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Investing more and better: The case for ending maternal deaths and meeting family planning needs in Ghana

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Abstract

This article presents an investment case for advancing Ghana's reproductive health agenda, using nationally representative data and cost-benefit modelling to estimate the investments required and the expected health and economic returns from 2024 to 2030. The analysis identifies a substantial financing gap of USD 430 million under the ambitious scenario, while demonstrating the potential gains from scaling up evidence-based interventions. Expanded access to reproductive health services is projected to avert about 8 million unintended pregnancies and prevent 8,000 maternal deaths, yielding benefit-cost ratios of roughly 23:1 for family planning and 7:1 for maternal health. These returns represent an estimated twenty-fold gain on investment. Conversely, failure to invest risks forfeiting up to 1.6% of GDP in lost productivity. Overall, the findings show that investing in reproductive health is both a moral imperative and a sound economic strategy for sustainable development and gender equity in Ghana. *(Afr J Reprod Health 2026; 30 [7s]: 52-61).*

Keywords: Reproductive health financing, Investment case, Economic returns, Fiscal space analysis, Ghana

Résumé

Cet article présente une étude de cas d'investissement visant à faire progresser le programme de santé reproductive du Ghana, en s'appuyant sur des données nationales représentatives et une modélisation coûts-avantages afin d'estimer les investissements requis et les retombées sanitaires et économiques attendues sur la période 2024–2030. L'analyse met en évidence un déficit de financement substantiel de 430 millions USD dans le scénario ambitieux, tout en démontrant les bénéfices potentiels liés à l'intensification d'interventions fondées sur des données probantes. L'élargissement de l'accès aux services de santé reproductive permettrait d'éviter environ 8 millions de grossesses non désirées et de prévenir 8 000 décès maternels, avec des ratios bénéfice-coût estimés à près de 23:1 pour la planification familiale et 7:1 pour la santé maternelle. Ces rendements correspondent à un gain économique estimé à vingt fois l'investissement initial. À l'inverse, l'absence d'investissement entraînerait une perte pouvant atteindre 1,6% du PIB en raison de la baisse de la productivité. Dans l'ensemble, les résultats montrent que l'investissement dans la santé reproductive constitue à la fois un impératif moral et une stratégie économique rationnelle pour le développement durable et l'équité de genre au Ghana. *(Afr J Reprod Health 2026; 30 [7s]: 52-61).*

Mots-clés: Financement de la santé reproductive, Étude de cas d'investissement, Retombées économiques, Analyse de l'espace budgétaire, Ghana

Introduction

Ghana's youthful population presents a strategic opportunity to harness a demographic dividend, provided there is sustained investment in human capital development. With an estimated population of approximately 31 million, more than half of whom are under the age of 25,[1] the country stands to gain substantially from people-centred, transformative interventions that improve health and educational outcomes, particularly for women and girls.[2,3]

Over recent decades, Ghana has recorded notable progress in key health indicators aligned with the Sustainable Development Goals (SDGs). The maternal mortality ratio (MMR) declined from 580 deaths per 100,000 live births in 2007 to 310 in 2017, and the total fertility rate fell by nearly 40%, from 6.4 in 1988 to 3.9 in 2022.[4-6] During the same period, the modern contraceptive prevalence rate (mCPR) and the unmet need for family planning also improved. Despite these achievements, major gaps persist, as current national indicators remain below global and regional benchmarks.

Ghana's MMR, for example, remains well above the SDG target of 70 per 100,000 live births, and family planning indicators continue to trail regional averages.[7] To address these challenges, Ghana has established ambitious national targets, including achieving an mCPR of 39% and reducing the unmet need for family planning to 16% by 2025, as well as lowering the MMR to 113 per 100,000 live births by 2030.[3] Meeting these goals requires adequate and sustained investment in evidence-based interventions; however, the scale of investment required—and the associated health and economic gains—has not been fully quantified.

This article therefore presents an investment case for advancing Ghana's reproductive health objectives by improving access to maternal health and family planning services. It provides empirical evidence demonstrating the substantial socioeconomic returns achievable through scaling up effective interventions. The sections that follow describe the study methodology, present the main results, discuss their implications, and offer concluding reflections.

Methods

Framework

The investment case was developed to estimate the financial requirements and the corresponding health and economic benefits of scaling up reproductive health interventions under various projection scenarios. The analysis focused on two priority areas: ending preventable maternal deaths and addressing the unmet need for family planning. Using 2024 as the baseline and 2030 as the target year, the assessment aligns with the SDGs and Ghana's Reproductive, Maternal, Newborn, Child, and Adolescent Health and Nutrition (RMNCAH&N) Strategic Plan 2020-2025.[3] Evidence was generated through six complementary analytical tools, namely situation analysis, budget analysis, costing, cost-benefit analysis, cost of inaction analysis, and fiscal space analysis, each contributing a different dimension to the estimation of required investments and anticipated returns.

Data sources

Multiple nationally representative and validated data sources informed all model parameters. Baseline health indicators and intervention coverage were primarily drawn from the Ghana Demographic and Health Survey (2022),[6] the Maternal Health Survey (2017),[8] and the Multiple Indicator Cluster Survey (2017/18),[9] all produced by the Ghana Statistical Service. Demographic projections were obtained from the 2021 Population and Housing Census.[1] Unit costs for commodities and supplies were sourced from the World Health Organization (WHO) OneHealth Tool,[10,11] while fiscal parameters were derived from the 2022 and 2023 Ghana Budget Statements.[12,13] Together, these sources provided the empirical foundation for the financial, demographic, and epidemiological components of the model.

Situation analysis

A situation analysis was conducted to ensure that the investment case reflected Ghana's reproductive health context and the main drivers of maternal mortality and family planning gaps. Evidence from national surveys indicates that most maternal deaths in Ghana result from postpartum haemorrhage, hypertensive disorders, sepsis, abortion complications, and embolism.[8,9] Interventions addressing these causes were therefore prioritized for inclusion. In total, thirty maternal health interventions and a comprehensive set of modern contraceptive methods were selected for costing and impact estimation, reflecting both clinical effectiveness and alignment with national health strategies.[3]

Budget analysis

The budget analysis component assessed Ghana's health sector financing and spending efficiency with respect to reproductive health. A comprehensive tool was used to integrate national budget data, health expenditure classifications, and analyses of funding sources in order to identify trends, gaps, and fiscal opportunities. The analysis examined allocations across recurrent and capital expenditures and distinguished between domestic, donor, and internally generated funds. These inputs were then compared to international benchmarks, including the Abuja Declaration, to highlight constraints and opportunities for strengthening reproductive health financing.[14–16]

Costing and scenario modelling

The costing approach followed a bottom-up, ingredient-based methodology to estimate the

resources required for scaling up reproductive health interventions between 2024 and 2030.[10,11] Costs for each intervention were calculated by multiplying the target population and population in need by the desired coverage level and the cost per person per year. Inputs included drugs and consumables, medical equipment, health worker time, and the costs of inpatient and outpatient services, all based on WHO standard guidelines. Unit costs were obtained from the WHO OneHealth Tool[10] and validated using local price data when available. The Spectrum software suite (version 6.37)—including DemProj, the Lives Saved Tool (LiST), and FamPlan—ensured internal consistency between demographic projections, health outcomes, and financial requirements, producing a comprehensive estimate of the investments necessary to achieve national reproductive health targets.[11]

Programme and system costs, including training, supervision, logistics, infrastructure, monitoring and evaluation, transportation, communication, media, outreach, advocacy, and community health worker training, were modelled as a proportion of direct intervention costs. These additional costs ensured that the investment estimates reflected both service delivery and the broader health system strengthening required for successful implementation.

Three scenarios were developed for both maternal health and family planning to support costing and impact analyses. For maternal health, the Business-as-Usual (BAU) scenario assumed a continuation of historical coverage trends, with a 0.96 percentage point annual increase. The Achievable scenario scaled up baseline coverage to reduce the MMR to 200 by 2030. The Ambitious scenario modelled full-scale implementation of all relevant interventions to achieve the national target of 113 maternal deaths per 100,000 live births by 2030, as outlined in the RMNCAH&N Plan. For family planning, the BAU scenario assumed a continuation of recent trends in mCPR, resulting in a rise from 27.8% at baseline to 30.6% in 2030. The Achievable scenario reflected the government's commitment to increase mCPR among married women to 44.4% by 2030.[17] The Ambitious scenario aimed to meet the total demand for modern contraception, corresponding to an mCPR of 59.7% by 2030.

Cost-benefit analysis

The cost-benefit analysis quantified the socioeconomic returns associated with scaling up reproductive health interventions between 2024 and 2030. Health outcomes were projected using the Spectrum platform to estimate the direct impact of expanded interventions on maternal deaths averted, unintended pregnancies prevented, unsafe abortions reduced, and disability-adjusted life years (DALYs) averted. Scaling up high-impact maternal services—including skilled birth attendance, emergency obstetric care, antenatal and postnatal care, and improved management of hypertensive disorders and haemorrhage—was projected to significantly reduce the MMR. Expanding access to family planning was also expected to increase contraceptive uptake and lower the incidence of unintended pregnancies, unsafe abortions, and maternal deaths. These gains collectively translate into improvements in life expectancy, health-adjusted life years, and overall population wellbeing.[11,14]

The human capital approach was used to monetize these health gains by valuing productivity over the lifespan.[14] The economic value of maternal lives saved and DALYs averted was derived from average income, productive years, and gross national income per capita. Benefit-cost ratios were calculated by comparing total estimated benefits with total investment costs under each scenario.

Cost of inaction analysis

The cost of inaction analysis estimated the economic consequences of maintaining current investment levels in reproductive health. Using the BAU scenario as a baseline, the model quantified the maternal deaths, unintended pregnancies, and DALYs lost that would occur without scaling up interventions. These forgone health gains were monetized using the human capital approach, providing an estimate of the economic losses associated with inaction.

Fiscal space analysis

The fiscal space analysis followed the United Nations fiscal space framework to assess Ghana's capacity to sustainably finance reproductive health interventions.[18] The analysis examined five

potential sources of fiscal expansion: macroeconomic growth, reprioritization of government expenditure, improvements in health system efficiency, enhanced revenue mobilization, and increased external financing. Quantitative estimates were drawn from national budget statements, Ministry of Health expenditure data, and relevant global commitments, including the Abuja Declaration and ICPD targets. Scenario modelling projected potential additional resources for the health sector through 2030 under different fiscal policy assumptions, enabling estimation of feasible financing options that would not compromise fiscal sustainability.

Sensitivity analysis

Sensitivity analyses were conducted to test the robustness of the costing, cost-benefit, and cost of inaction estimates. Key parameters—including intervention effectiveness, unit costs, and discount rates—were varied systematically to evaluate the extent to which changes in assumptions influenced final results. Both one-way sensitivity tests and broader scenario-based analyses were applied to capture uncertainty and ensure that policy conclusions remained reliable under a range of possible conditions.

Stakeholder engagement and validation

Stakeholder engagement and validation were integral to ensuring the accuracy, credibility, and contextual relevance of the investment case. A participatory approach was adopted, involving government ministries, United Nations agencies, civil society organizations, academia, and development partners through inception meetings, technical workshops, and validation sessions. Stakeholders reviewed data inputs, modelling assumptions, and preliminary results. Their feedback informed refinements to the analysis and ensured alignment with national priorities. This iterative, consultative process strengthened ownership, enhanced transparency, and ensured that policy recommendations were evidence-based and feasible within Ghana's reproductive health landscape.

Ethical considerations

This study did not involve the collection of primary data from human subjects, nor did it include clinical, behavioural, or personally identifiable information. All analyses were based on secondary datasets already in the public domain or routinely generated through government systems. Although the methodology included participatory consultations, these were part of standard policy development processes in which participants contributed institutional views in their official capacities.

Because no personal data were collected and no research procedures involving human subjects were undertaken, formal ethical approval was not required. Participation in all consultations was voluntary and aligned with government protocols. No individual-level information was recorded, and no identifiable opinions or quotations are reported. The study adhered to international principles for ethical policy research, including respect for persons, transparency, and protection of confidentiality.

Results

Reproductive health trends

Ghana's maternal mortality ratio (MMR) has shown a steady decline over time, with a marked reduction from 580 deaths per 100,000 live births in 2007 to 310 in 2017. Approximately 67% of maternal deaths during this period were due to direct obstetric causes, most notably obstetric haemorrhage, which accounted for 29.7%, and hypertensive disorders, which accounted for 14.3%. Indirect causes represented 27.3% of maternal deaths, with 22.3% attributable to non-obstetric medical conditions occurring during pregnancy, childbirth, or within the first 42 days postpartum. While the unmet need for family planning has declined and the use of modern contraceptive methods has increased, progress in the uptake of traditional contraceptive methods appears to have reversed. In 1993, 38.6% of married or in-union women had an unmet need for family planning, a figure that fell to 23.4% in 2022. During the same period, modern contraceptive use rose from 10.1% to 22%, while

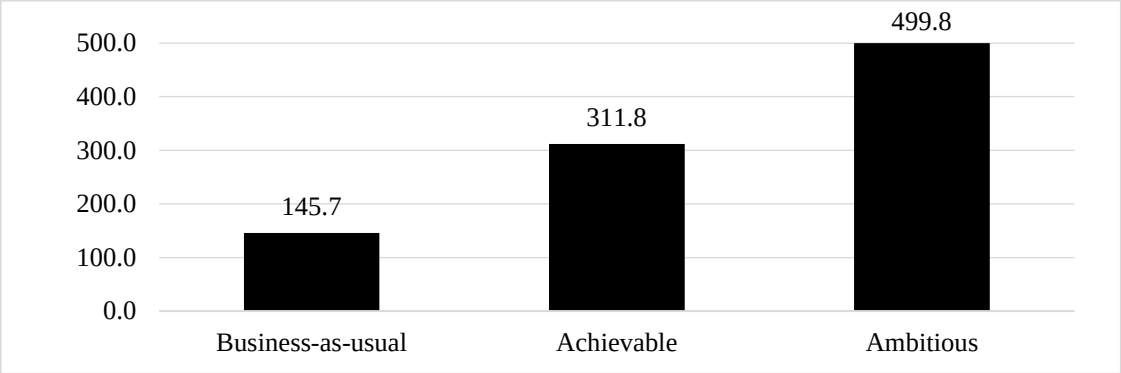

Figure 1: Required investment to scale up reproductive health interventions under different scenarios, 2024-2030 (in USD millions)

traditional method use declined slightly from 10.1% to 9%. The oral pill remains the most widely used modern contraceptive method, while the rhythm or calendar method continues to be the predominant traditional method.

Financing landscape

The Ghana Universal Health Coverage (UHC) Roadmap 2020–2030 identifies inadequate financing as a major constraint to strengthening the health sector, particularly reproductive health services. This challenge is evident in national budget allocations. In 2022, the health sector received approximately GHS 10.7 billion (USD 754 million), representing 7.6% of the government's discretionary budget. Education received 12.2%, while allocations for public safety (6.4%) and the economic sector (3.0%) were lower. In 2023, health sector funding increased nominally to GHS 15.3 billion (USD 1,078 million) but fell proportionally to 6.7% of the discretionary budget. Education remained higher at 10.1%, and public safety remained at 6.4%. Both years' allocations remained significantly below the Abuja Declaration's 15% benchmark. Of the total health allocation, about 61% (GHS 6.6 billion or USD 463 million) in 2022 and 57% (GHS 8.8 billion or USD 617 million) in 2023 were directed toward personnel emoluments, leaving limited resources for critical expenditures such as infrastructure, medicines, drugs, supplies, and other essential operational needs.

Financing needs and gaps

Under the BAU scenario, an estimated USD 146 million is required to sustain reproductive health services from 2024 to 2030, consisting of USD 97 million for maternal health and USD 49 million for family planning (Figure 1). The Achievable scenario requires approximately USD 312 million, with USD 213 million for maternal health and USD 99 million for family planning. The Ambitious scenario requires USD 500 million, including USD 337 million for maternal health and USD 163 million for family planning. Using 2023 budget allocations as a proxy for available funding, the financing gap is substantial across all scenarios. Approximately USD 73 million is needed under the BAU scenario, USD 250 million under the Achievable scenario, and USD 430 million under the Ambitious scenario. These results indicate that even under modest expansion assumptions, existing resources are insufficient to meet national targets for reducing maternal mortality and increasing contraceptive coverage by 2030.

Health benefits

The modelling results show substantial improvements in women's health outcomes across all three investment scenarios. Under the BAU scenario, maternal mortality would decline by about 17%, from 310 to 257 deaths per 100,000 live births by 2030, corresponding to approximately 2,148 maternal deaths averted (Figure 2). In family planning, modest increases in modern contraceptive uptake would avert around 5 million unintended pregnancies, 8,300 maternal deaths, and 1.5 million unsafe abortions (Figure 3). Under the Achievable scenario, maternal mortality is projected to decline by 36%, reaching 198 deaths per 100,000 live births by 2030, with approximately 4,499 maternal lives saved. Modern contraceptive use would rise to

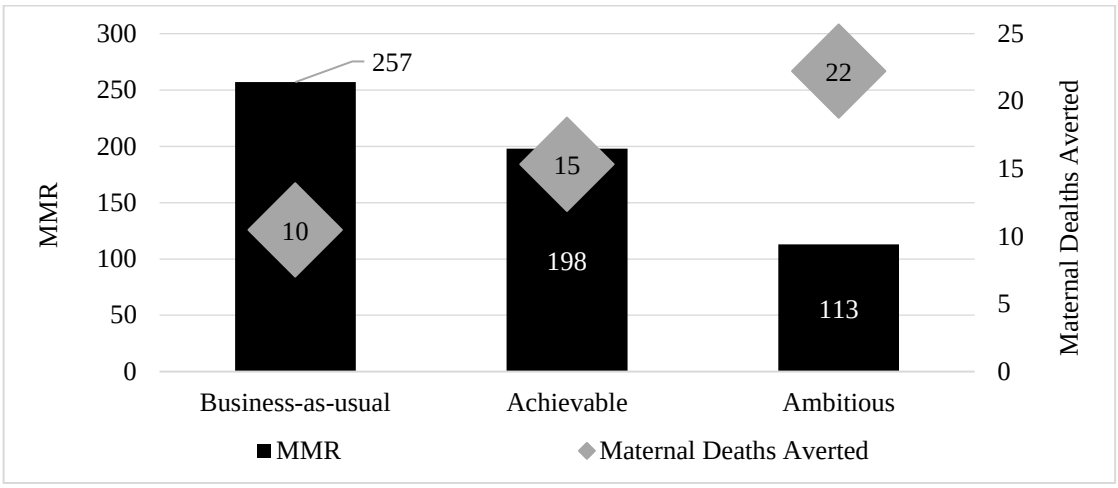

Figure 2: Projected change in maternal mortality under different scenarios, 2024-2030 (in MMR and thousands of maternal deaths)

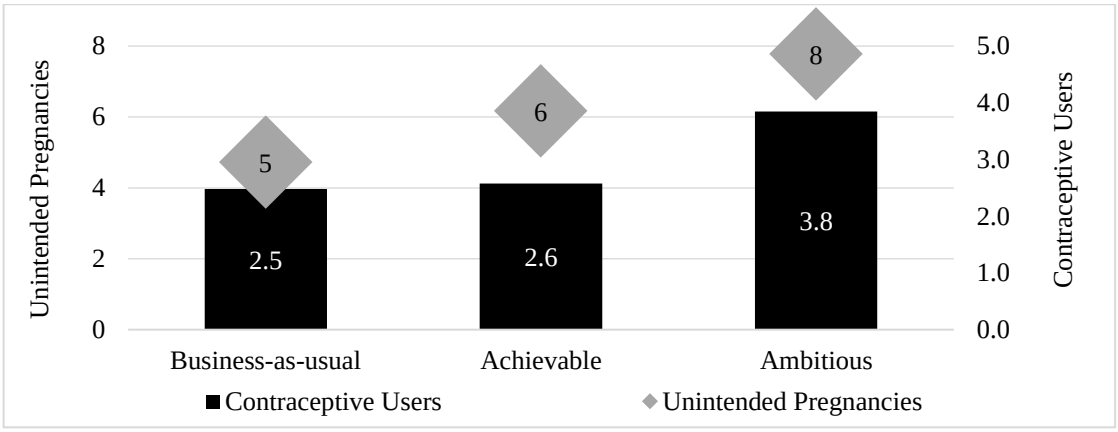

Figure 3: Projected change in new contraceptive users and unintended pregnancies under different scenarios, 2024-2030 (in millions)

44.4%, resulting in 6 million unintended pregnancies, 10,800 maternal deaths, and 1.9 million unsafe abortions averted. The Ambitious scenario produces the most profound gains. Maternal mortality would decline by 64%, reaching 113 deaths per 100,000 live births and averting 8,606 maternal deaths between 2024 and 2030. Family planning interventions under this scenario would prevent approximately 8 million unintended pregnancies, 13,600 maternal deaths, and 2.5 million unsafe abortions.

Economic benefits

Scaling up reproductive health interventions generates substantial economic benefits. Under the BAU scenario, investments in maternal health would yield an estimated USD 214 million, while family planning would generate USD 127 million, corresponding to benefit-cost ratios (BCRs) of 2.2:1 and 2.6:1 (Figure 4). These gains stem from reductions in maternal deaths, avoided productivity losses, and cost savings from averted unintended pregnancies and unsafe abortions. Under the Achievable scenario, total economic benefits are projected to reach USD 2.7 billion, with USD 2.3 billion generated by maternal health interventions and USD 425 million by family planning. The corresponding BCRs are 10.9:1 and 4.3:1, reflecting higher labour force participation and increased lifetime earnings. The Ambitious scenario yields the largest gains, with combined investments producing more than USD 8.7 billion in economic benefits, including USD 7.6 billion from maternal health and

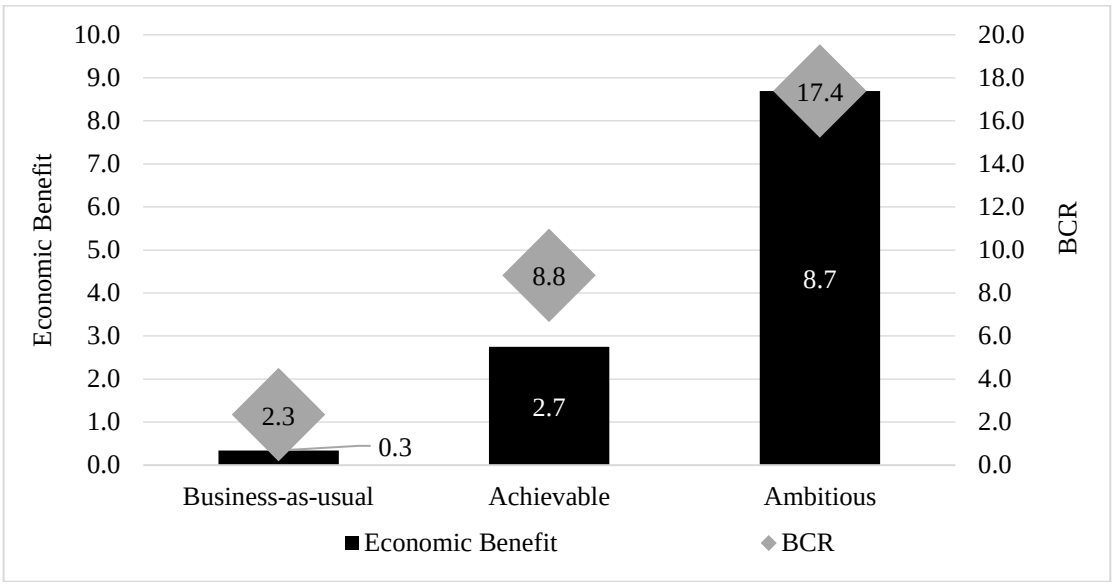

Figure 4: Projected economic benefits of reproductive health investments under different scenarios in Ghana, 2024-2030 (in USD billions and BCR)

USD 1.1 billion from family planning. The BCRs rise to 22.5:1 and 6.9:1, showing that every dollar invested in reproductive health could return up to twenty dollars in long-term socioeconomic gains.

Economic losses

Failure to scale up reproductive health interventions would result in severe economic losses. Between 2024 and 2030, the cost of inaction is estimated at USD 1.4 million under the Achievable scenario and USD 3.3 million under the Ambitious scenario (Figure 5). These correspond to losses of 0.5% of GDP and 1.6% of GDP, respectively. The economic losses reflect forgone productivity, reduced labour force participation, and the long-term economic consequences of women dying or experiencing ill health during their productive years. They also incorporate secondary effects of unplanned pregnancies and unsafe abortions on households, including increased treatment costs, reduced educational attainment, and a higher dependency burden.

Financing options

Ghana's tax revenue as a share of GDP has increased steadily from 10.4% in 2009 to 13.4% in 2020, yet it remains below the African average throughout the period. While the continental average was 15.4%, Ghana's averaged 12.3%. Projections indicate that achieving a tax-to-GDP ratio above 15% could generate between GHS 2.2 billion (USD 155 million) and GHS 4.0 billion (USD 282 million) in additional fiscal space between 2024 and 2030. This suggests considerable potential for enhanced revenue mobilization to strengthen reproductive health and other priority sectors. International commitments also provide a benchmark for increased investment. Although African leaders committed to allocating 15% of national budgets to health, Ghana has consistently fallen short of this target. The average allocation from 2003 to 2023 was 8.5%, declining to 6.5% over the most recent five years. If the government progressively increased the share of the national budget for health to reach the 15% target by 2030, approximately USD 1.1 billion in new resources could be mobilized.

Efficiency improvements present another opportunity for expanding fiscal space. Studies show that about 65% of health centres operate efficiently, with potential annual savings of USD 73,357, while another assessment found that only 20 of 64 facilities were technically efficient, largely due to underutilization of resources. A further study reported an average efficiency score of 0.51, suggesting a wastage rate of 0.49 and indicating potential annual savings of GHS 10,593 (USD 745) per facility. Collectively, these findings identify significant inefficiencies across the health system,

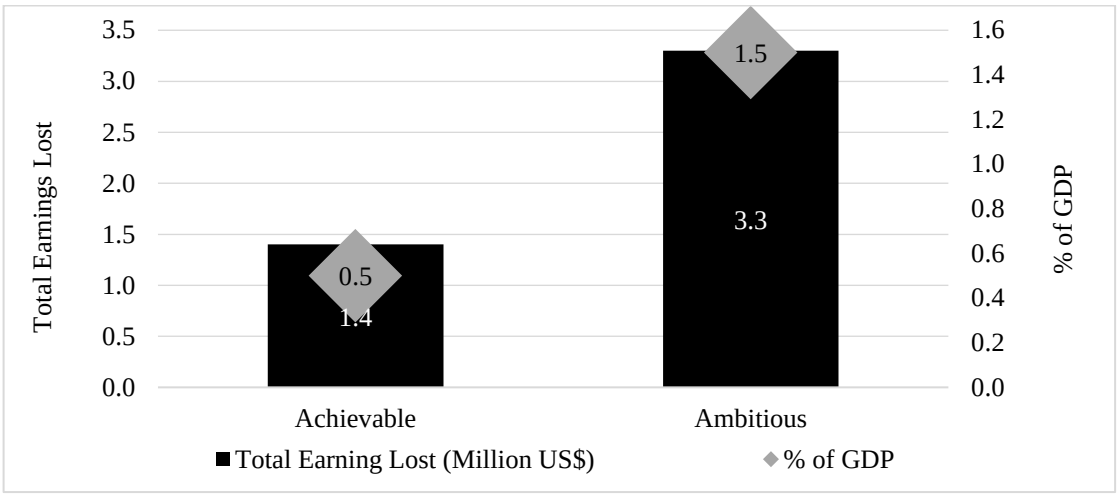

Figure 5: Projected economic losses from inaction in reproductive health, 2024-2030 (total loss in USD millions and as a % of GDP)

and addressing them could generate meaningful savings for reallocation to reproductive health. External resource mobilization continues to play an important role as well. Although official development assistance (ODA) has declined over the past decade, and net ODA as a share of GNI fell sharply from 3.1% in 2020 to 1.6% thereafter, strategic targeting of ODA to priority reproductive health projects could enhance the efficiency and impact of external funding.

Discussion

The findings of this investment case reinforce that sustained reproductive health financing is central to Ghana's national development trajectory. Scaling up evidence-based maternal health and family planning interventions could avert more than 5,000 maternal deaths and over nine million unintended pregnancies by 2030, easing pressure on emergency obstetric services and strengthening long-term productivity. Improved access to contraception enables informed fertility choices and advances educational and economic opportunities, particularly for women and girls, confirming decades of evidence that reproductive health is a foundational investment in human capital rather than a recurrent expenditure.[2,14]

The economic case is equally strong. Under ambitious scale-up scenarios, each dollar invested in maternal health and family planning yields benefit–cost ratios of approximately 23:1 and 7:1, driven by reduced healthcare costs, greater labour participation, and lifetime productivity gains. These findings mirror global UNFPA evidence showing that reproductive health consistently delivers among the highest returns of any public health investment.[14] For Ghana, cumulative socioeconomic benefits could reach USD 8.7 billion by 2030, while the cost of inaction—estimated at up to 1.6% of GDP—would undermine growth and widen fiscal pressures. Investing now, therefore, is not only socially essential but fiscally prudent.

Equity remains a defining consideration. Women in low-income, rural, and otherwise marginalised communities face the highest unmet need for contraception and the greatest maternal mortality risk. Strengthening access for these groups—especially adolescents—will be critical for reducing early pregnancies, advancing gender equality, and unlocking long-term economic potential. Gender-responsive budgeting and equity-focused monitoring frameworks are indispensable for ensuring that resources reach those most affected and that reproductive health gains are shared across population groups.[19]

These outcomes depend on a resilient and efficient health system. Ghana continues to fall well below the Abuja Declaration's 15% benchmark for health spending, and current allocations remain dominated by recurrent costs rather than the strategic capital and preventive investments required for sustained progress. Workforce training and equitable deployment, stronger supply chains, and enhanced information systems are essential to improving service quality and accountability.[20,21]

Studies reviewed as part of the fiscal space analysis indicate that nearly half of health sector resources in Ghana may be underutilized due to management inefficiencies.[22,23] Improving procurement, reducing fragmentation, and adopting performance-based and digital management tools could expand fiscal space for reproductive health services even without major new funding.

The policy implications are clear. Reproductive health must be treated as a strategic investment within Ghana's macroeconomic and human capital agendas. Expanding domestic financing—by gradually increasing the health share of the national budget, improving the tax-to-GDP ratio, and exploring mechanisms such as health levies and social insurance—will be critical. Strategic partnerships with development partners and the private sector can further mobilize resources through blended finance and outcome-based models. Strengthening monitoring and evaluation systems will also be vital to ensure that progress toward 2030 targets remains transparent, adaptive, and firmly grounded in results.

Several limitations should be noted. Reliance on secondary data introduces uncertainty stemming from incomplete reporting and measurement inconsistencies, while modelling assumptions regarding intervention costs, effectiveness, and fiscal conditions may diverge from future realities. Limited disaggregated data reduced the ability to fully assess regional and gender disparities, and human-capital valuation approaches may understate broader social and intergenerational benefits. Nonetheless, extensive stakeholder validation enhanced contextual accuracy and reinforced the credibility of the findings. Future research would benefit from longitudinal analyses, deeper gender and equity modelling, and systematic integration of climate and environmental dimensions, ensuring that reproductive health investment analyses remain responsive to Ghana's evolving development context.

Conclusion

Sustained investment in reproductive health, particularly maternal health and family planning, offers Ghana a vital pathway to accelerate progress toward the SDGs and realize its demographic dividend. This article demonstrates that scaling up proven interventions will avert thousands of maternal deaths and millions of unintended pregnancies, yielding substantial socioeconomic returns. Beyond health gains, such investments strengthen human capital, promote gender equity, and enhance national productivity. The cost of inaction, by contrast, imposes significant economic and human losses that undermine development. Prioritizing domestic resource mobilization, efficient spending, and strategic partnerships is therefore essential to sustain progress. Evidence from this investment case affirms that reproductive health financing is not only a moral imperative but also a sound economic strategy for inclusive and sustainable growth.

Data availability

The original contributions presented in this study are included in the supplementary material. Further inquiries can be directed at the corresponding author.

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