

# Public Health Transformation in Kerala: A Study of Historical Roots and Emerging Paradigms with a Focus on the Tribal Communities in the Ongoing Digital Era

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## ABSTRACT

**Background:** Public health system in Kerala has long been considered as role model of social development in spite of its modest GDP growth. This article revisits Kerala's public health scenario with a focus on tribal populations by duly integrating historical, socio-cultural, and contemporary views. It notes the radical and transformative role of socio-religious reform movements (SRRMs), especially the teachings of Sree Narayana Guru, in duly shaping health awareness among the masses and inclusive practices. The article examines the latest developments, resilience of Kerala's health system in the post-COVID era, Kerala's digital health interventions, epidemiological transitions and the enduring inequities that affect the tribal populace. The relevance of ecotourism for the sustained livelihood of tribal people too is discussed. Synthesizing the historical insights and contemporary views, this study suggests a renewed, inclusive, and ICT-enabled strategy for Kerala's public health.

**Methods:** An exploratory and also descriptive-analytical approach was used for the preparation of this article. Thus, very authentic information from published sources were used, mostly from statements and reports published by the State and Union governments viz. Govt. of Kerala (GOK) and Govt. of India (GOI), and also other statutory agencies like the Reserve Bank of India (RBI), Departments of the Government especially those related public health, tribal welfare, ecotourism, etc. were used extensively. Besides the above sources, reports on industry analysis, research studies etc. by reputed research agencies as well as reports of regulatory bodies, both national and international, like, WHO, National Health Mission (NHM) etc. were used for this study.

**Results:** Historically, the socio-religious reform movements (SRRMs) in Kerala, especially the teachings and advices of world-famous philosopher, poet and social reformer Sree Narayana Guru, could create a very robust infrastructure of public health by way of developing excellent health awareness coupled with literacy among the masses. Literacy coupled with health awareness could radically transform Kerala society especially its public healthcare. Later developments like land reforms further reinforced the socio-economic and health status of the masses in an inclusive and equitable manner. Accordingly, Kerala could attain human development indicators (HDIs) including health indicators that are comparable with the advanced nations of the world. Scientific use of ICT and allied advances in Kerala's healthcare system could help Kerala effectively defend itself from during the global pandemic Covid-19 and the efficiency of Kerala's digital healthcare is globally acknowledged. Despite the above superiority in public healthcare in general and digital initiatives in particular, the case of tribal healthcare in Kerala needs closer attention. Use of ICT and also initiatives that ensure livelihood like ecotourism are required.

**Conclusion:** Meticulously designed, clearly articulated, and holistic strategies that ensure the overall living standards including sustained earnings of the tribal population are required in Kerala. So, the scientific use of digital healthcare practices as well as sustainable modes of livelihood for the tribal masses through ecotourism, traditional occupations and crops etc. need to be duly promoted so as to improve the health status of the tribals and also their overall welfare.

**Keyword:** Tribal health, Digital healthcare, Ecotourism, Livelihood, ICT, Digital Financial Inclusion, Digital Literacy

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## 1. INTRODUCTION

Kerala's achievements in public health - reflected in high life expectancy, low infant mortality, and near-universal literacy - have attracted sustained global attention and are often cited as a benchmark for inclusive human development. The so-called "Kerala Model" demonstrates how social sector investments, particularly in education and primary healthcare, can yield superior health outcomes even in the absence of high per capita income. The historical trajectory of Kerala's public health system is deeply intertwined with progressive socio-cultural transformations, especially the one spearheaded by the great social reformer Sree Narayana Guru. The radical change in the literacy rate from less than 4 percent in 1901 to as high as 39 percent in 1941 (i.e. growth of ten times in forty years) and that too coupled with very high awareness on public health and hygiene among the major socially deprived segment of Kerala society was due to the teachings of Sree Narayana Guru (Isaac & Tharakan, 1986); who preached the utmost need of cleanliness, proper waste disposal, use of hot water for consumption and also for preparing food especially the children's food. In fact, such a breakthrough achievement was unprecedented in the history of the world, the only one that could be distantly compared with the Guru's interventions was the one in Scandinavia, at the same period in the history, when women who assembled under the church parishes voluntarily decided to adopt 'triple dish-wash' (normal water, soap water, hot water) system as against their traditional 'single dish-wash' (normal water) so as to prevent their children from being affected with various diseases caused by infections from dishes. (Tharakan, 2018). Such socio-religious reform movements (SRRMs) in Kerala not only challenged entrenched social inequalities but also fostered awareness regarding hygiene, sanitation, and equitable access to basic services. Consequently, Kerala evolved a socially conscious and health-aware population, which became a critical driver of its public health success.

## 2. SIGNIFICANCE OF THE STUDY

The overall success of Kerala's public health system, however, conceals the persistent intra-state disparities. Tribal populations in regions such as Attappady, Wayanad, Idukki, and Vazhachal continue to face structural disadvantages in terms of access to healthcare, nutrition, and socio-economic opportunities. Studies have consistently highlighted that Scheduled Tribes (STs) in Kerala experience relatively poorer health outcomes, including higher levels of malnutrition, anemia, and infant mortality, compared to the general population (Government of Kerala, 2024; International Institute for Population Sciences [IIPS] & ICF, 2021). These disparities

are further compounded by geographical isolation, inadequate infrastructure, and socio-cultural marginalization (Bijoy & Raman, 2003; Devika, 2008). Moreover, emerging challenges such as epidemiological transition—with a dual burden of communicable and non-communicable diseases—pose additional risks to tribal communities (Drèze & Sen, 2013). Climate change and environmental vulnerabilities in ecologically sensitive tribal regions further aggravate health risks and livelihood insecurities (Government of India, 2023). In the contemporary digital era, uneven access to digital health technologies and limited digital literacy among tribal populations risk widening the existing health divide (World Health Organization [WHO], 2021). As an extension of earlier works, this study uses an expanded analytical framework that integrates historical, epidemiological, cultural, and technological dimensions, with a specific focus on tribal health in Kerala within the context of ongoing digital transformation (Manoj, 2025).

## 3. HISTORICAL ROOTS OF PUBLIC HEALTH IN KERALA

### 3.1 Early Public Health Interventions

Early public health achievements in Kerala can be traced to the two princely States of Travancore and Cochin. These two princely States of those days (together of which along with a third region called Malabar based at Calicut which was ruled by the British directly – three regions totally – together formed today's State of Kerala) were pioneers in many social sector initiatives including in public health in the pre-independence India. Notable among such princely interventions in the Travancore-Cochin area include the following four major ones: (i) Early initiation of state-supported healthcare systems in the late 19th century, (ii) Expansion of vaccination programs against smallpox and other infectious diseases, (iii) Development of an extensive network of hospitals and dispensaries, (iv) Early fall in the IMR (infant mortality rate) compared to the all-India average. These interventions reflect a proactive governance model that prioritized human development, laying a durable institutional foundation for future progress.

### 3.2 Role of Socio-Religious Reform Movements

A defining feature of Kerala's development trajectory is the profound influence of socio-religious reform movements (SRRMs). Among these, the contributions of Sree Narayana Guru were particularly transformative.

The philosophy of Sree Narayana Guru stressed on his ideals like: (1) Social equality and human dignity across the globe; (2) Cleanliness, hygiene, disciplined living of the mankind; (3) Rational thinking and education for all.

Importantly, the above teachings of Guru translated into practical behavioral changes in south India, especially in Kerala. Guru’s interventions included (i) Advocacy of hygienic practices like the use of boiled drinking water, (ii) Promotion of community awareness on sanitation, cleanliness, and hygiene, (iii) Elimination of caste-based restrictions totally in accessing knowledge and services

These cultural interventions of Sree Narayana Guru had far-reaching implications throughout Kerala that include (i) Tremendous reduction in infant and child mortality, (ii) Improved preventive health behaviors, (iii) Greater inclusiveness in the dissemination of health knowledge. The former Chairperson of Kerala Council for Historical Research (KCHR) and also the former Vice Chancellor of Kannur University P. K. Michael Tharakan (2018) asserted that such a great cultural transmission of health practices could play a key role that was as important as formal healthcare interventions or medical treatments. This highlights the peculiar socio-cultural roots that stemmed from the SRRMs spearheaded by Guru, and later followed by other reformers ultimately resulting in a robust foundation for Kerala’s public health system right from the early decades of the twentieth century. Such a solid foundation for public health as well as for universal literacy, and general and vocational education was further strengthened in the later years, thus making Kerala’s performance indices in healthcare, education, etc. one of the best in the whole world. This peculiar situation in Kerala is referred to as ‘Kerala Model’ by some experts who point out that Kerala’s commendable achievements in performance indices like public health, hospital services,

general education etc. are comparable with advanced nations of the world even when Kerala’s economic growth in terms of GDP remains very modest.

#### 4. PUBLIC HEALTH ACHIEVEMENTS AND THE KERALA MODEL

Kerala’s remarkable public health achievements, often described as the “Kerala Model,” are widely attributed to a unique combination of structural and social determinants that have evolved over time. Central to this success is the state’s exceptionally high literacy rate, particularly among women, which has significantly enhanced health awareness, health-seeking behavior, and overall social development (Jeffrey, 1992). Complementing this is a robust and well-distributed primary healthcare system that emphasizes preventive and promotive care, ensuring accessibility even in rural and remote areas (Panicker & Soman, 1984). Further, Kerala’s longstanding commitment to decentralized governance has enabled local self-government institutions to play an active role in planning and implementing health programs, thereby improving responsiveness to community needs (Isaac & Franke, 2002). Equally important is the tradition of public participation and social mobilization, fostered through strong civil society organizations and grassroots movements, which has reinforced accountability and collective action in the health sector (Heller, 1996). Together, these interrelated factors have contributed to health outcomes in Kerala that are comparable to those of more developed regions, despite relatively modest income levels (Sen, 1999; Drèze & Sen, 2013). The following data justify the above facts. (Table I).

**Table I:** Health Indicators: Kerala Vs. India as a Whole

Parameters / Indices	Kerala	India
IMR (per 1000)	6-7	27
MMR (per 1000)	Less than 50	103
Literacy Rate (Percent)	96	77
Life Expectancy	75-77 years	69 years

*Source:* NHM (2024), SRS (2023), MoHFW (2023)

#### 5. TRIBAL HEALTH IN KERALA: PERSISTENT CHALLENGES

Tribal population in Kerala even today experiences significantly lower health outcomes vis-à-vis the general population, in spite of Kerala’s widely acclaimed public health achievements. Recent evidence indicates that ST communities in Kerala exhibit disproportionately greater level of IMR, very high level of malnutrition among their children, and a widespread prevalence of anaemia, particularly among the tribal women and their adolescent girls (Govt. of Kerala, 2024; International Institute for Population Sciences [IIPS], 2021). These adverse health indicators reflect not merely biomedical deficiencies but deeper structural inequities embedded within the socio-economic fabric of tribal life. Scholars such as C. R. Bijoy and K. R. Raman (2003), along with Ajit Zacharias and Vamsi Vakulabharanam (2011), have emphasized that

geographic isolation of tribal settlements—often located in remote forested or hilly terrains—limits physical access to healthcare facilities and essential services. This is compounded by inadequate infrastructure, including poor road connectivity, lack of sanitation, and insufficient healthcare personnel, which collectively constrain effective service delivery. Further, cultural barriers such as reliance on traditional healing practices, language differences, and mistrust of formal medical systems often hinder timely healthcare utilization. Livelihood insecurity, marked by dependence on precarious wage labor and declining access to forest resources, exacerbates nutritional deprivation and vulnerability to disease. The crisis in Attappady serves as a critical illustration of these systemic failures, where repeated reports of child malnutrition and mortality have exposed gaps in public distribution systems, maternal and child healthcare

services, and inter-departmental coordination (NITI Aayog, 2022). A comparative assessment further highlights stark disparities between tribal and non-tribal populations in Kerala: while the state average reflects moderate levels of child malnutrition and anemia alongside high rates of institutional deliveries, tribal communities continue to face high malnutrition and anemia levels, coupled with relatively lower institutional delivery rates. These persistent inequities underscore the need for targeted, culturally sensitive, and context-specific public health interventions that address both the immediate health needs and the broader social determinants affecting tribal well-being.

## 6. EPIDEMIOLOGICAL TRANSITION

Kerala is currently undergoing a complex epidemiological transition, characterized not merely by a shift from communicable to non-communicable diseases, but by the coexistence of multiple and overlapping health burdens—often described as a “triple burden of disease” (K. R. Thankappan et al., 2010; World Health Organization, 2023). First, the state is witnessing a rapid rise in non-communicable diseases (NCDs) such as diabetes, hypertension, cardiovascular ailments, and cancers, largely driven by demographic ageing, sedentary lifestyles, dietary transitions, and urbanization (Indian Council of Medical Research [ICMR], 2023). Kerala, in fact, reports among the highest prevalence rates of diabetes and hypertension in India, posing significant challenges to its healthcare system in terms of long-term care, financial burden, and resource allocation. Simultaneously, infectious diseases continue to persist and periodically re-emerge, reflecting the unfinished agenda of public health. Vector-borne and zoonotic diseases such as dengue fever and leptospirosis have shown cyclical outbreaks in recent years, often exacerbated by climatic factors, environmental degradation, and high population density (Government of Kerala, 2024). These outbreaks highlight the continuing need for robust surveillance systems, preventive public health measures, and intersectoral coordination. Adding further complexity is the growing burden of mental health disorders, which has emerged as a critical yet under-addressed dimension of Kerala’s health profile. Rising levels of depression, anxiety, substance abuse, and one of the highest suicide rates in India indicate deep-seated psychosocial stressors linked to migration, unemployment, changing family structures, and social isolation (Vikram Patel et al., 2018). The convergence of these three domains—chronic diseases, infectious diseases, and mental health challenges—underscores the need for an integrated, life-course approach to healthcare that combines preventive, promotive, and curative strategies, while also addressing the broader social determinants of health in Kerala.

## 7. POST-COVID-19 DEVELOPMENTS

The post-COVID-19 phase in Kerala has drawn considerable scholarly attention, with the state’s pandemic response often cited as a model of effective public health governance and crisis management (World Health Organization, 2021; K. N. Harilal Isaac & R. Sadanandan, 2020). A key pillar of this response was Kerala’s historically evolved and robust public health system, characterized by a strong network of primary healthcare institutions, high levels of health awareness, and prior experience in managing outbreaks such as Nipah and Zika. This institutional strength enabled early detection, widespread testing, effective contact tracing, and the rapid mobilization of healthcare resources during the pandemic. Equally significant was the role of decentralized governance, rooted in Kerala’s long-standing commitment to local self-government. Panchayati Raj Institutions and urban local bodies played a proactive role in implementing containment measures, ensuring last-mile delivery of essential services, and coordinating relief efforts. This decentralized framework facilitated context-specific interventions and enhanced administrative responsiveness at the grassroots level. Another defining feature of Kerala’s COVID-19 response was the high degree of community participation and social mobilization, supported by networks such as Kudumbashree, local volunteers, and civil society organizations. These groups contributed to awareness campaigns, community kitchens, support for vulnerable populations, and monitoring of quarantine measures, thereby reinforcing public trust and compliance. In the post-pandemic period, these experiences have translated into a renewed emphasis on strengthening health system resilience, expanding digital health initiatives, and integrating community-based approaches into routine healthcare delivery. Collectively, these developments underscore Kerala’s ability to leverage its institutional, social, and participatory strengths to effectively navigate public health crises while laying the groundwork for more adaptive and inclusive health governance.

## 8. DIGITAL HEALTH AND ICT INTEGRATION

Kerala’s recent advances in digital health and ICT integration reflect a broader alignment with global trends in e-governance and technology-enabled healthcare delivery (World Health Organization, 2023; Ministry of Electronics and Information Technology [MeitY], 2022). Building upon its strong public health foundation, the state has actively leveraged digital platforms to enhance efficiency, accessibility, and responsiveness within the healthcare system. A flagship initiative in this regard is the eHealth Kerala programme, which focuses on the creation and integration of electronic health records (EHRs) across public healthcare institutions. By digitizing patient data and enabling seamless information sharing among healthcare providers, the initiative has improved administrative efficiency, reduced duplication of services,

and facilitated more informed clinical decision-making. In parallel, the expansion of telemedicine services has significantly improved access to healthcare, particularly for populations residing in geographically remote and underserved areas, including tribal communities. Through virtual consultations, remote diagnostics, and follow-up care, telemedicine has helped bridge spatial barriers and reduce the cost and time associated with physical travel to healthcare facilities. This has been especially relevant in the post-pandemic context, where digital modes of care delivery have gained greater acceptance.

Furthermore, the incorporation of artificial intelligence (AI)-based surveillance systems marks an important step toward proactive and data-driven public health management. These systems utilize real-time data analytics, predictive modeling, and geospatial tracking to monitor disease patterns, identify potential outbreaks, and enable early intervention. Such technological integration enhances the state's capacity for timely response and strengthens epidemiological surveillance mechanisms.

Collectively, these initiatives demonstrate how Kerala is harnessing ICT not only to improve service delivery but also to promote inclusive healthcare by extending the reach of medical services to marginalized populations, thereby contributing to a more resilient and future-ready public health system.

#### **9. CLIMATE CHANGE AND PUBLIC HEALTH**

The growing interface between climate change and public health has emerged as a critical concern in Kerala, given the state's ecological vulnerability and high population density. Recent assessments indicate that climate-related risks are already exerting significant pressure on health systems and outcomes (Intergovernmental Panel on Climate Change, 2022; Government of Kerala, 2024). One of the most visible manifestations of this linkage is the increasing frequency and intensity of flood events, as witnessed during the devastating Kerala floods of 2018 and subsequent years. These events not only result in immediate loss of life and displacement but also disrupt healthcare infrastructure, sanitation systems, and access to safe drinking water, thereby creating conditions conducive to disease outbreaks. In addition, climate variability has contributed to the rising incidence of vector-borne diseases such as dengue, chikungunya, and malaria, as changes in temperature, rainfall patterns, and humidity create favorable breeding conditions for disease vectors like mosquitoes. This has complicated the epidemiological profile of the state, necessitating enhanced surveillance and preventive strategies. Further, water contamination—often following floods and extreme weather events—poses serious public health risks, leading to outbreaks of water-borne diseases such as leptospirosis, cholera, and diarrheal infections. Contamination of drinking water sources due to sewage overflow, agricultural runoff, and inadequate waste

management exacerbates these risks, particularly among vulnerable populations. Taken together, these interrelated challenges underscore the urgent need for climate-resilient public health strategies in Kerala, including strengthened disaster preparedness, integrated disease surveillance, improved water and sanitation infrastructure, and greater intersectoral coordination. Addressing the health impacts of climate change thus requires not only technological and institutional responses but also a long-term commitment to sustainable environmental management and community-based adaptation measures. Global experiences on ICT for equitable, inclusive economic development, and women empowerment like the one reported in Philippines (Pickens, 2009) and many such experiences in India including in Kerala State in India must be an eye opener while using ICT for tribal development in Kerala. Kerala's experiences on ICT for tourism development, banking including housing etc. (Manoj, 2017-2025) are numerous in this regard.

#### **10. ECOTOURISM AND OTHER AVENUES FOR LIVELIHOOD**

Ecotourism has emerged as a viable and sustainable livelihood option for tribal communities in Kerala, particularly in ecologically sensitive regions such as Wayanad and Attappady, where indigenous knowledge systems and close interaction with nature can be meaningfully leveraged. Community-based ecotourism initiatives, supported by agencies like Kerala Forest Development Corporation and Responsible Tourism Mission Kerala, have facilitated income generation through guided forest treks, handicrafts, traditional food services, and cultural performances, while simultaneously promoting conservation and cultural preservation (Honey, 2008; Government of Kerala, 2024). Beyond ecotourism, alternative livelihood avenues such as non-timber forest produce (NTFP) collection, agroforestry, value-added forest products, and skill-based employment under programs like Kudumbashree Mission have contributed to enhancing economic resilience among tribal populations (Bijoy & Raman, 2003; Kurien, 2000). However, ensuring equitable benefit-sharing, preventing cultural commodification, and strengthening digital inclusion for market access remain critical challenges that must be addressed through participatory governance and inclusive policy frameworks (Scheyvens, 1999; United Nations Development Programme [UNDP], 2018).

#### **11. CONCEPTUAL FRAMEWORK SUGGESTED**

The proposed conceptual framework is a three-stage model that starts from 'Historical' (first) stage that considers Kerala's unique socio-cultural basis. Secondly comes the 'Digital' stage that acknowledges key role of ICT; and is followed by 'Inclusive Health Model' as the third stage. The offers a holistic lens to understand the evolution and future trajectory of public health in Kerala by integrating historical, institutional, and emerging

technological dimensions along with livelihood-linked determinants of health. The first stage, historical foundations, underscores the transformative impact of socio-religious reform movements (SRRMs), particularly the teachings of Sree Narayana Guru, which emphasized social equality, education, and hygienic living practices. These reformist interventions, combined with early public investments in education and healthcare, contributed to high literacy rates and enhanced social awareness, laying the groundwork for improved health-seeking behavior (Jeffrey, 1992; Sen, 1999). The second stage, institutional and epidemiological transition, reflects the consolidation of what is widely referred to as the “Kerala Model” of development, characterized by strong primary healthcare systems, decentralized governance, and a focus on social welfare (Sen, 1999; Drèze & Sen, 2013). During this phase, Kerala achieved remarkable progress in controlling communicable diseases and improving key health indicators; but, it also began experiencing a shift toward non-communicable diseases (NCDs), reflecting broader demographic and lifestyle changes, thereby necessitating adaptive institutional responses.

The third stage, digital and inclusive health future, extends beyond healthcare delivery to incorporate sustainable livelihood dimensions—particularly for marginalized tribal communities—into the public health paradigm. In this context, ecotourism and allied livelihood avenues in regions such as Wayanad and Attappady assume critical importance, as they enhance income security, nutritional outcomes, and overall well-being. Community-based ecotourism, supported by institutions like Responsible Tourism Mission Kerala, promotes culturally rooted and environmentally sustainable economic activities, including guided nature-based tourism, handicrafts, and traditional food services (Honey, 2008; Government of Kerala, 2024). Complementary livelihood strategies such as non-timber forest produce (NTFP) collection, agroforestry, and participation in programs like Kudumbashree Mission further strengthen socio-economic resilience (Bijoy & Raman, 2003; Kurien, 2000). When integrated with digital health interventions—such as telemedicine, electronic health records, and AI-enabled disease surveillance—these livelihood enhancements contribute indirectly yet significantly to improved health outcomes by addressing social determinants of health and reducing vulnerability (World Health Organization, 2023; UNDP, 2018).

Thus, this third stage envisions a convergence of ICT-enabled healthcare, inclusive development, and sustainable livelihoods, while also embedding climate resilience as a critical component in view of Kerala’s ecological sensitivity. Taken together, the three-stage framework highlights a dynamic and evolving model of public health that builds upon Kerala’s historical strengths while embracing innovation, inclusion, and sustainability. The ultimate outcome is an equitable, resilient, and

technology-driven public health system that not only addresses disease burdens but also strengthens the broader socio-economic foundations of health, particularly for historically marginalized communities.

## 12. CONCLUSION

Kerala’s public health success is rooted in a unique blend of socio-cultural reform, progressive public policy, and active community participation (Sen, 1999; Drèze & Sen, 2013). The state’s public health transformation has been shaped not only by institutional interventions but also by deep-rooted social change inspired by reformers such as Sree Narayana Guru, whose emphasis on equality, education, and social upliftment created a strong foundation for inclusive health development. While Kerala continues to perform remarkably well in key health indicators, emerging challenges, particularly among tribal populations, underscore the limitations of a purely service-delivery-oriented approach and call for a broader, more integrated framework. In line with the proposed model that proceeds from ‘Historical’ stage to ‘Digital’ stage and thirdly to ‘Inclusive Health Model’ it becomes evident that addressing persistent tribal disparities requires a multidimensional strategy that goes beyond healthcare provisioning to include sustainable livelihood enhancement and social determinants of health. In this regard, ecotourism and allied livelihood opportunities in regions such as Wayanad and Attappady provide promising pathways for improving income security, nutritional status, and overall well-being of tribal communities. Initiatives supported by institutions like Responsible Tourism Mission Kerala, along with community-based programs such as Kudumbashree Mission, demonstrate the potential of integrating livelihood development with inclusive public health outcomes (Honey, 2008; Government of Kerala, 2024; Bijoy & Raman, 2003). At the same time, emerging challenges such as digital inequality, epidemiological transitions, and climate-related health risks necessitate a reoriented and adaptive strategy. Leveraging digital health innovations—such as telemedicine, electronic health records, and AI-based surveillance—must be complemented by efforts to ensure digital inclusion and culturally sensitive outreach, especially among marginalized groups (World Health Organization, 2023; UNDP, 2018). Thus, a holistic approach that integrates historical insights, technological advancements, and inclusive governance—while also embedding sustainable livelihood strategies—remains essential for sustaining Kerala’s leadership in public health. Ensuring equitable access to healthcare and addressing the broader socio-economic determinants of health will be crucial for preserving and advancing Kerala’s legacy as a global model of human development.

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