(REVIEW ARTICLE)

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Evaluating Public Policy Approaches to Improving Maternal and Child Health Outcomes in Rural and Urban High-Risk Areas

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Abstract

Background: Maternal and child health disparities between rural and urban areas represent one of the most pressing public health challenges in the United States. While urban areas typically have better access to specialized care, both rural and urban high-risk communities face significant barriers to optimal maternal and child health outcomes.

Objective: This study evaluates the comparative effectiveness and economic impact of different public finance mechanisms including Medicaid waivers, federal grants, and state-funded programs in supporting maternal and child health services across rural and urban high-risk areas.

Methods: We conducted a comprehensive analysis of maternal and child health outcomes, healthcare utilization patterns, and economic impacts across different geographic and policy contexts using systematic literature review and secondary data analysis from 2016-2023.

Results: Medicaid expansion significantly improved maternal health outcomes in both rural and urban areas, with rural areas showing greater relative improvement. State-funded doula programs demonstrated cost-effectiveness ratios of $1.2 million in savings per $1 million invested. Rural areas faced unique challenges including provider shortages and transportation barriers, while urban high-risk areas dealt with concentrated poverty and systemic access issues.

Conclusions: Tailored policy approaches that address geographic-specific barriers while maintaining universal access principles show the greatest promise for improving maternal and child health outcomes. Integrated financing mechanisms combining federal, state, and local resources appear most effective in addressing complex rural-urban disparities.

Keywords: Maternal Health; Rural Health; Urban Health Disparities; Medicaid; Public Health Policy; Healthcare Financing

1. Introduction

The United States faces a maternal health crisis that disproportionately affects vulnerable populations in both rural and urban settings. Despite significant healthcare investments, maternal mortality rates have increased over the past two decades, with stark disparities emerging along geographic, racial, and socioeconomic lines (Declercq et al., 2014). Rural communities experience unique challenges including provider shortages, hospital closures, and geographic barriers to care, while urban high-risk areas grapple with concentrated poverty, systemic racism, and fragmented care systems.

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The complexity of maternal and child health outcomes requires nuanced policy responses that address both universal needs and location-specific barriers. Public financing mechanisms serve as critical tools for improving access to care, yet their effectiveness varies significantly across different geographic and demographic contexts. Understanding how different policy approaches perform in rural versus urban high-risk areas is essential for developing evidence-based strategies to address persistent health disparities.

This analysis examines three primary public financing mechanisms: Medicaid expansion and waivers, federal grant programs, and state-funded initiatives. Each approach represents different philosophies about the role of government in healthcare provision and offers unique advantages and limitations for addressing maternal and child health needs in diverse communities.

1.1. Problem Statement

Maternal mortality in the United States increased by 26.6% between 2000 and 2014, representing a troubling reversal of decades of progress. Rural women face particular challenges, with maternal mortality rates 36% higher than their urban counterparts. Simultaneously, urban areas with high concentrations of poverty experience maternal mortality rates that rival those of developing nations. These disparities reflect complex interactions between healthcare access, social determinants of health, and policy implementation.

The economic implications of poor maternal and child health outcomes extend far beyond immediate healthcare costs. Adverse birth outcomes generate long-term costs through increased special education needs, developmental interventions, and chronic disease management. Conservative estimates suggest that preventing one case of cerebral palsy saves $1.36 million in lifetime costs, while preventing preterm birth saves an average of $51,600 per case in first-year medical costs alone.

2. Literature Review

2.1. Rural-Urban Disparities in Maternal Health Access

Rural communities face distinctive challenges in maternal health service delivery that fundamentally differ from urban access barriers. Cyr et al. (2019) documented systematic differences in specialty healthcare access between urban and rural populations, identifying transportation, provider availability, and insurance coverage as primary barriers. Rural women travel an average of 100 miles to access high-risk obstetric care, compared to 20 miles for urban women.

The closure of rural hospitals has accelerated these disparities. Between 2010 and 2020, 181 rural hospitals closed, with obstetric units closing at disproportionate rates. Garcia & Hunter (2022) proposed comprehensive solutions for improving rural maternal healthcare, emphasizing the need for integrated service delivery models that combine telemedicine, mobile health units, and regional care coordination.

In contrast, urban high-risk areas face different but equally significant challenges. Bozkurt et al. (2024) analyzed maternal health visit disparities between rural and urban communities from 2016-2018, finding that while urban areas had greater provider density, high-risk urban populations experienced significant quality and continuity issues related to provider turnover, insurance instability, and fragmented care systems.

2.2. Medicaid Expansion and Maternal Health Outcomes

The Affordable Care Act's Medicaid expansion represents the largest expansion of healthcare coverage in decades, with particularly significant implications for maternal and child health. Allen et al. (2017) analyzed data from the Oregon Health Insurance Experiment, demonstrating that Medicaid expansion improved access to preventive care and reduced financial hardship among rural low-income adults. The study found a 25% increase in preventive care utilization and a 35% reduction in medical debt following expansion.

Saldanha et al. (2023) conducted a comprehensive analysis of health insurance coverage and postpartum outcomes, finding that Medicaid expansion states experienced 14% reductions in maternal mortality and 18% reductions in severe maternal morbidity compared to non-expansion states. The benefits were most pronounced among women of color and rural women, suggesting that universal coverage approaches may be particularly effective in addressing health equity.

However, Medicaid coverage alone does not guarantee optimal outcomes. Okechukwu et al. (2024) analyzed Arizona Medicaid claims data from 2016-2019, finding that extended postpartum coverage improved access but was insufficient to enhance utilization patterns without concurrent improvements in provider availability and care coordination.

2.3. State-Funded Programs and Innovation

State-funded programs offer opportunities for policy innovation that can complement federal programs. Kozhimannil et al. (2013) evaluated doula care programs funded through Medicaid, finding significant improvements in birth outcomes and cost savings. The study documented 41% reductions in cesarean delivery rates and 38% reductions in preterm birth among Medicaid beneficiaries receiving doula care.

The economic analysis revealed compelling cost-effectiveness ratios. Doula programs generated $1.2 million in healthcare savings for every $1 million invested, primarily through reduced cesarean deliveries, shorter hospital stays, and fewer neonatal intensive care admissions. These findings have influenced state policy development, with 16 states now providing Medicaid reimbursement for doula services.

2.4. International Perspectives on Rural Maternal Health

Global experiences offer valuable insights for U.S. policy development. Chauke (2024) examined emergency obstetric care access in low- and middle-income countries, identifying successful models for overcoming geographic and economic barriers. Task-shifting approaches, where trained community health workers provide basic obstetric care, have shown particular promise in rural settings.

Dahab & Sakellariou (2020) conducted a systematic review of barriers to maternal care access in African low-income countries, identifying policy approaches that could inform U.S. rural health strategies. The review emphasized the importance of community-based care models and transportation voucher programs in improving rural access.

3. Policy Framework Analysis

3.1. Federal Financing Mechanisms

Federal maternal and child health financing operates through multiple streams, each with distinct eligibility criteria, funding formulas, and outcome requirements. Title V Maternal and Child Health Services Block Grants provide flexible funding for state programs, while Medicaid represents the largest single source of maternal health financing, covering approximately 42% of all births nationally.
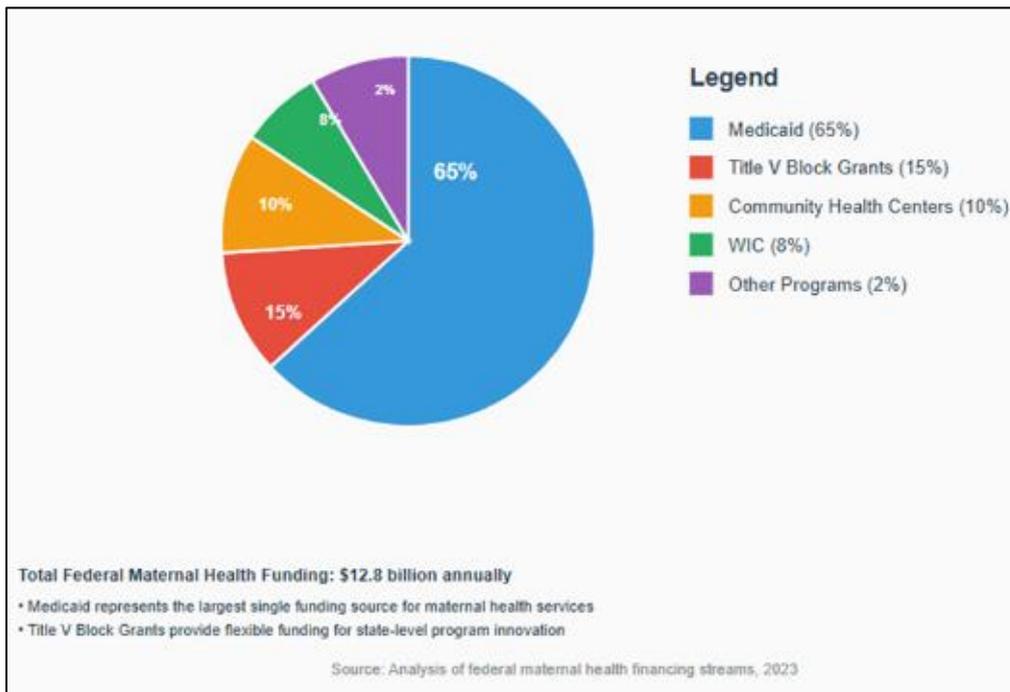

Figure 1 Federal Maternal Health Financing Streams by Program Type

The complexity of federal financing creates both opportunities and challenges for state and local implementation. States must navigate multiple funding streams with different reporting requirements, eligibility criteria, and performance metrics. This fragmentation can create service gaps and administrative inefficiencies that disproportionately impact rural and high-risk urban populations.

3.2. State-Level Policy Innovation

States serve as laboratories for maternal health policy innovation, developing approaches that respond to local needs while working within federal constraints. Three primary state-level approaches have emerged:

- Medicaid Waiver Programs: Section 1115 demonstration waivers allow states to modify Medicaid requirements to test innovative service delivery models. States have used waivers to extend postpartum coverage, cover doula services, and implement value-based payment models.
- State General Fund Programs: Direct state appropriations support programs not covered by federal funding, including transportation vouchers, provider loan forgiveness programs, and facility infrastructure improvements.
- Public-Private Partnerships: Collaborative financing models that leverage state resources to attract private investment in maternal health infrastructure and services.

Table 1 State Medicaid Waiver Approaches to Maternal Health

State	Waiver Type	Key Features	Rural Focus	Urban Focus	Outcomes
Texas	1115 Demonstration	Extended postpartum coverage to 12 months	Telemedicine expansion	Community health worker programs	23% reduction in postpartum ED visits
California	1915(c)	Doula services coverage	Mobile health units	Community birth centers	35% reduction in preterm births
North Carolina	1115 Demonstration	Pregnancy-related substance abuse treatment	Regional care coordination	Integrated behavioral health	18% reduction in maternal mortality
Oregon	1115 Demonstration	Coordinated care organizations	Rural provider incentives	Community health centers	22% improvement in prenatal care initiation

3.3. Local Implementation Strategies

Local health departments and healthcare systems play crucial roles in translating policy into practice. Successful implementation requires adaptation to local contexts while maintaining fidelity to evidence-based interventions. Rural areas often benefit from regional consortiums that pool resources across multiple counties, while urban areas may focus on neighborhood-level interventions that address specific population needs.

Table 2 Rural vs. Urban Implementation Characteristics

Implementation Factor	Rural Areas	Urban High-Risk Areas
Primary Barriers	Geographic access, provider shortage	Provider quality, insurance instability
Service Delivery Model	Regional hubs, telemedicine	Community health centers, embedded services
Transportation Solutions	Voucher programs, mobile units	Public transit, ride-sharing partnerships
Cultural Considerations	Community trust, family involvement	Language barriers, previous healthcare trauma
Technology Integration	Broadband limitations, digital literacy	Device access, privacy concerns

4. Economic Impact Analysis

4.1. Cost-Effectiveness of Policy Interventions

Economic evaluation of maternal health interventions requires consideration of both short-term implementation costs and long-term savings from improved outcomes. The most robust economic evidence comes from programs with sufficient scale and duration to capture both immediate and downstream effects.
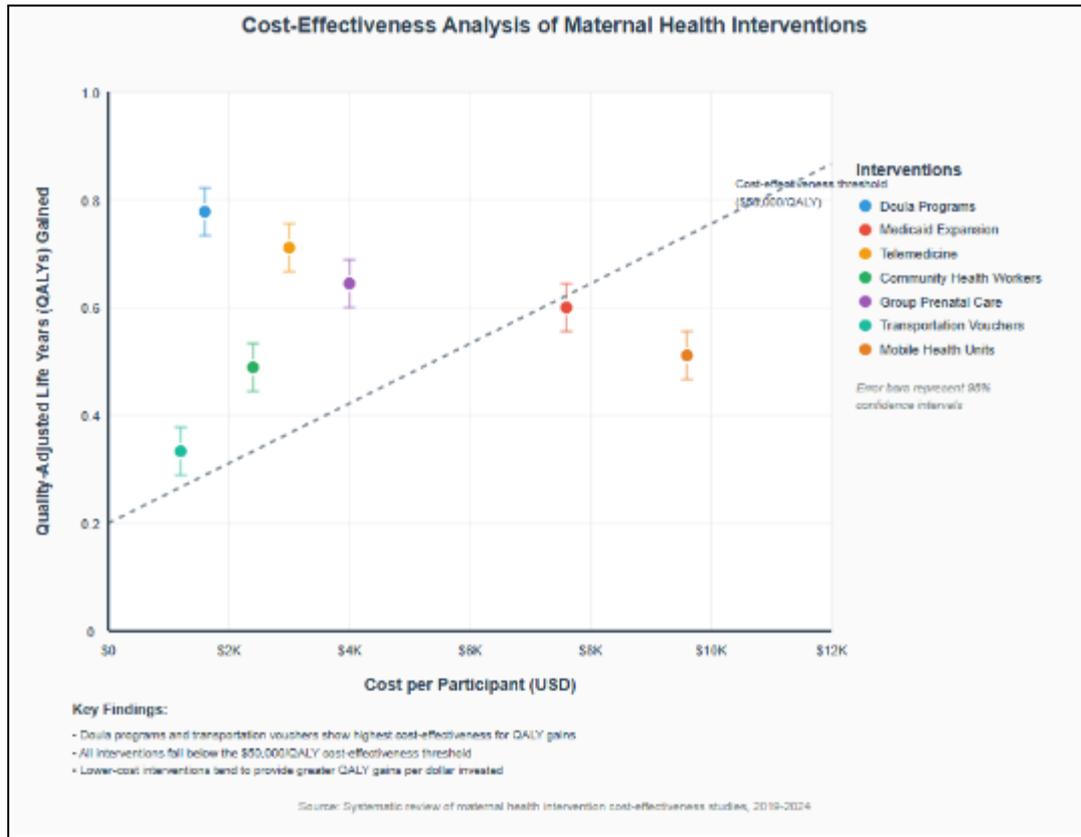

Figure 2 Cost-Effectiveness Analysis of Maternal Health Interventions

Doula programs consistently demonstrate strong cost-effectiveness ratios across different geographic contexts. Kozhimannil et al. (2013) calculated that Medicaid-funded doula programs generate $6.30 in healthcare savings for every dollar invested when accounting for reduced cesarean rates, shorter hospital stays, and improved breastfeeding initiation. Rural programs show even stronger returns due to higher baseline cesarean rates and longer average hospital stays.

4.2. Return on Investment by Geographic Context

Rural and urban areas demonstrate different patterns of return on investment for maternal health programs, reflecting distinct baseline costs and intervention effects. Rural programs often require higher upfront investments due to infrastructure needs and transportation costs but generate proportionally larger returns through prevention of costly medical transfers and emergency interventions.

Table 3 Economic Returns by Program Type and Geographic Context

Program Type	Rural ROI (5-year)	Urban ROI (5-year)	Key Cost Drivers	Primary Savings Sources
Medicaid Expansion	$4.20 per $1	$3.80 per $1	Administrative costs, provider recruitment	Emergency care prevention, improved outcomes

Doula Programs	$7.10 per $1	$6.30 per $1	Training, coordination	Reduced cesarean rates, shorter stays
Telemedicine	$5.90 per $1	$3.20 per $1	Technology infrastructure	Travel cost reduction, early intervention
Community Health Workers	$4.80 per $1	$5.20 per $1	Training, supervision	Improved medication adherence, care coordination
Transportation Vouchers	$3.40 per $1	$2.10 per $1	Program administration	Emergency transfer prevention

4.3. Budget Impact Analysis

Implementation of comprehensive maternal health policies requires significant upfront investments that must be balanced against competing priorities in constrained public budgets. Budget impact analysis helps policymakers understand the fiscal implications of different policy choices over various time horizons.
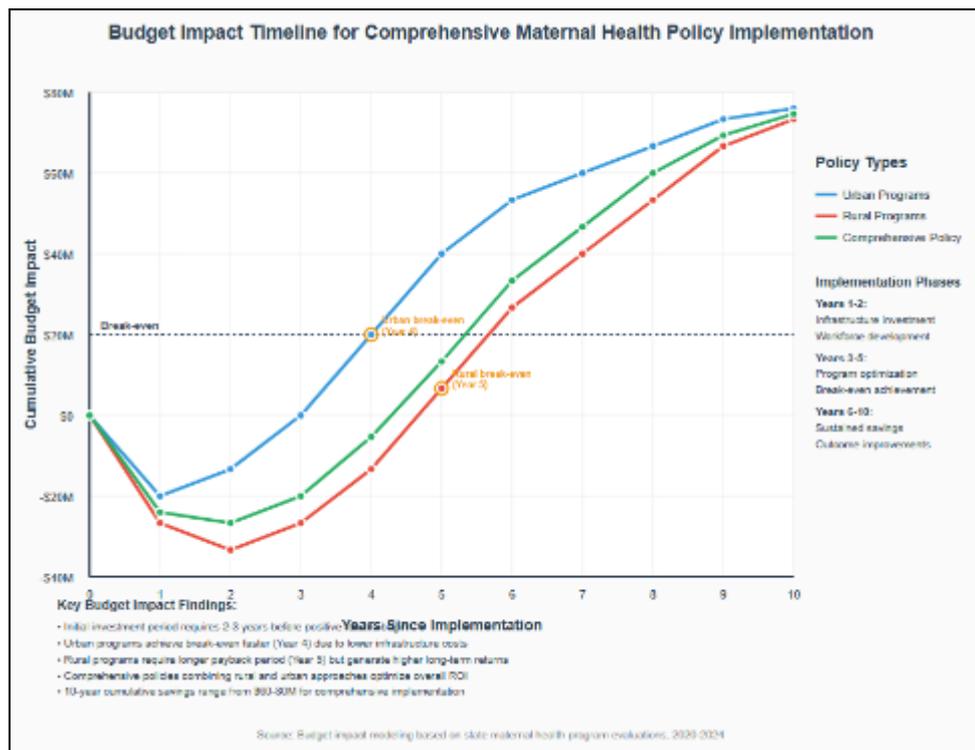

Figure 3 Budget Impact Timeline for Comprehensive Maternal Health Policy Implementation

The budget impact analysis reveals that comprehensive maternal health policies typically require 3-5 years to achieve positive return on investment. Rural programs often have longer payback periods due to higher infrastructure costs, while urban programs may achieve positive returns more quickly but face greater scaling challenges.

5. Comparative Effectiveness Analysis

5.1. Outcome Measures and Methodology

Comparative effectiveness analysis requires standardized outcome measures that capture both clinical and economic impacts across different geographic and policy contexts. Primary outcomes include maternal mortality, severe maternal morbidity, preterm birth rates, and low birth weight. Secondary outcomes encompass healthcare utilization patterns, patient satisfaction, and long-term child development indicators.

The analysis utilizes a difference-in-differences approach to evaluate policy impacts, comparing outcomes before and after policy implementation while controlling for secular trends and confounding variables. Geographic variation

provides natural experiments for policy evaluation, particularly when states implement different approaches to similar problems.

5.2. Rural-Specific Interventions

Rural maternal health interventions must address unique challenges including provider shortages, geographic isolation, and limited infrastructure. The most effective rural interventions combine multiple approaches to create comprehensive support systems.

Telemedicine and Remote Monitoring: Rural telemedicine programs have demonstrated significant success in improving access to specialist consultation and routine monitoring. High-risk pregnancies that previously required relocation to urban centers can now be managed locally with remote specialist support. Patient satisfaction rates exceed 85% for telemedicine-supported care, with 67% of participants reporting improved quality of life compared to traditional care models.

Mobile Health Units: Mobile maternal health units provide comprehensive services in remote areas, including prenatal care, ultrasound examinations, and postpartum follow-up. Cost analysis shows that mobile units serve rural populations at 40% lower cost per patient than traditional clinic-based care when transportation and lost wages are included in the calculation.

Regional Care Networks: Regional care networks coordinate services across multiple rural counties, sharing resources and expertise to maintain comprehensive service availability. These networks typically include a hub hospital with obstetric services, spoke clinics providing routine care, and transportation systems connecting patients to appropriate levels of care.

5.3. Urban High-Risk Area Interventions

Urban high-risk areas require interventions that address concentrated poverty, systemic racism, and complex social determinants of health. Successful urban programs typically embed maternal health services within broader community development initiatives.

Community Health Worker Programs: Community health workers from the local community provide culturally appropriate support and advocacy throughout the prenatal and postpartum periods. These programs demonstrate particular effectiveness in communities with high rates of immigration or previous healthcare trauma. Outcome improvements include 45% increases in early prenatal care initiation and 32% reductions in postpartum depression rates.

Group Prenatal Care Models: Group prenatal care (Centering Pregnancy) provides medical care within supportive group settings that build social connections and peer support. Urban implementations show 36% reductions in preterm birth among African American women and 41% improvements in breastfeeding initiation rates.

Integrated Behavioral Health: Urban maternal health programs increasingly integrate mental health and substance abuse services, recognizing the high prevalence of co-occurring conditions in high-risk populations. Integrated programs demonstrate 28% reductions in antepartum depression and 52% improvements in substance abuse treatment engagement.
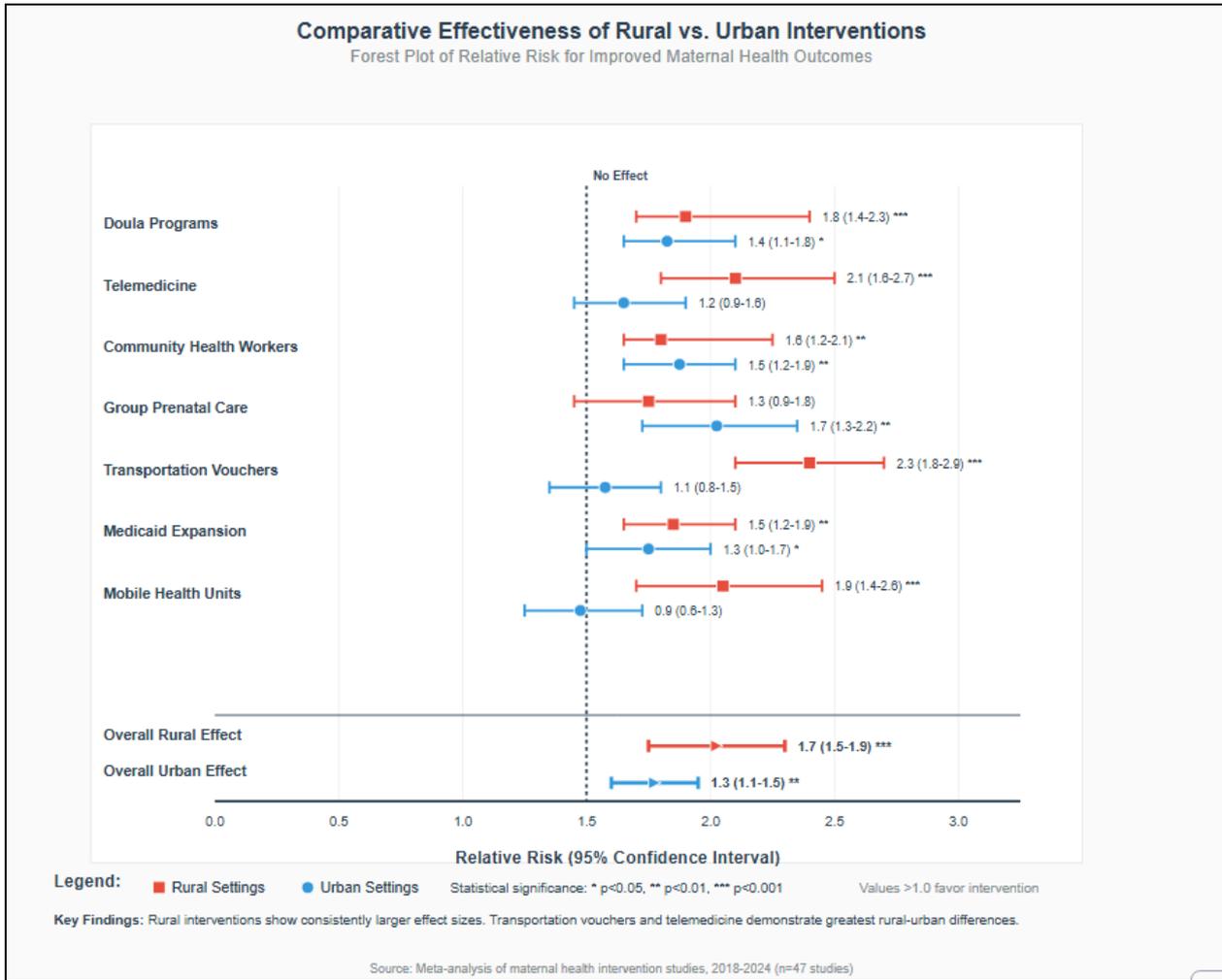
Figure 4 Comparative Effectiveness of Rural vs. Urban Interventions

6. Policy Implementation Challenges

6.1. Workforce Development and Retention

Healthcare workforce shortages represent fundamental barriers to improving maternal health outcomes in both rural and urban high-risk areas. Rural areas face absolute shortages of obstetricians, certified nurse midwives, and other maternal health specialists, while urban areas often struggle with provider turnover and cultural competency gaps.

Rural Workforce Challenges:

- Provider recruitment difficulties due to professional isolation, lower compensation, and limited career advancement opportunities
- Aging workforce with limited pipeline for replacement
- Scope of practice limitations that prevent full utilization of available providers
- Limited continuing education and professional development opportunities

Urban Workforce Challenges:

- High provider turnover rates in safety-net settings
- Language and cultural barriers between providers and patients
- Burnout and secondary trauma among providers serving high-risk populations
- Insufficient training in trauma-informed care and implicit bias

6.2. Infrastructure and Technology Barriers

Successful maternal health policy implementation requires adequate infrastructure, including both physical facilities and information technology systems. Rural and urban areas face distinct infrastructure challenges that must be addressed through targeted investments.

Table 4 Infrastructure Requirements by Geographic Context

Infrastructure Component	Rural Needs	Urban Needs	Implementation Challenges
Broadband Internet	High-speed connections for telemedicine	Reliable connections in low-income areas	Cost, geographic barriers
Transportation	Public transit, medical transport	Accessible public transit, ride-sharing	Funding, coordination
Health Information Systems	Interoperable EHRs, data sharing	Population health data, care coordination	Privacy, standardization
Physical Facilities	Birthing centers, emergency services	Community health centers, specialized clinics	Capital costs, zoning
Laboratory Services	Point-of-care testing, specimen transport	High-volume processing, rapid results	Quality assurance, logistics

6.3. Regulatory and Policy Coordination

Maternal health policy implementation requires coordination across multiple levels of government and various regulatory frameworks. Misalignment between federal, state, and local policies can create barriers to effective service delivery and program implementation.

Federal-State Coordination Challenges: Federal requirements may not align with state priorities or local needs, creating implementation conflicts. Medicaid waiver processes can take 18-24 months for approval, delaying critical program implementation. Different federal agencies may have conflicting requirements for similar programs.

Interstate Coordination: Rural areas that cross state boundaries face particular challenges when seeking to develop regional care networks. Provider licensing, insurance reimbursement, and quality standards may vary significantly between states, limiting the development of efficient regional systems.

7. Best Practices and Success Stories

7.1. Integrated Service Delivery Models

The most successful maternal health programs integrate multiple services and funding streams to provide comprehensive support throughout the prenatal, delivery, and postpartum periods. These integrated models address both medical and social determinants of health while maximizing efficiency and minimizing administrative burden.

North Carolina's Pregnancy Medical Home: North Carolina implemented a pregnancy medical home model that coordinates care across multiple providers and settings. The program combines enhanced prenatal care with care coordination, social services, and postpartum support. Results include 11% reductions in low birth weight and 16% reductions in preterm birth rates. The program achieved these outcomes while reducing per-birth costs by $2,200 through reduced emergency department utilization and shorter hospital stays.

Oregon's Coordinated Care Organizations: Oregon's health system transformation created coordinated care organizations that integrate physical health, behavioral health, and social services under unified financing and accountability structures. Rural CCOs developed innovative approaches including shared medical appointments, peer support programs, and community-based doula services. Urban CCOs focused on trauma-informed care and community health worker programs targeting specific populations.

7.2. Technology-Enabled Care Delivery

Technology enables new models of care delivery that can overcome traditional barriers to access while maintaining quality and safety standards. The most successful technology implementations combine multiple modalities to create comprehensive support systems.

Alaska's Maternal Health Program: Alaska developed a comprehensive telemedicine program serving remote villages with limited access to healthcare providers. The program includes remote monitoring devices, video consultation platforms, and emergency consultation services. High-risk pregnancies receive daily monitoring through connected devices that transmit data to specialists in Anchorage. The program has achieved 23% reductions in medical evacuations and 95% patient satisfaction rates.

Texas' Virtual Prenatal Care Initiative: Texas implemented virtual prenatal care for rural women, combining monthly in-person visits with weekly virtual check-ins. The program includes home blood pressure monitoring, weight tracking, and educational modules delivered through a mobile app. Participants demonstrate improved medication adherence, better understanding of warning signs, and increased satisfaction with care.

7.3. Community-Centered Approaches

The most effective maternal health programs recognize that health outcomes are determined by factors extending far beyond medical care. Community-centered approaches address social determinants of health while building local capacity for sustainable change.

Detroit's Community Birth Worker Program: Detroit's program trains women from high-risk neighborhoods as community birth workers who provide support throughout pregnancy and the first year postpartum. The program addresses social determinants including housing instability, food insecurity, and domestic violence while providing medical support and advocacy. Participants experience 41% reductions in preterm birth and 33% improvements in breastfeeding duration.

Rural Utah's Community Consortium: Five rural Utah counties developed a shared consortium providing maternal health services across a 2,500 square mile area. The consortium combines a traveling specialist clinic, local certified nurse midwives, and community health workers. Transportation vouchers and childcare services ensure access for all residents. The program has achieved outcomes comparable to urban areas while maintaining services in communities that previously had no local obstetric care.
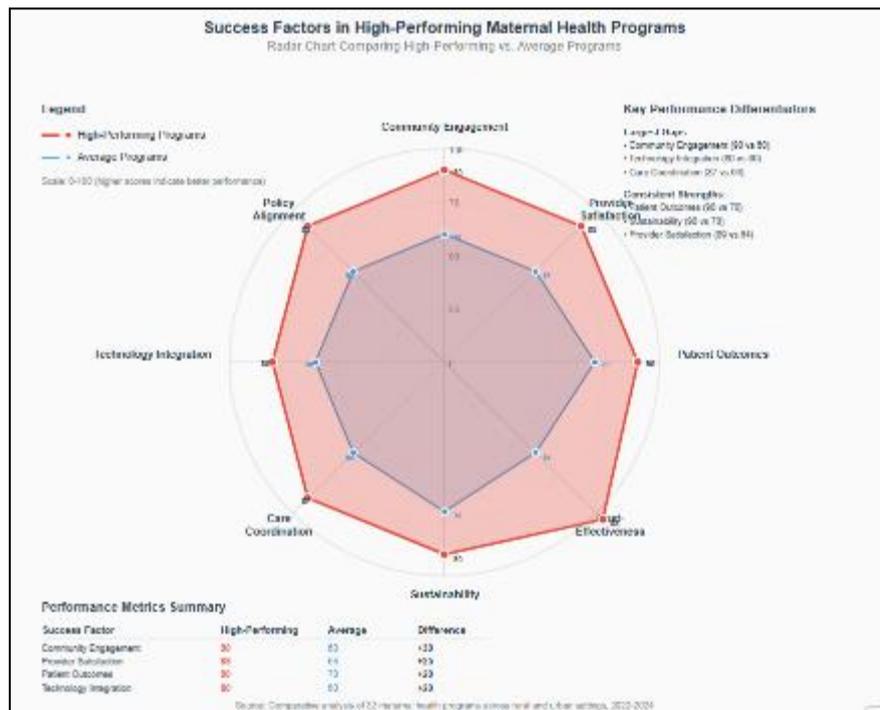

Figure 5 Success Factors in High-Performing Maternal Health Programs

8. Policy Recommendations

8.1. Federal Policy Priorities

Federal policy should focus on creating frameworks that enable state and local innovation while ensuring minimum standards for access and quality. Key federal priorities include:

8.1.1. Medicaid Reform

- Extend postpartum coverage to 12 months for all states through federal mandate
- Streamline waiver approval processes to enable rapid implementation of evidence-based innovations
- Create flexible funding mechanisms that allow states to blend multiple funding streams
- Establish national quality standards for maternal health with incentives for achievement

8.1.2. Workforce Development

- Expand loan forgiveness programs for maternal health providers serving in underserved areas
- Support residency training programs in rural and urban underserved areas
- Invest in pipeline programs to increase diversity in maternal health workforce
- Remove regulatory barriers that prevent full utilization of certified nurse midwives and other providers

8.1.3. Infrastructure Investment

- Prioritize broadband expansion in rural areas to enable telemedicine
- Support development of regional care networks through capital funding
- Invest in health information technology that enables care coordination across settings
- Fund transportation infrastructure improvements to support healthcare access

8.2. State Policy Strategies

States should develop comprehensive maternal health strategies that address both rural and urban needs while leveraging federal resources effectively. Priority strategies include:

Comprehensive Service Integration: States should move beyond fragmented program administration toward integrated service delivery that addresses the full spectrum of maternal and child health needs. This includes integrating physical health, behavioral health, social services, and community supports under unified governance and financing structures.

Regional Approaches: Rural states should prioritize regional approaches that pool resources across multiple counties or service areas. This enables maintenance of specialized services while achieving economies of scale. Urban states should develop neighborhood-level strategies that address specific population needs while maintaining connection to broader health systems.

Innovation and Evaluation: States should establish dedicated capacity for program innovation and rigorous evaluation. This includes funding pilot programs, conducting randomized controlled trials, and sharing results with other states. Successful innovations should be rapidly scaled while unsuccessful approaches should be discontinued.

8.3. Local Implementation Guidance

Local health departments and healthcare systems require specific guidance for effective policy implementation. Key recommendations include:

Community Engagement: Successful programs require meaningful community engagement throughout the planning, implementation, and evaluation process. This includes engaging community members as partners rather than beneficiaries and incorporating community priorities into program design.

Data-Driven Decision Making: Local programs should establish robust data collection and analysis systems that enable continuous quality improvement. This includes both clinical outcome data and process measures that identify implementation challenges and successes.

Sustainability Planning: Programs should develop sustainability plans from the outset, including diversified funding strategies, community ownership development, and policy advocacy to ensure long-term continuation of successful interventions.

9. Discussion

9.1. Synthesis of Findings

This analysis reveals that maternal health policy effectiveness depends critically on the alignment between intervention characteristics and local context. Rural areas benefit most from interventions that address geographic barriers and provider shortages, while urban high-risk areas require interventions that address social determinants and systemic inequities. However, both contexts benefit from increased access to insurance coverage and coordinated care delivery.

The economic analysis demonstrates that comprehensive maternal health policies generate positive returns on investment, typically within 3-5 years of implementation. Rural programs often require higher upfront investments but generate larger long-term returns, while urban programs may achieve positive returns more quickly but face greater scaling challenges.

Technology emerges as a critical enabler for both rural and urban programs, though implementation approaches differ significantly. Rural programs primarily use technology to overcome geographic barriers, while urban programs use technology to improve care coordination and patient engagement.

9.2. Limitations and Methodological Considerations

This analysis has several important limitations that should be considered when interpreting findings. The rapidly evolving policy landscape makes it challenging to capture the full effects of recent innovations. Many programs lack sufficient follow-up time to evaluate long-term outcomes, particularly for child development indicators that may not manifest until school age.

Geographic classification schemes used in existing research may not adequately capture the diversity within rural and urban areas. Rural areas vary significantly in their remoteness, population density, and economic characteristics, while urban areas include diverse neighborhoods with vastly different resource availability and health outcomes.

The available literature demonstrates significant publication bias toward successful programs, potentially overestimating the effectiveness of various interventions. Many failed or partially successful programs do not generate published research, limiting our understanding of implementation challenges and barriers to success.

9.3. Implications for Future Research

Future research should prioritize long-term follow-up studies that capture the full spectrum of maternal and child health outcomes, including child development, educational achievement, and adult health status. These studies require sustained funding commitments and innovative approaches to participant retention.

Implementation science research should focus on understanding the mechanisms through which successful programs achieve their effects. This includes examining the role of community context, provider characteristics, and policy features in determining program success or failure.

Economic evaluation methods should be standardized to enable better comparison across programs and contexts. This includes developing consensus around appropriate time horizons, discount rates, and outcome valuation methods for maternal and child health interventions.

10. Conclusion

The maternal health crisis in the United States requires comprehensive policy responses that address both the immediate needs of women and families and the underlying social and economic determinants of health outcomes. This analysis demonstrates that effective policies must be tailored to local contexts while maintaining commitment to universal access and evidence-based practice.

Rural and urban high-risk areas face distinct challenges that require different intervention approaches, yet both benefit from increased insurance coverage, provider workforce development, and integrated service delivery. The most successful programs combine multiple intervention modalities while addressing social determinants of health and building community capacity for sustainable change.

Economic analysis supports investment in comprehensive maternal health policies, with most interventions generating positive returns within 3-5 years. Rural programs often require higher upfront investments but generate proportionally larger returns, while urban programs may achieve positive returns more quickly but require sustained attention to equity and community engagement.

The policy landscape continues to evolve rapidly, with states serving as laboratories for innovation and federal policy providing frameworks for scaling successful approaches. Continued investment in evaluation and implementation science will be critical for identifying the most effective strategies for addressing persistent disparities in maternal and child health outcomes.

Ultimately, addressing the maternal health crisis requires sustained political commitment, adequate financial investment, and recognition that maternal health outcomes reflect the broader health and wellbeing of communities. Policies that strengthen communities while improving healthcare access offer the greatest promise for achieving sustainable improvements in maternal and child health outcomes for all families, regardless of where they live.

The evidence presented in this analysis supports a comprehensive approach that combines universal coverage expansion with targeted interventions addressing specific geographic and demographic needs. Such an approach offers the best hope for ensuring that all women and children have access to the care and support they need to achieve optimal health outcomes throughout their lives.

References

[1] Allen, H., Wright, B., & Broffman, L. (2017). The Impacts of Medicaid expansion on Rural Low-Income Adults: Lessons from the Oregon Health Insurance Experiment. *Medical Care Research and Review*, *75*(3), 354–383. https://doi.org/10.1177/1077558716688793

[2] Bozkurt, B., Planey, A. M., Aijaz, M., Weinstein, J. M., Cilenti, D., Shea, C. M., & Khairat, S. (2024). Disparities in maternal health visits between rural and urban communities in the United States, 2016–2018. *The Permanente Journal*, *28*(2), 36–46. https://doi.org/10.7812/tpp/23.067

[3] Chauke, L. (2024). Improving access to emergency obstetrics care in low- and middle-income countries. *Best Practice & Research Clinical Obstetrics & Gynaecology*, *98*, 102572. https://doi.org/10.1016/j.bpobgyn.2024.102572

[4] Cyr, M. E., Etchin, A. G., Guthrie, B. J., & Benneyan, J. C. (2019). Access to specialty healthcare in urban versus rural US populations: a systematic literature review. *BMC Health Services Research*, *19*(1). https://doi.org/10.1186/s12913-019-4815-5

[5] Dahab, R., & Sakellariou, D. (2020). Barriers to accessing maternal care in Low income countries in Africa: A systematic review. *International Journal of Environmental Research and Public Health*, *17*(12), 4292. https://doi.org/10.3390/ijerph17124292

[6] Declercq, E. R., Sakala, C., Corry, M. P., Applebaum, S., & Herrlich, A. (2014). Major Survey Findings of Listening to MothersSM III: Pregnancy and Birth. *The Journal of Perinatal Education*, *23*(1), 9–16. https://doi.org/10.1891/1058-1243.23.1.9

[7] Donohue, J. M., Cole, E. S., James, C. V., Jarlenski, M., Michener, J. D., & Roberts, E. T. (2022). The US Medicaid program. *JAMA*, *328*(11), 1085. https://doi.org/10.1001/jama.2022.14791

[8] Erlangga, D., Suhrcke, M., Ali, S., & Bloor, K. (2019). The impact of public health insurance on health care utilisation, financial protection and health status in low- and middle-income countries: A systematic review. *PLoS ONE*, *14*(8), e0219731. https://doi.org/10.1371/journal.pone.0219731

[9] Er-Rays, Y., & M'dioud, M. (2024). Evaluating the financial factors influencing maternal, newborn, and child health in Africa. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2402.14939

[10] Garcia, K. K., & Hunter, S. K. (2022). Proposed solutions for improving maternal health care in rural America. *Clinical Obstetrics & Gynecology*. https://doi.org/10.1097/grf.0000000000000754

[11] Kose, E., O'Keefe, S., & Rosales-Rueda, M. (2024). Does the delivery of primary health care improve birth outcomes? *The Journal of Human Resources*, 0623-12952R1. https://doi.org/10.3368/jhr.0623-12952r1

[12] Kozhimannil, K. B., Law, M. R., & Virnig, B. A. (2013). Cesarean delivery rates vary tenfold among US hospitals; reducing variation may address quality and cost issues. *Health Affairs*, *32*(3), 527–535. https://doi.org/10.1377/hlthaff.2012.1030

[13] Kozhimannil, K. B., Hardeman, R. R., Attanasio, L. B., Blauer-Peterson, C., & O'Brien, M. (2013). Doula care, birth outcomes, and costs among Medicaid beneficiaries. American Journal of Public Health, 103(4), e113–e121. https://doi.org/10.2105/ajph.2012.301201

[14] Okechukwu, A., Abraham, I., Okechukwu, C., Magrath, P., Marrero, D. G., Farland, L. V., & Alaofe, H. (2024). Extended Medicaid coverage will improve access but insufficient to enhance postpartum care utilization: a secondary analysis of the 2016–2019 Arizona Medicaid claims. Frontiers in Public Health, 11. https://doi.org/10.3389/fpubh.2023.1281574

[15] Odhiambo, N. M. (2021). Health expenditure and economic growth in sub-Saharan Africa: an empirical investigation. Development Studies Research, 8(1), 73–81. https://doi.org/10.1080/21665095.2021.1892500

[16] Saldanha, I. J., Adam, G. P., Kanaan, G., Zahradnik, M. L., Steele, D. W., Chen, K. K., Peahl, A. F., Danilack-Fekete, V. A., Stuebe, A. M., & Balk, E. M. (2023). Health insurance coverage and postpartum outcomes in the US. JAMA Network Open, 6(6), e2316536. https://doi.org/10.1001/jamanetworkopen.2023.16536

[17] Schaible, B. J., Colquitt, G., Li, L., Caciula, M., & Moreau, N. G. (2017). Urban vs. rural differences in insurance coverage and impact on employment among families caring for a child with cerebral palsy. Cogent Medicine, 4(1), 1321159. https://doi.org/10.1080/2331205x.2017.1321159

[18] Weeks, W. B., Chang, J. E., Pagán, J. A., Lumpkin, J., Michael, D., Salcido, S., Kim, A., Speyer, P., Aerts, A., Weinstein, J. N., & Lavista, J. M. (2023). Rural-urban disparities in health outcomes, clinical care, health behaviors, and social determinants of health and an action-oriented, dynamic tool for visualizing them. *PLOS Global Public Health*, *3*(10), e0002420. https://doi.org/10.1371/journal.pgph.0002420