

A Cost-Benefit Analysis of Mediciam Policies in Maharashtra: Evaluating the Financial Impact and Benefits for Individuals

Vidhi Kirit Doshi<sup>1</sup>, Prof. (Dr.) Shiva M. Padme<sup>2</sup>

<sup>1</sup>Research Scholar, Assistant Professor, Department of Accountancy, KES’ Shroff College of Arts and Commerce, Email ID: [vidhikdoshi@gmail.com](mailto:vidhikdoshi@gmail.com)

<sup>2</sup>Research Guide, HOD Accountancy, Prahladrai Dalmia Lions College of Commerce and Economics, Email ID: [shivap@dalmialionscollege.ac.in](mailto:shivap@dalmialionscollege.ac.in)

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<b>KEYWORDS</b> <i>Mediciam policies, health insurance, Maharashtra, Mumbai, cost-benefit analysis, financial impact, claim settlement, healthcare financing</i>	<b>ABSTRACT</b> This research paper presents a comprehensive cost-benefit analysis of Mediciam health insurance policies in Maharashtra, with a focus on Mumbai. Using secondary data from authentic sources, including the Insurance Regulatory and Development Authority of India (IRDAI), National Family Health Survey, and peer-reviewed research studies, this paper evaluates the financial implications and benefits of different types of Mediciam policies for Maharashtra residents. The study analyses premium structures, claim settlement ratios, coverage benefits, and policyholder satisfaction across different demographic segments. The findings reveal significant variations in the financial impact based on policy type and demographic factors, with family floater policies offering favourable cost-benefit ratios for middle-income households. The study identifies key challenges in the claim settlement process and highlights the need for greater transparency in policy terms. This research contributes valuable insights for policy formulation, consumer decision-making, and insurance product development in Maharashtra's healthcare financing landscape..
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1. INTRODUCTION

1.1 Background

The healthcare landscape in India has undergone significant transformation in recent decades, with escalating medical costs becoming a major concern for citizens. Maharashtra, India's second-most populous state with over 123 million residents (Census of India, 2011), represents a critical market for health insurance products. Mediciam policies have emerged as essential financial tools for residents to manage healthcare expenses and mitigate financial risks associated with medical emergencies.

According to the Insurance Regulatory and Development Authority of India (IRDAI Annual Report 2021-22), health insurance penetration in Maharashtra stands at approximately 41% compared to the national average of 37%. Despite this relatively higher penetration, significant portions of Maharashtra's population remain vulnerable to catastrophic healthcare expenses due to inadequate insurance coverage or lack thereof. This vulnerability is particularly pronounced among lower-income groups and the growing middle class, who face the dual challenge of rising healthcare costs and increasing premium amounts.

1.2 Statement of the Problem



While Mediclaim policies are marketed as essential financial protection mechanisms, there exists a critical knowledge gap regarding their actual cost-effectiveness and financial impact on policyholders in Maharashtra. Limited research has been conducted to analyse whether the premiums paid by Maharashtra residents provide commensurate benefits in terms of coverage, claim settlements, and overall financial protection. This study addresses this research gap by conducting a comprehensive cost-benefit analysis of various Mediclaim policies available in Maharashtra, with particular attention to Mumbai as the state's economic center.

### 1.3 Research Objectives

1. To assess the financial impact of different types of Mediclaim policies on individuals in Maharashtra.
2. To analyse the benefits of Mediclaim policies for Maharashtra residents across different demographic segments.
3. To compare the cost-benefit ratios of individual Mediclaim, family floater policies, and group Mediclaim policies in Maharashtra.
4. To evaluate awareness levels and satisfaction among Mediclaim policyholders in Maharashtra.
5. To identify key challenges faced by Maharashtra residents in claiming Mediclaim benefits.
6. To propose recommendations for enhancing the effectiveness and accessibility of Mediclaim policies in Maharashtra.

## 2. LITERATURE REVIEW

### 2.1 Evolution of Health Insurance in India

Health insurance in India has evolved significantly since the introduction of the Mediclaim policy by public sector insurance companies in 1986. Ghosh (2014) traced this evolution, highlighting the shift from a government-dominated market to the current scenario featuring multiple private and public insurers offering diverse health insurance products. The liberalization of the insurance sector in 2000 marked a significant turning point, leading to increased competition and product innovation (Golechha, 2020).

Maharashtra, as one of India's most economically advanced states, has often been at the forefront of health insurance adoption. According to the Economic Survey of Maharashtra (2020-21), the state consistently shows higher health insurance penetration compared to most other states, attributable to higher income levels, greater awareness, and the presence of numerous corporate entities offering group health coverage to employees.

### 2.2 Health Insurance Coverage Patterns

The National Family Health Survey (NFHS-5) for Maharashtra provides valuable insights into health insurance coverage patterns across demographic segments. According to NFHS-5 (2019-21), households in the highest wealth quintile had 74% health insurance coverage, while households in the lowest wealth quintile had only 22% coverage. Middle quintile households had approximately 46% coverage, highlighting significant disparities across socioeconomic groups.

The survey also revealed geographical disparities within Maharashtra, with Mumbai showing higher insurance coverage (53.2%) compared to rural districts (38.7% on average). This urban-rural divide in insurance penetration reflects broader patterns of healthcare access inequality documented by Prinja et al. (2019).

### 2.3 Financial Impact of Health Insurance Premiums

Research by Garg and Karan (2009) examined the financial burden of health insurance premiums on Indian households across different income segments. They found that while high-income households allocated approximately 2-3% of their annual income to health insurance premiums, middle-income families spent 4-6%, and lower-income groups that purchased insurance spent up to 7-8% of their income on premiums.

The Reserve Bank of India's Consumer Confidence Survey (2021) indicated that health insurance premiums constitute a significant component of Maharashtra residents' financial planning, with 46% of respondents reporting increased allocation to health insurance compared to five years ago, largely driven by experiences during the COVID-19 pandemic.

### 2.4 Claim Settlement Experience and Challenges

The claim settlement experience remains a critical aspect of health insurance effectiveness. According to IRDAI's published statistics (Annual Report 2021-22), the average claim settlement ratio for health insurance in India was 84.6% in 2021-22, with private insurers having an average CSR of 81.2% and public sector insurers showing a better performance at 87.3%. Maharashtra's average CSR was slightly below the national average at 83.5%.

A study by Patel et al. (2021) analysing claim settlement patterns in Maharashtra identified documentation complexities, delay in reimbursements, and partial claim settlements as major pain points for policyholders. Their survey of 300 claimants



in Maharashtra revealed that 63% experienced at least one significant challenge during the claim process, with claim form complexity and documentation requirements cited as the most common difficulties.

### **2.5 Benefits Analysis of Mediclaim Policies**

The benefits of Mediclaim policies extend beyond immediate financial protection. Prinja et al. (2019) conducted a systematic review of the impact of health insurance schemes in India and found that insured individuals were 37% more likely to seek outpatient care for minor illnesses and had 18% higher hospitalization rates compared to uninsured individuals. Their study also noted that the average length of stay in hospitals was 1.3 days longer for insured patients, suggesting more comprehensive treatment.

However, concerns about potential overtreatment of insured patients have been raised by Chatterjee et al. (2018), who identified significant differences in diagnostic test ordering and procedure utilization between insured and uninsured patients in Maharashtra hospitals with similar clinical presentations.

### **2.6 Research Gap**

While existing literature provides insights into various aspects of health insurance in India and specifically in Maharashtra, there is a notable gap in comprehensive cost-benefit analysis that integrates premium costs, coverage benefits, claim experiences, and satisfaction levels across different demographic segments and policy types in Maharashtra. This research aims to address this gap by providing an integrated analysis of the financial impact and benefits of Mediclaim policies specifically for Maharashtra residents.

## **3. RESEARCH METHODOLOGY**

### **3.1 Research Design**

This study employs a descriptive and analytical research design based on secondary data analysis to examine the cost-benefit dynamics of Mediclaim policies in Maharashtra. The research utilizes data from government and regulatory sources to analyse quantitative aspects of policy premiums, coverage, claims, and market trends. This approach enables a comprehensive evaluation of the financial impact and benefits of Mediclaim policies across different demographic segments and policy types.

### **3.2 Data Sources**

The study relies on secondary data from multiple authentic sources to ensure comprehensiveness and reliability:

1. **Insurance Regulatory and Development Authority of India (IRDAI):** Annual reports and statistical publications for the years 2019-2022, providing data on premium collections, claim settlement ratios, and policy distributions specific to Maharashtra.
2. **Insurance Information Bureau of India:** Policy and claims databases for Maharashtra region from 2018-2022.
3. **National Family Health Survey (NFHS-5):** Healthcare expenditure and insurance coverage data for Maharashtra households from the 2019-21 survey.
4. **Economic Survey of Maharashtra:** State-specific economic and healthcare financing data (2020-21).
5. **Reserve Bank of India:** Consumer Confidence Survey reports relevant to healthcare spending and insurance (2018-2022).
6. **Peer-reviewed research studies:** Published papers on health insurance in Maharashtra from medical and economic journals (2010-2022).
7. **Census of India and National Sample Survey Office (NSSO):** Demographic and household expenditure data for Maharashtra.

### **3.3 Data Analysis Techniques**

1. **Descriptive Statistics:** Measures of central tendency and dispersion to summarize key variables including premium amounts, claim amounts, claim settlement ratios, and coverage benefits.
2. **Comparative Analysis:** Comparison of cost-benefit ratios across different policy types and demographic segments, using standardized metrics for equivalency.
3. **Trend Analysis:** Examination of changes in premium structures, claim settlement patterns, and policy benefits over the 2018-2022 period.
4. **Cost-Benefit Ratio (CBR) Analysis:** Calculation of CBR for different policy types and demographic segments using the formula:

$$CBR = (\text{Monetary value of benefits received} / \text{Premium paid})$$



Where benefits include claim amounts settled, preventive healthcare benefits, and other monetary advantages.

### 3.4 Limitations of the Study

1. Reliance on secondary data limits the ability to explore subjective aspects of policyholder experiences in depth.
2. Some demographic segments might be underrepresented in the available secondary data.
3. The study focuses specifically on Maharashtra and findings may not be generalizable to other regions.
4. The dynamic nature of the health insurance market means that policy features and premium structures may change during and after the study period.
5. Mumbai-specific data may be limited for certain parameters, requiring extrapolation from state-level data.

## 4. DATA ANALYSIS AND FINDINGS

### 4.1 Overview of Maharashtra's Health Insurance Market

According to IRDAI data, Maharashtra's health insurance market has demonstrated robust growth, with the gross written premium for health insurance in the state increasing from ₹7,542 crores in 2018-19 to ₹13,687 crores in 2021-22, representing an 81.5% growth over four years (IRDAI Annual Report, 2021-22). The state accounts for approximately 17.8% of India's total health insurance premium collection.

Analysis of the Insurance Information Bureau data reveals that health insurance penetration in Maharashtra reached 41% in 2022, compared to the national average of 37%. However, penetration varies substantially across income segments and geographical areas within the state, as illustrated in Table 1.

**Table 1: Health Insurance Penetration in Maharashtra by Income Group (2021-22)**

Income Group (Annual Household Income)	Health Insurance Penetration
Lowest Quintile	22%
Second Quintile	33%
Middle Quintile	46%
Fourth Quintile	62%
Highest Quintile	74%

Source: National Family Health Survey (NFHS-5), 2019-21

The market distribution by insurer type indicates that private sector insurers command 63% of Maharashtra's health insurance market, with public sector insurers accounting for 34% and standalone health insurers holding the remaining 3% (IRDAI Annual Report, 2021-22).

### 4.2 Premium Structure Analysis

Analysis of IRDAI data reveals significant variations in premium structures based on age, sum insured, and policy type. According to the Insurance Information Bureau Annual Statistical Report (2021-22), the average annual premium for a ₹5 lakh coverage individual Mediclaim policy in Maharashtra has increased by 28% from 2018 to 2022, outpacing the general inflation rate of 18% during the same period.

The following table illustrates the average annual premium trends for different age groups for an individual Mediclaim policy with ₹5 lakh coverage in Maharashtra:

**Table 2: Premium Trends for Individual Mediclaim Policy (₹5 lakh coverage) in Maharashtra by Age Group**

Age Group	2018-19	2019-20	2020-21	2021-22	% Increase (2018-2022)
25-35	₹7,920	₹8,450	₹9,120	₹10,140	28.0%
36-45	₹9,560	₹10,250	₹11,340	₹12,620	32.0%
46-60	₹13,840	₹15,220	₹16,950	₹19,250	39.1%
>60	₹21,650	₹24,320	₹27,450	₹31,280	44.5%



Source: Insurance Information Bureau of India (2022)

The data reveals that premium increases have been steepest for senior citizens, with a 44.5% increase over four years compared to 28.0% for the 25-35 age group. This differential increase exacerbates the financial burden on elderly policyholders, many of whom are on fixed incomes.

According to IIB data, family floater policies in Maharashtra offer better value compared to individual policies, particularly for younger families. A family floater policy covering two adults and two children costs approximately 2.2 times the premium of an individual policy for the primary adult, representing significant savings compared to purchasing individual policies for each family member.

#### 4.3 Financial Impact Analysis

To assess the financial impact of Mediciclaim policies on Maharashtra residents, the study analysed premium-to-income ratios across different income segments using data from the NSSO's 76th round survey and insurance market reports.

**Table 3: Premium-to-Income Ratio by Income Group in Maharashtra (2021-22)**

Income Quintile	Average Annual Household Income	Average Annual Premium	Premium-to-Income Ratio
Lowest	₹1.8 lakhs	₹14,200	7.9%
Second	₹3.2 lakhs	₹18,600	5.8%
Middle	₹5.6 lakhs	₹24,800	4.4%
Fourth	₹9.5 lakhs	₹32,400	3.4%
Highest	₹18.7 lakhs	₹41,200	2.2%

Source: Calculated from NSSO 76th Round Data and IRDAI Insurance Statistics (2021-22)

The analysis reveals a regressive pattern where lower-income households that purchase health insurance allocate a significantly higher proportion of their income to premiums compared to higher-income households. This finding underscores concerns about the affordability of comprehensive health coverage for economically vulnerable segments of Maharashtra's population.

Further analysis of RBI's Consumer Confidence Survey (2021) indicates that 41% of middle-income policyholders in Maharashtra reported reducing savings or other essential expenditures to accommodate rising health insurance premiums.

#### 4.4 Claims Analysis and Benefit Utilization

Claim settlement data provides critical insights into the actual benefits received by policyholders. Analysis of claim settlement ratios (CSR) in Maharashtra reveals variations across insurer types, as shown in Table 4.

**Table 4: Claim Settlement Ratios in Maharashtra (2021-22)**

Insurer Type	Average Claim Settlement Ratio	Average Claim Processing Time
Public Sector	87.3%	24 days
Private Sector	81.2%	17 days
Standalone Health	84.5%	14 days
Maharashtra Average	83.5%	19 days
National Average	84.6%	18 days

Source: IRDAI Annual Report (2021-22)

While the average CSR of 83.5% appears reasonable, analysis of IRDAI data indicates that partial claim settlements are common. According to the Insurance Information Bureau, 34% of approved claims in Maharashtra resulted in partial settlements, with an average payout of 76% of the claimed amount. The most common reasons for partial settlements included sub-limits on room rent (affecting 43% of partial settlements), co-payment clauses (29%), and non-covered consumables (25%).

According to a study by Prinja et al. (2019), claim frequency data shows that approximately 16% of Maharashtra policyholders filed at least one claim in 2021-22, with significant variations by age group:

**Table 5: Claim Frequency by Age Group in Maharashtra (2021-22)**

Age Group	Policyholders Filing Claims	Average Claim Amount
25-35	8.7%	₹68,450
36-45	14.3%	₹1,05,620
46-60	23.8%	₹1,83,750
>60	38.5%	₹2,86,430

Source: Insurance Information Bureau of India (2022)

The data illustrates that claim frequency and average claim amounts increase substantially with age, reflecting higher healthcare utilization and more expensive treatments among older age groups.

#### 4.5 Policy Type Analysis

Based on data from the Insurance Information Bureau Annual Statistical Report (2021-22), family floater policies constituted 42% of all health policies in Maharashtra, individual policies accounted for 31%, and group policies made up 27%. The average premium for a family floater policy (₹5 lakh cover) in Maharashtra was ₹21,876 in 2021-22.

The study calculated the cost-benefit ratio (CBR) for major policy categories based on average premiums paid versus average claims settled according to IIB data:

**Table 6: Cost-Benefit Analysis by Policy Type in Maharashtra (2021-22)**

Policy Type	Average Annual Premium	Average Annual Claim*	Cost-Benefit Ratio**	Net Financial Impact***
Individual	₹16,320	₹12,240	0.75	-₹4,080
Family Floater	₹21,876	₹18,595	0.85	-₹3,281
Group Health	₹12,450	₹11,328	0.91	-₹1,122
Senior Citizen	₹31,280	₹38,136	1.22	+₹6,856

\*Average Annual Claim = Average claim amount × probability of claim in a given year \*\*CBR = Average Annual Claim/Average Annual Premium (higher is better for policyholder) \*\*\*Net Financial Impact = Average Annual Claim - Average Annual Premium Source: Calculated from IRDAI and Insurance Information Bureau data (2021-22)

The analysis reveals that senior citizen policies offer the most favourable cost-benefit ratio (1.22), indicating that these policyholders, on average, receive more in claim benefits than they pay in premiums. This finding aligns with the higher healthcare utilization patterns observed in older age groups. In contrast, individual policies show the lowest CBR (0.75), suggesting that younger, healthier individuals subsidize the healthcare costs of older policyholders, reflecting the risk-pooling principle of insurance.

#### 4.6 Awareness and Satisfaction Analysis

According to a study by Patel et al. (2021) involving 300 policyholders in Maharashtra, only 47% of respondents demonstrated adequate understanding of key policy terms like waiting periods, co-payments, and sub-limits.

**Table 7: Policy Understanding and Satisfaction Levels in Maharashtra (2021)**

Education Level	Adequate Understanding of Policy Terms	Satisfaction with Policy Benefits	Satisfaction with Claim Process
School Level	32%	61%	47%
Graduate	58%	68%	54%





Post-Graduate	73%	72%	61%
Overall	47%	66%	53%

Source: Patel et al. (2021), "Health Insurance Awareness and Satisfaction in Maharashtra: A Cross-sectional Study"

The data reveals a strong correlation between educational attainment and both understanding of policy terms and satisfaction levels. This finding suggests that information asymmetry significantly impacts policyholder experiences, with less educated consumers at a disadvantage in navigating the complexities of health insurance.

## 5. CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Key Conclusions

Based on the analysis of authentic data from credible sources, this study draws several important conclusions:

1. **Health insurance penetration in Maharashtra shows significant disparities**, with coverage ranging from 22% in the lowest income quintile to 74% in the highest quintile, indicating substantial inequities in financial protection against healthcare costs.
2. **Premium increases have outpaced general inflation**, with a 28% increase in average premiums from 2018-2022 compared to 18% general inflation, creating affordability challenges, particularly for lower-income and elderly policyholders.
3. **Family floater policies offer better value** than individual policies for families, with cost-benefit analysis showing more favourable ratios for family floater plans (0.85) compared to individual plans (0.75).
4. **Senior citizens benefit most from health insurance** in pure financial terms, with a positive cost-benefit ratio of 1.22, indicating that they receive more in claims than they pay in premiums on average.
5. **Information asymmetry significantly impacts policyholder experiences**, with only 47% of policyholders demonstrating adequate understanding of key policy terms, and education level strongly correlating with both understanding and satisfaction.
6. **Claim settlement remains problematic** for many policyholders, with partial settlements affecting 34% of approved claims and significant variations in claim settlement ratios across insurer types.

### 5.2 Recommendations

Based on the findings of this study, the following recommendations are proposed for different stakeholders:

#### 5.2.1 For Insurance Providers

1. **Enhance transparency in policy documents**: Simplify policy language, highlight key exclusions prominently, and provide multilingual summaries to improve understanding across educational levels.
2. **Develop tailored products for underserved segments**: Create innovative, affordable products specifically designed for lower-income groups and senior citizens to address the disproportionate premium burden.
3. **Improve the claim settlement process**: Streamline documentation requirements, reduce processing times, and enhance communication during the claim journey to address a major source of dissatisfaction.
4. **Invest in consumer education**: Develop comprehensive educational resources explaining policy terms, claim procedures, and best practices for maximizing benefits.

#### 5.2.2 For Regulatory Bodies

1. **Mandate standardized policy documents**: Enforce the use of standardized, simplified policy documents with key information highlighted in consistent formats across insurers.
2. **Monitor demographic disparities**: Regularly collect and analyse data on claim settlement ratios and policy experiences across demographic segments to identify and address systemic inequities.
3. **Promote affordable health insurance**: Explore regulatory incentives or subsidies to make health insurance more affordable for vulnerable segments, including lower-income groups and senior citizens.

#### 5.2.3 For Consumers

1. **Prioritize policy understanding**: Invest time in thoroughly understanding policy terms, particularly exclusions, waiting periods, and sub-limits before purchase.
2. **Consider family floater options**: Family units should evaluate family floater policies as potentially more cost-effective alternatives to individual policies.



3. **Maintain comprehensive documentation:** Keep detailed records of medical history, treatments, and correspondence with insurers to facilitate smooth claim processing.

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