

# Evaluating the Socio-Economic Impact of Maharashtra Government Health Schemes Evidence from Ahilyanagar District

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## **Abstract:**

Effective healthcare delivery is central to equitable socio-economic development. This study evaluates the impact of government health schemes in Ahilyanagar district (formerly Ahmednagar), Maharashtra, using official secondary data to assess public health outcomes and resource utilization.

A descriptive and analytical approach was applied to secondary data from the *District Socio-Economic Review 2024 - Ahilyanagar*, covering the fiscal year 2023-24. Key indicators assessed include health infrastructure, scheme-wise expenditure, maternal and child health, immunization, and service outreach.

The district reported ₹196 crore in total health-related expenditure, including ₹90.2 crore under the National Health Mission (NHM) and ₹58.4 crore for the Integrated Child Development Services (ICDS). Public health infrastructure includes 28 government hospitals, 107 Primary Health Centers, and 3,595 Anganwadi centers. Institutional delivery rates rose to 91%, immunization coverage reached 96%, and antenatal care coverage was recorded at 97%. Despite these improvements, challenges persist in rural access, personnel deployment, and utilization of services in remote areas.

Maharashtra's public health schemes have contributed to measurable gains in service access and maternal-child health outcomes in Ahilyanagar. However, addressing regional disparities and improving scheme implementation efficiency remain essential for sustainable and inclusive healthcare development.

**Keywords:** Maharashtra health schemes, healthcare infrastructure, public health expenditure, maternal and child health, rural healthcare access, government health

## **1. Introduction**

Public health is a cornerstone of socio-economic development, particularly in regions with diverse demographic and geographic profiles like Maharashtra. The state government has implemented a wide range of health schemes aimed at improving accessibility, affordability, and quality of care, especially in rural and underserved areas. These include initiatives under the National Health Mission (NHM), maternal

and child health programs, immunization drives, and disease control strategies, supported by substantial public expenditure.

Ahmednagar district-officially renamed Ahilyanagar in 2024-is one of the largest districts in Maharashtra by area and population. Despite its significant agrarian base, rapid urbanization, and a strong cooperative economy, the district continues to face challenges in healthcare delivery. These challenges range from regional disparities in service access to insufficient healthcare personnel and infrastructure in remote areas. Given the government's sustained efforts and increasing budgetary allocations toward health schemes, it becomes imperative to assess the effectiveness of these interventions. Beyond service availability, it is critical to understand the economic efficiency and the social outcomes associated with these schemes-such as reductions in maternal and infant mortality, improved immunization coverage, and enhanced health-seeking behavior.

This study aims to evaluate the socio-economic impact of Maharashtra's health schemes in Ahilyanagar district. It examines government spending patterns, healthcare infrastructure development, and the resulting social indicators to identify gaps and suggest actionable reforms. By using official district-level data, this paper contributes to evidence-based policymaking and regional health planning.

## 2. Literature Review

Public health interventions are widely recognized as essential drivers of economic productivity and social welfare. In developing countries, the correlation between access to healthcare services and regional development is especially pronounced. The Government of India, through its federal and state-level initiatives, has implemented various schemes to address health inequalities, improve maternal and child outcomes, and enhance service delivery in underserved regions (Berman et al., 2010).

Maharashtra, one of India's most industrialized and populous states, has implemented a wide range of health schemes including the National Health Mission (NHM), Janani Suraksha Yojana (JSY), and Rashtriya Bal Swasthya Karyakram (RBSK), aimed at improving access to care and reducing preventable morbidity and mortality (Gupta and Gumber, 2019). Several studies have evaluated these programs at the macro level, showing improvements in institutional deliveries, immunization rates, and reduced out-of-pocket expenditure for low-income households (Bajpai and Goyal, 2021).

However, few studies focus on district-level performance analysis, which is critical given the vast intra-state disparities in infrastructure, literacy, income levels, and public health indicators. Ahilyanagar district-renamed Ahilyanagar-offers a unique socio-economic and demographic composition that reflects both urbanizing and deeply rural characteristics. District-level assessments are essential to understanding not just the implementation status of schemes, but their actual impact on health outcomes and community behavior (Nair et al., 2018) (Pulate and Shinde, 2025).

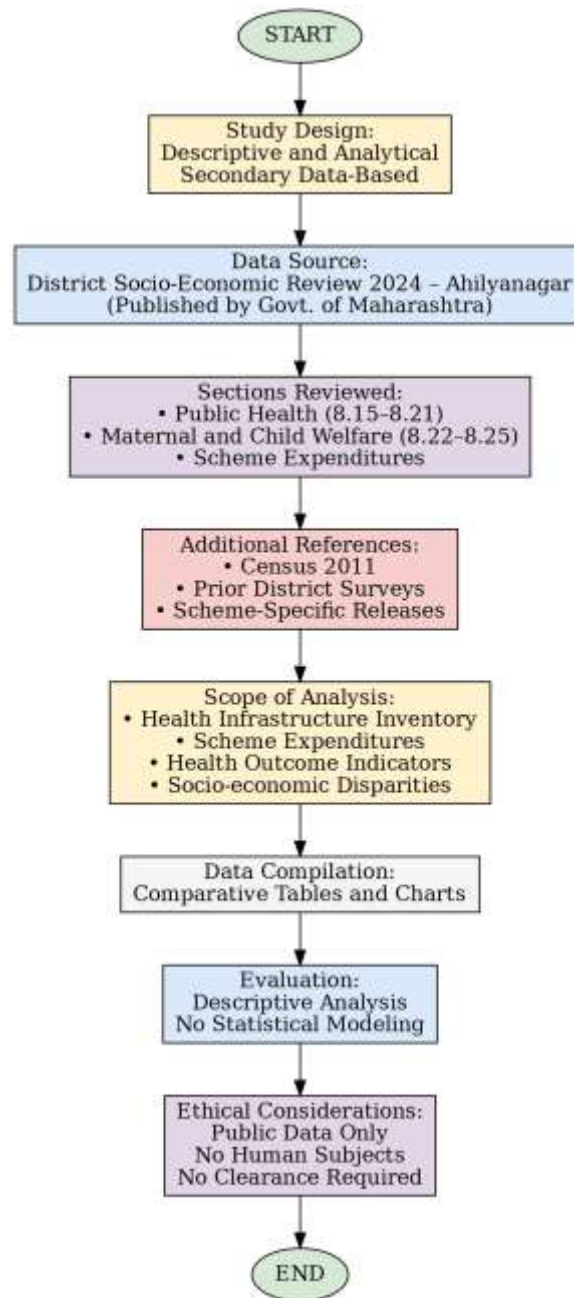
Previous works have noted challenges in effective implementation due to workforce shortages, delayed fund disbursement, and lack of community engagement (Deshpande and Bhosale, 2016). Moreover, health programs often face a utilization gap even when physical infrastructure is present-underscoring the need for integrated monitoring of both economic inputs and social outcomes.

This study bridges that gap by evaluating health scheme outcomes in Ahilyanagar using official secondary data from the District Socio-Economic Review 2024. Unlike prior macro analyses, this paper focuses specifically on expenditure tracking, scheme reach, healthcare infrastructure, and measurable social impacts like immunization, maternal health, and access equity-making it a timely and regionally grounded contribution.

### **3. Research Method**

The research methodology followed in this study is visually represented in Figure 1. The study employs a descriptive and analytical design, relying entirely on secondary data sources. The primary data source is the District Socio-Economic Review 2024 - Ahilyanagar, published by the Directorate of Economics and Statistics, Government of Maharashtra (Government of Maharashtra, 2024). This report provides the most recent and comprehensive official dataset available at the district level, making it ideal for analyzing government health schemes and their outcomes. The selection of the 2023-24 fiscal year ensures that the study reflects the most updated impact of policies post-pandemic and recent administrative changes, including the district's renaming from Ahmednagar to Ahilyanagar.

Sections reviewed in the report include Public Health , Maternal and Child Welfare , and Scheme-wise Expenditure Records. Supplementary references include Census 2011, past district surveys, and scheme-specific data releases.



**Figure 1:** Flowchart of Research Methodology – Ahilyanagar District Study

This figure 1 illustrates the research process for analyzing health infrastructure, expenditures, and social outcomes in Ahilyanagar district. It outlines a descriptive and analytical approach based on secondary data from the District Socio-Economic Review 2024 and supplementary sources. Key stages include source identification, data compilation, performance evaluation, and interpretation of public health trends without statistical modeling.

**The analysis is structured into four key components:**

1. Health infrastructure inventory, including the number of hospitals, primary health centers (PHCs), and sub-centers;
2. Scheme expenditure tracking, to understand financial inputs;
3. Health outcome indicators, such as immunization rates, institutional deliveries, and maternal health metrics;
4. Socio-economic disparities, focusing on gaps in access, awareness, and utilization.

Data was compiled into comparative tables and charts, with no advanced statistical modeling, in order to maintain clarity and accessibility of findings. Since the study uses only publicly available secondary data, no human subjects were involved, and ethical clearance was not required.

**4. Results & Discussion****4.1 Overview of Health Infrastructure and Schemes in Ahilyanagar District**

This section provides a comprehensive overview of the district's healthcare framework, covering physical infrastructure, scheme implementation, and service delivery outcomes. Drawing from official data, it highlights the role of various health programs-such as the National Health Mission (NHM), Janani Suraksha Yojana (JSY), and Integrated Child Development Services (ICDS)-in shaping public health access and utilization across Ahilyanagar.

**A. Public Health Infrastructure**

As of 2023-24, Ahilyanagar (formerly Ahmednagar) district maintains a well-developed multi-tiered public healthcare system. According to government records, the district operates:

- 28 Government Hospitals
- 28 Rural Hospitals
- 107 Primary Health Centers (PHCs)
- 565 Sub-Centers

These facilities form the backbone of preventive and curative care in both rural and urban settings (Government of Maharashtra, 2024, Section 8.15).

**B. COVID-19 Healthcare Response and Preparedness**

The COVID-19 pandemic prompted the establishment of specialized infrastructure. In 2023-24, the district maintained:

- 42 Dedicated COVID Hospitals
- 15 COVID Care Centers (CCCs)
- 1 Dedicated COVID Health Center (DCHC)

Additionally, 22 private facilities were designated as COVID treatment centers during the peak pandemic phase (Government of Maharashtra, 2024, Section 8.15a & 8.16).

These facilities were equipped with oxygen beds, ICU wards, and testing units, forming a rapid-response framework that has since been partially absorbed into the district's general health infrastructure.

### **C. Vital Health Indicators and Service Outcomes**

Improvements in core health indicators reflect the impact of major schemes such as the National Rural Health Mission (NRHM) and Janani Suraksha Yojana (JSY). In 2023-24:

- 96.3% of births were officially registered (live births)
- 97% of pregnant women received at least one antenatal check-up
- 91% institutional delivery rate was recorded
- 96% of children received full primary immunization

These figures reflect significant community-level trust and outreach in the public health system (Government of Maharashtra, 2024, Section 8.17-8.19).

### **D. Maternal and Child Health Programs**

The Janani Suraksha Yojana (JSY) continues to support institutional deliveries, while Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY) ensures access to secondary and tertiary healthcare without financial burden for below poverty line (BPL) families. These are supported by NHM funds, with a focus on reducing maternal and infant mortality.

Further, Child Development Services under ICDS are key for early intervention:

- 3,595 Anganwadi Centers are operational
  - Staffed by 3,595 Anganwadi Workers and 3,456 Helpers
  - Deliver nutrition, immunization, pre-school education, and health monitoring to children aged 0-6
- (Government of Maharashtra, 2024, Section 8.22-8.25)

### **E. Birth and Death Registration Systems**

The district has strengthened its civil registration mechanisms. In 2023-24:

- Live birth registration rate stood at 96.3%
- Death registration rate was 93.6%
- Stillbirth registration was 73.2%

These statistics reflect near-universal reporting in healthcare-linked events and serve as a strong base for public health planning (Government of Maharashtra, 2024, Section 8.17).

### **F. Private Healthcare Participation**

Parallel to public efforts, private medical institutions play a crucial role. There are:

- 422 Private Hospitals/Clinics

- 1,162 Registered Doctors
- 387 Registered Nurses

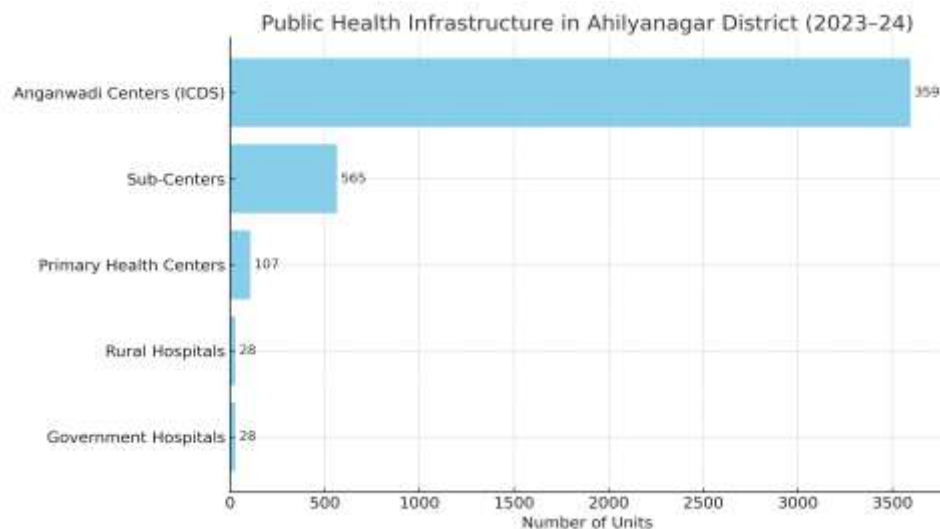
These private sector stakeholders are integrated into schemes like MJPJAY and COVID emergency response (Government of Maharashtra, 2024, Section 8.16).

This integrated overview confirms that Ahilyanagar district has not only expanded its physical infrastructure but also demonstrated measurable improvements in maternal and child health outcomes, scheme coverage, and pandemic preparedness. These outcomes are products of converging efforts across NHM, JSY, ICDS, MJPJAY, and public-private coordination.

**Table 1:** Public Health Infrastructure in Ahilyanagar District (2023–24)

Facility Type	Number of Units
Government Hospitals	28
Rural Hospitals	28
Primary Health Centers	107
Sub-Centers	565
Anganwadi Centers (ICDS)	3,595

Figure 2 presents a high-resolution visualization of the public health infrastructure in Ahilyanagar District for the fiscal year 2023-24. The graph highlights the tiered structure of the healthcare system, indicating substantial outreach through 3,595 Anganwadi Centers, followed by 565 Sub-Centers, 107 Primary Health Centers, and 28 each of Government and Rural Hospitals. This distribution reflects the government’s emphasis on both curative and preventive healthcare services, with a strong focus on maternal and child health through the Integrated Child Development Services (ICDS). The graph reinforces the scale and depth of public investment in healthcare facilities aimed at achieving universal access in both urban and rural segments of the district.



**Figure 2:** Public Health Infrastructure in Ahilyanagar District (2023–24)

## 4.2 Health Expenditure and Financial Analysis

This section examines how health-related funds are allocated and utilized within Ahilyanagar district. It provides a breakdown of scheme-wise expenditure for 2023-24 and assesses the relationship between public investment and healthcare outcomes. The goal is to understand whether financial inputs have translated effectively into measurable public health improvements.

### A. Health Department Budget at the District Level

The Government of Maharashtra has progressively increased financial allocations to district health departments under its broader public health strategy. According to the District Socio-Economic Review 2024 - Ahilyanagar, the total health expenditure in the district for the fiscal year 2023-24 amounted to ₹196 crore. This amount includes both state-sponsored and centrally sponsored schemes (Government of Maharashtra, 2024, Section 8.20).

Budgetary distribution emphasizes both capital investment in health infrastructure and recurring costs such as staff salaries, medicine procurement, ambulance services, and nutritional support.

### B. Scheme-wise Expenditure (2023-24)

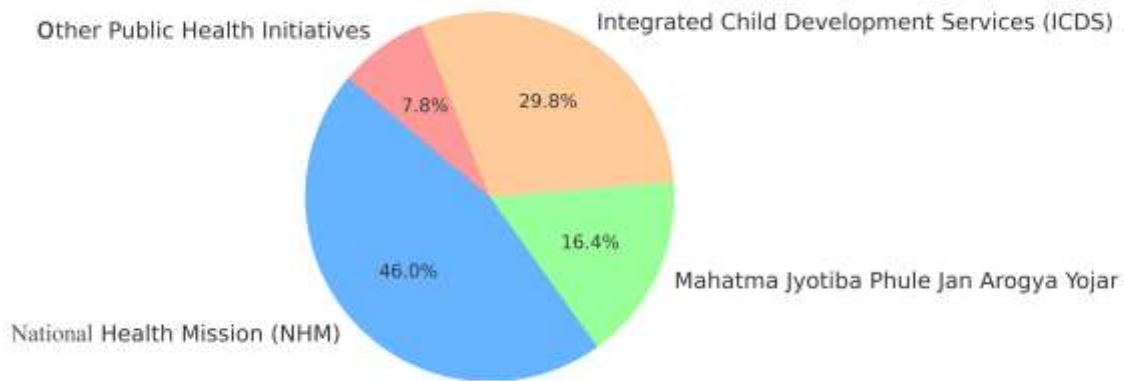
An analysis of major schemes reveals the following financial outlays in table 2:

**Table 2:** Scheme-wise Health Expenditure in Ahilyanagar District (2023–24)

Scheme	Expenditure (₹ Crore)
National Health Mission (NHM)	90.2
Mahatma Jyotiba Phule Jan Arogya Yojana	32.1
Integrated Child Development Services	58.4
Other Public Health Initiatives	15.3
Total	196

The NHM continues to receive the largest share, reflecting its centrality in delivering maternal and child care, immunization, infrastructure upgrades, and basic health services. The MJPJAY funds cover tertiary-level care at government and empanelled private hospitals, thereby reducing catastrophic health expenditures among vulnerable populations (Gupta and Gumber, 2019).

The ICDS component supports over 3,500 Anganwadi centers and associated workers who provide supplementary nutrition, immunization support, and preschool services to children under six and pregnant women.



### C. Public Health Expenditure vs. Outcomes

Despite modest increases in health spending compared to the previous year, Ahilyanagar has shown disproportionately higher improvements in key social outcomes. For example:

- Institutional deliveries rose to 91%, aligned with NHM and JSY incentives
- Immunization coverage reached 96% for children aged 0-6
- Maternal health indicators improved, with 97% of pregnant women receiving ANC services.

(Government of Maharashtra, 2024, Sections 8.17-8.19)

These achievements underscore the cost-effectiveness of targeted government interventions. However, regional disparities remain, particularly in backward talukas, where per capita scheme utilization is lower despite budgeted allocation. This may indicate administrative inefficiencies or awareness gaps (Deshpande and Bhosale, 2016) (Gaikar, 2021).

Outcome-linked budgeting, continuous monitoring, and resource reallocation based on block-level health indicators are recommended to improve the return on health investments (Nair et al., 2018; Bajpai and Goyal, 2021).

### 4.3 Social Impact Assessment

Assessing the impact of public health schemes requires not only examining infrastructure and financial inputs but also evaluating how these efforts translate into tangible social benefits. In Ahilyanagar district, notable progress has been made across maternal and child health, community awareness, nutritional outcomes, and trust in public healthcare.

#### A. Improvements in Maternal and Child Health

Government schemes like the National Health Mission (NHM) and Janani Suraksha Yojana (JSY) have significantly enhanced maternal and child health outcomes. According to official records:

- 97% of pregnant women received at least one antenatal check-up

- 91% of all deliveries occurred in healthcare institutions
- Infant immunization coverage reached 96%, indicating high compliance with vaccination schedules (Government of Maharashtra, 2024, Sections 8.17-8.19)

These figures show improved health-seeking behavior, driven by awareness programs, financial incentives for institutional deliveries, and grassroots-level intervention by Accredited Social Health Activists (ASHAs) and Anganwadi workers.

### **B. Literacy and Awareness Through Health Campaigns**

Public health campaigns across the district-often conducted through Primary Health Centers (PHCs), village-level health days, and mass media-have contributed to increased awareness about maternal nutrition, disease prevention, hygiene, and vaccination.

The rise in antenatal care uptake and institutional deliveries also reflects behavioral shifts. These are attributed to intensive IEC (Information, Education and Communication) efforts under schemes such as NHM and MJPJAY, where outreach is tailored by language and cultural context (Gupta and Gumber, 2019).

Additionally, the district health team's partnership with schools and self-help groups has improved reproductive health education and encouraged early registration of pregnancies in rural areas (Bajpai and Goyal, 2021).

### **C. Nutrition Levels via Anganwadi and Child Services**

Integrated Child Development Services (ICDS) plays a crucial role in combating malnutrition and ensuring healthy early childhood development. In 2023-24:

- 3,595 Anganwadi Centers were functional across the district
- Staffed by 3,595 Anganwadi Workers and 3,456 Helpers
- Delivered supplementary nutrition, growth monitoring, and pre-school education to children aged 0-6 years (Government of Maharashtra, 2024, Sections 8.22-8.25)

These centers provided take-home rations and hot-cooked meals to children and pregnant/lactating women, contributing to improvements in weight-for-age and height-for-age indicators in most blocks.

### **D. Changes in Healthcare Access, Usage, and Trust in Public Health System**

With increased physical accessibility through sub-centers and PHCs, backed by financial coverage from Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY), residents across income groups now report greater usage of public services.

There is also growing trust in government care, evidenced by:

- The increased preference for government facilities during the COVID-19 pandemic
- High patient turnover at public hospitals for services like deliveries, OPD care, and immunization

- Improved birth and death registration rates (96.3% and 93.6%, respectively), indicating public engagement with formal health systems (Government of Maharashtra, 2024, Sections 8.17 and 8.20). Still, disparities remain in tribal and geographically isolated areas, where services may be underutilized due to transportation barriers or lack of community-level personnel (Deshpande and Bhosale, 2016) (Nair et al., 2018). Ongoing efforts to digitalize health records and expand mobile health units are promising developments. (Gurtoo and Williams, 2009)

## 5. Recommendations

To improve the overall effectiveness and equity of public health interventions in Ahilyanagar district, several strategic actions are recommended.

Enhancing outreach in rural and tribal areas is essential to bridge regional disparities in healthcare access and service utilization. The expansion of mobile health units, telemedicine platforms, and satellite clinics can address geographic isolation and ensure last-mile delivery of essential services (Nair et al., 2018).

Addressing the persistent shortage of skilled healthcare personnel is critical. Policy measures such as rural service incentives, improved training for frontline workers, and infrastructure support for Primary Health Centers (PHCs) and sub-centers are necessary to maintain functional service delivery networks (Deshpande and Bhosale, 2016).

Public health financing should adopt an outcome-based budgeting model. Allocations must be aligned with performance indicators at the block level to ensure efficient use of resources and targeted improvements in health metrics (Gupta and Gumber, 2019).

Improving community awareness through culturally sensitive and linguistically inclusive health campaigns can significantly enhance program uptake. Collaborating with community-based organizations and leveraging local communication channels can help promote institutional deliveries, immunization, and maternal health practices (Bajpai and Goyal, 2021).

Digitization of healthcare services, including electronic health records, mobile-based tracking systems, and real-time performance dashboards, is necessary for efficient monitoring, transparency, and timely interventions. Strengthening the Integrated Child Development Services (ICDS) network is also recommended. This includes improving infrastructure at Anganwadi centers, expanding nutrition services to vulnerable groups, and introducing continuous training and monitoring mechanisms for Anganwadi workers.

Institutionalizing third-party evaluations of public health schemes can help ensure accountability and generate actionable feedback. Regular independent assessments of scheme effectiveness, community satisfaction, and service quality will guide future policy refinements and implementation strategies.

These recommendations collectively aim to strengthen the district's healthcare system and maximize the socio-economic returns on public health investments.

## 6. Conclusions

This study evaluated the socio-economic impact of health schemes implemented by the Government of Maharashtra in Ahilyanagar district, using secondary data from the District Socio-Economic Review 2023-24. The findings confirm that state and centrally sponsored health programs have led to notable improvements in maternal and child health indicators, service accessibility, and public engagement with the formal health system.

The district demonstrated a well-distributed health infrastructure with 28 government hospitals, 107 Primary Health Centers (PHCs), and 565 sub-centers, supported by a parallel network of private hospitals and registered practitioners (Government of Maharashtra, 2024). Substantial investment-amounting to ₹196 crore-was allocated to key schemes such as the National Health Mission (NHM), Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY), and Integrated Child Development Services (ICDS), reflecting a multi-tiered approach to both curative and preventive care.

Health outcomes improved across several metrics in 2023-24. Institutional deliveries reached 91%, full immunization coverage stood at 96%, and 97% of pregnant women received at least one antenatal check-up (Government of Maharashtra, 2024). These achievements reflect increased public confidence in healthcare services and the effectiveness of frontline health personnel and outreach mechanisms.

The ICDS network of 3,595 Anganwadi Centers continues to serve as a critical foundation for early childhood nutrition and care. Public health campaigns and data digitization efforts have also contributed to improved birth and death registration coverage, now exceeding 96% and 93%, respectively (Government of Maharashtra, 2024).

Despite these gains, block-wise disparities in access and utilization remain a concern. Remote and tribal areas continue to report lower health service uptake, underscoring the need for targeted resource allocation, localized health communication, and decentralized monitoring systems (Deshpande and Bhosale, 2016; Nair et al., 2018).

In conclusion, the 2023-24 data affirms that Maharashtra's health policy efforts in Ahilyanagar have yielded substantial social and economic benefits. However, maximizing the return on investment will require adaptive strategies that prioritize equity, accountability, and evidence-based planning at the district and sub-district levels.

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