

ARTICLE INFORMATION

Received: June 13, 2026

Revised: June 27, 2026

Available online: July 03, 2026

at: <https://e-jurnal.iphorr.com/index.php/mchc>

Evaluation of minimum service standard achievement in maternal health services using a logic model

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Abstract

Background: Maternal health services are one of the Minimum Service Standards (MSS) indicators in the health sector that must achieve a 100% target. However, the achievement of maternal health services in Muaro Jambi Regency in 2025 reached only 61.96%, while the achievement was 90.93% (496 of 546 targeted pregnant women). In addition, antenatal care coverage remained below the expected target, with K1 coverage at 67.40%, K4 at 61.36%, and K6 at 50.37%. These findings indicate that maternal health service implementation has not been optimal. Therefore, an evaluation using the Logic Model framework, consisting of input, activities, and output, was conducted.

Purpose: To evaluate the achievement of minimum service standard health performance indicators in maternal health services.

Method: This study employed a qualitative research design using the Logic Model evaluation framework. Informants consisted of the Head of the Community health center, the Maternal and Child Health (MCH) Program Coordinator, midwives, village midwives, and pregnant women selected through purposive sampling. Data were collected through in-depth interviews, observations, and document reviews. Data were analyzed using the Miles and Huberman interactive analysis model, including data reduction, data display, and conclusion drawing.

Results: The input component generally supported the implementation of maternal health services. However, several challenges were identified, including suboptimal workload distribution among healthcare personnel, limited MCH clinic facilities, and delays in the distribution of Maternal and Child Health (MCH Handbooks). The activities component showed that all maternal health service activities had been implemented according to established standards. Nevertheless, delays in antenatal visits, low continuity of K1–K6 antenatal care visits, inadequate monitoring of iron tablet compliance, and delayed MCH Handbooks distribution affected service documentation and health education. The output component indicated that the achievement of maternal health service MSS indicators had not yet reached the national target of 100%.

Conclusion: The achievement of maternal health service MSS indicators has not yet met the expected target. This was influenced by suboptimal workload distribution among healthcare personnel, delays in MCH Handbooks distribution, and inadequate continuity of antenatal care visits through K6.

Suggestion: Strengthening the community health center had not, optimizing resource management, and improving follow-up and monitoring of pregnant women are necessary to improve the achievement of maternal health service MSS indicators.

Keywords: Antenatal Care; Logic Model; Maternal Health Services; Minimum Service Standards; Program Evaluation.

INTRODUCTION

The Minimum Service Standards (MSS) for health are provisions regarding the type and quality of basic services

that every citizen must receive at a minimum. One of the priority indicators of basic services within the MSS for

health is maternal health services. Maternal health services aim to ensure the health of the mother and fetus during pregnancy through standardized antenatal care, early detection of risk factors, prevention of complications, and appropriate treatment to reduce maternal and infant morbidity and mortality. Providing maternal health services is a crucial part of efforts to improve public health and achieve national health development targets (Ministry of Health of the Republic of Indonesia, 2024).

Maternal health remains a public health issue that requires serious attention. The World Health Organization reports that most maternal deaths can be prevented through quality health services during pregnancy, childbirth, and the postpartum period. Therefore, the Indonesian government has designated maternal health services as one of the Minimum Service Standards (MSS) indicators for health, which must be achieved by local governments, with a target of 100% coverage (World Health Organization, 2025).

Based on Regulation of the Minister of Health of the Republic of Indonesia Number 4 of 2019 concerning Technical Standards for Fulfilling the Quality of Basic Services in the Minimum Service Standards in the Health Sector, every pregnant woman has the right to receive standardized antenatal care services, which include pregnancy examinations, early detection of risk factors, laboratory tests, iron supplementation, immunization, health education, and follow-up for high-risk cases. Successful achievement of maternal health service indicators is influenced not only by the availability of health resources but also by the quality of program implementation, service access, and community participation (Ministry of Health of the Republic of Indonesia, 2019).

Muaro Jambi Regency is one of the regions still facing challenges in achieving the Minimum Service Standards (MSS) indicators in the health sector. Data from the Muaro Jambi Regency Health Office shows that several basic health service indicators have not yet reached the set targets. For maternal health services, indicator achievement has shown a downward trend in recent years. The coverage of K1 in the Muara Kumpeh Community health center work area decreased from 100% in 2022 to 95.87% in 2023, 76.94% in 2024, and 76.56% in 2025. A decrease also occurred in K4 coverage, namely from 98.94% in 2022 to 87.85% in 2023, 58.35% in 2024, and 50.45% in 2025. Meanwhile, K6 coverage decreased from 92% in 2022 to 82.01% in 2023, 58.86% in 2024, and only reached 60.26% in 2025.

This achievement is still below the MMS target set at 100%. The failure to achieve maternal health service targets indicates a gap between established service standards and program implementation in the field. Various factors are suspected to contribute to this situation, including human resources, facilities and infrastructure, funding, policies, antenatal care implementation, pregnant women's compliance with antenatal care visits, and access to healthcare services. A comprehensive evaluation is needed to identify factors influencing the achievement of maternal health service indicators to inform program improvements and enhance service quality.

Previous research also indicates that the implementation of Minimum Service Standards (MMS) at community health centers has not fully met the established indicator targets. Several basic service indicators, including maternal and child health services, have not yet reached the 100% target as stipulated in Minister of Health Regulation Number 4 of 2019 concerning Technical Standards for Fulfilling the Quality of Basic Services in the MMS Health Sector (Zudi, Suryoputro, & Arso, 2021).

RESEARCH METHOD

This study employed a qualitative approach with an evaluative research design using a Logic Model encompassing input, activity (process), and output components to evaluate the achievement of Minimum Service Standards (MSS) performance indicators for maternal health services at the Muara Kumpeh Community health center, Muaro Jambi Regency, in 2025. This study involved six informants: the Head of the Community health center the person in charge of the Maternal and Child Health program, the coordinating midwife, the implementing midwife, the village midwife, and the pregnant women receiving the services. All informants were selected purposively because they were directly involved in the implementation of maternal health services at the Muara Kumpeh Community health center.

The study was conducted at the Muara Kumpeh Community health center, Muaro Jambi Regency, in 2025. Informants were selected using a purposive sampling technique based on their direct involvement in the implementation of maternal health services. Informants included the Head of the Community health center, the person in charge of the Maternal and Child Health (MCH) program, the coordinating midwife, the implementing midwife, the village midwife, and the pregnant women receiving the services. Informant

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DOI: 10.56922/mchc.v5i3.3484

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selection was conducted until data saturation was achieved.

Research data were obtained through in-depth interviews using semi-structured interview guidelines, observations of the implementation of maternal health services, and document reviews covering MSS indicator achievement data, MCH program reports, community health center profiles, and other supporting documents. Triangulation of sources, methods, and documents was conducted to enhance data validity. Evaluation of the achievement of performance indicators for Minimum Service Standards (MSS) for maternal health services is carried out based on a Logic Model which includes

aspects of input, activities (process), and output.

Data analysis was conducted interactively using the Miles and Huberman model, which includes data reduction, data display, conclusion drawing, and verification. The analysis focused on identifying factors influencing the achievement of MSS indicators based on input components (human resources, facilities and infrastructure, policies, and funding), activities (implementation of maternal health services), and outputs (achievement of MSS indicators for maternal health services). This research has been approved by the Jambi University Ethics Commission with ethics number 2577/UN21.8/PT.01.04/2025.

Tabel 1. Evaluation Framework

Logic Model component	Evaluated aspects	Data sources
Inputs	Human resources, facilities, policies, funding	Interviews, observation, documents
Activities	ANC implementation, iron supplementation, risk detection, counseling, follow-up	Interviews and observation
Outputs	MSS achievement, K1, K4, and K6 coverage	Program reports and service documents

RESEARCH RESULTS

Tabel 2. implementation of Maternal Health Services

Component	Finding	Supporting Evidence	Program Implication
Input	Multiple staff responsibilities	Informant quotation and staffing document	Reduced capacity for active follow-up
Input	Delayed MCH Handbook distribution	Interview and stock records	Incomplete documentation and education
Activities	Incomplete K1–K6 antenatal care visits continuity	ANC register	Lower service coverage
Output	MSS target not achieved	Program performance report	Need for program improvement

Input

Research results indicate that human resources for the implementation of maternal health services are quantitatively sufficient. Services are provided by doctors, coordinating midwives, implementing midwives, and village midwives in accordance with their respective duties and responsibilities. However, some health

workers still experience multiple workloads, resulting in suboptimal program implementation.

In terms of facilities and infrastructure, most service facilities are available to meet antenatal care needs. However, limited space for maternal and child health services remains, resulting in suboptimal service delivery

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and delays in the distribution of Maternal and Child Health Handbooks (MCH Handbooks), which impacts recording, monitoring, and education for pregnant women.

The policy aspect indicates that service implementation adheres to Standard Operating Procedures (SOPs), technical guidelines, and government policies regarding Minimum Service Standards. Furthermore, program funding comes from Health Operational Assistance (BOK). Allocation of available resources still requires optimization to achieve service targets.

Activity

The implementation of maternal health services includes antenatal care (ANC) examinations, iron supplementation tablets, early detection of pregnancy risk factors, antenatal care visits (K1–K6), antenatal care visits, and education and counseling for pregnant women. Although all activities have been implemented according to service standards, several obstacles remain, including delays in ANC visits for pregnant women, low continuity of visits (K1–K6) antenatal care visits, suboptimal monitoring of adherence to adherence to iron supplementation, and delays in the distribution of maternal and child health books. Furthermore, access constraints exist in the relatively large service area, which impacts the coverage of maternal health services.

Output

Evaluation results indicate that the achievement of the MSS indicator for maternal health services has not yet reached the national target of 100%. In 2025, maternal health service coverage reached 90.93% (496 out of 546 target pregnant women). Furthermore, antenatal visit coverage remains low, with K1 reaching 67.40%, K4 reaching 61.36%, and K6 reaching 50.37%. These findings indicate that the implementation of maternal health services is not yet optimal, so efforts are needed to improve resource management, strengthen coordination, increase compliance with ANC visits, and accelerate the distribution of MCH Handbooks to improve the achievement of Minimum Service Standard indicators.

DISCUSSION

The study results indicate that the availability of human resources for maternal health services at the Muara Kumpeh Community health center is adequate in

quantity. Services are supported by doctors, midwives, village midwives, laboratory staff, nutritionists, cadres, and other support staff. Most health workers have also received training related to maternal health services. However, some health workers still have multiple duties, resulting in uneven or suboptimal workload distribution. This situation has the potential to impact the implementation of antenatal care (ANC) tracing, home visits, and monitoring of high-risk pregnant women.

These findings align with the Logic Model theory, which states that human resources are a critical input component in determining the success of a program. Even if the number of health workers is adequate, suboptimal workload management can impact the effectiveness of activity implementation, thus impacting the achievement of program indicators.

These results align with other research, which suggests that the successful implementation of ANC services is influenced not only by the availability of health workers but also by organizational management and service coordination (Afrizal, Hidayanto, Handayani, Besral, Martha, Markam, & Eryando, 2020). Previous research also showed that achievement of MMS indicators is influenced by resource management and program implementation in the field. Therefore, in addition to maintaining adequate human resources, Community health centers need to optimize the division of tasks so that maternal health services can run more effectively and support the achievement of MMS targets (Nuraeni & Rinaldi, 2024).

The results of the study indicate that maternal health service facilities and infrastructure at the Muara Kumpeh Community health center are generally adequate. The availability of MCH rooms, ultrasounds, laboratories, Dopplers, sphygmomanometers, ANC examination equipment, and medications supports standard service delivery. However, this study found that there are still limitations in MCH space and delays in the distribution of MCH Handbooks due to procurement constraints at the Health Office level. These conditions have resulted in suboptimal recording of pregnancy histories and education for pregnant women, despite being temporarily replaced with integrated ANC forms. With the MCH Handbook, the main problem lies not in the availability of examination equipment, but in logistical support and supporting service facilities.

These findings align with the Logic Model theory, which explains that facilities and infrastructure are input components that play a critical role in supporting

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successful program implementation. While adequate facilities facilitate service delivery, logistical limitations can impact the effectiveness of the service process and program outcomes. Therefore, despite the availability of examination equipment at the Muara Kumpeh Community health center, delays in the distribution of MCH Handbooks and limited service space remain obstacles that require attention to ensure optimal maternal health services.

The results of this study align with other research, which states that the successful implementation of ANC services is influenced by the availability of facilities, infrastructure, and service support systems (Irania, Ginting, & Siagian, 2022). Previous research also indicates that the quality of ANC implementation is determined not only by the competence of health workers but also by the readiness of facilities and service systems that support the continuity of services for pregnant women. Therefore, strengthening coordination between Community health centers and the Health Office is necessary to ensure timely distribution of MCH Handbooks and to improve MCH room facilities to improve service quality and achievement of MMS indicators (Afrizal et al., 2020).

The results indicate that the implementation of maternal health services adheres to the Standard Operating Procedures (SOPs), Minimum Service Standards (MMS), and Antenatal Care (ANC) guidelines issued by the Ministry of Health. Implementation of this policy is supported through outreach, webinars, mini-workshops, and regular coordination meetings, ensuring that health workers have clear guidelines for providing services to pregnant women. However, adjustments are still needed in its implementation, particularly in rural areas with limited facilities, requiring some examinations to be conducted at community health centers. This situation indicates that the policy has supported service delivery, but its implementation is still influenced by field conditions and the readiness of service facilities.

This finding aligns with policy implementation theory, which states that successful policy implementation is influenced by four main factors: communication, resources, implementer disposition, and bureaucratic structure. These four factors must work synergistically for the policy to be implemented effectively. In this study, communication through socialization and coordination meetings was successful, but policy implementation was still affected by limited facilities and the geographic conditions of the work area, necessitating strengthened

coordination between than the Health Office (Edwards III, 1980).

This study's findings also align with other research showing that the implementation of Minimum Service Standards in the community health center had not fully achieved its targets despite the availability of regulations. Implementation barriers continue to be influenced by cross-sectoral coordination, limited resources, and program implementation in the field. Therefore, in addition to maintaining compliance with SOPs and service guidelines, Community health centers need to strengthen monitoring, evaluation, and cross-sectoral coordination to ensure more effective policy implementation and support the achievement of MMS indicators (Nuraeni & Rinaldi, 2024).

The study results indicate that funding for maternal health services at the Muara Kumpeh Community health center comes from Health Operational Assistance (BOK) and the Regional Public Service Agency. In general, this funding has supported the implementation of ANC services, prenatal classes, visits to high-risk pregnant women, and promotional and preventive activities. However, several informants reported that in 2025, budget inefficiencies and delays in the disbursement of BOK funds prevented several supporting activities from being implemented optimally. This situation indicates that despite the availability of funding sources, timely disbursement and adequacy of budget allocation remain critical factors in supporting the sustainability of maternal health services.

The results of this study align with other research stating that funding for the ANC program, sourced from the Non-Physical Special Allocation Fund, Health Operational Assistance, and the Health Social Security Administration Agency, is still insufficient to fully meet the needs of all activities, resulting in several field activities not being able to be carried out optimally. The study also showed that budget constraints and delays in disbursement of funds impact program implementation and antenatal care outcomes. Therefore, strengthening budget planning, accelerating disbursement of funds, and more effective funding management are needed to ensure that all maternal health care activities can be implemented sustainably and support the achievement of MMS indicators (Sartika, Razak, Arifin, Balqis, Kardi, & Jafar, 2024).

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(BOK) and the Regional Public Service Agency (BPJS). In general, this funding has supported the implementation of ANC services, prenatal classes, visits to high-risk pregnant women, and promotional and preventive activities. However, in 2025, budget inefficiencies and delays in the disbursement of BOK funds prevented several supporting activities from being implemented optimally. This situation indicates that the program's success is influenced not only by the availability of funding sources, but also by the timely disbursement and budget management to ensure all activities proceed according to plan.

These findings are supported by other research showing that the achievement of the Antenatal Care (ANC) program is influenced not only by the availability of human resources and infrastructure, but also by program planning, resource allocation, and financial support. This research explains that limited resources and budget management can hinder activity implementation and impact the failure to achieve service coverage targets. Therefore, in addition to ensuring budget availability, effective funding management and thorough planning are required to ensure optimal implementation of all maternal health services and support the achievement of MMS indicators (Al Yunus, Raharjo, & Zainafree, 2025).

The study results indicate that maternal health services have been implemented according to standards, including ANC services, provision of iron supplements, early detection of risk factors, K1–K6 antenatal care visits, and education and counseling. However, implementation still faces several obstacles, such as pregnant women arriving late for prenatal checkups, not completing ANC visits according to standards, and difficult access due to geographic location. These conditions contribute to suboptimal continuity of services, which impacts the achievement of maternal health service indicators.

These findings align with previous research, which suggests that the success of ANC services is influenced by aspects of program planning, organization, implementation, and oversight. The study showed that despite the availability of service guidelines, ANC implementation is still affected by coordination, adherence to service standards, and facility support, requiring strengthened program management to improve service quality (Inani, Adyas, Listina, Budiarti, & Irianto, 2023).

The results showed that maternal health service delivery at the Muara Kumpoh Community health center

not yet reached the Minimum Service Standard (MMS) target of 100%. Maternal health service delivery reached 90.93%, with coverage for K1 at 76.56%, K4 at 50.45%, and K6 at 60.26%. This indicates that although services have been implemented according to standards, there is still a gap between program implementation and the established targets. Poor continuity of ANC visits, limited access to services, and mobility of pregnant women are contributing factors to the suboptimal achievement of maternal health services.

These findings align with previous research, which stated that coverage of K1 reflects pregnant women's access to antenatal care, while K4–K6 reflect the continuity and quality of ANC services. This research indicates that the failure to achieve coverage of K4–K6 influenced by low compliance of pregnant women in completing visits according to standards, suboptimal education, and limited access to health services. Therefore, increasing coverage of maternal health services requires not only the availability of services but also strategies that can continuously increase compliance with ANC visits (Putri, Herawati, & Witcahyo, 2024).

CONCLUSION

The implementation of maternal health services based on the Logic Model approach shows that the input components, including human resources, facilities and infrastructure, policies, and funding, are generally available and support program implementation. However, several obstacles remain, such as dual duties of health workers, limited MCH space, delays in the distribution of MCH Handbooks, and inefficiency and delays in budget disbursement, which impact service delivery. In the process component, antenatal care services, the provision of iron supplements, early detection of risk factors, K1–K6 antenatal care visits, and education and counseling have been implemented according to standards. However, implementation is not optimal because some pregnant women still receive check-ups late, do not complete ANC visits according to standards, change healthcare facilities, and have limited access to services.

SUGGESTION

Community health centers need to optimize resource management by distributing the workload of health workers more proportionally, increasing active tracking of pregnant women who have not yet completed ANC visits according to standards, and strengthening education for

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pregnant women regarding the importance of K1–K6 antenatal care visits. The Muaro Jambi District Health Office is also expected to ensure the accurate distribution of MCH Handbooks and the smooth disbursement of program funds so that all maternal health services can be implemented optimally. These efforts are expected to increase the coverage of maternal health services and support the achievement of Minimum Service Standards (MMS) targets.

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