


A Green, Circular, Responsible, and Regenerative (GCRR) Framework for Medical Tourism: A Viewpoint on Advancing Health Equity

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ABSTRACT

Medical tourism has become a major global phenomenon at the intersection of healthcare, mobility, and economic development. While it drives revenue and fosters medical innovation, it also raises significant ethical, equity, and environmental concerns, including unequal access to care, resource diversion from local populations, and ecological impacts. This viewpoint introduces a Green, Circular, Responsible, and Regenerative framework to guide sustainable and socially just medical tourism. Integrating environmental sustainability, resource circularity, and corporate social responsibility, the framework promotes economic viability alongside social justice and planetary health. Grounded in circular economy principles, CSR, and the UN Sustainable Development Goals, it outlines how policymakers, healthcare providers, and tourism stakeholders can collaborate to advance equitable, sustainable, and regenerative medical tourism systems.

KEYWORDS

Medical Tourism, Sustainability, Circular Economy, CSR, Green Healthcare, Regenerative Tourism, Healthcare Equity, SDGs

1. INTRODUCTION

Medical tourism, defined as the movement of patients across borders to receive medical, surgical, or wellness care, has grown into a global industry exceeding USD 100 billion in annual value (Sandberg, 2017). Patients travel for a range of procedures, from elective surgeries to fertility treatments and wellness retreats, often seeking cost savings, specialized expertise, or shorter waiting times (Bookman & Bookman, 2007). Yet, behind its economic promise lies a series of sustainability and equity concerns. The industry's rapid expansion contributes to increased carbon emissions (Zurl et al., 2025), intensive resource use, and substantial medical and plastic waste (Foschi et al., 2025). Socially, it risks deepening health inequities between local residents and foreign patients, particularly in low- and middle-income countries where private facilities prioritize medical tourists over domestic populations (Johnston et al., 2010). Thus, while medical tourism may increase access for global elites, it can simultaneously exacerbate inequities for marginalized communities (Johnston et al., 2010; Chen & Flood, 2013; Virani et al., 2020). This viewpoint argues that medical tourism must evolve from a

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growth-driven model toward a regenerative (Bellato & Pollock, 2023) and equitable paradigm that benefits both people and the planet. Drawing on theories of sustainability and the circular economy, the paper introduces the Green, Circular, Responsible and Regenerative Framework. It envisages a holistic system that integrates ecological sustainability, resource circularity and social justice. Furthermore, it positions healthcare equity, defined as the principle that everyone has a fair and just opportunity to attain their full health potential and which requires the removal of avoidable barriers to health (Jindal et al., 2023), together with fair access, inclusiveness and shared benefits, as a central outcome of regenerative health travel that can support population health. First, the viewpoint introduces the framework; secondly, it examines the governance and implications of its approach; thirdly, it evaluates the industry's transformation; and finally, it considers the challenges and opportunities of applying the framework to achieve healthcare equity, as well as directions for future research.

2. THE GREEN, CIRCULAR, RESPONSIBLE, AND REGENERATIVE FRAMEWORK

The green, circular, responsible and regenerative framework combine three strands of scholarship: environmental sustainability, circular economy theory, and socially responsible health governance, and adapted specifically to the medical tourism context. Conceptually, it follows methodologies used in integrative theory building in health systems research (Walker & Avant, 2019; Jabareen, 2009), combining a targeted review of the literature with problem framing informed by governance and planetary health perspectives. Rather than presenting a static model, the framework operates as an analytical lens that maps how environmental, material, and social value flows generated by medical travel can be redirected to support equity and public health outcomes. In this sense, the framework responds to gaps in existing models of medical tourism that address either environmental or socioeconomic impacts but rarely examine how these dimensions interact to shape access and the distribution of benefits.

2.1 Green Medical Tourism and Planetary Health

This dimension addresses environmental sustainability across both health and tourism value chains and applies principles from planetary health, which recognises human well-being as inseparable from ecological stability. Environmentally conscious hospitals invest in energy efficiency, low carbon procurement, and water stewardship (Ulrich et al., 2008), while green certified accommodation and transport integrate carbon accounting and nature-positive tourism practices. These interventions move beyond environmental compliance to frame environmental performance as a determinant of safe and ethical care, and by reducing pollution and ecological degradation, which disproportionately harm poorer communities, greening medical tourism becomes a mechanism for protecting population health and reducing place-based inequities. Measurable aspects include energy intensity, carbon footprint per procedure, and water use per patient episode.

2.2 Circular Systems and Resource Regeneration

The circular dimension draws on circular economy theory and implementation research (Ellen MacArthur Foundation, 2019) to minimise waste, preserve material value, and support regenerative resource flows across health-care operations and tourism support systems. It encompasses reusable or reprocessed instruments, recyclable packaging, repairable devices, and zero-waste sterilisation in clinical settings (Soares et al., 2023; Weiman, 2025), along with circular construction, low-waste hospitality, and closed-loop water and food systems in the surrounding tourism sector. While often framed as an efficiency strategy, circularity also addresses equity by reducing resource extraction and dependence on imported materials, freeing financial and logistical capacity for local health systems. In contexts where medical tourism competes for staff, space, and supplies, circular procurement and resource efficiencies can help rebalance allocation and redirect gains to underserved communities.

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