

Health system strengthening in rural Guinea-Bissau: Lessons learned from the implementation of the Integrated Programme for the Reduction of Maternal and Child Mortality (PIMI)

Policy Brief

Key messages

- The «Integrated Programme for the Reduction of Maternal and Child Mortality» (PIMI) has been implemented in Guinea-Bissau to improve maternal and child survival through increased coverage of essential quality maternal and child health services.
- During PIMI's implementation, the coverage of essential maternal and child health services has substantially increased in rural Guinea-Bissau. However, coverage remained far from universal, and coverage increases appeared not associated with PIMI. Moreover, higher uptake of maternal and child health services did not translate into lower perinatal mortality which remained alarmingly high.
- Encouragingly, the vast majority of women highly appreciates maternal and child health services and regards health facilities as the ideal place of birth. However, pervasive geographical and financial access barriers constrain service accessibility for women who are unable to overcome the barriers. This raises severe equity concerns. At the same time, these barriers cause delays to care. Together with severely compromised quality of care due to material and human-resource constraints, delays to particularly emergency care likely explain persisting high perinatal mortality.
- These findings highlight the importance of rigorous monitoring and evaluation of health systems strengthening interventions alongside the urgent need to promote the accessibility and quality of maternal and child health services across rural Guinea-Bissau.

Context

Guinea-Bissau bears among the highest burden of maternal and child mortality in the world.¹ In response, in 2013, the «Integrated Programme for the Reduction of Maternal and Child Mortality» (PIMI) was implemented. PIMI is a large-scale health systems strengthening initiative which aims to improve maternal and child survival through increased coverage of essential quality maternal and child health (MCH) services.^{2,3}

To this end, PIMI seeks to address context-specific health system constraints compromising access to and provision of essential quality MCH services in Guinea-Bissau.²⁻⁵ This is sought to be achieved through a comprehensive intervention package including user-fee waiver for essential MCH services, health worker and community health worker training, coordination and supervision, supplies of essential medicines and consumables, health facility maintenance and rehabilitation, and

strengthening of the ambulance transportation system.^{2,3} The initiative targets all pregnant women up to 45 days postpartum and children below 5 years of age.^{2,3}

In 2013, PIMI was first implemented as a pilot initiative at all public health facilities in four of Guinea-Bissau's 11 health regions (PIMI I) before it was rolled-out nation-wide in 2017 (PIMI II).^{2,3} During PIMI I and PIMI II, the initiative was primarily funded by the European Union, with co-financing and technical assistance provided by UNICEF, Entraide Médicale Internationale, and Instituto Marquês Valle Flôr.^{2,3} In July 2021, PIMI's core activities were transitioned to the World Bank's country health programme,⁶ before being transitioned back to European Union financing in June 2022 (PIMI III). During PIMI III, a gradual transitioning of PIMI's activities to domestic financing is planned; meanwhile, European Union funding is planned to be phased out in June 2025.⁷

In 2019, the European Union commissioned the Bandim Health Project to evaluate the impact of PIMI on MCH service coverage and health indicators and to explore persisting barriers to MCH services during PIMI's implementation in rural Guinea-Bissau. To this end, the Bandim Health Project conducted a series of studies in 2019-2023. This policy brief summarises the key results of the studies, which have also been reported to the Delegation of the European Union to Guinea-Bissau.⁸⁻¹⁰

Methods

Three studies were implemented to evaluate the impact of PIMI on MCH service coverage and health indicators and to explore persisting barriers to MCH services during PIMI's implementation in rural Guinea-Bissau:

1. A quantitative study assessing PIMI's impact on MCH service coverage and perinatal health (*impact evaluation*);
2. A mixed-methods study exploring women's perspectives on facilitators and persisting barriers to timely and quality peripartum care (*demand-side assessment*);
3. A qualitative study exploring service providers' perspectives on facilitators and persisting barriers to timely and quality peripartum care (*supply-side assessment*).

All studies were nested in the Bandim Health Project's nationally representative rural health and demographic surveillance system (HDSS) which monitors pregnancies, uptake of MCH services, and maternal and child survival in an open cohort of >50,000 women and children.

The *impact evaluation* built fully on HDSS data. Here, we used information from a total of 23,828 HDSS-registered births from three two-year cohorts, each covering different phases of PIMI: (i) pre-PIMI, (ii) PIMI I, and (iii) PIMI II. In line with PIMI's stepwise roll-out, we differentiated early vs. late implementation areas. We assessed coverage of antenatal care and facility births and perinatal mortality (i.e., stillbirths and early neonatal deaths during the first week of life) by area over time and compared developments across areas and time.

For the *demand-side assessment*, we implemented new data collections in 19 randomly selected HDSS villages. Here, we conducted 258 structured interviews and 12 in-depth interviews with HDSS-registered women who had given birth during PIMI II to explore barriers and facilitators to facility-based peripartum care.

For the *supply-side assessment*, we implemented further data collections at the target health facilities of the previously in-depth interviewed

women. Here, we conducted 8 in-depth interviews and 192 hours participant observations to explore barriers and facilitators to timely and quality facility-based peripartum care. The data collections took place during the transitioning of PIMI’s core activities to World Bank funding, just after PIMI II had ended.

Key findings

Over time, coverage of essential MCH services considerably increased across rural Guinea-Bissau: Pre-PIMI, approximately one-third of pregnant women obtained four or more antenatal care consultations and facility births. During PIMI II, coverage increased to approximately half of pregnant women (Figure 1).

However, the *impact evaluation* revealed three key concerns:

1. Observed coverage developments were similar in the early and the late implementation area (Figure 1), thereby suggesting that *coverage increases were not associated with PIMI’s implementation*.
2. Despite increases over time, the *coverage of essential MCH services remained far from universal* during PIMI’s implementation.
3. Coverage increases *did not translate into improved perinatal survival*: Perinatal mortality remained stable at approximately 80 deaths per 1,000 births despite PIMI’s implementation (Figure 2).

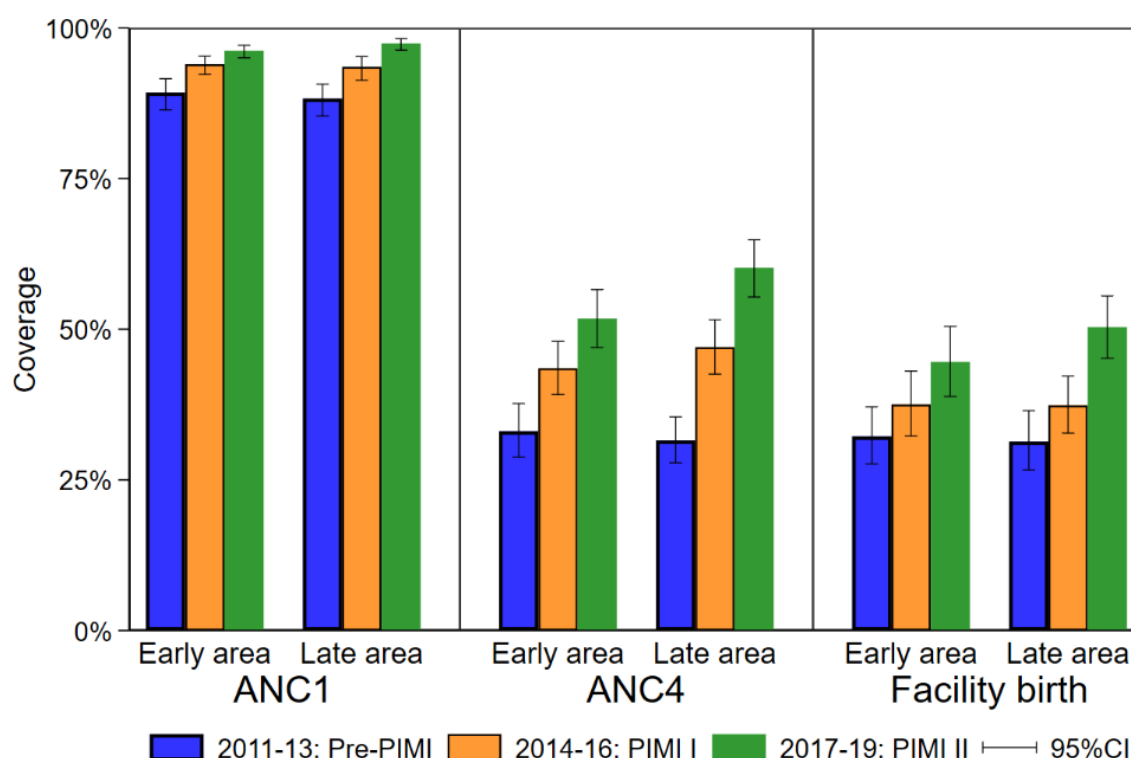
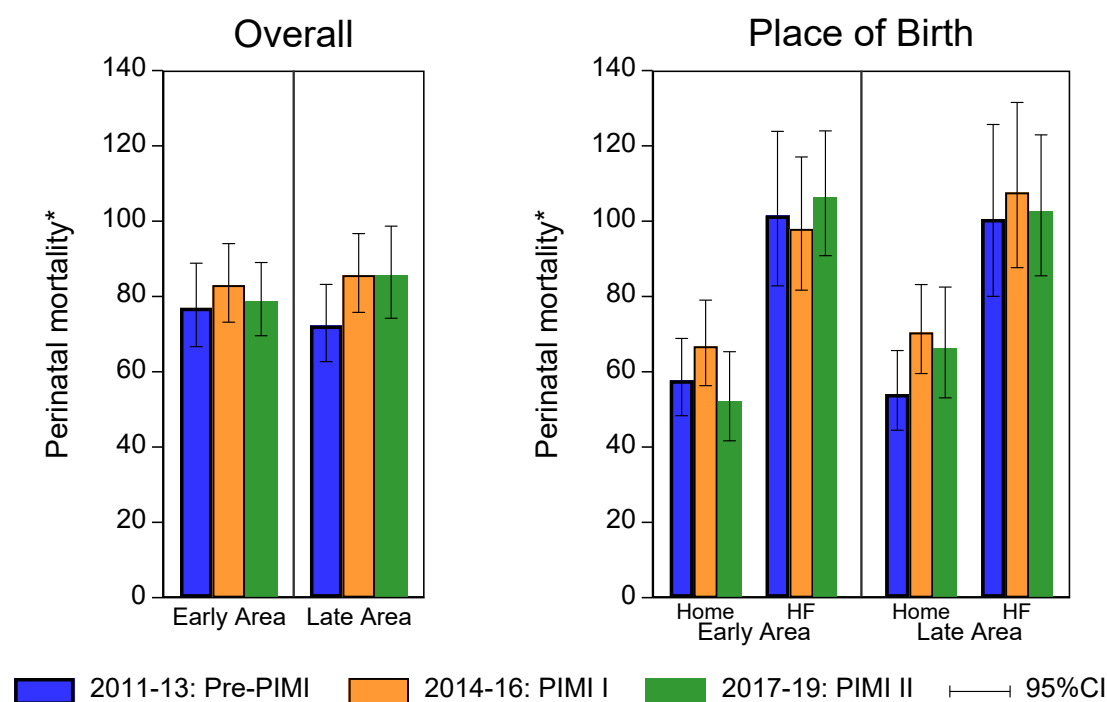


Figure 1: Coverage of antenatal care consultations (any: ANC1; ≥4: ANC4) and facility births by area over time¹¹



*Deaths per 1,000 births; 95%CI truncated at 160 deaths per 1,000 births.

Figure 2: Perinatal mortality by area and birthplace over time. HF: Health facility¹¹

Several factors revealed in the *demand-side* and *supply-side assessment* may explain these findings. First, both women and service providers expressed a *high preference for facility-based MCH services*. Here, the interviewed women commonly reflected a high knowledge and appreciation of safety benefits associated with facility births. This applied to both women who gave birth at home as well as to those who gave birth at a health facility. Meanwhile, service providers emphasised that health facilities were the only reasonable place to give birth and sought to encourage women to increasingly utilise facility-based MCH services. Accordingly, facility-based MCH services were commonly regarded as an “aspirational ideal”, which may explain general coverage increases independent of PIMI’s implementation.

Yet, at the same time, both the *demand-side* and *supply-side assessment* documented *ubiquitous*

access barriers to care, making facility-based MCH services unattainable for women who cannot overcome them. Access constraints predominantly concerned geographical and financial barriers to care including often long distances between villages and health facilities, commonly poor road conditions and a multitude of direct and indirect out-of-pocket payments. Despite PIMI’s official user-fee waivers, the *demand-side assessment* revealed that most facility births were associated with considerable payments with costs at the point of care amounting to up to 250,000 XOF (434 USD). Amid persisting barriers to care, both the *demand-* and *supply-side assessment* indicated that women tended to condition care seeking on perceived individual risks of birth complications.

Moreover, the *supply-side assessment* documented that the *provision of timely and quality MCH services was severely compromised*

by geographical, material and human-resource constraints. At health facilities, essential medicines, consumables, appropriate equipment, and staff were key bottlenecks. In this context, lacking material supplies were explained by discontinued donor support during the transitioning of PIMI's core activities from European Union to World Bank funding. To navigate the resource-constraints, providers

applied several strategies including asking women to purchase some of the lacking materials, omitting tests and examinations, and involving birth companions and support staff in the provision of care. These strategies exacerbated access constraints to essential MCH services while compromising patient and occupational safety, diffusing health worker responsibilities and causing delays to care.

Implications and key policy options

While we found that coverage has substantially increased since PIMI's implementation, coverage remained suboptimal. This is despite service providers and women regarding health facilities as the ideal place of birth. Meanwhile, coverage increases appeared not associated with PIMI and perinatal mortality remained unchanged on a high level. We identified pervasive geographical and financial access barriers which likely explain a suboptimal uptake of facility-based MCH services. At the same time, these barriers cause delays to both routine and emergency care. Together with severely compromised quality of care due to material and human-resource constraints, delays to particularly emergency care likely explain persisting high perinatal mortality.

These findings have several *policy implications*:

1. They strengthen the *call for real-life evaluations* of health systems strengthening interventions: Being often complex interventions implemented into typically equally complex contexts, the effects of health systems strengthening initiatives is often hard to predict. Therefore, rigorous monitoring and evaluation is "a must" to ensure the early detection of adverse developments, a purposive deployment of scarce resources, and learning from successes and failures.
2. Our findings reveal specific action points that need to be addressed to *promote the accessibility* of potentially life-saving health services in rural Guinea-Bissau: the reduction of persisting geographical and financial barriers to care.
3. To *improve quality and timeliness of care*, material- and human-resource constraints at the health facilities need to be addressed. This seems to be particularly critical in the light of the anticipated transition of PIMI's activities to domestic financing, raising the question how financial resources exceeding the previous donor support can be secured.

Sources

This policy brief synthesises findings presented in the following PhD thesis and reports of the Bandim Health Project to the Delegation of the European Union to Guinea-Bissau:

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- Damerow SM, Martins JSD, Fisker AB. An in-depth study of barriers and facilitators to the uptake of essential maternal and child health services in Guinea-Bissau. A report to the Delegation of the European Union to Guinea-Bissau. Bissau: Bandim Health Project, 2021.

This policy brief was prepared by Sabine Margarete Damerow and Ane Bærent Fisker with assistance by Paula Marise Silva. Further information can be found on www.measureeffects.org.

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