

## Medical Tourism in Greece: A Catalyst for Development

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**Abstract:** The scholarly study of tourism has evolved to encompass interdisciplinary concepts and methodologies, reflecting its increasing significance in academic circles and real-world applications (Jafari & Aaser, 1988). One burgeoning area of interest within tourism is medical tourism, which has experienced substantial global growth as individuals from developed nations seek healthcare in low or middle-income countries, often due to high costs or lengthy wait times in their home countries. This paper delves into the exploration of medical tourism's impact on tourism development in Greece, involving comprehensive primary and secondary research. Secondary research involved an in-depth analysis of Greek and international literature, while primary research comprised a questionnaire completed by medical professionals, clinics, hotels, and tourism institutions.

**Key words:** medical tourism, development, health, trends, developing economies, travel

**JEL code:** Z3

### 1. Introduction

The past few years have witnessed a transformative impact of tourism on Greece's economy, demonstrating significant promise and exponential growth. This surge in tourism has given rise to specialized forms of tourism centered around sustainable development, piquing the interest of visitors with unique preferences and a more human-centered approach. Health tourism, including medical tourism, is a focal point of this burgeoning trend. Medical tourism has emerged as a swiftly evolving segment of the global tourism market, offering diverse prospects for scientific inquiry.

Medical tourism is a key component of health tourism, as well as wellness tourism, and is indexed by various parameters such as the Medical Tourism Index, which assesses a country's attractiveness as a medical tourism destination based on healthcare costs, tourism appeal, and medical facility quality (Fetscherin & Stephano, 2016). The concept of medical tourism is not novel; historical evidence indicates that ancient Greeks traveled to Asklepieia from across Greece and Asia Minor in search of remedies from Asclepius for various ailments (Pavli & Maltezou, 2021). Contemporary medical tourism encompasses international travel for a range of healthcare needs, including specialized medical procedures, often driven by factors such as cost considerations, long wait times, and availability of treatments in the home country.

Medical tourism presents a complex web of services, involving healthcare providers, transportation services,

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health insurance organizations, and medical tourism facilitators. While many institutions boasting competent medical professionals and high-standard facilities are increasingly collaborating with developed countries, significant challenges persist, such as insurance portability and the absence of a comprehensive state development strategy or organized medical tourism packages.

Primary data was gathered through a questionnaire completed by 315 diverse tourism entities, revealing critical insights. Notably, a majority of medical tourism businesses are concentrated in Athens and are primarily focused on providing medical services such as reproductive care, ophthalmology, orthopedics, cardiology, and dermatology. Additionally, a high percentage of respondents expressed belief in the potential of medical tourism to contribute to local and national development. Factors such as high-quality services, specialized staff, and effective communication strategies emerged as key policy and developmental drivers of medical tourism.

## **2. Research Methodology**

Primary data was collected by 315 different institutions involved in tourism that answered a questionnaire comprising of 26 questions. The construction of the questionnaire was based on literature review on the field and sent to institutions such as medical centers and travel agencies. The reliability of the questionnaire has been pre-tested with 20 respondents and Alpha Cronbach was calculated to test reliability ( $\alpha = 0.89$ ) and showed a satisfactory reliability (very high correlation) (Newby, 2014). The collected data were entered in an appropriate package for statistical analysis (SPSS v.28).

## **3. Statistical Analysis**

### **3.1 Descriptive Analysis**

Descriptive analysis provided that the 88.6% of medical tourism enterprises are located in the area of Athens. It is very important that a high percentage of 93.4% of the participants in our research believes that medical tourism could contribute to local development and the 88.7% of them answers that medical tourism, as a key component of health and wellness tourism, could act as a catalyst to local development.

The more interesting findings are presented in the following tables:

**Table 1 Medical Services That Are Provided by Medical Centers**

<b>Medical services</b>	<b>Percentage (%)</b>
Ophthalmology	10.7
Dental	3.1
Dermatology	12.9
Orthopedics	13.2
Cardiology	12.9
Cancer	6
Reproductive care	6.6
Other	36.2

Some of the medical centers may offer more than one services.

The most important policies in medical tourism enterprises are presented in the following Table 2:

**Table 2 Policies That Will Favor the Development of Medical Tourism**

Policies	Percentage (%)
High Quality of Services	75.2
Specialized Staff	66.7
Competing Policies	46.5
Communication Strategies	60.7

According to the above table, the stakeholders in medical tourism believe that offering high quality services by specialized staff is the actual key for the development of medical tourism entrepreneurship.

**Table 3 Stakeholders That Could Develop Medical Tourism**

Entities	Percentages (%)
Local Agents	51.6
Municipality	48.1
Medical Association	58.5
Local government	59.1

According to the above table, the participants in our research believe that local authorities can play a very important role in the development of medical tourism entrepreneurship.

**Table 4 Ways of Developing the Entrepreneurship of Medical Tourism**

Ways	Very Likely
Tax exemptions	46.9%
More advantageous loan terms	42.1%
Funding through european programs	59.1%
Other	11.9%

The above table shows that advantageous financial terms can help improving medical tourism entrepreneurship. However, appropriate development strategies as well as proper medical tourism packages can be attractive to people who are interested in such services, according to the following Table 5.

**Table 5 Problems Affecting the Development of Medical Tourism**

Problems	Very Likely
Lack of medical infrastructure	38.4%
Lack of specialized staff	31.8%
Lack of contracts with insurance companies	47.2%
Lack of development strategy	59.4%
Lack of organized medical tourism packages	50.6%
Other	7.9%

**Table 6 Ways of Promoting Medical Tourism Services**

Ways	Very Likely
Social Media	20.4%
Internet	52.8%
Conferences-Events	24.2%
Other	17%

As shown in the above table, internet can play a crucial role in promoting medical tourism services.

Medical tourism development seems to be of great interest not only for the stakeholders themselves but also for the tourism industry as a whole since it is an important component that leads to the development of tourism entrepreneurship, as it is shown in the table below:

**Table 7 Contribution of Medical Tourism to the Tourism Development**

	Very Likely
Expansion of tourism season	51.6%
Development of alternative forms of tourism	50.3%
Increasing revenue in the tourism industries	43.4%
Increase in the cost of accommodation	39%
Increase of new jobs	54.4%
Other	6.9%

### 3.2 Factor Analysis Results

In order to find out factors concerning the research questions of our paper, factor analysis was conducted. The following Table contains the factor loadings of all the variables on all the factors extracted.

**Table 8 Factor Matrix**

	1	2	3	4
High Quality of Services	<b>.896</b>	.223	-.006	.123
Communication Strategies	<b>.879</b>	.195	.103	-.019
Specialized Staff	<b>.852</b>	.202	-.020	.193
Competing Policies	<b>.746</b>	.217	.230	.168
Region	<b>.678</b>	.392	-.043	.145
Medical Association	<b>.639</b>	.348	-.033	.210
Tax Exemptions	<b>.513</b>	.158	.315	.434
Increasing revenue in the tourism industries	.110	<b>.831</b>	.202	.208
Development of alternative forms of tourism	.299	<b>.789</b>	-.210	.094
Increase of new jobs	.245	<b>.772</b>	.066	.223
Increase in the cost of accommodation	.115	<b>.764</b>	.159	.151
Lack of organized medical tourism packages	.290	<b>.750</b>	.141	-.024
Lack of a full state development strategy	.384	<b>.738</b>	.022	-.186
Lack of contracts with insurance funds of other countries	.250	<b>.600</b>	.119	.117
Expansion of tourism season	.383	<b>.518</b>	.088	-.060
Lack of specialized staff	.151	.166	.073	.071
Lack of medical infrastructure	.021	.170	-.027	.159
Conference-Events	.141	-.069	<b>.837</b>	-.072
Social Media	-.170	.149	<b>.745</b>	.133
Internet	.269	.301	<b>.609</b>	.088
More favorable lending	.329	.216	.132	<b>.791</b>
Funding through CADF	.519	.209	-.088	<b>.523</b>
Local Agents	.590	.043	.010	<b>.604</b>
Municipality	.338	.304	.141	<b>.526</b>

In the above table it is clear that there are the following four factors, referring to the research questions of our paper:

1st factor: Infrastructure and Institutional Framework, that includes the variables:

High Quality of Services, Communication Strategies, Specialized Staff, Competing Policies, Region, Medical Association, Tax Exemptions.

2nd factor: Impact of medical tourism on development, that includes the following variables:

Increasing revenue in the tourism industries, Development of alternative forms of tourism, Increase of new jobs, Increase in the cost of accommodation, Organized medical tourism packages, Full state development strategy, International insurance contracts, Expansion of tourism season

3rd factor: Promoting medical tourism-Communication, that includes the following variables:

Conference-Events, Social Media, Internet

4th factor: Fund raising for medical tourism, that includes the following variables:

Advantageous loan terms, Funding through European resources, Local Agents, local government

#### 4. Logistic Regression

Logistic regression is useful in order to predict the presence or absence of a characteristic or outcome based on values of a set of predictor variables. It is similar to a linear regression model but is suited to models where the dependent variable is dichotomous. Logistic regression coefficients can be used to estimate odds ratios for each of the independent variables in the model. Logistic regression is applicable to a broader range of research situations than discriminant analysis (Pampel, 2000).

For a logistic regression, the predicted dependent variable is a function of the probability that a particular subject will be in one of the categories.

Firstly, we consider the variable “Medical tourism could act as a “driver”/lever of the country’s development” as the dependent variable (this variable is binary: 0 → No & 1 → Yes) and the variables of the first factor as the predictors variables. The results are presented at the following tables:

**Table 9 Results from Logistic Regression**

Variables	B	SE	Wald	df	Sig	Exp(B)	95% CI	
Medical Association-quite important	-2.794	1.151	5.898	1	0.015	0.061	0.006	0.585
Region-very important	2.415	1.016	5.646	1	0.017	11.191	1.526	8.2041
Constant	2.426	0.604	16.132	1	< 0.001	11.310		

We conclude that the full model statistically significant predicts the dependent variable better than the intercept-only model alone.

In general, the logistic regression coefficient  $\beta$  associated with a predictor X is the expected change in log odds of having the outcome per unit change in X. So increasing the predictor by 1 unit (or going from 1 level to the next) multiplies the odds of having the outcome by  $e^\beta$ .

So, in our case the Medical Association is quite important and multiplies the odds of acting the Medical Tourism as a “carrier” for development by 0.061. In other words, the development is associated with 93.9% reduction if there is not any promotion from the Medical Association. On the other hand, the role of local government is also very important.

In a similar way, we conclude that in the case of the 4<sup>th</sup> factor the constant is statistical significant and the role of Local Agents is very important, as it is presented in the following Table 10.

**Table 10 Results from Logistic Regression**

Variables	B	SE	Wald	df	Sig	Exp(B)	95% CI	
Local Agents-very important	1.628	0.694	5.503	1	0.019	5.096	1.307	19.868
Constant	2.054	0.475	18.700	1	< 0.001	7.800		

So, the Local Agents is quite important and multiples the odds of acting the Medical Tourism as a “carrier” for country’s development by 5.096.

Now, considering the variable “The Medical Tourism could contribute to local development” as dependent and as predictors the variables of the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> factor respectively, we conclude that the Tax Exemptions is very important and particularly multiples the odds of contributing the Medical Tourism to local development by 6.752. Moreover, is very important the development of alternative forms of tourism and more specific multiples the odds of contributing the Medical Tourism to local development by 9.026. Continuing with the variables from the other factors, we conclude that from the 3<sup>rd</sup> and 4<sup>th</sup> factor predicts the dependent variable better the model alone with the intercept.

**Table 11 Results from Logistic Regression**

Variables	B	SE	Wald	df	Sig	Exp(B)	95% CI	
Tax Exemptions-very important	1.910	0.752	6.452	1	0.001	6.752	1.547	29.473
Constant	2.054	0.475	18.7	1	<0.001	7.800		

**Table 12 Results from Logistic Regression**

Variables	B	SE	Wald	df	Sig	Exp(B)	95% CI	
Development of alternative forms of tourism-very important	2.200	0.884	6.195	1	0.013	9.026	1.596	51.036
Constant	2.277	0.525	18.814	1	<0.001	9.750		

Finally, considering the question “What is the annual rate of visitors arriving to your center from other countries related to medical tourism?”(with values: 0:0-50% and 1:51% +) as dependent variable and as predictors the variables:

High Quality of Services, Specialized Staff, Medical tourism packages, State development strategy, International insurance contracts, Expansion of tourism season, Conferences-Events, Social Media, Internet, Advantageous loan terms, Funding through European resources, Economic crisis, covid 19, Experience and Human resources, it is concluded that the dependent variable predicts better the model alone with the intercept, as it is presented in the following Table 13.

**Table 13 Results From Logistic Regression**

Variables	B	SE	Wald	df	Sig	Exp(B)
Constant	-3.761	1.012	13.825	1	<0.001	0.023

## 5. Conclusion

Medical tourism development is influenced by various factors that play a crucial role in shaping this growing industry. At the forefront of these factors is the infrastructure and institutional framework. Countries looking to attract medical tourists must invest in modern healthcare facilities, advanced medical technology, and a robust legal and regulatory framework. This infrastructure not only ensures quality care but also inspires confidence in international patients. In parallel, the development of alternative forms of tourism is gaining momentum. Medical tourism often catalyzes growth in wellness and eco-tourism sectors, contributing to a diverse and vibrant tourism landscape. As a result, this diversification is leading to an increased revenue in the overall tourism industry while also fostering a broader appeal to travelers. Moreover, the increase of new jobs is a significant byproduct of medical tourism. With the rise of medical facilities, there is a surge in job opportunities across various sectors including healthcare, hospitality, and administration, thereby positively impacting the local economy. However, the growth in medical tourism can also bring challenges such as the increase in the cost of accommodation. To mitigate this, organized medical tourism packages and full-state development strategies have been devised. These strategies aim to streamline the entire process, making it more affordable and accessible for patients. International insurance contracts, advantageous loan terms, and funding through European resources further propel the development of medical tourism, providing financial support and stability. Furthermore, the expansion of the tourism season and the collaboration of local agents and government play a pivotal role in promoting medical tourism, ensuring a steady flow of patients and visitors year-round.

In conclusion, the successful development of medical tourism hinges on a multifaceted approach that encompasses infrastructure, financial support, diversification, and strategic promotion. As this industry continues to evolve, it is essential for stakeholders to adapt and collaborate on various fronts to ensure its sustained growth and success.

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