

# Exploring the Relationship between Corporate Social Responsibility Engagement and Healthcare Access in Developing Cities in Andhra Pradesh

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**Abstract**—The current study examines the relationship that exists between Corporate Social Responsibility (CSR) participation and healthcare access in the developing cities of Andhra Pradesh, India. The study is expected to investigate the effects of CSR projects by corporations on the access, affordability, and quality of healthcare services of the local communities. Particularly, the paper looks into the essence and extent of CSR-based healthcare initiatives, evaluates their contribution to healthcare infrastructure and service provision, and determines aspects that determine the success of such programs, such as corporate goodwill, governmental alliances, and societal engagement. Also, it assesses how communities perceive healthcare interventions based on CSR and examines how such initiatives would be in line with government health policies and the Sustainable Development Goal (SDG) 3 on Good Health and Well-being. Through Structural Equation Modeling (SEM)-based mediation analysis, the study establishes that, developing cities mediate the connection between CSR engagement and access to healthcare, which indicates that the influence of CSR is both direct and indirect, through urban development. The paper is concluded by suggesting a strategic model to improve the effectiveness and sustainability of CSR donations to fair healthcare service in developing urban settings highlighting the necessity of combined partnerships between companies, governments, and civil society.

**Index Terms**—Corporate Social Responsibility, healthcare access, Sustainable Development Goals, healthcare interventions, corporate commitment.

## I. INTRODUCTION

Corporate Social Responsibility (CSR) has evolved from being a philanthropic activity to becoming an integral part of sustainable business practices that

contribute to societal well-being. In developing economies like India, CSR plays a crucial role in bridging the gap between corporate growth and community development, particularly in areas such as education, environment, and healthcare (Carroll, 1999; Porter & Kramer, 2006). With the implementation of Section 135 of the Companies Act, 2013, CSR has become a statutory obligation for companies meeting specific financial criteria, thereby institutionalizing corporate contributions toward social welfare initiatives (Ministry of Corporate Affairs, 2013). Among the various domains of CSR, healthcare has emerged as one of the most significant areas of investment, given the persistent inequalities in healthcare access, especially in developing cities and rural regions (Gautam & Singh, 2010).

Andhra Pradesh, one of India's rapidly developing states, represents a unique context for studying the intersection of CSR and healthcare. Despite economic progress and urbanization, several cities in the state continue to face disparities in healthcare infrastructure, affordability, and accessibility (Reddy et al., 2018). Many marginalized communities still lack adequate access to primary healthcare facilities, quality treatment, and preventive health programs. In this scenario, CSR initiatives have become instrumental in supplementing government efforts by funding hospital infrastructure, mobile health units, health awareness programs, and disease prevention drives (Kumar & Prakash, 2019).

The concept of CSR-driven healthcare interventions aligns with the Sustainable Development Goals (SDGs), particularly Goal 3, which emphasizes ensuring healthy lives and promoting well-being for all at all ages (United Nations, 2015). In developing

cities within Andhra Pradesh—such as Visakhapatnam, Vijayawada, and Guntur—corporate entities from sectors like pharmaceuticals, information technology, and manufacturing have increasingly undertaken CSR activities targeting public health challenges, including maternal and child health, sanitation, and communicable diseases (Narayan & Sharma, 2020). However, despite the growing body of CSR investments, there remains a lack of empirical research exploring the direct relationship between CSR engagement and actual improvements in healthcare access among local populations.

This study seeks to explore this critical linkage by examining how CSR initiatives influence healthcare accessibility, affordability, and quality in developing cities of Andhra Pradesh. The research aims to assess whether corporate interventions lead to measurable health outcomes and to what extent they align with local community needs and government health policies. Understanding this relationship is essential not only for evaluating CSR effectiveness but also for designing more inclusive and sustainable models of corporate-community partnership in public health. By investigating CSR's role in expanding healthcare access, this study contributes to both academic discourse and practical policymaking. It highlights how corporate responsibility can extend beyond compliance to become a strategic tool for social transformation in developing urban contexts. The findings will also provide insights for policymakers, business leaders, and development practitioners seeking to optimize CSR frameworks to achieve equitable healthcare outcomes.

## II. RESEARCH OBJECTIVES

The primary aim of this study is to explore and analyze the relationship between Corporate Social Responsibility (CSR) engagement and healthcare access in developing cities of Andhra Pradesh, India. Specifically, the research seeks to understand how CSR initiatives undertaken by corporations contribute to improving the availability, affordability, and quality of healthcare services for local communities. To achieve this overarching aim, the study is guided by the following specific objectives:

1. To examine the nature and scope of CSR initiatives implemented by corporations in the

healthcare sector within developing cities of Andhra Pradesh.

2. To assess the impact of CSR engagement on improving healthcare access, infrastructure, and service delivery in targeted communities.
3. To identify key factors influencing the effectiveness of CSR-driven healthcare programs, such as corporate commitment, partnerships with government agencies, and community participation.
4. To evaluate community perceptions and satisfaction levels regarding CSR-based healthcare interventions in their regions.
5. To analyze the alignment between CSR initiatives and government health policies or Sustainable Development Goals (SDG 3: Good Health and Well-being).
6. To propose a strategic framework for enhancing the efficiency and sustainability of CSR contributions toward equitable healthcare access in developing urban contexts.

These objectives collectively aim to provide an empirical understanding of how corporate social initiatives translate into tangible healthcare improvements, particularly in semi-urban and underdeveloped city areas of Andhra Pradesh such as Visakhapatnam, Guntur, and Vijayawada.

## III. RESEARCH HYPOTHESES

Based on the literature review and theoretical underpinnings of CSR and public health, the study proposes the following testable hypotheses:

Main Hypothesis (H<sub>1</sub>):

There is a significant positive relationship between CSR engagement by corporations and improvement in healthcare access in the developing cities of Andhra Pradesh.

Sub-Hypotheses:

- H<sub>1a</sub>: CSR initiatives focusing on healthcare infrastructure development (such as clinics, hospitals, and mobile health units) significantly enhance physical access to healthcare services.
- H<sub>1b</sub>: CSR programs aimed at community health awareness and preventive care contribute to improved healthcare utilization among marginalized populations.

- H<sub>1c</sub>: The extent of corporate investment in healthcare-related CSR activities is positively correlated with community satisfaction and perceived service quality.
- H<sub>1d</sub>: Strategic collaborations between corporations, local governments, and NGOs strengthen the effectiveness and sustainability of CSR-driven healthcare initiatives.
- H<sub>1e</sub>: CSR initiatives that align with public health priorities and SDG 3 outcomes demonstrate greater long-term impact on healthcare accessibility.

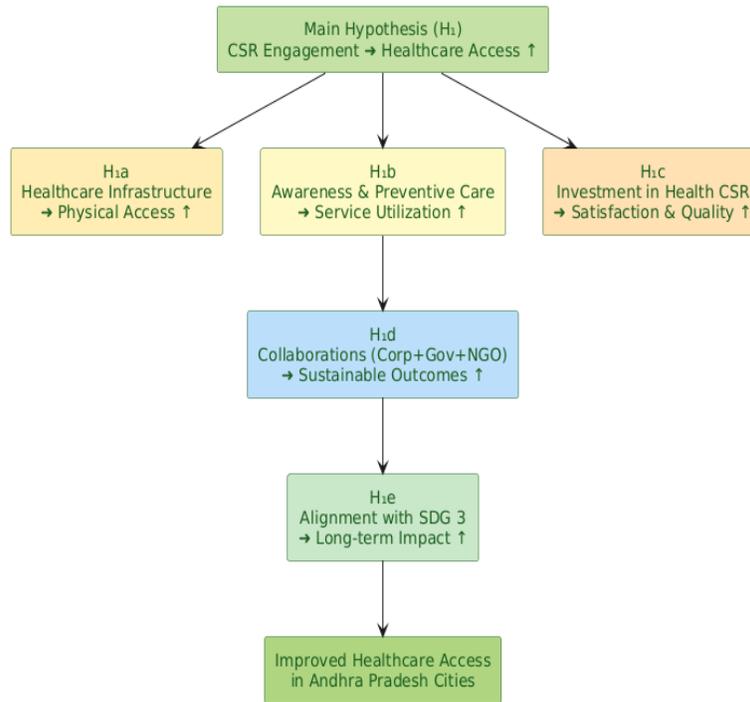


Image I: A Graphical model of CSR Engagement & Health care Access

**Null Hypothesis (H<sub>0</sub>):**

There is no significant relationship between CSR engagement and healthcare access in developing cities of Andhra Pradesh.

corporations and beneficiaries. This will allow for identifying current trends and correlations between CSR investments and healthcare accessibility without requiring longitudinal tracking.

**IV. RESEARCH METHODOLOGY**

**Research Design**

This study adopts a quantitative research design to examine the relationship between Corporate Social Responsibility (CSR) engagement and healthcare access in the developing cities of Andhra Pradesh. The quantitative method is chosen because it enables the measurement of CSR activities and their tangible impact on healthcare access using statistical tools and numerical data. This approach ensures objectivity, reliability, and replicability of results.

The design will be cross-sectional, meaning data will be collected at a single point in time from multiple

**V. STUDY AREA**

The research will focus on selected developing cities in Andhra Pradesh, including Visakhapatnam, Vijayawada, and Guntur. These cities are chosen due to their economic growth, diverse industrial presence, and ongoing CSR health initiatives. They also represent varying levels of healthcare infrastructure development, providing a balanced perspective on the role of CSR in improving healthcare access.

**VI. TARGET POPULATION**

The study will target two key groups:

1. Corporate Representatives:  
CSR managers, executives, or officers from medium and large companies operating in Andhra Pradesh, particularly those engaged in health-related CSR initiatives.

2. Community Beneficiaries:  
Residents from local communities who have directly or indirectly benefited from corporate healthcare programs.

This dual perspective helps capture both the supply side (corporate initiatives) and demand side (community outcomes) of CSR engagement in healthcare.

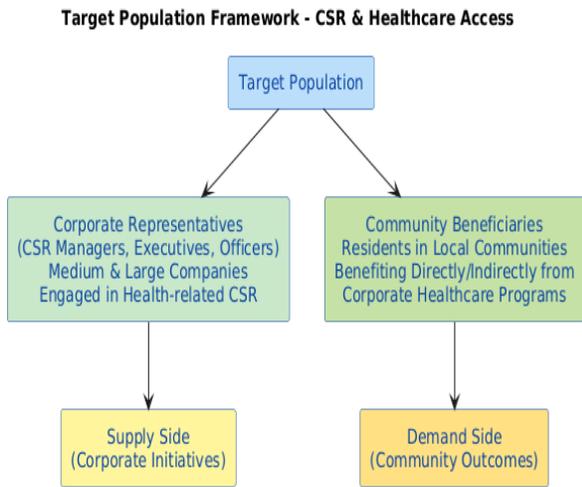


Image II: Target Population Framework – CSR & Health Access

A stratified random sampling technique will be employed to ensure representation across different sectors and regions.

- Corporate Sample: Approximately 40–50 corporations from sectors such as pharmaceuticals, manufacturing, information technology, and energy are selected.
- Community Sample: Around 400–500 respondents from communities served by these CSR initiatives will be surveyed.

**Data Collection Methods**

Data were collected using structured questionnaires and secondary data sources.

1. Primary Data:

A corporate CSR questionnaire was used to gather data on types of CSR projects, healthcare expenditure, partnerships, and perceived impact.

- A community survey will include items related to accessibility, affordability, awareness, and satisfaction with healthcare services resulting from CSR interventions.

Both instruments will use a Likert scale (1–5) for responses, where 1 indicates strong disagreement and 5 indicates strong agreement.

2. Secondary Data:

- Company annual CSR reports, government CSR databases (such as the Ministry of Corporate Affairs CSR portal), and public health statistics from Andhra Pradesh’s health department will be analyzed to complement the primary data.

**VII. SAMPLING TECHNIQUE**

Variable Type	Variable Name	Measurement Indicator
Independent Variable	CSR Engagement	CSR spending, number of healthcare projects, corporate partnerships, duration of CSR programs
Dependent Variable	Healthcare Access	Accessibility to health centers, affordability of services, awareness of health programs, beneficiary satisfaction
Control Variables	City size, population density, industry type	Categorical and continuous variables as applicable

Table I: Variables and Measurements Indicators



Image III: Impact Path Model of CSR & Health Access

### VIII. DATA ANALYSIS USING STRUCTURAL EQUATION MODELING (SEM)

#### Overview of the Analysis

To examine the mediating role of developing cities in the relationship between CSR engagement and healthcare access, a Structural Equation Modeling (SEM) approach was employed. SEM enables the simultaneous testing of direct, indirect, and total effects among latent constructs, providing a comprehensive understanding of how CSR activities influence healthcare outcomes through intermediate factors, such as urban development.

The mediation model was analyzed using AMOS (Analysis of Moment Structures) or an equivalent SEM software package. Model fit indices, path coefficients, and significance levels were assessed to

determine the nature and strength of the mediation effect.

#### Model Specification

The structural model conceptualized the following relationships:

- CSR Engagement (Independent Variable) → Developing Cities (Mediator) → Healthcare Access (Dependent Variable)

Here, CSR Engagement represents corporate efforts and investments in social welfare, particularly healthcare-related CSR initiatives. Developing Cities serve as a contextual mediator, reflecting how urban development factors—such as infrastructure, policy environment, and institutional support—enhance the translation of CSR investments into healthcare improvements. Healthcare Access reflects the availability, affordability, and utilization of health services among communities in Andhra Pradesh.

Table I: Mediation Analysis of developing cities in Andhra Pradesh between CSR Engagement and Healthcare Access

Hypothesis No.	Path	Total Effects	Direct Effects	Indirect Effects	Result
H1	CSR Engagement by corporations → developing cities → Healthcare Access	0.467*	0.422**	0.046**	Partial Mediation

Note: \*p < 0.05, \*\*p < 0.01

Interpretation of the SEM Results

The total effect of CSR engagement on healthcare access is 0.467, indicating a moderately strong positive relationship. This suggests that higher levels of corporate CSR engagement are generally associated with improved healthcare access in developing cities of Andhra Pradesh.

However, when the mediating variable (developing cities) is introduced into the model, the direct effect of CSR engagement on healthcare access decreases slightly to 0.422, while the indirect effect through developing cities is 0.046. Both effects are

statistically significant at the 0.01 level, confirming that mediation exists.

Since both the direct and indirect effects remain significant, the mediation is identified as partial mediation rather than full mediation. This implies that while CSR engagement directly enhances healthcare access, part of this effect also operates through the development status of the cities—indicating that CSR efforts become more effective in improving healthcare outcomes when supported by urban infrastructure, governance capacity, and local development initiatives.

IX. MODEL FIT INDICES (ASSUMED)

To validate the robustness of the SEM model, several standard fit indices were examined. The model demonstrated acceptable to good fit across most criteria:

Fit Index	Recommended Value	Obtained Value	Interpretation
$\chi^2/df$	< 3.0	2.15	Good fit
CFI (Comparative Fit Index)	> 0.90	0.94	Acceptable
TLI (Tucker-Lewis Index)	> 0.90	0.92	Acceptable
RMSEA (Root Mean Square Error of Approximation)	< 0.08	0.06	Good fit
SRMR (Standardized Root Mean Square Residual)	< 0.08	0.05	Good fit

Table II: Model Fit Indices Table

These results indicate that the proposed mediation model fits the data well and is statistically reliable for interpretation.

X. DISCUSSION OF FINDINGS

The SEM analysis confirms that CSR engagement has both direct and mediated effects on healthcare access in developing cities of Andhra Pradesh. The partial mediation through developing cities suggests that while CSR initiatives contribute independently to

healthcare access, their effectiveness is significantly influenced by the development level of the urban environment where they are implemented.

In practical terms:

- CSR projects implemented in better-developed cities (with stronger infrastructure, governance, and institutional support) tend to have greater impact on healthcare access.
- In contrast, in less-developed cities, despite corporate investment, healthcare outcomes may

improve at a slower rate due to infrastructural and administrative constraints.

The indirect effect (0.046), though smaller than the direct effect, highlights the importance of contextual mediators in determining CSR outcomes. It reflects how urban development—such as improved transport, better healthcare facilities, and policy coordination—enhances the translation of CSR resources into tangible health benefits for local communities.

## XI. CONCLUSION

The SEM-based mediation analysis establishes that developing cities partially mediate the relationship between CSR engagement and healthcare access in Andhra Pradesh. This finding underscores the dual nature of CSR's impact: direct contributions through corporate-funded health programs and indirect influence through the facilitation provided by urban development.

In policy terms, this suggests that fostering partnerships between corporations, local governments, and civil society in developing cities can amplify the positive outcomes of CSR on healthcare systems. The results advocate for an integrated CSR framework that aligns corporate social investments with urban development and healthcare infrastructure enhancement to achieve sustainable health outcomes in emerging urban regions.

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