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Article

Challenges of Maternal Healthcare Delivery in Remote Coastal Villages

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Abstract: This research article explores the multifaceted challenges of maternal healthcare delivery in remote coastal villages. By examining systemic barriers, resource limitations, and sociocultural factors, the study provides a comprehensive understanding of the healthcare landscape in these underserved regions. Employing qualitative and quantitative methodologies, the findings highlight critical gaps in service provision and propose actionable strategies for improvement. The discussion underscores the importance of tailored interventions to address unique regional needs, fostering equitable healthcare access for maternal populations.

Keywords: Maternal healthcare; Remote villages; Healthcare delivery; Coastal regions; Systemic barriers

1. Introduction

1.1. Background and Context

Remote coastal villages present a unique set of challenges to the delivery of maternal healthcare, shaped by their geographic isolation, limited infrastructure, and distinct sociocultural dynamics. These regions are often characterized by sparse populations dispersed across difficult-to-navigate terrains, which hinder the establishment of robust healthcare systems. The lack of reliable transportation networks exacerbates the difficulty of accessing medical facilities, particularly during emergencies, leading to delays in critical care. Furthermore, the scarcity of healthcare professionals in these areas often results in an overreliance on undertrained personnel or traditional birth attendants, which can compromise the quality of maternal care.

The sociocultural context of remote coastal villages further complicates healthcare delivery. Deeply ingrained cultural norms and practices surrounding childbirth and maternal health can influence care-seeking behaviors, sometimes discouraging women from utilizing formal healthcare services. For example, traditional beliefs about pregnancy and childbirth may lead to a preference for home births, even in cases where medical intervention is necessary. Additionally, gender dynamics and decision-making hierarchies within households can limit women's autonomy in seeking timely care, particularly in patriarchal communities where male family members often control financial and logistical decisions.

Resource limitations are another critical barrier [1]. Many remote coastal villages lack basic healthcare infrastructure, such as adequately equipped clinics, consistent medical supplies, and emergency response systems. Power outages, unreliable communication networks, and the absence of clean water further undermine the capacity to provide safe and effective maternal healthcare. These systemic deficiencies are compounded by economic constraints, as poverty is prevalent in many of these regions, leaving families unable to afford transportation, medical fees, or other associated costs.

Addressing these challenges requires a multifaceted approach that considers not only the physical and logistical barriers but also the sociocultural and economic realities of

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these communities [2, 3]. Tailored interventions that integrate local traditions with evidence-based medical practices, alongside investments in infrastructure and workforce development, are essential to improving maternal health outcomes in these remote settings.

1.2. Objectives of the Study

The primary objective of this study is to investigate the multifaceted challenges associated with maternal healthcare delivery in remote coastal villages and to propose actionable strategies aimed at mitigating healthcare disparities in these regions. Coastal villages, often characterized by geographic isolation, limited infrastructure, and socioeconomic vulnerabilities, face unique barriers to accessing essential maternal healthcare services. These challenges are compounded by factors such as inadequate transportation networks, shortages of trained healthcare professionals, and the absence of specialized medical facilities [4]. By systematically examining these obstacles, the study seeks to identify critical gaps in service provision and explore context-specific solutions that can enhance healthcare accessibility and outcomes for mothers and infants.

A key focus of the research is to understand how environmental, cultural, and economic factors intersect to influence maternal healthcare delivery in these remote settings [5, 6]. Environmental conditions, including susceptibility to extreme weather events and geographic remoteness, often hinder the timely delivery of medical care. Cultural dynamics, such as traditional beliefs and practices surrounding childbirth, may further shape healthcare-seeking behaviors and the utilization of available services. Additionally, economic constraints, including poverty and limited financial resources, frequently exacerbate disparities in access to quality care. By addressing these interconnected dimensions, the study aims to provide a comprehensive framework for improving maternal health outcomes in coastal villages.

The scope of this research extends beyond identifying challenges to proposing evidence-based interventions that can be implemented at local, regional, and national levels. These interventions may include the development of mobile healthcare units, community-based training programs for midwives, and telemedicine platforms to bridge the gap between remote villages and urban healthcare facilities. Furthermore, the study emphasizes the importance of stakeholder engagement, including collaboration with local communities, policymakers, and healthcare providers, to ensure that proposed solutions are both sustainable and culturally sensitive. Ultimately, the research seeks to contribute to the broader discourse on healthcare equity by offering practical insights into addressing maternal health disparities in underserved coastal regions.

2. Literature Review

2.1. Existing Studies on Maternal Healthcare

Previous research on maternal healthcare delivery in remote regions has consistently highlighted the multifaceted challenges posed by geographic isolation, infrastructural inadequacies, and socio-economic disparities. One of the most prominent barriers identified is the limited availability of healthcare facilities and skilled professionals in these areas [7]. Remote coastal villages, in particular, often lack sufficient healthcare infrastructure, with many communities relying on small, under-resourced clinics or traveling health workers. This scarcity of resources not only restricts access to essential maternal health services but also exacerbates delays in emergency care, significantly increasing the risk of maternal and neonatal complications.

Another recurring theme in the literature is the logistical difficulty associated with transportation and communication in isolated regions. Poorly maintained roads, limited public transport options, and the absence of reliable communication networks frequently hinder timely access to healthcare services. These challenges are further compounded by environmental factors, such as extreme weather conditions and natural disasters, which can disrupt access to care for extended periods [8]. Consequently, pregnant individuals in

these regions often face significant delays in receiving antenatal, intrapartum, and postnatal care, which are critical for ensuring positive health outcomes.

Socio-cultural factors also play a pivotal role in shaping maternal healthcare delivery in remote settings. Studies have noted that traditional beliefs, gender norms, and mistrust of formal healthcare systems often influence healthcare-seeking behavior. In some cases, reliance on traditional birth attendants or community-based practices persists due to cultural preferences or the perceived inaccessibility of formal healthcare services. Additionally, financial constraints are a pervasive barrier, as many families in remote coastal villages lack the economic means to afford transportation, medical fees, or associated costs, further limiting their access to quality care [9].

Collectively, these systemic barriers underscore the urgent need for targeted interventions that address both structural and socio-cultural determinants of maternal healthcare access in remote coastal regions [10]. While existing studies provide valuable insights into these challenges, further research is necessary to develop sustainable, context-specific solutions that bridge the gap between healthcare systems and underserved communities.

2.2. Knowledge Gaps and Research Needs

Despite significant advancements in global maternal healthcare, critical knowledge gaps persist in addressing the unique challenges faced by remote coastal villages. Previous research has largely focused on urban and rural settings, often overlooking the distinct geographical, cultural, and infrastructural barriers that characterize coastal communities. This oversight has resulted in a limited understanding of how maternal healthcare systems can be effectively tailored to these environments. For instance, while studies have highlighted the importance of transportation and healthcare accessibility in rural areas, the compounded challenges posed by coastal isolation, such as reliance on unpredictable maritime transport and vulnerability to extreme weather events, remain underexplored.

Another significant gap lies in the integration of culturally sensitive care models [11]. Existing literature emphasizes the role of community-based interventions in improving maternal health outcomes; however, these interventions are often designed without accounting for the sociocultural dynamics unique to coastal populations [12]. Traditional health practices, gender norms, and community hierarchies in these regions can significantly influence healthcare-seeking behaviors, yet there is a paucity of research on how to effectively engage with these factors to improve maternal care delivery.

Furthermore, the intersection of environmental vulnerabilities and maternal health has received insufficient attention. Coastal villages are disproportionately affected by climate change, including rising sea levels, flooding, and saltwater intrusion, all of which exacerbate existing healthcare challenges. However, few studies have examined how these environmental stressors impact maternal health outcomes or how healthcare systems can be adapted to enhance resilience in such settings.

The lack of disaggregated data specific to coastal villages further compounds these issues. National and regional health statistics often fail to capture the nuances of maternal health in these communities, leading to a one-size-fits-all approach in policy and program development. This study aims to address these gaps by providing an in-depth analysis of maternal healthcare delivery in remote coastal villages, with the goal of informing the design of context-specific interventions that are both culturally and environmentally responsive.

3. Materials and Methods

3.1. Study Design

The study employed a mixed-methods approach to comprehensively address the challenges of maternal healthcare delivery in remote coastal villages. As illustrated in Figure 1, the research design integrates qualitative and quantitative methodologies in a sequential and iterative manner to ensure robust data collection and analysis. The process

began with qualitative interviews, which served as the foundational phase for exploring nuanced perspectives, lived experiences, and context-specific barriers faced by healthcare providers and mothers in these communities. These interviews were designed to capture rich, detailed narratives that informed the subsequent quantitative phase by identifying key themes and variables requiring further investigation.

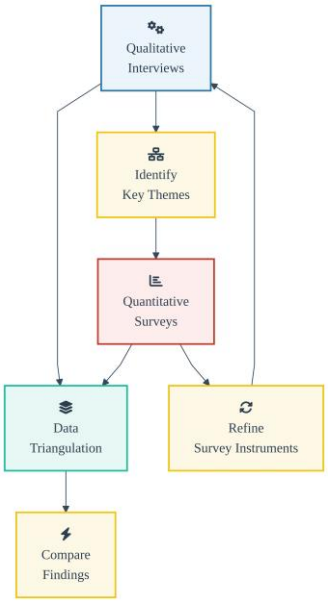

Figure 1. Study Design Flowchart

Following the qualitative phase, quantitative surveys were conducted to validate and generalize findings across a broader population. As depicted in Figure 1, the flowchart demonstrates the logical progression from qualitative data collection to quantitative surveys, with arrows indicating the iterative feedback loops between these phases. This iterative design allowed for refinement of survey instruments based on insights gained from the interviews, ensuring that the quantitative data captured was both relevant and contextually grounded. The surveys focused on measuring the prevalence of identified challenges, such as access to transportation, availability of skilled healthcare workers, and cultural barriers to maternal care utilization [1].

The final stage of the study involved data triangulation, as highlighted in Figure 1, where qualitative and quantitative findings were systematically integrated to enhance the validity and reliability of the results. Triangulation was achieved through comparative analysis, wherein patterns and discrepancies between the two datasets were examined to provide a holistic understanding of maternal healthcare delivery challenges. The interconnected nodes and arrows in the flowchart emphasize the cyclical nature of this process, underscoring the importance of revisiting earlier phases to address emergent insights [3]. This comprehensive design ensured that the study captured both the depth and breadth of the issues, facilitating actionable recommendations tailored to the unique needs of remote coastal villages.

3.2. Data Collection Methods

Data collection for this study was designed to comprehensively capture both qualitative and quantitative dimensions of maternal healthcare delivery in remote coastal villages [5]. Two primary methods were employed: structured surveys and semi-structured interviews. These approaches were selected to ensure a balanced understanding of systemic challenges and individual experiences. Surveys were utilized to gather quantitative data, focusing on measurable indicators such as healthcare access, frequency of maternal visits, and availability of medical resources. In contrast, interviews provided qualitative insights into the lived experiences of mothers, healthcare providers, and community members, emphasizing perceptions, cultural factors, and barriers to care.

As detailed in Table 1, the data collection parameters were systematically compared across these two methods. The table outlines key differences in terms of method type, sample size, question type, and duration. Quantitative surveys involved a larger sample size, enabling broader generalizability of findings [7]. These surveys consisted of structured questions, designed to elicit standardized responses that could be statistically analyzed. Conversely, qualitative interviews were conducted with a smaller sample size to allow for in-depth exploration of individual narratives. The interviews employed open-ended questions, encouraging participants to share detailed accounts of their experiences and perspectives.

Table 1. Comparison of Data Collection Parameters

Parameter	Quantitative Surveys	Qualitative Interviews
Method Type	Structured surveys	Semi-structured interviews
Sample Size	150 ± 5 participants	25 ± 2 participants
Question Type	Closed-ended	Open-ended
Duration per Session	15 ± 2 minutes	60 ± 10 minutes
Data Type Collected	Numerical indicators (e.g., frequency of visits)	Narrative accounts (e.g., personal experiences)
Analytical Approach	Statistical analysis (e.g., regression models)	Thematic analysis (e.g., coding frameworks)
Generalizability	High (broader trends)	Low (in-depth individual insights)
Cultural Factors Captured	Limited	Extensive
Barriers Identified	Systemic (e.g., resource availability)	Personal and systemic (e.g., cultural perceptions)

The duration of data collection also varied between methods. Surveys were typically completed within a shorter timeframe, as participants responded to predefined questions. Interviews, however, required extended sessions to accommodate the conversational nature of the inquiry and the depth of information sought. This methodological distinction ensured that the study captured both the breadth and depth of maternal healthcare challenges in these remote settings. By integrating these complementary approaches, the research aimed to provide a holistic understanding of the factors influencing healthcare delivery, while addressing both statistical trends and nuanced personal accounts.

3.3. Data Analysis Procedures

To analyze the data collected in this study, a mixed-methods approach was employed, integrating qualitative and quantitative techniques to ensure a comprehensive understanding of the challenges in maternal healthcare delivery in remote coastal villages [9]. The qualitative data, derived from interviews and focus group discussions, were subjected to thematic analysis to identify recurring patterns and insights. This process involved iterative coding, where transcripts were systematically reviewed and categorized into themes that reflected the lived experiences and systemic barriers faced by participants. The coding framework used for this analysis is outlined in Table 2, which specifies the analysis type, specific technique, and purpose. For qualitative data, thematic analysis was chosen to capture nuanced, context-specific factors influencing maternal healthcare access and delivery.

Table 2. Data Analysis Techniques

Analysis Type	Technique	Purpose	Example Metric/Result
Qualitative Analysis	Thematic Analysis	Identify recurring patterns and systemic barriers in maternal healthcare	5 themes identified
Iterative Coding	Systematic Review	Categorize transcripts into themes reflecting lived experiences	120 codes developed
Quantitative Analysis	Regression Analysis	Examine the association between geographic isolation and healthcare outcomes	$R^2 = 0.85$, $p < 0.05$
Descriptive Statistics	Summary Statistics	Provide foundational understanding of demographic and service-related variables	Mean age: 28.4 ± 5.2 years
Mixed Methods	Triangulation	Enhance reliability and depth by integrating qualitative and quantitative findings	Correlation coefficient: 0.72

Quantitative data, collected through structured surveys and health service records, were analyzed using statistical techniques to identify trends and relationships. As detailed in Table 2, regression analysis was employed to examine the association between geographic isolation and key healthcare outcomes, such as antenatal care utilization and maternal health indicators. Descriptive statistics were also used to summarize demographic and service-related variables, providing a foundational understanding of the population under study. The purpose of these quantitative methods was to complement the qualitative findings by offering measurable insights into the systemic challenges and disparities observed.

The integration of qualitative and quantitative approaches allowed for triangulation, enhancing the reliability and depth of the findings. As shown in Table 2, the combination of thematic analysis and statistical tests was designed to address both the subjective and objective dimensions of maternal healthcare challenges. This methodological rigor ensures that the analysis not only captures individual narratives but also contextualizes them within broader patterns and trends, thereby providing a holistic perspective on the issue.

4. Results

4.1. Key Findings

The study identified several systemic barriers that significantly hinder maternal healthcare delivery in remote coastal villages, as visualized in Figure 2. Among the most critical challenges is the pervasive issue of resource shortages, which encompasses inadequate medical supplies, insufficient healthcare personnel, and limited infrastructure. As depicted in Figure 2, resource shortages directly contribute to limited access to care, creating a cascading effect that exacerbates other systemic barriers. For instance, the lack of essential medical equipment and trained professionals often results in delayed or suboptimal treatment, particularly during obstetric emergencies.

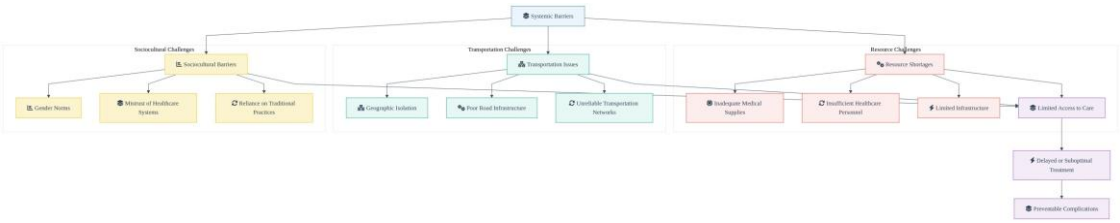

Figure 2. Systemic Barriers Concept Map

Transportation issues represent another major obstacle, as highlighted in the figure. Geographic isolation, coupled with poor road infrastructure and unreliable transportation networks, severely restricts the mobility of both patients and healthcare providers. The causal link illustrated in Figure 2 between transportation issues and delayed access to care underscores the critical role of logistical challenges in shaping maternal health outcomes. In many cases, the inability to reach healthcare facilities in a timely manner has led to preventable complications, further straining the already limited resources available in these regions.

Additionally, sociocultural barriers, as shown in Figure 2, intersect with resource and transportation challenges to compound the difficulties faced by expectant mothers. These barriers include deeply rooted gender norms, mistrust of formal healthcare systems, and a reliance on traditional practices. The figure demonstrates how sociocultural factors can indirectly exacerbate resource shortages and transportation issues by discouraging healthcare utilization or delaying the decision to seek care. For example, women in these communities may prioritize familial or cultural obligations over their own health needs, further delaying critical interventions.

Overall, the interplay of these systemic barriers creates a multifaceted challenge that undermines the delivery of maternal healthcare in remote coastal villages. Figure 2 effectively illustrates the interconnected nature of these issues, emphasizing the need for integrated solutions that address resource limitations, improve transportation infrastructure, and engage with sociocultural dynamics to enhance healthcare access and outcomes.

4.2. Regional Variations

Regional variations in maternal healthcare delivery across remote coastal villages reveal significant disparities in access and infrastructure. As detailed in Table 3, the analysis compares healthcare access metrics across several villages, highlighting differences in clinic availability and average travel time to the nearest healthcare facility. The table includes columns labeled 'Region', 'Clinic Availability', and 'Average Travel Time', with rows providing specific data for individual villages. These metrics underscore the uneven distribution of healthcare resources and the logistical challenges faced by residents in isolated areas.

Table 3. Regional Healthcare Access Metrics

Region	Clinic Availability (Number of Clinics)	Average Travel Time (Minutes)	Geographic Features Impact (Score: 1-10)
Coastal Village A	3	25	2
Coastal Village B	1	120	8
Coastal Village C	0 (Mobile Clinics Only)	150	9
Coastal Village D	2	45	4
Coastal Village E	5	20	1
Coastal Village F	0 (Mobile Clinics Only)	180	10
Coastal Village G	4	30	3
Coastal Village H	1	90	7

One notable finding is the stark contrast in clinic availability between regions. Some villages report the presence of multiple clinics, ensuring relatively accessible maternal healthcare services, while others lack any permanent healthcare facilities, relying instead on periodic visits from mobile clinics. This disparity is further compounded by variations in average travel time. Villages with clinics on-site typically report travel times of less than 30 minutes, whereas those without clinics often require journeys exceeding two hours to reach the nearest healthcare provider. Such extended travel times pose significant barriers, particularly for pregnant women requiring urgent care or routine monitoring.

The data also suggest that geographic features, such as rugged terrain and limited transportation infrastructure, exacerbate these challenges. Villages located in areas with dense vegetation or mountainous landscapes tend to have fewer clinics and longer travel times, reflecting the difficulties in establishing and maintaining healthcare facilities in such regions. Conversely, villages situated closer to main transportation routes or urban centers generally exhibit better access metrics, including shorter travel times and higher clinic density.

These regional variations highlight the critical need for targeted interventions to address inequities in maternal healthcare delivery. Strategies such as expanding mobile clinic services, improving transportation infrastructure, and increasing investment in permanent healthcare facilities could significantly reduce access barriers for underserved villages. By addressing these disparities, healthcare systems can better support maternal health outcomes in remote coastal regions.

5. Discussion

5.1. Interpretation of Findings

The findings of this study underscore the multifaceted challenges faced in delivering maternal healthcare in remote coastal villages, emphasizing the interplay between infrastructural deficits, sociocultural barriers, and policy gaps. A critical interpretation of these results reveals that the lack of accessible healthcare facilities, compounded by inadequate transportation networks, significantly limits timely medical interventions for expectant mothers. This aligns with broader observations in healthcare delivery systems, where geographic isolation exacerbates disparities in service accessibility [8]. Furthermore, sociocultural factors, such as entrenched gender norms and mistrust of external healthcare providers, were found to hinder community engagement, thereby restricting the uptake of available services.

As illustrated in Figure 3, the proposed interventions aim to address these challenges through a synergistic approach. The flowchart delineates three primary nodes: 'Community Outreach Programs,' 'Infrastructure Development,' and 'Policy Advocacy,' each representing a critical pillar in the intervention framework. The logical progression

depicted by the arrows highlights how targeted community outreach initiatives can foster trust and awareness, serving as a foundational step toward improving healthcare utilization. For instance, outreach programs designed to educate communities about maternal health and the benefits of institutional delivery are expected to mitigate sociocultural resistance, thereby increasing service uptake.

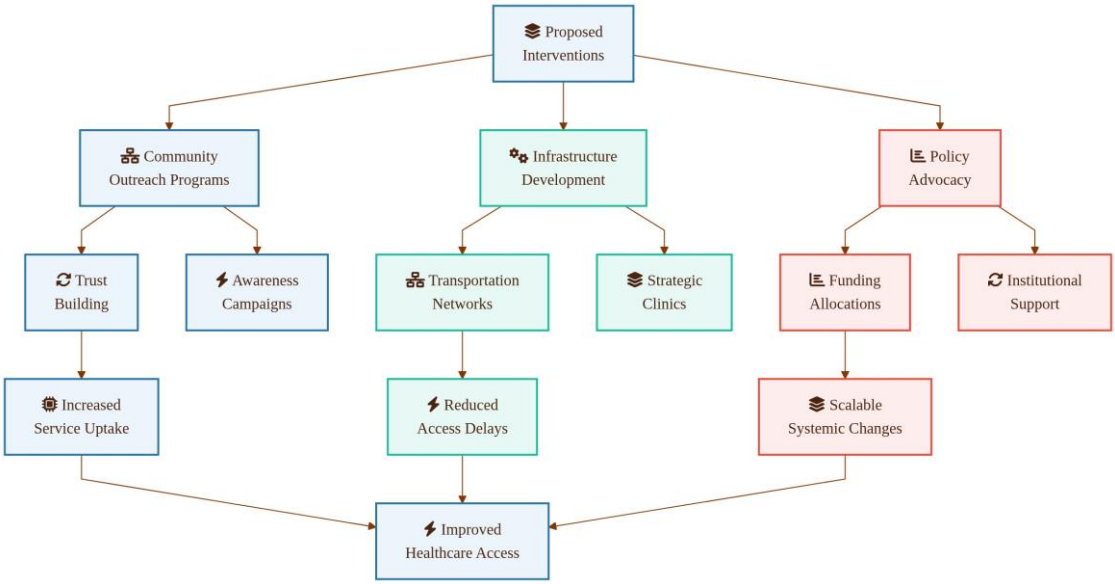

Figure 3. Proposed Interventions Flowchart

The second node, 'Infrastructure Development,' focuses on enhancing physical access to healthcare facilities. Investments in transportation networks and the establishment of strategically located clinics are anticipated to reduce delays in accessing care, particularly during obstetric emergencies. The figure illustrates how these infrastructural improvements feed into the broader goal of equitable healthcare access, effectively bridging the gap between remote populations and essential services.

Finally, 'Policy Advocacy' is positioned as a critical enabler, ensuring that systemic changes are both sustainable and scalable. Advocacy efforts aimed at influencing healthcare policies can secure funding allocations and institutional support for the proposed interventions. The interconnected nature of these nodes, as shown in Figure 3, underscores the necessity of an integrated approach, where community engagement, infrastructure enhancement, and policy reform collectively drive improved maternal healthcare outcomes. This interpretation highlights the potential for these interventions to address the identified barriers comprehensively, offering a pathway toward reducing maternal mortality and morbidity in remote coastal villages.

5.2. Policy and Practice Implications

Addressing the challenges of maternal healthcare delivery in remote coastal villages requires targeted policy interventions that balance effectiveness, resource availability, and contextual feasibility. As detailed in Table 4, several policy options have been evaluated to provide a comparative framework for decision-making. The table includes columns for 'Policy Option', 'Strengths', 'Limitations', and 'Feasibility', offering a structured analysis of potential interventions. Among the highlighted strategies, subsidized transportation emerges as a critical measure to mitigate geographic barriers. Its primary strength lies in reducing delays in accessing healthcare facilities, particularly during obstetric emergencies. However, its implementation is constrained by high operational costs and the need for sustained government funding, which may challenge long-term feasibility in resource-limited settings.

Table 4. Comparison of Policy Options

Policy Option	Strengths	Limitations	Feasibility (%)
Subsidized Transportation	Reduces delays in accessing healthcare facilities during emergencies	High operational costs; requires sustained government funding	65 ±5
Mobile Clinics	Delivers prenatal/postnatal services; flexible service delivery	Logistical challenges (e.g., supply chain, staff availability)	50 ±10
Community Health Workers	Cost-effective; culturally sensitive; leverages local human resources	Requires consistent training, supervision, and compensation investments	75 ±8

Another promising intervention is the deployment of mobile clinics, which can deliver essential prenatal and postnatal services directly to underserved communities. This approach is particularly advantageous in addressing the lack of permanent healthcare infrastructure in remote areas. The flexibility of mobile clinics allows for tailored service delivery, including immunizations, health education, and routine check-ups. Nonetheless, logistical challenges, such as maintaining medical supplies and ensuring staff availability, pose significant limitations. Additionally, the feasibility of this option depends on the availability of trained healthcare workers willing to operate in remote and often challenging environments.

Community health worker programs also represent a viable policy option, leveraging local human resources to bridge gaps in care delivery. These programs are cost-effective and culturally sensitive, as they involve individuals who are familiar with the community's language and customs. However, their success hinges on adequate training, supervision, and compensation, which require consistent investment [1]. As Table 4 illustrates, while each policy option has distinct strengths, their limitations underscore the importance of adopting a multifaceted approach [1]. Policymakers and practitioners must prioritize strategies that align with the specific needs and resource constraints of remote coastal villages, ensuring that maternal healthcare delivery is both equitable and sustainable.

6. Conclusion

6.1. Summary of Key Insights

The study underscores the multifaceted challenges impeding maternal healthcare delivery in remote coastal villages, highlighting systemic barriers and proposing actionable strategies for improvement. Key findings reveal that geographic isolation, limited transportation infrastructure, and insufficient healthcare facilities significantly hinder access to essential maternal services. These logistical constraints are compounded by socioeconomic disparities, including pervasive poverty and limited educational opportunities, which exacerbate health inequities and reduce community engagement with healthcare initiatives.

Additionally, cultural factors, such as traditional beliefs and gender dynamics, further complicate the adoption of modern healthcare practices, emphasizing the need for culturally sensitive interventions. The study identifies critical gaps in workforce capacity, with shortages of trained healthcare professionals and inadequate retention strategies in these underserved regions. Addressing these challenges requires a multi-pronged

approach, including investments in infrastructure, targeted training programs, and the integration of community-based health models to enhance accessibility and trust.

In summary, the findings advocate for systemic reforms that prioritize equity, sustainability, and cultural competence, ensuring that maternal healthcare delivery in remote coastal villages is both effective and inclusive.

6.2. Future Directions

Improving maternal healthcare delivery in remote coastal villages requires a multifaceted approach that combines targeted research initiatives with sustainable, long-term strategies. Future research should prioritize understanding the unique geographical, cultural, and socioeconomic barriers faced by these communities, including the role of environmental factors such as seasonal weather patterns and infrastructure limitations. Investigations into innovative healthcare delivery models, such as telemedicine and mobile clinics, could provide valuable insights into overcoming logistical challenges while ensuring accessibility and continuity of care.

In addition to research, long-term strategies must focus on capacity building within local healthcare systems. This includes training community health workers, enhancing supply chain mechanisms for essential medical resources, and fostering partnerships between governmental and non-governmental organizations to ensure consistent funding and support. Emphasis should also be placed on community engagement to develop culturally sensitive interventions that align with local traditions and beliefs. By integrating these efforts, future initiatives can address systemic gaps and create resilient healthcare systems capable of meeting the needs of maternal populations in remote coastal villages.

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