and services, serving the specific needs and preferences of users in these areas. Additionally, mobile applications can offer features such as location-based services, real-time communication, and easy access to vital information, making them a versatile tool for marketing medical tourism services in a way that aligns with the technological habits and preferences of the target population.

Note that compared to traditional websites and portals, this tool is less popular as it requires additional efforts for downloading and installation, while websites are directly accessible via a browser [6, 36]. Applications occupy memory space in a device, which can be a problem for users with limited storage space available. In addition, they require regular updates to ensure security, fix bugs, and add new features, which can be tied to specific types of devices and mobile operating systems. Nonetheless, this type of marketing tool has some clear advantages when used in the field of medical tourism, as compared to mobile versions of websites – it offers a more convenient and intuitive interface, a higher level of personalisation, and works faster when loading heavy content. When a medical tourist is in another country, it becomes important that some mobile applications can provide part of the functions even without internet access. In preparation for surgery and postoperative care, it is possible to use the integration of applications with individual device functions, such as Camera, GPS, Notifications, and Sensors. The collected information can be directed to a data processing centre, where the treating physician can monitor it in real time and react promptly to negative dynamics in the patient's condition.

With regard to health and wellness tourism, mobile applications can be divided into three major groups: the first group is associated with medical tourism in a specific country; the second group includes international concierge companies that act as intermediaries between patients and organisations providing various services to the former; the third group comprises applications that only aggregate information but do not provide services. Examples of such applications are shown in Table 4. As we can see, the first group tends to cease being updated and lose support, unlike the second, which is due to differences in the business model of applications. An exception is Medical Tourism Indonesia, which, in contrast to others, enjoys government support.

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Table 4

Mobile applications for medical tourists in Google App and App Store
Мобильные приложения для медицинских туристов в Google App и App Store

Country/ region	Application	Description	Actor	Year/ status
Indonesia	Medical Tourism Indonesia	The platform connects tourism and healthcare based on the Integrated Services concept: medical tourists are met at the airport, served in the clinic, and taken to their place of permanent residence	PT. CIPTA WISATA MEDIKA (basis - Decree of the Ministry of Health No. 76 of 2015 on medical tourism services to increase income).	2023
India, Bangladesh	Medical Tourism	The best hospitals offer assistance in organising services for medical tourists	Technicise Software & Technologies Pvt Ltd	2019/ no current updates
Latin America	Health Tourism	Services are provided to find doctors and medical centres located in different countries of the region, including by means of geolocation tools	CREATIVA CONSULTORES, S.A. DE C.V.	2019/ no current updates
Türkiye	Heal In Türkiye	Platform with a set of medical tourism facilities and intermediary services, including consulting	Hizmet İhracatçıları Birliği Genel Sekreterliği	2022
Korea	KOREA MEDIS-Korea Medical Tour	Search and booking at medical institutions, with any medical area available; information about treatment plans and costs	BTMEDI Co. Ltd.	2022
Jordan	MedX Jordan	A single point of contact for foreign clients. Information about the country leaders in the medical, healthcare, and wellness sectors.	MedXJordan — consortium of companies in medical tourism	2021/ no current updates
International	Global Patient System	Applications of GPS Patient, CRM systems. Connect clinics around the world. Provide the possibility to access your medical records, forms, travel and other documents, to view updates on a patient's case, to request for additional services, etc.	Health Flights Solutions Inc.	2022
International	MeddiTour	Direct communication between international patients, treatment centres, doctors. 24/7 patient support. Partners around the world evaluate clients' cases, doctor and hospital selection. Visa registration, invitation to the hospital, local transport, return to the country of residence.	Medditour Technologies Private Limited	2022

A comprehensive approach to creating such mobile applications should rely on the use of public-private partnerships or other similar mechanisms. Table 5 illustrates an approach to creating such an application. Segmenting users into at least two groups is one of the important aspects from the perspective of marketing approach characteristics. State participation is crucial for ensuring the integration of such a system with state services and funds.

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Table 5

Approximate description of national applications
Примерное описание национальных приложений

Objective functions	Approximate description of mobile application functions for citizens	Approximate description of mobile application functions for foreigners
Goal	Access to information and organization of medical services in different regions of a country	Access to medical services for foreigners, including navigation, logistics and language support.
Tasks	Booking hospitals, selecting specialists and services. Information about transport, accommodation, and additional services	Information about leading medical centers and specialists. Visa processing and travel arrangements. Assistance in insurance and financial transactions.
Common Features	Interactive map of clinics. Health facility profiles and online appointments. Selection of an individual plan, treatment, and rehabilitation. Preliminary online consultations with doctors for assessment and treatment planning. Hotel and transport bookings. Reviews and ratings. Postoperative care at the place of treatment or permanent residence. Information about cultural events and entertainment at the place of treatment. Virtual assistant.	
Distinctive Features	Connection to electronic records and health systems. Access to information about treatment, provision of services under a compulsory health insurance policy. Assistance in obtaining health insurance, reimbursement of expenses through compulsory medical insurance or voluntary medical insurance.	Multilingual interface. Translation of documentation. Information on visa requirements. Integration with international payment services. Advice on cultural and linguistic aspects.

In this case, a mobile application merely digitally embodies comprehensive service that is to be provided at the national level as one of the health preservation policy tools; it may be implemented based on well-established state services. An additional function that can be realised through a mobile application is related to state marketing programs aimed at partial recovery of treatment costs and improvement of the population's health, similar to the Tourist Cashback campaign, whose purpose is to stimulate travel across Russia and support the tourism industry, drastically challenged by the COVID-19 pandemic.

While this study primarily focuses on the methodological foundations of medical tourism and marketing tools, it acknowledges the fact that the geographical and social context is highly crucial. The difficulty of applying standardised marketing approaches across different countries and regions is a significant limitation. The study recognises the importance of considering the unique cultural, social, and economic factors that influence the effectiveness of marketing strategies in diverse health preservation environments. This limitation underscores the need for a nuanced understanding of the contextual intricacies that shape medical tourism dynamics in different countries and regions.

Another limitation is the theoretical and framework nature of the present article. While quantitative analysis is integral to similar studies, the current research only applies it when assessing the digitalisation of government and municipal services. While providing valuable insights, the theoretical emphasis restricts the depth of quantitative assessments, especially in evaluating the impact of digitalisation on health preservation and healthcare services. This limitation highlights the need for further research to incorporate more extensive quantitative methodologies for a comprehensive evaluation of digitalisation in healthcare services.

These limitations underscore the importance of considering the ever-changing landscape of medical tourism, the significance of contextual factors, and the potential constraints of a theoretical approach, encouraging researchers to explore further and refine the understanding of this complex interdisciplinary field.

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Conclusions

Medical tourism marketing performs an important function in the decision-making system related to the interconnected and interdependent development of medical, tourism, and recreation institutions. Medical clinics, sanatoriums, resorts, and unique natural, historical, and cultural sites with recreational value within medical tourist clusters gain benefits from their operation due to the synergistic effect.

Scientific approaches to studying medical tourism marketing are aimed at implementing managerial decision-making methods and tools, enabling elements of medical tourism clusters to adapt to the changing conditions of the medical and wellness services market.

The application of marketing strategies in medical tourism should play a significant role not only in promoting medical and recreational services but also in the popularisation of a healthy lifestyle. Effective marketing in this field helps disseminate information about the importance of disease prevention, proper nutrition, regular physical activity, and other aspects affecting health preservation and enhancement. Medical tourism clusters can actively participate in educational activities aimed at fostering a healthy lifestyle among the population.

On the one hand, marketing aids governmental institutions in implementing health care and population wellness policies, while on the other hand, it provides companies and clinics with opportunities to expand their market and attract clients by offering innovative and high-quality services. For medical tourists, this approach ensures access to information about best medical services and facilitates informed decisions when choosing a country, region, and clinic for treatment or wellness purposes. Thus, medical tourism marketing acts as an effective tool uniting the interests of the state, businesses, and consumers, contributing to the improvement of public health and well-being.

Further research in the field of medical tourism marketing may focus on analysing the medical tourists' needs and preferences, allowing for more precise tailoring of marketing strategies and service offerings. Also important is the study of the impact that digital technologies have on medical tourism, particularly how innovations in artificial intelligence, big data, etc. can improve service quality and accessibility and can impact the need for patient travel, thereby serving the function of medical tourism. Furthermore, studying the interaction of medical tourism with local economies and ecosystems appears to be a promising direction, advancing the understanding of its socio-economic effects and impact on the sustainable development of regions. Such research will not only enhance the effectiveness of marketing strategies in medical tourism but also provide valuable data for developing health care and tourism policies at local, regional, national, and international levels.

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*Рекреационная география и туризм**Грудцын Н.А., Чистобаев А.И.*

Информация об авторах

Николай Алексеевич Грудцын

кандидат географических наук,
ст. научный сотрудник НИЧ
Института наук о Земле,
Санкт-Петербургский государственный
университет;
197761, Россия, г. Санкт-Петербург,
10-я линия В.О., 33–35

Information about the authors

Nikolai A. Grudtsyn

Candidate of Geographical Sciences, Senior
Researcher, Institute of Earth Sciences,
St. Petersburg State University;

33–35, 10th line, Vasilyevsky Ostrov,
St. Petersburg, 197761, Russia

e-mail: poxes@yandex.ru

Анатолий Иванович Чистобаев

доктор географических наук, профессор,
Заслуженный деятель науки РФ,
профессор кафедры региональной политики
и политической географии,
Институт наук о Земле, Санкт-Петербургский
государственный университет;
197761, Россия, Санкт-Петербург,
10-я линия В.О., 33–35

Anatoly I. Chistobaev

Doctor of Geographical Sciences, Professor,
Honored Scientist of the Russian Federation,
Professor at the Department of Regional Politics
and Political Geography, Institute of Earth
Sciences, St. Petersburg State University;

33–35, 10th line, Vasilyevsky Ostrov,
St. Petersburg, 197761, Russia

e-mail: chistobaev40@mail.ru

Вклад авторов

Грудцын Н.А. – идея, разработка методологии, сбор и обработка материала, написание статьи
Чистобаев А.И. – научная проверка работы, написание статьи и редактирование текста.

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