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Derleme/Review

Telemedicine-augmented medical tourism: hybrid care models for pre-travel consultation and post-return follow-up optimization

Teletıp destekli sağlık turizmi: seyahat öncesi danışmanlık ve dönüş sonrası takip sürecini iyileştiren hibrit bakım modelleri

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Abstract

The COVID-19 pandemic has accelerated the adoption of digital health technologies while highlighting persistent challenges related to continuity of care in medical tourism. This narrative review examines the potential role of telemedicine-augmented hybrid care models that integrate virtual and in-person healthcare across the pre-travel, in-destination, and post-return phases of the medical tourism pathway. A structured literature search of PubMed, Scopus, Web of Science, and Google Scholar identified 13 eligible publications, including peer-reviewed studies and international policy documents published between 2020 and 2026. These were supplemented by additional academic and policy sources cited for contextual and conceptual purposes, which were not part of the formal screening process. The evidence was narratively synthesised to examine the potential contribution of telemedicine to continuity of care in cross-border healthcare. The reviewed literature suggests that telemedicine may support pre-travel clinical assessment, shared decision-making, risk stratification, and post-return follow-up, thereby contributing to improved continuity of care for medical tourists. However, much of the available evidence originates from the broader telemedicine and digital health literature rather than studies conducted exclusively in medical tourism populations. Consequently, several conclusions should be interpreted as indirect evidence applicable to cross-border healthcare. Based on the thematic synthesis of the included literature, this review proposes a conceptual telemedicine-augmented hybrid care framework that may inform future research, policy development, and implementation strategies. Although hybrid care models appear promising, further high-quality empirical studies are required to evaluate their clinical effectiveness, cost-effectiveness, and long-term impact within medical tourism.

Keywords: medical tourism, telemedicine, hybrid care models

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Öz

COVID-19 pandemisi, sağlık turizminde bakım sürekliliğine ilişkin mevcut zorlukları daha görünür hâle getirirken dijital sağlık teknolojilerinin benimsenmesini de hızlandırmıştır. Bu narrative derleme, sağlık turizminin seyahat öncesi, destinasyondaki ve dönüş sonrası bakım süreçlerinde sanal ve yüz yüze sağlık hizmetlerini bütünleştiren teletıp destekli hibrit bakım modellerinin potansiyel rolünü incelemektedir. PubMed, Scopus, Web of Science ve Google Scholar veri tabanlarında gerçekleştirilen yapılandırılmış literatür taraması sonucunda, 2020-2026 yılları arasında yayımlanmış hakemli araştırmalar ve uluslararası politika belgelerinden oluşan 13 uygun yayın derlemeye dâhil edilmiştir. Bu yayınlar, bağlamsal ve kavramsal amaçlarla atıf yapılan ek akademik ve politik kaynaklarla desteklenmiştir, söz konusu ek kaynaklar biçimsel tarama sürecinin bir parçası değildir. Elde edilen kanıtlar, teletıbbın sınır ötesi sağlık hizmetlerinde bakım sürekliliğine sağlayabileceği olası katkıları değerlendirmek amacıyla anlatısal (narrative) sentez yöntemiyle incelenmiştir. Derleme bulguları, teletıbbın seyahat öncesi klinik değerlendirme, ortak karar verme, risk sınıflandırması ve dönüş sonrası izlem süreçlerini destekleyerek sağlık turizminde bakım sürekliliğinin güçlendirilmesine katkı sağlayabileceğini göstermektedir. Bununla birlikte, mevcut kanıtların önemli bir bölümü doğrudan sağlık turizmi popülasyonlarından değil, daha geniş teletıp ve dijital sağlık literatüründen elde edildiğinden, bazı çıkarımların dolaylı kanıt olarak değerlendirilmesi gerekmektedir. Derleme kapsamında gerçekleştirilen tematik senteze dayanarak, gelecekteki araştırmalara, politika geliştirme süreçlerine ve uygulama stratejilerine rehberlik edebilecek kavramsal bir teletıp destekli hibrit bakım çerçevesi önerilmektedir. Hibrit bakım modelleri umut verici bir yaklaşım sunmakla birlikte, bu modellerin sağlık turizmindeki klinik etkinliğini, maliyet etkinliğini ve uzun dönem sonuçlarını değerlendirebilmek için daha fazla yüksek nitelikli ampirik araştırmaya ihtiyaç vardır.

Anahtar Kelimeler: sağlık turizmi, teletıp, hibrit bakım modelleri

Introduction

The global healthcare landscape stands at a pivotal inflection point. Medical tourism, once characterised primarily by cost-driven travel for elective procedures, has evolved into a sophisticated ecosystem of cross-border care seeking quality, timeliness, and specialised expertise (1). The COVID-19 pandemic acted as a profound catalyst, exposing vulnerabilities in fragmented care pathways while simultaneously accelerating the mainstream adoption of digital health technologies. In this transformed environment, telemedicine emerges not as a mere adjunct but as a foundational element capable of augmenting medical tourism into resilient, patient-centred hybrid models.

Prior to the pandemic, medical tourism exhibited robust growth, driven by significant cost differentials, long waiting times in high-income countries, and the pursuit of advanced treatments unavailable or unaffordable domestically. Recent analyses project continued strong expansion, with estimates of the global medical tourism market ranging from approximately USD 45 to 100 billion, reported annual growth of up to 25%, and roughly 14 million cross-border patients per year, as patients increasingly view international care as a viable component of their health journey (2). However, traditional models have long grappled with critical shortcomings: limited pre-travel clinical optimisation, disruptions in care continuity upon return home, and heightened risks associated with post-procedural complications managed across disparate health systems (1).

The pandemic dramatically reshaped these dynamics. Travel restrictions and infection control imperatives forced rapid innovation, demonstrating telemedicine's capacity to maintain care delivery amid physical distancing. In early 2020, as COVID-19 massively disrupted in-person care, governments across the OECD moved quickly to promote telemedicine and the number of teleconsultations skyrocketed, playing a vital role in maintaining access to care (3,4); in at least some countries teleconsultations increased dramatically and were sometimes able to make up for drops in in-person consultations (5), although data on telemedicine remain scarce, with fewer than half of OECD countries holding data on patient characteristics, type of telemedicine service, reasons for use, and subsequent care (6). The World Health Organization's Global Strategy on Digital Health 2020-2025, endorsed at the 73rd World Health Assembly, rests on four guiding principles: recognition that institutionalising digital health requires national decision and commitment, that successful digital technologies require an

integrated strategy, that appropriate use of digital interventions must be promoted, and that the major impediments faced by least-developed countries must be urgently addressed (7).

Telemedicine-augmented medical tourism offers a compelling response to these challenges by creating integrated hybrid care models. These models seamlessly blend virtual pre-travel consultations for thorough patient assessment, informed decision-making, and risk stratification; real-time support during the destination phase; and structured post-return follow-up to ensure optimal recovery and seamless reintegration with local providers (8). Such approaches promise to elevate the value proposition of medical tourism from transactional encounters to continuous, outcome-oriented care episodes while addressing patient safety, satisfaction, and system-level efficiency (9,10).

This narrative review synthesises the evolving evidence on hybrid care models in medical tourism. It examines their conceptual foundations, practical applications in pre-travel and post-return phases, implementation barriers, and strategic opportunities. By drawing on peer-reviewed literature, OECD analyses, and WHO frameworks, the review articulates a visionary yet pragmatic pathway toward "optimised continuity" in global health mobility. In doing so, it positions telemedicine not merely as a technological tool but as a strategic enabler of accessible, affordable, scalable, and sustainable person-centric digital health solutions aimed at achieving universal health coverage and the health-related Sustainable Development Goals (11,12).

Ultimately, the successful integration of telemedicine into medical tourism holds profound implications for patients, providers, destination countries, and home health systems alike. It invites a reimagining of borders not as barriers to care, but as permeable conduits within a truly globalised, digitally empowered health ecosystem.

Background and evolution of medical tourism in the digital era

Medical tourism has transitioned from a niche, cost-driven phenomenon to a significant component of global health and economic mobility. Patients increasingly cross international borders in pursuit of timely, high-quality, and often more affordable specialised care. Pre-pandemic growth was propelled by widening cost differentials between high-income and emerging economies, extended waiting times in publicly funded systems, and the globalisation of healthcare standards through international accreditation (2).

Estimates of the size of the global medical tourism market vary substantially depending on the definition and scope adopted, ranging from approximately USD 45 to 100 billion, with reported annual growth rates of up to 25%, approximately 14 million cross-border patients per year, and average expenditure of USD 3,800-7,000 per visit (2). Türkiye's share of the global market was estimated at 7% in 2017, when the market was valued at USD 11 billion and the United States accounted for 36%; by 2019 the market had reached USD 44 billion and is projected to reach USD 207 billion by 2027 (13). In India, one of the fastest-growing destinations, the market expanded from USD 35.77 billion in 2022 to USD 39.95 billion in 2023, equivalent to a compound annual growth rate of 11.7%, and is projected to grow at a CAGR of 25.2% between 2023 and 2030 (14). Alternative estimates place the global market at approximately USD 15.5 billion in 2017 and USD 28.0 billion by the end of 2024, equivalent to a compound annual growth rate of 8.8% over 2018-2024, and at USD 207.9 billion by 2027 (15,16). Key destinations such as Thailand, India, Türkiye, Malaysia, and Singapore continue to dominate, offering advanced procedures in cardiology, orthopedics, oncology, fertility, dental, and cosmetic surgery. Patient motivations have diversified beyond pure cost savings to include access to cutting-edge technologies, shorter wait times, personalised care experiences, and wellness-integrated recovery packages, although low price and high service quality remain decisive factors in destination choice (17).

Despite this growth, traditional medical tourism models exhibit persistent structural weaknesses. Chief among these is the fragmentation of care, particularly gaps in continuity across borders. Patients often face challenges in pre-travel clinical decision-making, including limited access to independent second opinions and inadequate risk stratification. Upon return, many encounter difficulties with post-procedural follow-up, management of complications, and seamless integration with their home-country healthcare providers. These discontinuities contribute to increased risks of adverse outcomes, higher readmission rates, and diminished overall value for patients and health systems alike (18).

The COVID-19 pandemic served as a powerful disruptor and accelerator. International travel restrictions caused a sharp contraction in medical tourism volumes in 2020-2021, compelling both providers and patients to explore digital alternatives. This period highlighted the potential of telemedicine to bridge geographical and temporal divides. Governments simplified and promoted the use of telemedicine, and large increases in remote care use followed (4); the number of teleconsultations skyrocketed, playing a vital role in maintaining access to care,

although only partly offsetting reductions in in-person care (3,6).

The World Health Organization's Global Strategy on Digital Health 2020-2025 reinforced this shift, formulating strategic objectives, guiding principles, an action framework, and implementation plans to promote the development of global digital health and to achieve universal health coverage and the health-related Sustainable Development Goals (7). Its stated vision was to improve health for everyone, everywhere by accelerating the development and adoption of appropriate, accessible, affordable, scalable, and sustainable person-centric digital health solutions (11). Because fragmented and isolated health systems that lack interoperability lose continuity of care, the strategy's emphasis on interoperability is directly relevant to cross-border care pathways (12). Telemedicine demonstrated particular relevance for medical travel by enabling remote pre-travel assessments, virtual follow-up consultations, and ongoing monitoring, thereby reducing unnecessary travel while enhancing patient safety and preparedness.

This evolving landscape underscores the emergence of hybrid care models that combine in-person treatment at destination facilities with strategically timed virtual engagements before and after travel. Such models represent a maturation of medical tourism from episodic, transactional encounters toward continuous, outcome-oriented care journeys. The following sections examine the conceptual foundations and practical applications of these telemedicine-augmented approaches.

Methods

Study design

This study was conducted as a narrative review to synthesise the current evidence on telemedicine-augmented hybrid care models in medical tourism, with particular emphasis on pre-travel consultation and post-return follow-up. A narrative review methodology was considered appropriate because the available literature comprises heterogeneous evidence, including empirical studies, conceptual papers, policy reports, and international guidance documents. Rather than performing a quantitative synthesis, the objective was to provide an evidence-informed and interpretive overview of the current state of knowledge while identifying emerging concepts, implementation challenges, and future research directions.

Although this review was designed as a narrative review, a structured literature search and transparent study selection process were adopted to enhance methodological rigor and reproducibility. To improve transparency in reporting the identification and selection of the literature, the review process was documented using a modified PRISMA 2020 flow diagram. The PRISMA framework was used solely to illustrate the literature identification and selection process and should not be interpreted as indicating that this study was conducted as a formal systematic review.

Literature search strategy

A structured literature search was conducted using four major electronic databases: PubMed, Scopus, Web of Science, and Google Scholar. In addition, grey literature was searched through the official websites of the World Health Organization and the Organisation for Economic Co-operation and Development to identify relevant policy documents and international reports.

The search covered publications published between January 2020 and May 2026, reflecting the rapid evolution of telemedicine following the COVID-19 pandemic. The final search was completed in May 2026.

Search terms were developed to capture the intersection between medical tourism and digital health. The principal search strategy included combinations of the following keywords: "medical tourism", "health tourism", "telemedicine", "telehealth", "hybrid care", "remote consultation", "continuity of care", "post-return follow-up", and "cross-border care". Boolean operators (AND/OR) were applied, and search syntax was adapted where necessary according to the indexing requirements of each database. In addition, reference lists of eligible publications were manually screened to identify further relevant studies that were not retrieved through the electronic database search.

Eligibility criteria and study selection

Studies were considered eligible if they (i) were published in English between January 2020 and May 2026, (ii) addressed telemedicine, digital health, medical tourism, health tourism, or continuity of care in cross-border healthcare, (iii) represented peer-reviewed journal articles, authoritative policy documents, or conceptually relevant publications, and (iv) contributed directly to the objectives of this review.

Studies were excluded if they focused exclusively on domestic telemedicine without an international healthcare dimension, were published before 2020, consisted solely of conference abstracts or editorial materials without sufficient methodological detail, or did not provide meaningful information relevant to hybrid models of care in medical tourism.

Following removal of duplicate records, the remaining publications underwent title and abstract screening based on the predefined eligibility criteria. Studies that were clearly unrelated to telemedicine-supported medical tourism, focused exclusively on domestic telemedicine, or fell outside the scope of the review were excluded at this stage. The remaining

potentially relevant publications subsequently underwent full-text assessment for eligibility. Articles that did not adequately address the objectives of the review or lacked sufficient conceptual or empirical relevance were excluded following full-text evaluation. After removal of duplicate records, 142 publications remained and were screened at title and abstract level. Of these, 78 were excluded, and 64 full-text articles were assessed for eligibility. Ultimately, 13 publications met the inclusion criteria and were included in the narrative synthesis.

Accordingly, the review distinguishes between two tiers of sources. The first tier comprises the 13 publications that met the predefined eligibility criteria and constitutes the formal evidence base summarised in Table 1 and represented in Figure 1. The second tier comprises additional academic and policy sources cited for contextual, conceptual, or methodological purposes, including OECD and WHO policy documents, clinical studies of remote monitoring and virtual follow-up, regulatory and ethical analyses, and earlier conceptual contributions predating the search window, which were not subjected to the formal eligibility screening and are therefore not represented in Figure 1 or Table 1.

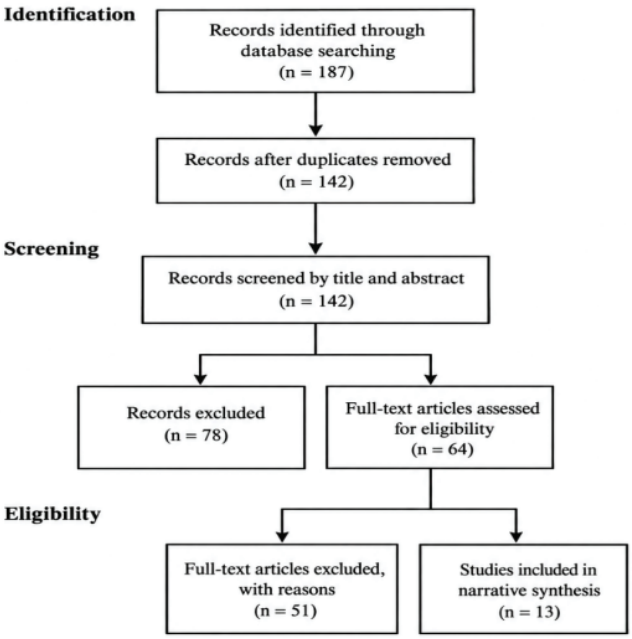


Figure 1. PRISMA Flow Diagram of the formal literature identification and selection process (13 included publications). Additional contextual and conceptual sources cited in this review were identified through targeted citation searching and lie outside the formal screening process.

Table 1. Characteristics of the 13 publications included in the formal review.

Author	Country/Region	Study Design	Study Population / Data Source	Directly Related to Medical Tourism	Key Findings Relevant to This Review
Moghavvemi et al. (2023) (1)	Malaysia	Qualitative study	Physicians involved in treating medical tourists	Yes	Identified clinical risks and continuity-of-care challenges experienced by patients returning home after surgery abroad.
OECD (2023) (3)	OECD countries	Policy report	National healthcare systems	Partial	Presented policy recommendations regarding telemedicine implementation, digital integration, and continuity of care within healthcare systems. Documented the boom in teleconsultations during the pandemic, noting that teleconsultation data remain scarce and that fewer than half of OECD countries hold data on patient characteristics, service type, reasons for use, and subsequent care, and set out three policy priorities: generating more evidence on who uses remote care and why, assessing whether payment arrangements incentivise appropriate use, and integrating remote with in-person care.
World Health Organization (2021) (7)	Global	International strategy document	Global health systems	Partial	Established strategic priorities for digital health, interoperability, governance, and equitable implementation of telemedicine. Formulated strategic objectives, guiding principles, an action framework, and implementation plans aimed at universal health coverage and the health-related Sustainable Development Goals.

Gu et al. (2021) (8)	Azerbaijan	Empirical cross-sectional study	Medical tourists	Yes	Demonstrated that telehealth and telemedicine facilitate destination selection, patient communication, and continuity of care in medical tourism. Communication and information quality positively affected continued telemedicine use and user satisfaction.
Ayo-Farai et al. (2023) (9)	Africa	Narrative review	Telemedicine services in healthcare	No	Summarised the progress, benefits, and implementation challenges of telemedicine, including infrastructure limitations, inadequate internet connectivity and irregular electricity, shortages of trained health personnel, data security and privacy concerns, and the need for harmonised policy to support cross-border collaboration.
Rabbani et al. (2025) (10)	Global	Systematic review and meta-analysis	32 studies (17 randomised controlled trials, 15 observationalstudies)	No	Synthesised recent advances in telemedicine and digital health transformation relevant to remote follow-up and virtual care. Reported that telemedicine use surged in 2020 and remained elevated through August 2025; barriers included insufficient broadband, limited digital literacy, uncertain reimbursement policies, and workflow disruptions, while policy waivers, integration into existing care pathways, and patient and clinician acceptance acted as facilitators. Clinical outcomes were generally comparable to in-person care, with reduced hospitalisations in heart failure, high patient satisfaction, and recommendations for hybrid care models.
Mahida (2024) (14)	India	Economic impact analysis	Indian medical tourism market	Partial	Provided market size and growth projections for India's medical tourism industry, showing expansion from USD 35.77 billion in 2022 to USD 39.95 billion in 2023 (11.7% CAGR) and a projected CAGR of 25.2% for 2023-2030.
Radnić et al. (2025) (17)	Europe	Thematic and semantic analysis	Scientific literature on dental and aesthetic tourism	Partial	Examined the economic benefits and ethical challenges of cross-border healthcare, identifying low price and high service quality as decisive factors alongside serious risks such as infection, failed implants, and inadequate postoperative support; recommended stronger regulation and ethical marketing.
Weinberg et al. (2022) (18)	International	Systematic review	58 studies on medical travel for surgical procedures	Yes	Reported limited pre-assessment at the destination, difficult access to follow-up care, restricted information exchange between sending and destination countries, and serious health risks in the form of post-operative complications.
Khatib et al. (2023) (19)	International	Review	Internationalpatients and telemedicine applications	Yes	Highlighted the role of telemedicine in pre-travel consultations, second opinions, and post-treatment follow-up to improve continuity of care for international patients. Reported reduced costs, improved access to specialist knowledge, market expansion, and reputational gains for destination providers.
Harkey et al. (2021) (20)	United States	Randomised non-inferiority trial	Postoperative patients (289 virtual vs 143 in-person)	No	Reported non-inferior 30-day hospital encounter rates for virtual versus in-person follow-up (12.8% vs 13.3%) and a median reduction of 27.5 minutes in total postoperative visit time (95% CI -33.5 to -24.0), supporting the post-return phase of hybrid care.
Medhekar (2025) (21)	International	Book chapter / conceptual review	Digital transformation of medical tourism	Partial	Examined how digitalisation transformed international medical travel ahead of domestic health services, covering digital marketing, specialist and surgery search platforms, patient reviews, telemedicine, and digital health records.
Villalobos et al. (2026) (22)	International	Scoping review	189 studies on non-pandemic care delivery during COVID-19	No	Reported hybrid care modifications combining in-person and digital components in 60.8% (115/189) of the included studies and digital-only modifications in 36% (68/189); quality appraisal was conducted for 84.1% (159/189) of the studies, highlighting opportunities for hybrid healthcare delivery.

Quality appraisal

As this study was conducted as a narrative review, a formal risk-of-bias assessment tool was not applied. Instead, the included literature underwent a structured narrative appraisal based on methodological clarity, relevance to the review objectives, publication type, recency of the evidence, and direct applicability to telemedicine-supported medical tourism.

Peer-reviewed empirical studies constituted the primary evidence base of the review. International policy documents published by organisations such as WHO and OECD were incorporated to provide regulatory and strategic context. In addition, a substantial number of further academic and policy sources, including clinical studies of remote monitoring and virtual follow-up, regulatory and ethical analyses, and earlier conceptual contributions predating the 2020-2026 search window, were cited for contextual and conceptual purposes only and were not subjected to the formal eligibility screening described above.

Data extraction and narrative synthesis

Relevant information was extracted from each included publication regarding study characteristics, country of origin, study design, target population, telemedicine application, relevance to medical tourism, principal findings, and implications for continuity of care. The extracted evidence was synthesised narratively and organised into thematic categories corresponding to the patient journey, including pre-travel consultation, in-destination support, post-return follow-up, implementation challenges, and future strategic opportunities.

As summarised in Table 1, only a subset of the included evidence directly investigated telemedicine within medical tourism, whereas the remaining studies provided indirect but conceptually relevant evidence from broader telemedicine and digital health research. Accordingly, the findings should be interpreted within this evidentiary context.

Conceptual framework: telemedicine-augmented hybrid care models

The integration of telemedicine into medical tourism represents a paradigm shift from fragmented, episodic care to structured, continuous, and patient-centred hybrid models. This section presents a comprehensive conceptual framework that positions telemedicine as a strategic enabler across three distinct phases of the medical tourism journey: pre-travel, in-destination, and post-return.

Hybrid care models in this context refer to the deliberate combination of virtual and in-person care delivery modalities to optimise clinical outcomes, patient experience, and system efficiency (22). These models build upon established theoretical foundations including Wagner's Chronic Care Model (extended to acute procedural care) and the concept of continuity of care, informational, relational, and management continuity, whose informational dimension depends on interoperability, since fragmented, incomplete, and isolated health systems that cannot exchange information lose continuity of care (12).

Figure 2 illustrates the proposed Telemedicine-Augmented Hybrid Care Framework for Medical Tourism. The framework conceptualises care as a continuous cycle rather than a linear trip, with telemedicine serving as the connective tissue that binds the patient's home health system with the destination provider.

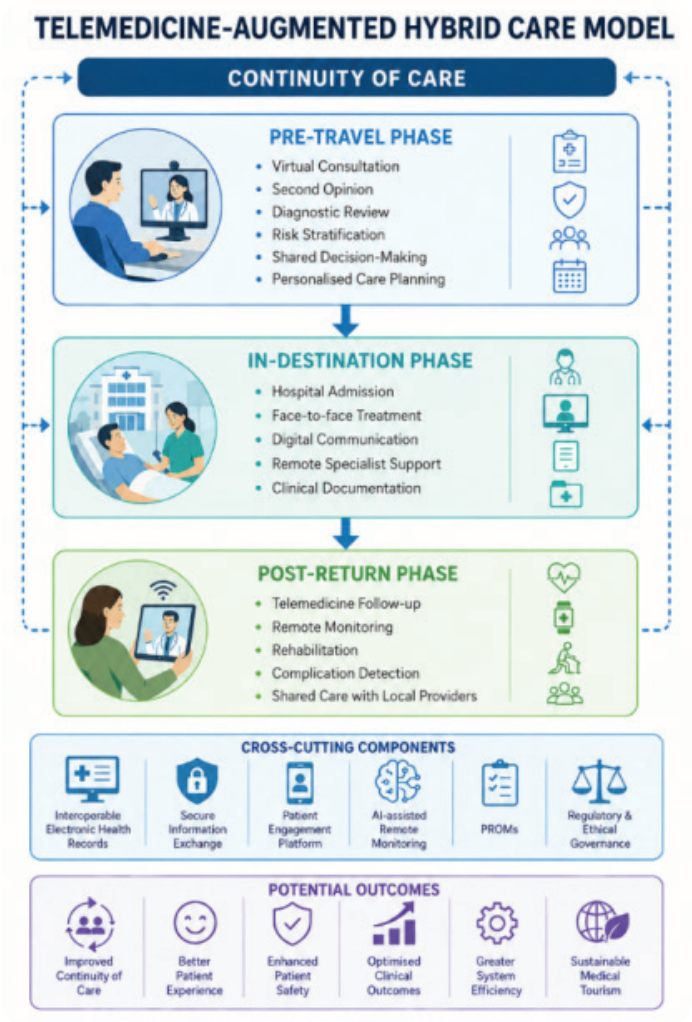


Figure 2. Telemedicine-augmented hybrid care framework for medical tourism. Conceptual synthesis developed by the author; not derived from the formal screening process summarised in Figure 1.

Key components of the framework include:

Pre-Travel Phase: Comprehensive remote consultations, second opinions, diagnostic review, risk stratification, and personalised care planning. This phase enhances informed consent, may contribute to reducing travel-related risks, and supports medical suitability (19).

In-Destination Phase: On-site treatment supported by limited virtual input from the patient's home-country physicians when needed, along with real-time digital monitoring and communication tools.

Post-Return Phase: Structured remote follow-up, complication surveillance, rehabilitation guidance, and seamless data sharing with local providers to close the care loop (23).

The framework further incorporates cross-cutting elements such as data interoperability and secure health information exchange, digital patient engagement platforms, regulatory and ethical safeguards, and outcome measurement using standardised patient-reported outcome measures and clinical indicators.

This hybrid approach may facilitate medical tourism from a high-risk, transactional event into a coordinated care episode within a global digital ecosystem. It directly addresses the fragmentation challenges identified in traditional models while capitalising on the post-pandemic maturity of telemedicine technologies and policies (3,12).

Pre-travel consultation: enhancing patient selection, preparation, and risk mitigation

Pre-travel consultation represents one of the most critical yet traditionally underdeveloped phases in medical tourism. In conventional models, patients often rely on online information, facilitator-mediated communication, or limited email exchanges, which frequently result in incomplete clinical assessments and suboptimal decision-making (1). Telemedicine fundamentally may facilitate this phase by enabling structured, high-quality virtual engagements that bridge geographical distances and elevate the entire care continuum.

Telemedicine-augmented pre-travel consultation facilitates comprehensive remote evaluation, including detailed medical history reviews, diagnostic imaging assessment, laboratory result interpretation, and multidisciplinary specialist input. This approach supports accurate patient selection, personalised treatment planning, and robust risk stratification well before international travel commences (10). Patients can obtain independent second opinions from both home-country and destination providers, thereby strengthening informed consent and reducing the likelihood of unsuitable travel for care. Table 2 compares traditional and telemedicine-augmented approaches to pre-travel consultation, highlighting key dimensions of improvement.

Empirical evidence indicates that remote perioperative monitoring has been associated with improved functional recovery (6% higher, $p = 0.036$) and fewer major postoperative complications ($p = 0.004$) in surgical patients (26), while post-discharge virtual visits have been shown to be non-inferior to in-person visits with respect to 30-day hospital encounters (12.8% vs 13.3%) and to reduce total postoperative visit time by a median of 27.5 minutes (20). Among international patients seeking care abroad, those who underwent a video consultation with the destination hospital were substantially more likely to subsequently travel for treatment (adjusted OR 5.74; 95% CI 1.20-27.33), as were those who attended a follow-up video consultation (adjusted OR 4.06; 95% CI 1.04-15.92) (24). Moreover, telemedicine enables early identification of patients

Table 2. Traditional versus telemedicine-augmented pre-travel consultation in medical tourism.

Dimension	Traditional Model	Telemedicine-Augmented Model	Key Benefits	Supporting Evidence
Clinical Assessment	Limited (email, photos, self-report)	Comprehensive (video, EHR sharing, real-time diagnostics)	Higher diagnostic accuracy and suitability screening	(8,19)
Second Opinion and Planning	Rare or facilitator-dependent	Routine multidisciplinary virtual consultation	Better-informed decisions and personalised pathways	(19,24)
Risk Stratification	Basic travel risk assessment	Integrated medical + travel risk evaluation	Reduced adverse events and unnecessary travel	(3,19)
Patient Education and Consent	Variable quality	Structured, interactive sessions with visual aids	Enhanced understanding and shared decision-making	(7,25)
Time Efficiency	Weeks to months of fragmented communication	Rapid scheduling (days) and streamlined preparation	Cost savings and reduced pre-travel anxiety	(8,20)
Data Continuity	Poor interoperability	Secure platform-based record sharing	Seamless transition to in-destination care	(7,12)

who may be better served domestically, thereby mitigating ethical concerns around inappropriate medical travel.

Pre-travel remote consultations may also generate more realistic expectations and thereby reduce the perception-expectation gap, while post-travel remote consultations may reduce cognitive dissonance, address complaints, and strengthen service loyalty (25). Qualitative evidence further indicates that medical tourists often rely on patient testimonials and word-of-mouth information rather than physician advice, with neutral third-party information sources remaining limited (27).

Beyond clinical gains, this phase promotes equity by improving access for patients in remote or underserved regions who previously faced barriers to specialist consultation. It also improves communication and information quality, which has been shown to positively affect continued telemedicine use and user satisfaction (8).

Nevertheless, successful implementation requires attention to limitations, including potential challenges in physical examination components, data security across borders, varying regulatory acceptance of remote diagnoses, and the digital divide affecting certain patient populations. Given these limits, hybrid care models that combine remote and in-person components have been explicitly recommended (10).

By transforming pre-travel consultation into a sophisticated virtual optimisation stage, telemedicine-augmented models lay the foundation for safer, more efficient, and higher-value medical tourism experiences. This preparatory excellence directly influences the quality of care received abroad and sets the stage for effective post-return continuity.

Post-return follow-up: optimizing continuity, outcomes, and long-term value

The post-return phase constitutes the most vulnerable segment of the medical tourism journey. Patients returning home after treatment abroad frequently encounter fragmented care, limited access to destination providers, and challenges in managing complications within their local health systems. Telemedicine emerges as a powerful mechanism to close this critical gap, transforming episodic international care into sustained, continuous therapeutic relationships (10).

Telemedicine-augmented post-return follow-up enables structured remote monitoring, early detection of complications, virtual rehabilitation guidance, medication management, and seamless coordination with home-country physicians. Through secure platforms, wearable devices, and remote patient monitoring technologies, destination providers can maintain clinical oversight long after the patient has returned home. This continuity may contribute to reducing the burden on domestic health systems and could mitigate the financial and clinical costs associated with unmanaged post-procedural complications (17). Table 3 presents a comparative analysis of traditional and telemedicine-augmented approaches to post-return follow-up.

Table 3. Traditional versus telemedicine-augmented post-return follow-up in medical tourism.

Dimension	Traditional Model	Telemedicine-Augmented Model	Key Benefits	Supporting Evidence
Continuity of Care	Fragmented; limited destination provider access	Seamless virtual linkage with destination team	Reduced care fragmentation and improved outcomes	(1,10,23)
Complication Detection	Reactive, often delayed	Proactive remote monitoring and early intervention	Lower readmission rates and complication severity	(10,18,20)
Rehabilitation and Recovery	Local provider-dependent	Hybrid guidance with specialist input from abroad	Faster and more consistent functional recovery	(20,22)
Coordination with Home Providers	Poor data sharing	Secure EHR integration and shared care plans	Enhanced multidisciplinary collaboration	(23,28)
Patient Satisfaction and Engagement	Variable, high dropout	High through convenient virtual access	Improved adherence and experience	(8,10)
Cost Implications	High (travel for follow-up or unmanaged complications)	Substantial reduction in readmissions and travel	Better value for patients and payers	(20,29)
Long-term Outcome Tracking	Limited	Systematic PROMs and clinical data collection	Robust outcome measurement and quality improvement	(12,30)

Empirical evidence suggests clinical non-inferiority and, in many cases, potential superiority of telemedicine in post-operative follow-up. Studies suggest comparable or better detection of complications, high patient satisfaction, and potential reductions in unnecessary in-person visits (20). In the context of medical tourism, hybrid post-return models may show promise in reducing the financial burden on home-country health systems, which often bear the cost of managing complications from overseas procedures (17).

Medical records may remain discontinuous across borders, and adequate systems for transferring information between medical tourism hospitals and physicians in the patient's home country are frequently absent (23). Technological enablers such as AI-supported vital sign monitoring, secure video platforms, and interoperable electronic health records further strengthen these models. When integrated effectively, they create a true "global care team" that transcends national borders (19).

Challenges remain, including data privacy across jurisdictions, varying reimbursement policies, technological literacy among patients, and potential limitations in managing complex acute complications remotely. These challenges span legal, regulatory, organisational, financial, clinical, cultural, and technical domains, and the emerging European Health Data Space framework (Regulation 2025/327 and MyHealth@EU) illustrates both the facilitators and the barriers involved (28), while cross-border complexity and regulatory variability mean that risks cannot be entirely eliminated (31). Addressing these requires robust regulatory harmonisation, clear governance frameworks, and patient-centred design (10).

By prioritising structured post-return telemedicine protocols, hybrid medical tourism models not only enhance patient safety and clinical outcomes but also strengthen the overall credibility and sustainability of the industry. This phase completes the care cycle, converting one-time medical travel into a longitudinally supported health investment.

Implementation considerations, barriers, and facilitators

Successful integration of telemedicine into medical tourism requires navigating a complex landscape of regulatory, technological, ethical, and organisational challenges. While the conceptual and clinical benefits of hybrid models are compelling, real-world implementation demands careful attention to systemic barriers and strategic facilitators.

Regulatory and legal hurdles remain among the most significant obstacles. Cross-border telemedicine faces fragmented licensing requirements, varying standards for remote diagnosis and prescribing, and differing data protection regulations. The European Union's regulatory landscape, most visibly the European Health Data Space framework (Regulation 2025/327 and MyHealth@EU), illustrates both the protective frameworks and the compliance complexities that arise for international care providers (28). Reimbursement presents another critical barrier: many insurance schemes and national health systems still offer limited or no coverage for telemedicine services involving foreign providers, creating financial disincentives for patients and providers alike (9).

Technological infrastructure and interoperability issues further complicate adoption. While leading medical tourism destinations have invested heavily in digital platforms, disparities persist in electronic health record compatibility, secure data exchange standards, and broadband reliability across countries. The digital divide risks exacerbating rather than reducing health inequalities: while telemedicine can widen access, it may simultaneously deepen disparities for vulnerable groups, particularly among older patients, lower-income groups, and those in rural areas (32). Where interoperability is absent, health systems that are fragmented, incomplete, and isolated lose continuity of care, the very failure mode hybrid models are intended to address (12).

Ethical considerations are equally important. These include ensuring informed consent in virtual settings, maintaining continuity of responsibility between home and destination providers, protecting patient privacy across borders, and preventing the exploitation of vulnerable international patients. Questions of medical liability in hybrid care models, particularly when complications arise, require clear contractual frameworks and international cooperation, and reported complication rates in cosmetic medical tourism have reached as high as 74%, with accountability for subsequent care falling disproportionately on receiving health systems (33).

Despite these barriers, several facilitators are accelerating progress. Leading destinations such as Türkiye, India, Thailand, and Singapore have begun developing dedicated telemedicine protocols for international patients, supported by government policies and hospital accreditation bodies. The post-pandemic maturation of digital health technologies, combined with growing patient familiarity with virtual care, has created a more receptive environment. Stakeholder alignment is also improving: patients increasingly demand continuity, providers recognise opportunities for service differentiation and quality improvement, and some payers are exploring value-based reimbursement models for hybrid care episodes (10).

Lessons from OECD countries demonstrate that successful implementation depends on strong governance structures, investment in interoperable digital infrastructure, and the development of international standards for cross-border telemedicine (3,4). Public-private partnerships between hospitals, telemedicine platforms, and medical travel facilitators have proven particularly effective in creating seamless patient journeys.

Ultimately, overcoming implementation challenges will require collaborative action among governments, health systems, professional associations, and the medical tourism industry. Those destinations and providers who successfully address these barriers will gain significant competitive advantage by offering safer, more integrated, and higher-value care experiences in an increasingly discerning global market.

Discussion

The findings of this narrative review indicate that telemedicine has considerable potential to strengthen continuity of care throughout the medical tourism pathway. However, the available evidence remains heterogeneous, with only a limited number of studies directly examining telemedicine within medical tourism settings. Consequently, several conclusions presented in this review are informed not only by direct evidence from medical tourism research but also by conceptually relevant findings from broader telemedicine literature.

The integration of telemedicine into medical tourism through hybrid care models represents a transformative opportunity to redefine cross-border healthcare delivery in the post-pandemic era. This narrative review demonstrates that strategically designed hybrid frameworks can effectively address longstanding fragmentation issues while unlocking substantial clinical, economic, and experiential value across the entire patient journey. By bridging pre-travel optimisation and post-return continuity, telemedicine shifts medical tourism from a transactional service toward a genuine integrated care episode (10,25).

Several compelling opportunities emerge. Clinically, hybrid models may enhance patient safety through better selection, potentially reduced complication rates, and proactive management. Economically, they may generate value by decreasing unnecessary travel, potentially lowering readmission costs, and improving overall system efficiency for both home and destination countries. From a patient perspective, these models deliver greater convenience, reassurance, and empowerment through continuous engagement with care teams. For destination providers, telemedicine-augmented services offer powerful differentiation in an increasingly competitive global market, enabling stronger patient loyalty and premium positioning (3,19).

Policy and strategic opportunities are equally significant. Governments and medical tourism hubs can leverage hybrid models to elevate quality standards, strengthen regulatory oversight, and promote sustainable growth. Countries that establish clear frameworks for cross-border data exchange, mutual recognition of telemedicine credentials, and value-based reimbursement stand to capture greater market share while contributing to global health equity (28). Furthermore, these models can help address workforce shortages by optimising specialist time across borders and reducing the burden on strained domestic health systems (7).

Nevertheless, notable challenges persist. Regulatory fragmentation, reimbursement inconsistencies, data interoperability limitations, and ethical concerns around liability and equity continue to hinder widespread adoption. The digital divide risks exacerbating rather than reducing health inequalities if hybrid models remain accessible primarily to technologically savvy and financially advantaged patients (32). Additionally, concerns regarding the potential commercialisation of healthcare and the risk of over-medicalisation through ease of virtual access require vigilant governance (17).

Looking forward, the visionary pathway lies in the evolution toward intelligent, seamless global care ecosystems. The convergence of telemedicine with artificial intelligence, remote monitoring technologies, and blockchain-enabled secure data sharing could enable predictive, personalised, and highly coordinated care regardless of geography. Future hybrid models may incorporate AI-driven risk prediction during pre-travel assessment, real-time clinical decision support during treatment, and automated longitudinal outcome tracking post-return (30). Sustainability considerations including reduced carbon emissions from unnecessary travel further strengthen the case for scaled adoption.

Strategic recommendations include:

1.Development of international standards and bilateral agreements for cross-border telemedicine in medical tourism.

2.Investment in interoperable digital health infrastructure by destination countries and hospital networks.

3.Creation of hybrid care accreditation programmes that go beyond traditional JCI standards.

4.Pilot programmes testing value-based payment models for end-to-end hybrid care episodes.

5.Targeted research focusing on long-term clinical outcomes, cost-effectiveness, and equity impacts.

This review highlights important research gaps, particularly the need for robust longitudinal studies, comparative effectiveness

trials, and health economic evaluations specific to telemedicine-augmented medical tourism. Qualitative research exploring patient and provider experiences across different cultural and economic contexts is also essential (27). Telemedicine-augmented hybrid care models offer a mature, pragmatic, and visionary response to the evolving demands of global health mobility. By embracing this approach, stakeholders can transform medical tourism into a model of excellence in continuous, patient-centred, and digitally enabled care.

Limitations of the Study

This review has several limitations that should be considered when interpreting its findings. First, only English-language publications published between 2020 and 2026 were included, which may have excluded relevant evidence published in other languages. Second, although a structured search strategy was adopted, this study was conducted as a narrative review rather than a systematic review; therefore, a formal risk-of-bias assessment was not performed. Third, the final synthesis was based on thirteen publications representing diverse study designs, healthcare settings, and populations, resulting in considerable methodological heterogeneity. Furthermore, only a subset of the included studies directly investigated telemedicine within the context of medical tourism, whereas the remaining publications provided indirect but conceptually relevant evidence derived from broader telemedicine and digital health research. Finally, the review additionally cites a set of academic and policy sources for contextual and conceptual purposes, including earlier conceptual contributions predating the 2020-2026 search window, which were not part of the formal screening process and are therefore not represented in Figure 1 or Table 1. Accordingly, the conclusions presented in this review should be interpreted as an evidence-informed conceptual synthesis rather than definitive evidence of clinical effectiveness.

In conclusion, telemedicine-augmented medical tourism represents a fundamental evolution in global health mobility. By integrating virtual care capabilities across pre-travel, in-destination, and post-return phases, hybrid models effectively address the longstanding fragmentation that has characterised traditional medical tourism. These approaches transform episodic, high-risk journeys into coordinated, continuous, and patient-centred care experiences that enhance safety, clinical outcomes, patient satisfaction, and overall value.

This narrative review has demonstrated that telemedicine is far more than a supplementary technology; it serves as a strategic enabler that redefines the very architecture of cross-border care. When thoughtfully implemented, hybrid models mitigate many of the risks associated with medical travel while unlocking new opportunities for quality improvement, operational efficiency, and sustainable industry growth. The post-COVID era, with its accelerated digital maturity and heightened emphasis on care continuity, may provide a unique window for widespread adoption of these models.

The transition to telemedicine-augmented hybrid care demands more than technological investment. It requires collaborative leadership among governments, healthcare providers, payers, and medical tourism stakeholders to overcome regulatory, ethical, and infrastructural barriers. Those who successfully navigate this transition will shape the future of medical tourism as a mature, trusted, and high-value component of global healthcare.

Ultimately, the true promise of these hybrid models lies in their potential to transcend national borders and create a more connected, equitable, and resilient global health ecosystem. Medical tourism, once viewed primarily through an economic lens, can evolve into a sophisticated vehicle for delivering continuous, high-quality care that benefits patients, providers, and health systems worldwide.

The time has come to move beyond fragmented, transactional models toward integrated hybrid care frameworks. The technology exists. The evidence is emerging. What remains is the collective vision and commitment to realise this next frontier in global health delivery.

Overall, the available evidence suggests that telemedicine may serve as an important enabler of continuity of care within medical tourism by supporting communication, follow-up, and coordination across international healthcare settings. Nevertheless, the current evidence base remains limited, and further prospective, multicentre studies are required to evaluate the clinical effectiveness, cost-effectiveness, patient-reported outcomes, and implementation feasibility of telemedicine-augmented hybrid care models in medical tourism.

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References

1. Moghavvemi S, Mogan K, Ghazali EM. The issue, challenges and risk of post-surgery treatment abroad among medical tourists from doctors' perspective. J Qual Assur Hosp Tour. 2025; 26: 699-730.
2. Zolfagharian M, Rajamma RK, Naderi I, et al. Determinants of medical tourism destination selection process. J Hosp Mark Manag. 2018; 27: 775-94.
3. OECD. The COVID-19 Pandemic and the Future of Telemedicine. OECD health policy studies. Organization for Economic Cooperation and Development Paris: OECD Publishing; 2023.
4. OECD. The regulation and financing of telemedicine in the OECD, before and during COVID19. In: OECD health policy studies. Organization for Economic Cooperation and Development; Paris: OECD Publishing; 2023.
5. OECD. Health for the People, by the People. OECD health policy studies. Organization for Economic Cooperation and Development; Paris: OECD Publishing; 2021.
6. OECD. Use of telemedicine has boomed during the COVID19 pandemic. In: OECD health policy studies. Organization for Economic Cooperation and Development; Paris: OECD Publishing; 2023.
7. Xue P, Bai A, Jiang Y, et al. WHO global strategy on digital health and its implications to China. Zhonghua Liu Xing Bing Xue Za Zhi. 2022; 56: 218-21.
8. Gu D, Humbatova G, Xie YC, et al. Different roles of telehealth and telemedicine on medical tourism: An empirical study from Azerbaijan. Healthcare (Basel). 2021; 9: 1073.
9. Ayo-Farai O, Ogundairo O, Maduka CP, et al. Telemedicine in health care: A review of progress and challenges in Africa. Matrix Sci Pharma. 2023; 7: 124-32.
10. Rabbani MG, Alam A, Prybutok VR. Digital health transformation through telemedicine (2020–2025): Barriers, facilitators, and clinical outcomes- A systematic review and meta-analysis. Encyclopedia. 2025; 5: 206.
11. Manyazewal T, Woldeamanuel Y, Blumberg HM, et al. The potential use of digital health technologies in the African context: A systematic review of evidence from Ethiopia. npj Digit Med. 2021; 4: 125.
12. Mantri M, Sunder G, Kadam S, et al. A perspective on digital health platform design and its implementation at national level. Front Digit Health. 2024; 6: 1260855.
13. Eren M, Türkay O. Türk medikal turizm sektöründe yapı, işleyiş ve sorunlar: Farklı paydaşlar gözünden bir değerlendirme. Seyahat ve Otel İşletmeciliği Dergisi. 2023; 11: 91-112.
14. Mahida R. The significant impacts of the medical tourism industry on the Indian economy. Vidya J Gujarat Univ. 2024; 3: 130-9.
15. Wright DWM, Zascerinska S. Becoming immortal: Future wellness and medical tourism markets. J Tour Futures. 2022; 9: 168-95.
16. Taheri B, Chalmers DM, Wilson J, et al. Would you really recommend it? Antecedents of word-of-mouth in medical tourism. Tour Manag. 2020; 83: 104209.
17. Radnić RA, Milojica V, Roblek V. Economic benefits and ethical questions of dental and aesthetic tourism in Europe. Tourism. 2025; 73: 682-99.
18. 18.Weinberg FI, Wagstaff D, Moonesinghe R, et al. Medical travel for surgical procedures: A systematic review of the literature. Res Sq. 2022; rs.3.rs-1456209.
19. 19.Khatib IA, Ndiaye M, Ahmed N. Medical tourism: The use of telemedicine for international patient continuity of care - A review. IEEE Int Conf E-Health Bioeng. 2023:148-53.
20. Harkey K, Kaiser NC, Zhao JJ, et al. Postdischarge virtual visits for low-risk surgeries. JAMA Surg. 2021; 156: 221-8.
21. Medhekar A. The digital transformation of medical tourism. In: Advances in Healthcare Information Systems and Administration. Hershey: IGI Global; 2025: 325-54.
22. Villalobos NS, van Loenen T, Ngongalah L, et al. Hybrid care modifications in the delivery of nonpandemic care during the COVID-19 pandemic: Scoping review. J Med Internet Res. 2026; 28: e50123.
23. Crooks VA, Kingsbury P, Snyder J, et al. What is known about the patient's experience of medical tourism? A scoping review. BMC Health Serv Res. 2010 ; 10:266.
24. Byun M, Baek HJ, Kim TK, et al. Video consultations for patients traveling internationally for medical care: An observational study of a tertiary hospital in South Korea. Int J Environ Res Public Health. 2025 ;22: 481.
25. George B, Henthorne TL. The incorporation of telemedicine with medical tourism: A study of consequences. J Hosp Mark Manag. 2009; 18: 512-22.
26. Sun V, Xiao Y, Li S, et al. Comparative effectiveness of remote perioperative telemonitoring in cancer surgery: A randomized trial. npj Digit Med. 2025; 8: 555.
27. Johnston R, Crooks VA, Snyder J. "I didn't even know what I was looking for": A qualitative study of the decision-making processes of Canadian medical tourists. Global Health. 2012; 8: 23.
28. Carradinha M, Mendes VIS, Moura RP, et al. Telemedicine and the European Health Data Space: A new paradigm for healthcare in the EU. Front Digit Health. 2026; 7: 1713758.

29. Shaffrey EC, Larson JD. Unintended souvenirs: Case report of a retained foreign body during cosmetic surgery tourism. Aesthet Surg J Open Forum. 2024; 6:ojae012.
30. Tan SY, Sumner J, Wang Y, et al. A systematic review of the impacts of remote patient monitoring (RPM) interventions on safety, adherence, quality-of-life and cost-related outcomes. npj Digit Med. 2024; 7: 192.
31. Mishra V. Digital trust in medical tourism portals: Multiple pathways to consumer confidence. Front Digit Health. 2026; 8: 1885464.
32. Haimi M. The tragic paradoxical effect of telemedicine on healthcare disparities- a time for redemption: A narrative review. BMC Med Inform Decis Mak. 2023; 23: 95.
33. Slovacek C, Mailey B. Who owns the complications? A call for accountability in cosmetic medical tourism. Plast Reconstr Surg Glob Open. 2026; 14: e5540.

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