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PUBLIC HEALTH REFORMS IN INDIA POST COVID-19: A GOVERNMENT-LED TRANSFORMATION

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ABSTRACT

The COVID-19 pandemic was a major global health crisis in the 21st century. For India, it was both a challenge and an opportunity. It revealed existing weaknesses in infrastructure and healthcare readiness, but also spurred reforms that had been long envisioned. The Indian government responded with a wide-ranging approach that combined swift policy measures, technological advancements, and investments in infrastructure.

Initiatives such as the large-scale vaccination drive supported by the CoWIN platform, and the creation of the Ayushman Bharat Digital Mission to serve as the foundation of a digital health system, marked significant changes.[3] The telemedicine service eSanjeevani helped bridge the gap between rural and urban healthcare, while the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) enhanced disease surveillance, laboratory capacity, and critical care at the district level.

This paper examines how these government-led initiatives have reshaped public health in India after COVID-19, suggesting that the pandemic acted as a progress toward healthcare, increased resilience, and a greater health equity.

Key Words: COVID-19, CoWIN, ABDM, PM-ABHIM, Post Corona, eSanjeevani, Global Health Crisis

INTRODUCTION

The COVID-19 outbreak proved to be far more than a health emergency—it became a test of state capacity, infrastructure readiness, and social resilience on a global scale. In India, where the scale of population and diversity of needs amplify every challenge, the stakes were particularly intense. The early months exposed multiple fault lines: disrupted supply chains, overwhelmed hospitals, and uneven access to medical care. Rather than treating these setbacks as insurmountable, Indian policymakers sought to transform the crisis into an opportunity to reinforce and reimagine the health system.

A dual approach was adopted: immediate relief measures on one hand, and structural reforms aimed at long-term resilience on the other. The nationwide vaccination programme, coordinated through the CoWIN platform, set international benchmarks in speed, transparency, and scale. Complementing this, the Ayushman Bharat Digital Mission (ABDM) began establishing a national health information backbone by enabling citizens to create Ayushman Bharat Health Account (ABHA) IDs and securely store medical records. The expansion of *eSanjeevani* brought virtual consultations to rural households, bridging longstanding rural–urban divides in access to doctors. Parallel efforts under the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) focused on oxygen production, diagnostic networks, and surveillance capacity at the district level—key elements for future crisis preparedness.

Taken together, these measures reflect more than temporary responses. They signal a pivotal turning point in India's health sector. When considered against the backdrop of the country's decades-long push for "Health for All," these reforms appear as a decisive step toward universal health coverage, improved resilience, and recognition of health as a pillar of national development and security.

BACKGROUND & RATIONALE

India's public health journey is being led by both ambitious policy visions and persistent constraints too. As early as in the year 1946, the Bhore Committee underscored the importance of universal health services for nation-building. Since then, successive initiatives—from the National Rural Health Mission (2005), which prioritized maternal and child health, to the National Health Policy (2017), which called for raising health expenditure to 2.5% of GDP—have sought to advance equity and access. Despite these efforts, systemic issues remain: underinvestment in public health, infrastructure disparities, and a heavy dependence on out-of-pocket payments.

The pandemic augmented these structural weaknesses, while also underscoring the priority of reform. Post-COVID health strategies in India are guided by three broad principles:

1. **Universal Access:** The crisis illustrated that healthcare is inseparable from national security; without equitable access, both life and livelihood are at risk.
2. **Preparedness and Resilience:** Strengthening intensive care facilities, surveillance systems, and laboratories has become indispensable for future outbreak management.
3. **Technology for Inclusion:** Digital innovations such as CoWIN and telemedicine proved that technology can reduce barriers of geography, cost, and inequity.

Thus, the government's approach has been not just reactive but forward-looking—drawing lessons from the pandemic and converting them into a long-term blueprint for a stronger, more inclusive, and technologically integrated health system.

LITERATURE REVIEW

- **Bhore Committee Report (1946):** A foundational document that proposed a national health service, embedding universal access at the core of India's health planning.
- **Alma-Ata Declaration (1978):** Reinforced global consensus on the primacy of primary healthcare, influencing India's policy direction.
- **National Rural Health Mission (2005):** Considered a turning point in public health, with strong focus on maternal and child health (Reddy, 2017; Rao, 2018).
- **National Health Policy (2017):** Advocated increasing public health spending to 2.5% of GDP and progressing toward universal health coverage (UHC).
- **Digital Health Platforms:** Studies credit the CoWIN system with ensuring transparency and efficiency in vaccine delivery (Gupta & Sahoo, 2021; Sharma, 2022).
- **Global Recognition:** WHO (2022) described India's vaccination campaign as the largest and one of the most systematically executed worldwide.
- **NITI Aayog (2021):** Emphasized the importance of ABDM in laying the foundation for a connected

digital health ecosystem.

- **Community Engagement:** Scholars highlight India's use of ASHA workers, primary health centres, and local governance as distinctive strengths in implementation (Kumar & Singh, 2022).

SUMMARY

The current wave of reforms reflects both continuity and innovation: they draw on long-standing aspirations for universalism while incorporating new tools of digital governance, making India's approach potentially replicable in other resource-constrained contexts.

OBJECTIVES

1. The objectives of this research are both analytical and policy-oriented:
2. To document the major government-led reforms in India's health sector post-COVID-19.
3. To assess the outcomes of these reforms in terms of healthcare accessibility, affordability, and quality.
4. To evaluate the role of technology and digital health solutions in bridging gaps in service delivery.
5. To identify the extent to which these reforms address pre-existing health system challenges.
6. To contribute to academic and policy debates by highlighting India's success stories and lessons for other developing nations.

RESEARCH QUESTIONS

Based on the Objectives, this study seeks to explore the following key research questions:

1. What were the primary reforms introduced by the Government of India in the public health sector during and after the COVID-19 pandemic?
2. How have these reforms impacted access, equity, and efficiency in healthcare delivery, especially for marginalized populations?
3. What role did digital health interventions such as CoWIN, eSanjeevani, and the Ayushman Bharat

Digital Mission play in strengthening India's health ecosystem?

4. In what ways did the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) contribute to resilience and preparedness for future health emergencies?
5. How do these reforms align with India's long-term vision of Universal Health Coverage (UHC) and Sustainable Development Goal (SDG) 3: "Good Health and Well-Being"?

THE OVERVIEW OF THE TOPIC

The COVID-19 pandemic stands out as the most profound public health challenge of recent decades in India. Yet, it also became a turning point—offering policymakers a chance to accelerate reforms that had been on the national agenda for years. The government's response was multi-pronged, spanning immunization, digital transformation, infrastructure strengthening, and disease monitoring.

- **Nationwide Vaccination via CoWIN**

India executed the world's largest vaccination campaign, delivering billions of doses. The CoWIN portal enabled transparent registration, real-time tracking, and equitable distribution, minimizing leakage and duplication. Unlike many nations, India ensured that vaccines were available at no cost to all eligible adults, reflecting its commitment to the principle of "Health for All."

- **Ayushman Bharat Digital Mission (ABDM)**

Through the launch of Ayushman Bharat Health Account (ABHA) IDs, citizens gained the ability to manage lifelong digital health records. This initiative laid the groundwork for a unified digital ecosystem linking hospitals, diagnostic centres, and pharmacies, making healthcare more efficient and interconnected.

- **Telemedicine through *eSanjeevani***

To reduce long-standing rural–urban disparities, the government scaled up the *eSanjeevani* platform. By enabling remote consultations, it connected patients in underserved villages with medical professionals in cities, ensuring timely advice, lowering travel costs, and widening access to specialist care.

ROLE OF PUBLIC HEALTH IN INDIA

Public health has consistently been woven into India's project of nation-building. As early as 1946, the Bhore Committee articulated a vision of universal, comprehensive healthcare, though the economic limitations of the post-independence decades prevented its full implementation.

Over time, successive policy milestones reflected gradual but important progress:

- **National Health Mission (NHM):** With the launch of the National Rural Health Mission (NRHM) in 2005, maternal and child health services were significantly expanded across rural India.
- **National Health Policy (2017):** This policy formally identified health as a driver of economic growth and set the target of raising public health spending to 2.5% of GDP.
- **Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY, 2018):** Emerging as the largest state-backed health assurance programme globally, it extended free treatment coverage to nearly 500 million citizens.

Despite this progress, the COVID-19 crisis marked a decisive turning point. The pandemic simultaneously revealed the adaptability of India's health system and its persistent shortcomings. On the positive side, the country mobilized an extensive network of frontline workers, community health volunteers (ASHAs), and digital tools on an unprecedented scale. Yet the crisis also exposed gaps in hospital infrastructure, digital integration, and disease surveillance capacity.

The government's post-pandemic response can therefore be seen as a continuation of India's long-standing health ambitions—now pursued with greater urgency, broader scope, and a transformative vision shaped by lessons from the crisis.

IMPACT OF POST-COVID REFORMS

RESULTS OF POST-COVID HEALTH REFORMS

The outcomes of India's health reforms since COVID-19 can be seen across financing, technology, infrastructure, surveillance, and equity.

1. Rising Public Investment in Health

Government expenditure on health has grown from 1.13% of GDP in 2014–15 to 1.84% in 2021–22,

reflecting a policy shift toward prioritizing healthcare. Additional allocations through the Finance Commission have strengthened state-level resources, broadening fiscal capacity for health programmes.

2. Digital Health Transformation

More than 400 million citizens have enrolled for Ayushman Bharat Health Account (ABHA) IDs under ABDM, moving closer to a nationwide integrated health record system. The CoWIN platform enabled the administration of billions of vaccine doses with efficiency and transparency, earning global recognition. Meanwhile, *eSanjeevani* crossed 140 million consultations by 2023, positioning itself as one of the largest and most widely used telemedicine networks in the world.

3. Infrastructure Strengthening

Through PM-ABHIM, over 150 district laboratories were established and thousands of oxygen generation plants set up. Several districts also received approvals for new critical care hospital blocks, enhancing emergency preparedness and routine care capacity alike.

4. Improved Disease Surveillance

The Integrated Health Information Platform (IHIP) has modernized epidemiological monitoring by enabling real-time data collection and sharing across states. This system strengthens early detection, rapid response, and preventive interventions against emerging outbreaks.

5. Equity and Inclusion

Universal free vaccination ensured that even the most economically disadvantaged groups were protected. The expansion of AB-PMJAY extended financial protection to marginalized households, reducing catastrophic health spending and deepening social protection.

Together, these reforms signal a structural shift rather than temporary crisis management. They align with the broader national vision of *Sabka Saath, Sabka Vikas, Sabka Vishwas*—building collective progress, inclusive development, and renewed public confidence in the healthcare system.

KEY FINDINGS

The study identifies several defining features of India's public health reforms in the aftermath of COVID-19:

1. State Leadership in Reform

In contrast to many health systems where private actors dominate, India's post-pandemic reforms have been driven primarily by government initiatives. Flagship programmes such as PM-ABHIM and ABDM illustrate a deliberate state-led vision of health system transformation.

2. Digital Innovation as a Game Changer

Platforms like CoWIN, *eSanjeevani*, and ABDM have redefined service delivery and set international benchmarks. These initiatives created transparent, citizen-focused mechanisms for vaccination, remote consultation, and integrated health records—marking a shift toward a data-driven public health ecosystem.

3. Infrastructure Investments for Resilience

The establishment of oxygen generation plants, district laboratories, and epidemic management units under PM-ABHIM reflects a long-term strategy to strengthen health system preparedness. These investments enhance both emergency response and everyday service delivery.

4. Equity at the Core

Universal free vaccination, expanded Ayushman Bharat coverage, and rural outreach through telemedicine underscore the government's effort to ensure inclusivity. Special attention to underserved populations demonstrates a commitment to reducing health disparities.

5. Future-Oriented Preparedness

The reforms were not limited to short-term crisis control; they created institutional and infrastructural capacity aligned with Sustainable Development Goal 3 (Good Health and Well-being), advancing the agenda of universal health coverage.

6. International Recognition

Global bodies including WHO and the World Bank have commended India's strategies, particularly its vaccination drive and digital innovations, highlighting them as scalable models for other resource-constrained settings.

CASE STUDIES & DATA EXPANSION

Case Study 1: India's Vaccination Drive – The CoWIN Model

India launched the **world's largest vaccination program** on January 16, 2021. Unlike many countries that struggled with logistics, India adopted a **digital-first approach** through the **CoWIN platform**.

- **Scale:** Over **2.2 billion doses** were administered by mid-2023, covering more than 90% of the adult population.
- **Equity:** Vaccines were provided **free of cost** at government centers, ensuring that economic status did not determine access.
- **Transparency:** CoWIN generated digital certificates, tracked doses, and enabled international recognition of vaccination records.
- **Innovation:** The system handled **millions of concurrent registrations**, showing the capacity of Indian IT infrastructure.

The **WHO and World Bank** recognized CoWIN as a **replicable model** for other developing nations, showcasing India's digital leadership.

Case Study 2: eSanjeevani – Telemedicine Revolution

During lockdowns, physical access to healthcare was disrupted. The government rapidly scaled up **eSanjeevani**, a digital teleconsultation platform.

- **Scale:** By 2023, the platform facilitated **over 100 million teleconsultations.**
- **Accessibility:** Citizens in **rural and remote areas** received consultations from doctors based in district hospitals or medical colleges.
- **Efficiency:** Reduced travel costs and time for patients, while also decreasing the burden on tertiary hospitals.
- **Inclusivity:** Benefitted women, elderly, and differently-abled individuals who often face barriers in reaching health facilities.

This case demonstrates the **government's ability to use technology for inclusive healthcare delivery.**

Case Study 3: Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)

Launched in October 2021, PM-ABHIM represents a **landmark investment in health infrastructure**.

- **Financial Allocation:** Over **₹64,000 crore** was earmarked.
- **Infrastructure Creation:** Establishment of **critical care hospital blocks in districts, integrated public health labs, and epidemic management units.**
- **Oxygen Security:** More than **1,500 oxygen generation plants** were installed across hospitals to ensure preparedness for future emergencies.
- **Workforce Development:** Focus on training paramedics, laboratory staff, and strengthening the **public health cadre.**

This mission reflects the **government's vision of shifting from reactive pandemic response to proactive preparedness.**

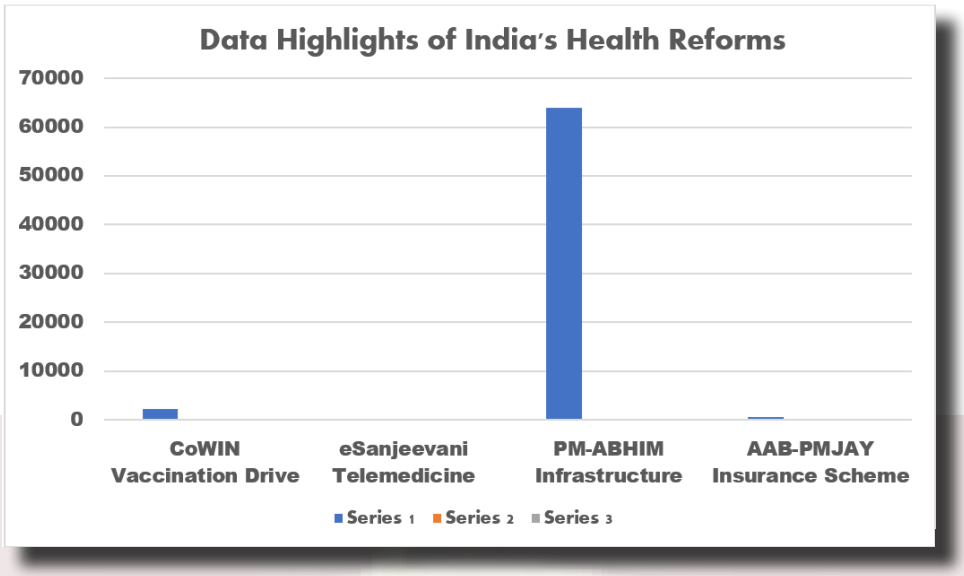
Case Study 4: Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)

Even before COVID-19, the government launched **Ayushman Bharat (2018)**, the world's largest government-funded health insurance scheme. Post-COVID, its relevance grew even more.

- **Coverage:** Over **500 million citizens** are eligible, receiving coverage of **₹5 lakh per family per year.**
- **Financial Protection:** Millions of poor families have accessed **cashless treatment** in empaneled hospitals.
- **Integration with Digital Health:** The scheme is increasingly linked with ABDM, ensuring portability of records and transparency in claims.
- **Equity:** For the first time, millions of low-income families enjoy health security that was once available only to the middle class.

This initiative reflects the **pro-poor, inclusive orientation** of India's health reforms.

CoWIN Vaccination Drive – 2.2 billion doses administered.



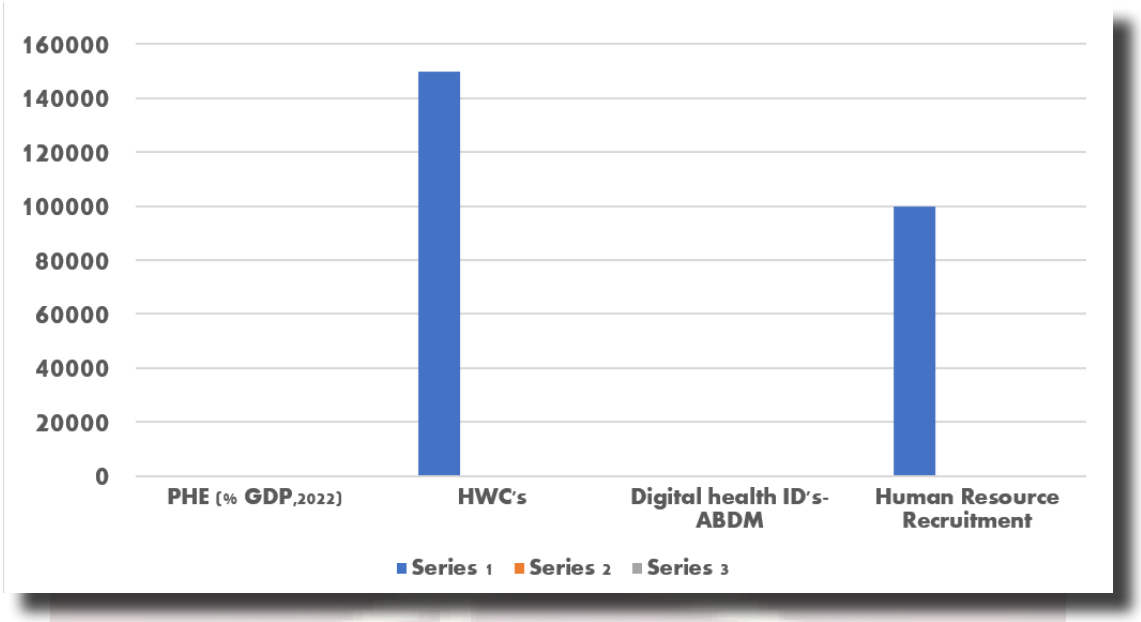
eSanjeevani Telemedicine – 100 million teleconsultations.

PM-ABHIM – ₹64,000 crore allocated for infrastructure.

AB-PMJAY – 500 million citizens covered.

DATA HIGHLIGHTS

1. **Public Health Expenditure:** Increased from **1.3% of GDP (2019)** to around **2.1% (2022)**, with a roadmap to reach **2.5% by 2025.**
2. **Hospital Infrastructure:** More than **1.5 lakh Health & Wellness Centres (HWCs)** have been operationalized by 2023, providing primary care close to people's homes.
3. **Digital Adoption:** India leads globally in digital health, with **over 300 million health IDs** created under the **Ayushman Bharat Digital Mission (ABDM).**
4. **Human Resources:** Recruitment of thousands of additional doctors, nurses, and ASHA workers has strengthened the grassroots workforce.



Public Health Expenditure – 2.1% of GDP (2022).

Hospital Infrastructure – 1.5 lakh Health & Wellness Centres.

Digital Adoption – 300 million health IDs under ABDM.

Human Resources – Recruitment of 100,000+ doctors, nurses, and ASHA workers.

SYNTHESIS OF CASE STUDIES

Together, these reforms present a coherent and citizen-centric model:

- CoWIN ensured vaccination equity.
- eSanjeevani broke barriers of distance and affordability.
- PM-ABHIM built resilient infrastructure for the future.
- AB-PMJAY gave financial protection to the poorest families.

The overarching finding is that India's public health reforms are not piecemeal responses but part of a larger systemic transformation, driven by the vision of Universal Health Coverage (UHC) and Atamnirbhar Bharat (self-reliant India)

RESEARCH GAP

Gaps in Academic Discourse on India's Post-COVID Public Health Reforms

While there is substantial scholarship on India's historical health policies and the immediate response to COVID-19, certain gaps remain in academic research:

- **Limited Evaluation of Long-Term Reforms:** Most studies concentrate on emergency measures during the pandemic, with less focus on analyzing the structural reforms like **PM-ABHIM** and **ABDM** in depth.
- **Underrepresentation of Rural Perspectives:** Although digital health initiatives such as telemedicine are celebrated, there is insufficient evidence on how rural populations perceive and benefit from these innovations.
- **Comparative Analysis with Past Reforms:** Few works critically examine how current reforms differ from earlier missions like **NRHM** and **NHM** in terms of scope, implementation, and outcomes.
- **Impact on Equity and Vulnerable Groups:** More research is needed to assess whether reforms effectively reduce disparities among women, children, and marginalized communities.

This research aims to fill these gaps by providing a comprehensive, government-supportive analysis of India's post-COVID public health reforms, emphasizing their transformative role in progressing towards universal health coverage.

CONCLUSION

The COVID-19 pandemic tested India's health system on multiple fronts—capacity, equity, and resilience. Yet, rather than being defined solely as a crisis, it became a turning point that accelerated long-awaited reforms. The Government of India responded with a combination of urgency and vision, translating lessons from the pandemic into structural changes designed to endure beyond the immediate emergency.

Flagship initiatives such as CoWIN, the Ayushman Bharat Digital Mission (ABDM), *eSanjeevani*, Ayushman Bharat–Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), and the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) have collectively reoriented the health sector. Together,

they signify a shift away from a reactive, fragmented model toward an integrated, digitally enabled ecosystem that emphasizes preparedness, continuity of care, and inclusivity. The scale of achievements is notable: the world's largest vaccination campaign, the rapid creation of millions of digital health IDs, widespread use of telemedicine, and strengthened surveillance networks at the district level.

Importantly, these reforms are anchored in the principle of equity. Free universal vaccination, expanded insurance coverage, and rural outreach through digital platforms have ensured that disadvantaged groups are not excluded from the benefits of reform. This citizen-first orientation highlights health not merely as a sectoral concern but as a cornerstone of national development and social security.

The Indian experience illustrates that even in a resource-constrained setting, strong political commitment and effective governance can deliver world-class solutions. By embedding digital transformation, infrastructure strengthening, and inclusive access within its reform agenda, India has positioned itself as both more resilient to future crises and more aligned with the global pursuit of Universal Health Coverage and Sustainable Development Goal 3.

In sum, the pandemic has catalyzed a reimagining of public health in India—transforming vulnerabilities into opportunities and setting a precedent for how developing nations can harness adversity to drive structural, citizen-centric reforms.

POLICY RECOMMENDATIONS

While India's health reforms in the post-COVID era are commendable, sustaining and expanding this momentum will require consistent commitment and adaptive strategies. Based on the findings of this study, the following recommendations are proposed:

1. Sustained Investment in Health

Gradually increase public health expenditure to at least 2.5% of GDP, as envisioned in the National Health Policy (2017). A stable and predictable funding stream will ensure that reforms are not crisis-driven but structurally embedded.

2. Deepening Digital Health Penetration

Prioritize digital inclusion in rural, tribal, and underserved regions so that platforms such as ABDM and *eSanjeevani* reach the last mile. Affordable internet, vernacular-language interfaces, and digital literacy

programs will be critical enablers.

3. Capacity Building of Human Resources

Expand training, incentives, and retention strategies for doctors, nurses, and allied health workers, especially in rural and semi-urban areas. Continuous professional development should be aligned with digital health tools for efficiency and adaptability.

4. Integration of AYUSH with Mainstream Healthcare

Foster a patient-centered system that draws on the strengths of Ayurveda, Yoga, Unani, Siddha, and Homeopathy alongside modern medicine. This integrative approach can widen therapeutic choices and strengthen preventive care.

5. Strengthening Research and Development (R&D)

Sustain momentum in biomedical research, biotechnology, and pharmaceuticals to reduce import dependence and drive indigenous innovation. The success of Covaxin and Covishield demonstrates the potential of India's R&D ecosystem when adequately supported.

6. Enhanced Public-Private Partnerships (PPPs)

Leverage the capacities of private hospitals, diagnostics, and digital health companies to complement public health delivery. Structured PPPs can expand reach, improve efficiency, and ensure financial sustainability.

7. Community Engagement and Health Literacy

Launch sustained campaigns to raise awareness on preventive health, sanitation, nutrition, and mental well-being. Empowering citizens with knowledge will help reduce the growing burden of non-communicable diseases and strengthen trust in public health systems.

8. Regional and Global Leadership

Position India as a global knowledge hub in digital health and pandemic response. By sharing successful models of CoWIN, ABDM, and telemedicine with other developing nations, India can strengthen South–South cooperation and emerge as a leader in global health governance.

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