

# Air Connectivity and Medical Tourism Competitiveness: A Systematic Literature Review

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## ABSTRACT

Medical tourism is a rapidly expanding global industry, driven by rising healthcare costs, advancements in medical technology, and increased international patient mobility. Although healthcare quality and treatment affordability are widely acknowledged as key determinants of medical tourism competitiveness, the influence of air connectivity has received comparatively limited scholarly attention. This systematic literature review investigates the relationship between air connectivity and medical tourism competitiveness by synthesizing studies published from January 2020 to December 2024. The review employs the PRISMA framework and analyzes literature sourced from Scopus, Web of Science, ScienceDirect, and PubMed. Findings indicate that airport accessibility, airline network connectivity, aviation infrastructure, and passenger facilitation services significantly affect international patient mobility and destination attractiveness. The review also highlights emerging trends such as smart airports, telemedicine integration, artificial intelligence applications, digital health systems, and sustainable aviation practices. Additionally, several research gaps are identified, particularly regarding regional airports, passenger experience, and integrated aviation-healthcare frameworks. This study advances the literature by integrating perspectives from aviation management and healthcare tourism, offering implications for policymakers, airport authorities, healthcare providers, airlines, and tourism stakeholders. The results underscore the importance of recognizing air connectivity as a strategic element of medical tourism competitiveness and sustainable healthcare mobility.

**Keywords:** Medical Tourism, Air Connectivity, Aviation Management, Healthcare Tourism, Airport Accessibility, Destination Competitiveness, International Patient Mobility, Smart Airports.

## INTRODUCTION

Medical tourism has emerged as one of the fastest growing sectors of global tourism and healthcare. Rising healthcare fees, long queues, limited access to specialized treatments and increasing demand for first-class healthcare facilities led patients to travel internationally for clinical treatment. Countries including India, Thailand, Singapore, Malaysia and Turkey as key medical travel destinations offering veterinary services here them. Healthcare tourism contributes significantly to the nationwide economy through foreign exchange earnings, working hours, and provider quadrant improvements

Provision to medical destinations is not the simplest of first-class health care and affordability however in addition to transport accessibility. Air connectivity plays an important role in facilitating mobility of internationally affected persons by reducing travel time, increasing leisure accessibility and travel convenience. Efficient airport infrastructure, direct global flights, extensive airline networks and unparalleled travel medical offers attract travelers to mobility healthcare-oriented efficient destinations such as A Healthcare tourism A crucial issue of holiday competition has been resolved within the quarter.

The COVID-19 pandemic similarly highlighted the importance of reliable air transport systems and healthcare mobility. Post-pandemic have expanded investments in airport modernization, digital passenger systems, health verification technology and integrated transportation services. Meanwhile, healthcare providers are using telemedicine and digital fitness systems to improve communication with affected individuals before and after

travel. These developments strengthened the relationship between air travel infrastructure and competitiveness in healthcare tourism.

Despite the increasing importance of air connectivity, current scholarly tourism research mostly targets healthcare high quality, affected personal pride, treatment fees, and destination promotion. Relatively few studies observe the functioning of air transportation infrastructure, airport accessibility, and aid in understanding airport the needs of the health care system.

Therefore, the aim of this approach is to systematically evaluate the existing literature on air exposure and competitiveness in medical tourism. Specifically, an overview of follow-ups to identify key research topics, explore emerging trends, highlight gaps in research, and offer indicators for sustainability research and coverage development. By integrating findings from studies of air travel, healthcare tourism, and transportation, this evaluation contributes to a comprehensive knowledge of the factors influencing international healthcare mobility.

## RESEARCH METHODOLOGY

### Search Strategy

This overview adopted a systematic literature review (SLR) approach to explore the relationship between air exposure and competitiveness in medical tourism the evaluation followed Preferred Reporting Items (PRISMA) technique of systematic reviews and meta-analysis to ensure a transparent dependent evaluation process. In Scopus, Web of Science, Science Direct, PubMed.

Literature was modified to have used keyword combinations related to science tourism and air connectivity. The primary seek string used turned into:

("medical tourism" OR "healthcare tourism") AND ("air connectivity" OR "airport accessibility" OR "air traffic" OR "air traffic") AND ("destination competitiveness" OR "tourism competitiveness" OR "patient mobility")

Additional keyword combinations are used to capture applicable studies related to airport infrastructure, airline networks, healthcare accessibility, smart airports, and international patient mobility.

### Inclusion and Exclusion Criteria

Specific inclusion and exclusion criteria were established to ensure the relevance and nuances of the reviewed literature.

#### Inclusion criteria

- Peer reviewed journals.
- Published conference papers in identified academic theses.
- Studies published between January 2020 and December 2020.
- English tutors.
- Studies specializing in clinical tourism, healthcare tourism, air traffic control, airport accessibility, air connectivity or leisure destination competitiveness.

#### Eligibility Requirements

- Non-English publications.

- Double the facts.
- Editors, book reviews and opinion pieces.
- Studies not related to healthcare tourism or airline connectivity.
- Publications lacking adequate methodological information.

### Three PRISMA Selection Procedures

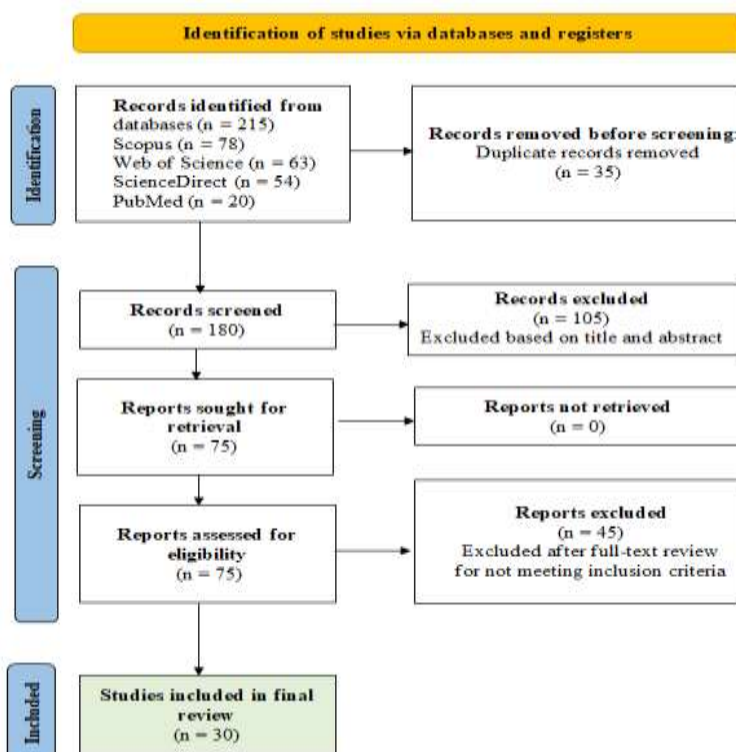
The article selection procedure followed the PRISMA framework. Initially, 215 entries were identified through database searches. One hundred and eighty studies were retained for analysis after entering duplicate information. Title and abstract screening resulted in the exclusion of studies that did not immediately confront clinical tourism or aviation-related issues. Seventy-five articles are then assessed through full-text content review. Using the inclusion and exclusion criteria, 30 studies have been determined for the most final analysis.

Table 1 presents the PRISMA screening process.

Table 1. PRISMA Article Selection Summary

Stage	Records
Records identified	215
Duplicates removed	35
Records screened	180
Records excluded	105
Full-text articles assessed	75
Full-text articles excluded	45
<b>Studies included in final review</b>	<b>30</b>

### PRISMA Flow Diagram



This PRISMA flow diagram illustrates the process of identification, screening, eligibility assessment, and final inclusion of studies in this systematic literature review.

Source: Adapted from Page et al. (2021). PRISMA 2020 statement.

### Quality Assessment

To examine the methodological first category of selected research, a first-class appraisal method has been developed using standards adapted from the Critical Assessment Skills Program (CASP) framework. The evaluation considered the purpose of the study, methodological rigor, record sequencing procedures, analysis strategies, validity of the findings, and relevance to the evaluation topic.

Each decision was observed and evaluated to determine its contribution to knowledge about the relationship between air exposure and clinical tourism competitiveness. Studies that demonstrated a clean research design, reliable methods, and relevant findings were retained for synthesis. This improved assessment improved the reliability of the estimate and reduced the risk of bias associated with smaller publications.

The final set of research changed and analyzed the final use of thematic content assessment. The key findings are grouped into thematic categories including airport infrastructure and accessibility, air connectivity and patient mobility, smart technology and virtual healthcare integration, and sustainability in healthcare tourism. These form the basis of the findings and discussion presented in the next sections.

### Descriptive Analysis of Included Studies

A total of 30 research papers published between January 2020–December 2024 were included within the very last assessment. Decisions on literature covered topics such as clinical tourism, air connectivity, airport accessibility, airline networks, healthcare mobility, smart airport technologies, and destination competitiveness. Most research was published in tourism surveillance, air traffic management, healthcare surveillance, and transportation studies, as shown by the research is interdisciplinary.

### Distribution of Studies by Year

Course scope gradually increased during the observation period, reflecting growing teaching interest in the flirtation between aviation and health tourism. The highest awareness of research occurred after the COVID-19 pandemic, when researchers began to analyze healthcare dynamics, aviation choice access, and travel digitalization.

### Distribution of Studies by Research Theme

Figure 2. Distribution of Studies by Research Theme (2020–2024)

Research Theme	Number of Studies
Air Connectivity and Airport Accessibility	8
Medical Tourism Competitiveness and Healthcare Quality	7
Smart Technologies and Digital Transformation	6
Sustainability and Future Healthcare Mobility	4
Policy, Governance and Healthcare Mobility	3
Research Methodology and Systematic Review Frameworks	2
<b>Total</b>	<b>30</b>

## Interpretation

The largest proportion of studies (26.7%) focused on air connectivity and airport accessibility, highlighting the importance of aviation infrastructure in supporting international patient mobility. Medical tourism competitiveness and healthcare quality represented 23.3% of the reviewed studies, emphasizing healthcare service quality, affordability, and destination attractiveness. Studies on smart technologies and digital transformation accounted for 20%, reflecting growing interest in telemedicine, artificial intelligence, and smart airport systems. Sustainability and future healthcare mobility constituted 13.3% of the literature, while policy and governance studies represented 10%. Only 6.7% of studies focused on systematic review methodologies, indicating opportunities for further evidence synthesis in this emerging research area.

## Distribution of Studies by Geographic Focus

Most of the studies targeted scientific destinations in the Asia-Pacific region, primarily India, Thailand, Singapore, Malaysia, and South Korea. These international locations are established as major health tourism hubs due to their excellent healthcare facilities, competitive medical rates, and strong global connectivity.

Other studies examined medical tourism reform in Europe, the Middle East, and North America. However, moderate research was found on local airports, city centers, and emerging destinations in the context of healthcare, highlighting an important gap in the existing literature.

## Types of Sources Included

Figure 3. Types of Sources Included in the Systematic Literature Review (n = 30)

Source Type	Number of Sources
Peer-Reviewed Journal Articles	24
Books and Book Chapters	4
International Organization Reports (IATA, ICAO, OECD)	2
<b>Total</b>	<b>30</b>

This table demonstrates that the review is predominantly based on peer-reviewed scholarly literature while incorporating a limited number of authoritative industry reports to provide contemporary aviation and healthcare tourism insights.

## Summary of Key Research Trends

Descriptive evaluation well known shows many unreliable trends. First, air quality has a growing reputation as a determinant of health tourism competitiveness. Second, researchers are paying more attention to smart airport technology, virtual healthcare systems, and telemedicine infrastructure. Third, sustainability and green aviation practices are growing as an essential issue in healthcare tourism reform. Finally, post-pandemic studies focus on airport hygiene management, passenger protection, and virtual fitness certification systems as important factors affecting global healthcare mobility.

Overall, the descriptive analysis shows that research on air exposure and clinical tourism competitiveness is accelerating. However, literature remains fragmented across more than one discipline, suggesting the need for more inclusive interdisciplinary approaches to specializing in healthcare mobility and leisure space competition.

## FINDINGS AND DISCUSSION

### Airport Infrastructure and Accessibility

The revised study consistently indicates that airport infrastructure and accessibility are important determinants

of medical tourism competitiveness. Efficient airports reduce barriers to travel, increase accessibility to holiday destinations, and facilitate the international transfer of patients. Medical tourists often decide on destinations with modern airports, direct international connections, efficient immigration strategies, and reliable transportation. Research shows that properly upgraded airport infrastructure complements the aesthetics of holiday destinations by reducing the sense of community and convenience the passengers.

Several studies emphasize the importance of transportation infrastructure from airports to medical facilities that facilitate health tourism. Modern airports increasingly offer medical assistance, accessibility services and virtual traveler support systems that improve the visit experience for international patients. Countries including India, Singapore, Thailand and South Korea have strengthened their clinical tourism sector through investments in modernization of airport connectivity and transportation. These findings suggest that airport accessibility should be considered a strategic component of healthcare tourism improvement.

### **Airline Networks and Medical Tourist Mobility**

Airline connectivity plays an important role in facilitating international healthcare travel. Literature shows that destinations with large airline networks and direct global flights attract good numbers of medical tourists. Robust air connectivity reduces travel complexity, increases accessibility, and complements the well-being of affected individuals, especially for people seeking specialized medical care abroad.

The growth of low-cost retailers and regional airline networks has further advanced healthcare accessibility by reducing travel costs and increasing the availability of courses. Several studies show that regional connectivity packages allow patients from neighboring states and smaller cities to access high-quality health care. Thus, airline networks are not the easiest to develop in tourism, but contribute to the global healthcare dynamics and competitiveness of the resort.

### **Smart Technologies and Digital Health Integration**

Digital transformation is increasingly becoming a major trend affecting the aviation, healthcare and tourism sectors. The research reviewed highlights the growing adoption of smart airport technologies, including biometric authentication, contactless check-in systems, digital fitness passes, and automated passenger processing. Similarly, healthcare providers are increasingly using telemedicine, electronic health records, online consultations, and virtual management systems for affected individuals to increase accessibility and continuity of care. It also increases the coordination of the events. The findings suggest that smart technologies are becoming essential complements to the modern healthcare tourism ecosystem.

### **Sustainability and Future Healthcare Mobility**

Sustainability has emerged as an essential consideration in both aviation, healthcare and tourism development. Reviewed literature emphasizes the need for environmentally sustainable airport infrastructure, fuel-green aircraft operations, and green transportation systems to reduce the environmental impact of global travel. Sustainable aviation practices are a growing number that contribute to long-term responsible resort improvement competitiveness and The literature also highlights the impact of post-pandemic recovery technologies on healthcare mobility. Airport hygiene management, condition screening systems, passenger protection protocols, and emergency preparedness measures have been critical factors affecting passenger confidence.

Overall, the findings show that medical tourism competition is encouraged using a mix of airport accessibility, airline connections, technological innovation, and sustainable mobility practices. These elements together form global impacted persons reports and determine the prestige of healthcare tourism aggression on the aggressive side.

### **Research Gaps and Future Research Directions**

The review identified several gaps in the existing literature on air exposure and competitiveness in medical

tourism. While many studies report adequate health care, affordable treatment and tourism infrastructure, few look at the impact of airport connections and airline networks on international mobility for affected people.

Another significant gap relates to regional airports and growing destinations in healthcare. Most current studies focus on leading science tourism hubs along with Singapore, Bangkok, Kuala Lumpur and Delhi, while giving limited interest to tier-2 cities and secondary airports. Future research should explore how regional air connectivity can help develop local health tourism infrastructure and access to the health sector.

The literature is also known limited research patient visit reviews airport provider and high quality. Medical tourists often have specific needs for mobility, health concerns, and accessibility desires. However, studies examining airport assistance services, clinical facility systems, multilingual assistance, and airport-hospital coordination are scarce. Future studies should examine how these factors affect patient success and competitiveness in leisure destinations.

Digital transformation represents another promising area for sustainability research. While recent studies discuss smart airports, telemedicine, artificial intelligence, and digital healthcare infrastructures, limited research examines their overall impact on healthcare mobility. Future researchers can additionally expand and look at broader frameworks linking virtuous airports to healthcare travel impacts.

Sustainability is also an emerging field of study. The existing literature provides limited evidence on the environmental consequences of healthcare tourism and international air travel. Future research needs to explore green airport operations, sustainable airline practices, low-carbon technologies, and environmentally responsible healthcare mobility models.

Furthermore, future research can use interdisciplinary approaches that combine air traffic control, healthcare administration, tourism surveillance, geography of distribution and fact age. Comparative studies in international locations and regions can additionally provide valuable insights into best practices and strategies for measuring competitiveness in the region medical tourism. Such efforts can help develop inclusive aviation, healthcare and tourism frameworks that guide sustainable and efficient international patient movement.

## **IMPLICATIONS**

### **Theoretical Implications**

This assessment contributes to the literature using an integration of ideas from air traffic management, healthcare tourism, ship accessibility and destination competitiveness. The findings advise that air connectivity should be established as a strategic determinant of competitiveness in clinical ancillary tourism rather than just a carrier. Airport accessibility, air connectivity, and aviation infrastructure significantly affect global patient mobility and destination attractiveness.

The review additionally extends leisure destination competitiveness theory by using it to highlight the importance of transportation accessibility in improving healthcare tourism. Furthermore, the findings contribute to the accessibility theory of delivery by demonstrating how air transportation infrastructure facilitates the cross-border movement of healthcare. The developing work on smart airports, telemedicine, and digital healthcare platforms further contributes to the growing theories related to smart tourism and digital transformation.

Overall, the overview encourages improvements to embedded theoretical frameworks that enhance air connectivity, healthcare accessibility, tourist delight, technological innovation, and sustainability to explain the competitiveness of medical tourism.

### **Practical Implications**

The findings have important implications for policymakers, airport authorities, airlines, healthcare providers, and tourism companies. To increase accessibility for medical travelers, airport authorities need to invest in

state-of-the-art infrastructure, passenger convenience services and transportation infrastructure from airport to health facilities Smart airport technology and infrastructure can meet green passenger convenience and travel facilities the joy even more.

Healthcare organizations must collaborate with airports, airlines, and tourism partners to expand the inclusive healthcare tourism ecosystem. Offering telemedicine, virtual assistance systems for affected persons and coordinated travel arrangements can improve accessibility to healthcare and prevent continuity Airlines can lead the medical tourism industry by increasing direct international routes, strengthening local connectivity and introducing service tours specifically for healthcare workers.

Governments and tourism boards should sell clinical tourism through investments in airport upgrading, visa-easing packages, and destination branding technology that emphasizes high quality healthcare and transportation convenience. Furthermore, the adoption of sustainable aviation practices and digital technologies can support long-term competitiveness and improve globally impacted individual studies.

Overall, strong coordination between aviation, healthcare, tourism and government sectors is essential to enhance healthcare mobility, competitiveness of leisure destinations and sustainable development of medical tourism.

## LIMITATIONS

There are several obstacles to be said. First, the estimation is entirely based on secondary information derived from the published literature and does not include a primary data series. Conclusions therefore build on the first category and scope of existing studies.

Second, the review only decided on databases that indexed English-language guides, which include Scopus, Web of Science, ScienceDirect, and PubMed. Relevant research published in different languages or registered in specific databases could also be excluded. This may introduce language and database selection bias.

Third, book bias may also be present due to the fact that peer-reviewed journals are more likely to publish studies that report large findings. Although action reports were included to provide additional insights, peer-reviewed studies formed the primary evidence base for the overview.

Fourth, the rapidly evolving nature of aviation technology, virtual healthcare systems, and global healthcare mobility may also affect the long-term applicability of some findings. New developments, including artificial intelligence, smarter airports, and telemedicine, are perceived to reshape the healthcare tourism industry and require relentless research .

Despite these limitations, take a look at provides a thorough assessment of the existing literature and valuable insights into the status of air exposure in clinical tourism competitiveness.

## CONCLUSION

This systematic literature review examined the relationship between air connectivity and competitiveness in medical tourism with the help of a combination of studies published in January 2020 – December 2024. The findings show that airport accessibility, airline connectivity, airline transportation infrastructure and competitiveness for travellers.

The assessment identified 4 important factors affecting the development of healthcare tourism: airport infrastructure and accessibility, airline network and impacted individual mobility, smart technology and virtual fitness integration, and sustainability in healthcare mobility. Together, these factors contribute to progressive access to healthcare, passenger comfort, and leisure destination elegance.

The study also found growing features including smart airports, telemedicine, artificial intelligence, digital healthcare systems, sustainable air travel practices while significant testing gaps remain in regional airports,

passenger surveys, integrated healthcare systems and urban mobility tourism-sponsored aviation

Overall, air connectivity has been a strategic enabler for growth in healthcare tourism and internationally influenced individual mobility. Policymakers, including the airport authority, healthcare providers, airlines, and tourism companies, should collaboratively draw pictures to expand sustainable healthcare and tourism ecosystems. Future studies should explore the interdisciplinary approaches that integrate aviation management, healthcare, tourism development, and virtual innovation to strengthen global clinical tourism competitiveness.

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## APPENDIX

### Appendix A: Summary of Selected Studies

No.	Author(s)	Year	Focus Area
1	McCartney & Wang	2024	Sustainable medical tourism and healthcare travel
2	Leung & Ku	2024	Cross-border healthcare mobility
3	Yoo, van Wee & Molin	2024	Air transport accessibility and connectivity
4	Campra, Riva, Oricchio & Brescia	2021	Medical tourism bibliometric analysis
5	Virani, Wellstead & Howlett	2020	Medical tourism policy and governance
6	Martins & Carvalho	2022	Air transport accessibility and tourism competitiveness
7	Tan & Masood	2021	Smart airports and digital transformation
8	Sigala	2020	Tourism recovery and digital transformation
9	Gössling, Scott & Hall	2021	Tourism and post-pandemic mobility
10	Hall	2020	Tourism mobility after COVID-19
11	Bieger & Wittmer	2021	Aviation connectivity and tourism development
12	Dobruszkes & Mondou	2023	Air connectivity and destination performance
13	Pels, Njegovan & Behrens	2021	Accessibility and airline network development
14	Graham	2020	Airport management and infrastructure
15	Papatheodorou	2021	Aviation and tourism interrelationships
16	Hanefeld, Horsfall, Lunt & Smith	2015	Medical tourism and healthcare systems
17	Wongkit & McKercher	2013	Medical tourist typology
18	Yu, Lee & Noh	2011	Medical tourism competitiveness in South Korea
19	Lunt et al.	2011	Global medical tourism markets
20	Johnston, Crooks, Snyder & Kingsbury	2010	Medical tourism impacts
21	Crooks, Kingsbury, Snyder & Johnston	2010	Patient experiences in medical tourism
22	Turner	2010	Global medical tourism development
23	Connell	2013	Medical tourism theory and practice
24	Smith & Puczko	2014	Health tourism and wellness travel



25	Button & Yuan	2013	Air transport and economic development
26	Zhang, Hanaoka, Inamura & Ishikura	2019	Airport accessibility and tourism growth
27	Page et al.	2021	PRISMA systematic review methodology
28	OECD	2020	Healthcare systems and international indicators
29	ICAO	2023	Aviation connectivity and global mobility
30	IATA	2024	Air transport statistics and passenger mobility