

**IMPROVING MATERNAL
AND NEWBORN HEALTH
SERVICES IN
EASTERN INDONESIA**

FINDINGS FROM AN EXTERNAL REVIEW

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LIST OF ABBREVIATIONS

APBD	Anggaran Pendapatan Belanja Daerah
APBN	Anggaran Pendapatan Belanja Negara
Bappeda	Badan Perencanaan Pembangunan Daerah
BEmONC	Basic Emergency Obstetric and Neonatal Care
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CHC	Community Health Centre
DFAT	Department of Foreign Affairs and Trade
DHO	District Health Office
GFATM	Global Fund Against Tuberculosis and Malaria
IDAI	Ikatan Dokter Anak Indonesia
IKATEMI	Ikatan Ahli Tenaga Elektromedik Indonesia
IPANI	Ikatan Perawat Anak Indonesia
IPT	Intermittent Preventive Treatment
LLIN	Long Lasting Insecticide Net
MCH	Maternal and Child Health
MiP	Malaria in Pregnancy
MoH	Ministry of Health
MTB	Maluku Tenggara Barat
PHO	Provincial Health Office
POGI	Perkumpulan Obstetri dan Ginekologi Indonesia
Poltekkes	Politeknik Kesehatan
Puskesmas	Pusat Kesehatan Masyarakat
RDT	Rapid Diagnostic Test

EXECUTIVE SUMMARY

Preventable maternal and newborn deaths in Eastern Indonesia are considerably higher than in other parts of the country. Geographic access barriers, inequitable distribution of health personnel, decentralization-related implementation gaps, infectious diseases including malaria and basic resource limitations have been identified as factors contributing to preventable deaths.

This report documents three inter-related program initiatives that attempt to address these gaps. The **Integrated Malaria and Maternal and Child Health program** (MiP-MCH); the **Cluster Islands Approach**; and the **Perinatology Mentorship initiative** were developed as a partnership between Ministry of Health, Provincial and District Health Offices and UNICEF to accelerate reductions in maternal and neonatal mortality in Eastern Indonesia. This report highlights the experiences, achievements, challenges and future plans of these programs. Assessment methods included in-depth interviews with key stakeholders and program implementers, a document synthesis and secondary analysis of quantitative health management data.

The findings indicate that the three programs contributed towards important maternal and neonatal health gains in target districts. Integrating the screening and treatment of **malaria in pregnancy** into antenatal care (ANC) services was a critical intervention in Eastern Indonesia which has the highest malaria prevalence in the country. Malaria in pregnancy is strongly associated with still births, low birth weight, infant mortality and a reduced potential for child development. During five years of MiP-MCH implementation in Eastern regions (2011-2015), malaria screening was performed among more than half a million pregnant women attending ANC services, with nearly 24,000 malaria-in-pregnancy cases treated. Pregnant women also received Long Lasting Insecticides Bednets through ANC encounters.

The aim of the **cluster islands approach** is to address issues of access to maternal newborn care. The approach established clear hub-and-spoke referral systems in

Maluku and North Maluku - a remote and complex part of the archipelago where over 1000 islands are home to just 2 million people. Added dimensions of the approach included upgrading facilities at key nodes in the referral chain to meet care thresholds, the introduction of maternity waiting homes near skilled delivery units and the facilitation of transport costs through local budgets. Over the course of the implementation period, a 2 to 4-fold increase in the number of appropriately managed obstetric and newborn complications has been observed, with concurrent evidence of shorter delays in accessing safe delivery services. For example, in the most remote areas travel time has been reduced from 48 to 8 hours.

The **perinatology mentorship initiative** aimed to improve clinical skills and critical infrastructure for enhanced maternal newborn care in district hospitals. The initiative paired specialist pediatricians and pediatric nurses from urban better developed parts of Indonesia with more poorly developed hospitals in remote areas. Intensive training, monitoring and mentorship took place over several weeks at remote facilities, with repeat visits and ongoing support as needed. This effort took in areas of Papua and West Papua provinces where newborn mortality rates are 1.5 to 2-fold higher than the national average, and where little change has been observed in the past two decades. Over the course of the program, improvements in the availability of critical perinatology unit infrastructure were observed, alongside enhanced capacity of health professionals in target facilities to effectively manage the three major causes of neonatal deaths - asphyxia, complications of low birth weight, and infection. In target hospitals, major reductions in asphyxia-related mortality were observed.

MiP - ACHIEVE programs have several **key strengths**. First, by applying a **bottom-up approach** and designing the program with local providers and health managers, ensured the approach was appropriate to the local context, taking into account the specific geographic, resource, cultural and population needs. External resources from USAID



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through UNICEF were relatively modest and catalytic in nature - primarily used to enhance coordination, capacity development, advocacy, documentation and knowledge sharing. Second, **promoting stakeholder engagement early on** resulted in strong national and local ownership. This has enhanced effective implementation and facilitated program sustainability. Third, the programs succeeded in **improving public awareness** on critical health issues. There is encouraging evidence that enhanced community participation has substantially contributed to program' achievements. Finally, **sustainability** of these initiatives has been enhanced through their transformative influence on local and national policy guidelines for maternal newborn health, and the leveraging of both local (village funds for maternity waiting homes), district/national (government budgets) and global resources (including The Global Fund) to support replication and financing at scale. For example, the perinatology mentorship program has shaped the Newborn Action Plan and resulted in Ministerial regulations on essential newborn care; provincial decrees have legislated the expansion of the cluster island model from one pilot district to 7 districts in Maluku and North Maluku, and; Malaria-in-pregnancy pilot efforts have been adopted within national

antenatal care guidelines and scaled across all districts outside Java and Bali through leveraged Global Fund resources.

There are also a range of issues that have been identified as opportunities to deepen observed gains. First, **coordination in program planning, management, and implementation should be improved.** This refers to coordination across programs (e.g. disease control and family health), across levels of government administration (MoH, PHO, DHO), with related sectors (e.g. environment, transportation), and related stakeholders (civil society, donor agencies). Second, **the programs need to be incorporated into the existing systems** – i.e. planning, financial and budgeting systems. This is important to ensure program sustainability in the longer term. Third, program **monitoring and evaluation should be enhanced.** Data obtained from continuous monitoring and evaluation is important not merely to measure program achievements, but also to inform planning and guide implementation. Fourth, **health stewardship across all levels should be strengthened.** This is critical to maintain programs sustainability and strategic direction, ensure accountable implementation, and advocate for active engagement of other related sectors.

IMPROVING MATERNAL AND NEWBORN HEALTH SERVICES IN EASTERN INDONESIA

FINDINGS FROM AN EXTERNAL REVIEW

BACKGROUND

In the last few decades Indonesia has adopted a range of health strategies to reduce its maternal, neonatal and child mortality rates. While under-5 mortality has declined substantially since 1990 and the country has achieved this Millennium Development Goal target, maternal mortality remains among the highest in the region – at 305/100,000 live births (SUPAS 2015). Alongside this, there has been little decline in newborn mortality in two decades. At a rate of 19 per 1,000 live births, newborns account for nearly half of all child deaths (IDHS 2012)(1).

Provinces in Eastern Indonesia face particular challenges in accessing quality maternal and newborn health services related to their relative remoteness, economic underdevelopment and health system-related barriers. Provinces such as North Maluku and West Papua have levels of newborn mortality nearly two-fold higher than national averages (2). Gaps in the quality of care and late presentation resulting from referral delays are critical bottlenecks. Furthermore, the region is highly malaria endemic. More than 80% of Indonesia's malaria cases occur in this region, elevating the risk of maternal anemia, low birth weight and poor pregnancy outcome associated with malaria infection during pregnancy.¹

Since 2010, UNICEF and the Government of Indonesia (GoI), supported by USAID, have undertaken a series of initiatives under the Maternal and Child Health and Integrated Malaria Control in Eastern Indonesia (MiP - ACHIEVE) program. The aim was to improve access to quality maternal and newborn care services in the four eastern provinces of North Maluku, Maluku, Papua and West Papua.

This report documents lessons learnt from MiP - ACHIEVE implementation in Eastern Indonesia, with the specific objectives of understanding the challenges, achievements, and potential for program replication. The three program components being profiled are **(1)** integrated malaria-in-pregnancy program (MiP-MCH), **(2)** the cluster islands approach, and **(3)** the perinatology mentorship initiative.



¹ This data is referring to number of malaria cases reported by provinces to the Sub Directorate of Malaria, MoH RI from the year 2011 – 2015

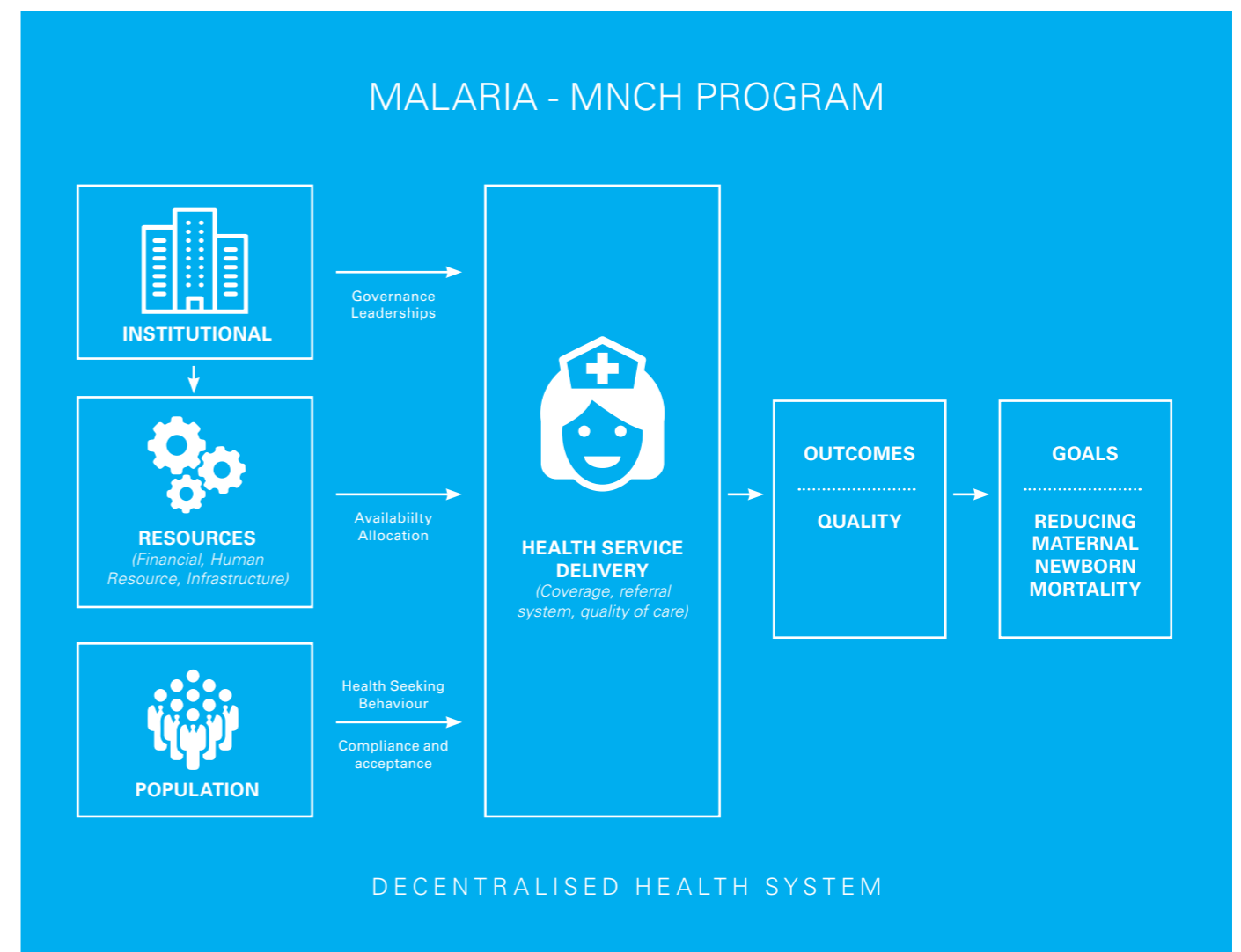


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METHODOLOGY

This external review employed a mixed-methods approach, combining a key document review, secondary data analysis and a qualitative assessment for each case study. The study settings included Papua (Jayapura and Biak), Maluku (Ambon and Maluku Tenggara Barat) and West Papua (Sorong and Manokwari) as the program implementation sites; and Jakarta, to elicit national government opinion towards the program. Participants comprised policy makers (8 participants at the MoH), program managers (24 participants at PHO and DHO, and 3 local government officers) and implementers (3 perinatology mentors, 22 health workers, and 2 participants at an educational institution). The case studies were conducted using a health system lens, based on the Actor Network Theory (3) and the Dynamic of Health System Framework (4). Site selection was purposive to represent the diverse range of contexts in Eastern Indonesia and where government and partner engagement was sufficient to allow program effects and learning to be assessed. Quantitative data for secondary data analysis were generated retrospectively from existing routine data sources which are often fragmented and of variable quality.

RESEARCH FRAMEWORK



MAIN FINDINGS OF THE COMBINED CROSS-PROVINCE ASSESSMENT



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Main Finding 1: Early involvement of national and local government is essential

In general, early involvement of key stakeholders in the development of health systems strengthening interventions for maternal-newborn services contributed to successful implementation, sustainability and replication. Several strategies were employed to facilitate this engagement. For example, in Papua and West Papua the perinatal mentorship initiative assessed the readiness and formalized the commitment of local stakeholders before starting the intervention, including government officials (political leaders, district health offices) and program managers (hospital administrators and clinicians). In Maluku and North Maluku, direct involvement of local stakeholders both from within and outside the health system in efforts to improve referral and support networks in the cluster islands was identified as a key strength of the program. The Malaria-in-Pregnancy program was co-created with the Ministry of Health in the early pilot stages. Through generating local evidence to inform national guidelines, bridging key subdirectorates (MNCH and malaria) and leveraging both national budgets and Global Fund resources, the program has expanded country-wide. More detail on each will be outlined in the chapters below.

Main Finding 2: Improving quality of care requires a systems-based approach

Efforts to strengthen maternal newborn quality of care requires a comprehensive approach that engages multiple entry points throughout the health system - including leadership/governance, health planning, program management, resource allocation and support from sectors beyond health. All aspects should be prioritized and strengthened to achieve durable results. Moreover, given Indonesia's high degree of decentralized budgeting and decision making, coordination with government at national and local levels are essential for locally- appropriate, feasible and sustained program implementation.

Main Finding 3: Community engagement is central to improving health system access and utilization

Community engagement is an often overlooked component of effective policy translation and program utilization. (5). Experience with MIP - ACHIEVE has demonstrated that community engagement either through community leaders or in collaboration with community organizations has improved public awareness on maternal and neonatal health issues, which in turn has led to strong local ownership and



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positive engagement with the program. A very successful example of community engagement and mobilization was demonstrated in North Maluku through Participatory Learning and Action (PLA) for malaria control. The effort fostered a strong sense of ownership and the local community taking action to improve environmental risks (ie. breeding sites) and to utilize malaria services. This approach has contributed to overall reductions in malaria prevalence and the elimination of malaria deaths in villages in South Halmahera. This PLA experience has now broadened up to cover Maternal and Child Health and Immunization issues.

Main Finding 4: Experience with local programs can inform national priorities and facilitate scale

Aligning local health planning with national priorities and targets remains a critical challenge in achieving minimum service standards thresholds and fostering coherence within complex systems. The MiP- ACHIEVE program took several steps to facilitate links between national policies and planning with local programming at the provincial and district levels. These efforts had important implications for replication and scale of the models. For example, the local experience of the perinatology mentorship initiative informed the development of the country's Essential Newborn Action Plan, while creating a model to facilitate implementation at scale. Drawing from early approaches to introducing the malaria-in-pregnancy program, all provinces in Eastern Indonesia have now established province-level master plans for malaria control including among pregnant women. In effect, the malaria-in-pregnancy program created a set of partnerships and an approach that informed wider malaria elimination efforts. These were formalized as local regulations including Governors' Decrees (Local Laws) to ensure sustainability and appropriate local resource allocation.

These cross-cutting findings and emerging lessons will be described in more detail in the sections that follow.

REDUCING MALARIA IN PREGNANCY THROUGH AN INTEGRATED MALARIA/MATERNAL CHILD HEALTH PROGRAM (MIP-MCH)

What are the problems?

Malaria in pregnancy is one of the underlying causes of maternal and neonatal mortality. It results in anaemia, low birth weight, and poor pregnancy outcomes including fetal loss in high malaria transmission areas in Indonesia

What is the program?

The integrated MiP-MCH program aims to reduce the rate of malaria in pregnancy, and its consequences, through malaria prevention, screening, and early diagnosis and treatment among pregnant women

What are the key findings?

- The MiP-MCH program has been able to provide malaria prevention to pregnant mothers and provide early treatment to those infected through malaria screening during Ante Natal Care services. More than half a million pregnant women in Eastern Indonesia were reached by this program in the past 5 years.
- The program has benefited both malaria elimination efforts and comprehensive maternal health programs
- The intervention has been included in national guidelines and training materials, and the program has been included in the curriculum of major midwifery schools in Eastern Indonesia where malaria is endemic
- The main challenges observed include program coordination, logistics and financial sustainability, particularly at the local level



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Context

Pregnant women have an increased risk of malaria infection and are at greater risk of suffering severe malaria relative to non-pregnant women. Malaria infection during pregnancy has major implications for mother and her neonate including maternal anemia, low birth weight, and increased maternal and neonatal mortality. In highly malaria endemic regions such as Eastern Indonesia, the three leading causes of maternal mortality are haemorrhage (34%), infection and puerperium problems (including malaria), and eclampsia (6). Malaria in pregnancy can also lead to low birth weight which contributes to newborn deaths (6).

In an effort to reduce maternal and neonatal mortality, an integrated Malaria-Maternal and Child Health (MiP-MCH) program was implemented in high-transmission settings of Eastern Indonesia. The basic MiP-MCH intervention involves integrating malaria screening and treatment into routine antenatal care services, while facilitating access to long-lasting insecticide treated bed-nets for pregnant women. The program was initially piloted in 2006 and has now becoming a national-wide program with exception of Java and Bali where malaria infection risk is considered zero or near zero. It provides a series of lessons on how to deliver, optimize and integrate high-impact interventions into routine health services and systems.

Objectives

- 1 Describe the MiP-MCH program development, early and current implementation at the national level
- 2 Identify the current implementation, challenges and achievement in Jayapura and Maluku Tenggara Barat (MTB) as case studies
- 3 Identify the potential challenges and issues that should be addressed in the future program implementation

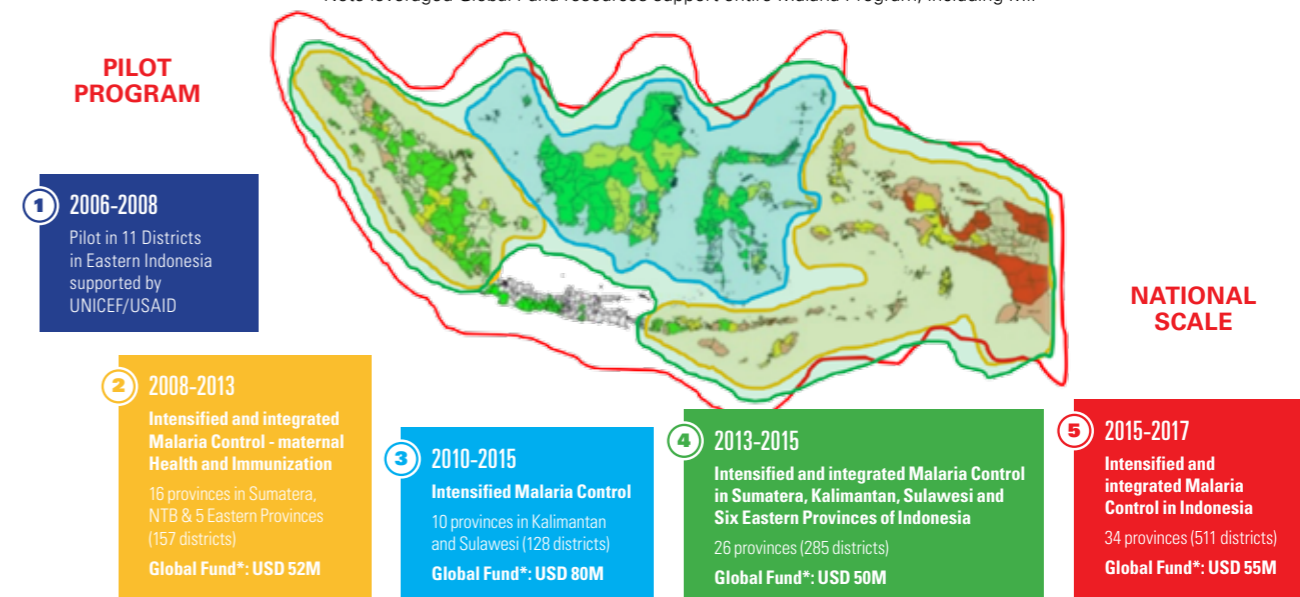
Findings

The MiP program was initially designed by the Ministry of Health (Sub Directorate of Malaria and Sub Directorate of Maternal Health), assisted by UNICEF and Indonesian Society of Obstetrics & Gynecology (Persatuan Obstetrik dan Ginekologi Indonesia – POGI). The program has a different approach and strategy than the MiP program that was recommended by the World Health Organization (WHO). While WHO recommends Intermittent Preventive Treatment (IPTp) given each trimester (7), in Indonesia medical treatment is only provided for pregnant mothers who have positive plasmodium results based on blood test examination.²

² National guideline on management of malaria, Ministry of Health 2013.

MALARIA IN PREGNANCY IN INDONESIA: TIMELINE FOR SCALE 2006-2017

*Note leveraged Global Fund resources support entire Malaria Program, including MiP



The MiP program in Indonesia covers four main activities:

1. Provision of Long Lasting Insecticide Net (LLIN) for pregnant women attending the first ANC visit
2. Malaria screening among pregnant women attending the first ANC visit
3. Malaria treatment for pregnant woman who have screened positive for malaria
4. Accessible malaria diagnosis and treatment for the duration of pregnancy for those showing malaria symptoms.³

Assisted by UNICEF, in 2006 the MiP program was piloted in 11 districts in eastern Indonesia. Later, in 2008, the program was expanded to Sumatera (supported by Global Fund), and all districts in eastern Indonesia (assisted by Global Fund and UNICEF), and high endemic villages in Kalimantan and Sulawesi (in 2010). Since 2010, the program has been scaled up at the national level and implemented throughout the country. Currently the integrated program has been expanded to include the integrated Malaria-Maternal, Child health, and Immunization program.

Current status of implementation

At present, the MiP-MCH program is an integrated program managed by the Directorate of Family Health and Directorate of Prevention and Control of Vector Borne and Zoonotic Disease. The Malaria and Maternal and Neonatal Health sub-directorates, and their technical structures across all levels of government are responsible for program preparation, implementation, monitoring and evaluation. The Malaria Sub-Directorate is mainly responsible for epidemiological mapping (high-medium-low level), and logistics provision including LLINs, Malaria Rapid Diagnostic Testing (RDT), and drug treatment. Alongside this, the Maternal and Neonatal Health Sub-Directorate is responsible for program coordination and capacity building to ensure the guidelines are effectively integrated into routine antenatal care, and that health workers have the capacity, supervision and support to ensure high quality service delivery. Annual joint monitoring and evaluation is the responsibility of both sub-directorates.



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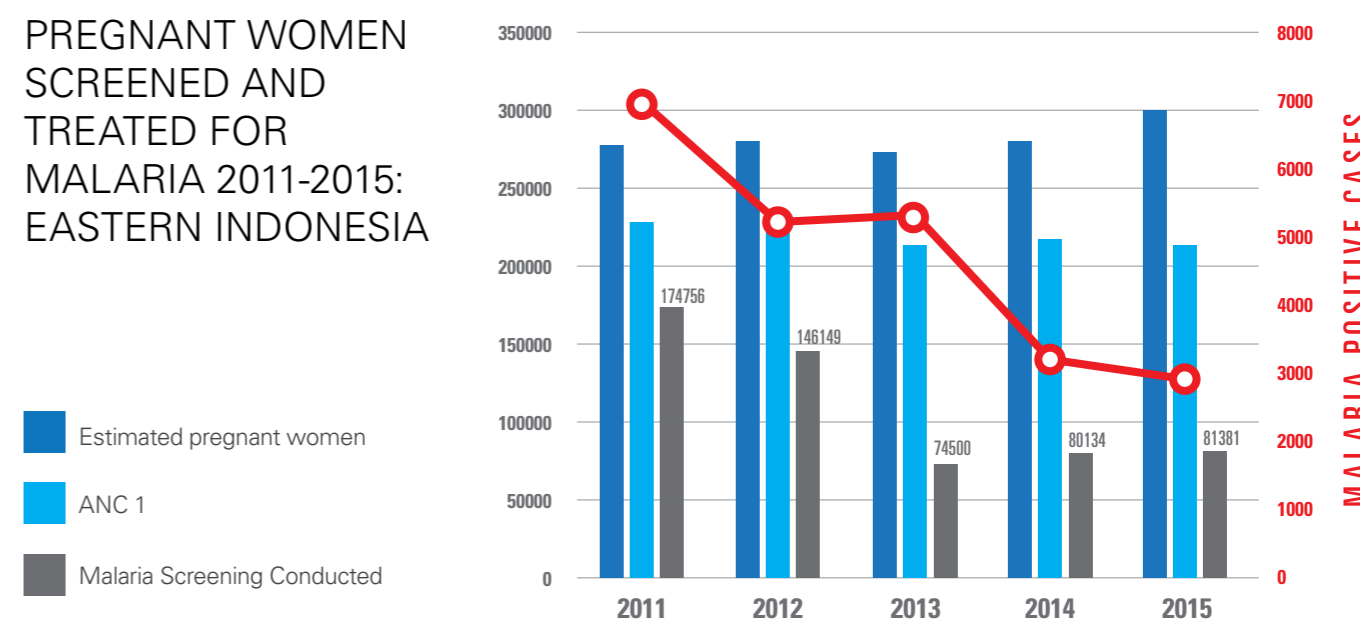
³ Guideline on malaria integrated services for children and pregnant women

The MiP program tracks three main indicators including:

1. Proportion of pregnant mothers screened for malaria during first ANC visit;
2. Proportion of pregnant mothers receiving LLIN during first ANC visit; and
3. Proportion of pregnant mothers diagnosed with malaria who received medical treatment.

During the five-year period of implementation (2011-2015) more than half a million pregnant women in Eastern Indonesia (556,920) were screened for malaria at their first ANC visit. In this period, the program was able to identify and treat 23,559 malaria in pregnancy cases – ranging from seven thousand cases in 2011 to three thousand in 2015. The positivity rate of 4.2% reflects current estimates of the overall prevalence of Malaria in Pregnancy in Eastern Indonesia. A study conducted by Eijkman Institute and Liverpool School of Tropical Medicine with support from UNICEF using USAID support revealed a prevalence of MiP in the most highest endemic district to be 6-7%.⁴ These cases treated represent nearly 24,000 malaria-in-pregnancy cases that would not otherwise have been identified prior to the program initiation and scale-up– potentially reducing a substantial burden of maternal-newborn morbidity and mortality that would have taken place over this period.

PREGNANT WOMEN SCREENED AND TREATED FOR MALARIA 2011-2015: EASTERN INDONESIA



The MiP program is a comprehensive program that is integrated across all levels - planning, management, and service delivery. Despite challenges in data quality and logistics that characterize the region, this program provides a helpful model for other integrated programs, particularly those where cross-directorate coordination is required (for example, the prevention of mother-to-child transmission of HIV). Roles and responsibilities between the two directorates from national to district levels in health services were defined clearly from the outset and supported through regular joint national meetings. The MiP program has also demonstrated that it is possible for a locally piloted program to be scaled-up as a national program. This scale was facilitated through strong leadership from both the Malaria and Maternal and Neonatal Sub Directorates, alongside a supportive Technical Working Group for Malaria which is housed in the Country Coordinating Mechanism of Global Fund which contributed resources alongside national and district budgets to support scale up.

⁴ Ahmed et al, Clinical burden of microscopic and sub-microscopic P.falciparum and P.vivax malaria in pregnancy in Indonesia, draft for publication.

Implementation at the local level: achievements, successes and challenges

Malaria-in -Pregnancy integrated into Midwifery Curriculum in Papua

While midwives trained for maternal health, in reality these front-line providers are required to provide services beyond their conventional areas of expertise. Hence, midwives have become one of the first lines of service for many public health programs, including the MiP-MCH program.

While the PHO and DHO provide MiP-MCH training for midwives, the financial constraints may challenge the ability of local health offices to provide continuous training for all midwives in their areas. To address this issue, the Papua Health Polytechnic (Poltekkes Papua), Cendrawasih University, PHO, and UNICEF, undertook an initiative to incorporate Malaria in Pregnancy and Malaria case management into the midwifery curriculum.

Initiated in 2009, teaching materials were developed by a group of experts in malaria, maternal health, and education, along with local health stakeholders. In the current curriculum, malaria prevention, screening for diagnosis and treatment are taught for 2 credit semesters (SKS) in year-3 of the curriculum, followed by two-week internships at the Community Health Center. The program is expected to be a promising long-term solution for up-skilling health workers for both MiP-MCH and malaria elimination in general. Following the initiative in Papua, MiP is now included in the curricula of 17 midwifery, nursing and health polytechnic educational facilities in Eastern Indonesia.

Unlike other provinces in Indonesia, all provinces in Eastern Indonesia (covering Papua, West Papua, Maluku, North Maluku, and East Nusa Tenggara) are considered highly endemic for malaria transmission. The MiP program in Jayapura and Maluku Tenggara Barat (MTB) are showing strong performance reflected by high coverage of malaria-in-pregnancy services among women attending ANC. With training received by Village Midwives to screen and treat malaria, diagnosis and treatment have been extended to entire populations in remote places where the midwives are based. Furthermore, in both districts complete integration package were well in place including addition of LLIN provision to babies completing basic immunizations and malaria screening for children under five with fever through IMCI services.

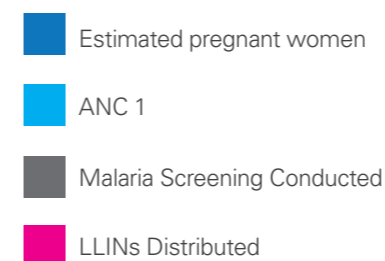
**Achievement 1:
Strengthened health worker' capacity for malaria control**

The integration of the malaria and MNCH programs has stimulated teamwork and task sharing at the Health Center level with midwives at Health Centers and villages towards adopting a more integrated approach to malaria control. Training on malaria screening, early diagnosis and prevention of malaria for health workers has improved the capacity of health workers at the village level. For example, in one service area malaria program managers have initiated training of village midwives and malaria cadres on the appropriate use of RDTs and LLINs. These complementary effects of a focused MiP initiative have provided a platform for expand malaria case management beyond health facilities to the village-level. One of the key interventions to reduce malaria Early Detection and Prompt Treatment using ACTs. With village level malaria case management available, treatment services are now closer to home and can be accessed earlier.

**Achievement 2:
Increased LLIN protection among vulnerable populations**

Prior to the MiP program implementation, LLINs were only distributed during large-scale malaria campaigns which were usually conducted less than once a year for each village. The campaigns were often not effective as the primary health facility was not able to distribute the LLINs to all villages due to insufficient operational funding. Prior to 2014 and before the MiP program was widespread, LLIN campaigns did not exist at a large-scale. The MiP introduced a continuous year-long distribution system targeting vulnerable populations ie. pregnant women in the 1st visit of ANC and infants completing their basic immunization schedule. In the subsequent 5-year period, 83% of pregnant women attending ANC received LLIN on average in Jayapura District.

MIP-MCH PROGRAM ACHIEVEMENT IN JAYAPURA DISTRICT: 2010-2015



**Achievement 3:
Improved access to malaria diagnosis and treatment among pregnant women**

The MiP program is aiming at both protecting pregnant women and the newborn/fetus from potential adverse effects of malaria. The protection is done by providing LLIN in the beginning of pregnancy and through screening the pregnant woman to ensure she is free from malaria. Malaria screening among pregnant women is highest in Jayapura and MTB districts, showing annual coverage higher than 92% in Jayapura in 5-year period (with an exception of the 2013 - 73% coverage) and in MTB with coverage range from 73% to 97% (with an exception of the 2014 – 67% coverage). During the period of 2011 – 2015, five hundred forty pregnant women in Jayapura were diagnosed and treated.

**Achievement 4:
Increased public awareness about the dangerous consequences of malaria**

In high malaria transmission areas malaria is perceived as a "normal and mild" illness among the population. Asymptomatic malaria is also common which contributes to late diagnosis of the disease including among pregnant women. Through the MiP program, the community learned about the adverse effects of MiP on children and unborn babies. The possibility that children will have less capacity to

develop due to adverse effects of MiP or malaria infection in general (anaemia etc), conveys a powerful advocacy message. It helped build consensus that community leaders, health workers, and the societies were together aspiring to protect pregnant mothers and children from malaria. There was also a commitment to keep communities free from malaria moving forward. Active community engagement has been illustrated in Kader Kelambu where they have designated community workers who are now responsible for the distribution of LLINs, and in Nusa Tenggara Barat where village funds have been allocated for malaria elimination programs. Another successful community engagement is Participatory Learning and Action in South Halmahera which scaled up to the entire province of North Maluku encouraging collective community efforts to reduce breeding sites and to access treatment at the earliest point when showing malaria symptoms.

**Challenge 1:
Logistics of key commodities**

Logistical issues related to the procurement and routine distribution of LLINs and RDTs remains one of the major constraints in MiP-MCH program implementation. LLINs were out-of-stock throughout 2015 in MTB, resulting in a cessation of routine LLIN distribution efforts to pregnant mothers that year. Logistics problems included:



1. Routine LLINs are supported by The Global Fund, which does not support the costs associated with distribution at the district level;
2. The country experienced serious delays in receiving shipments of LLINs and RDTs from The Global Fund in 2015.

Challenge 2: Program coordination

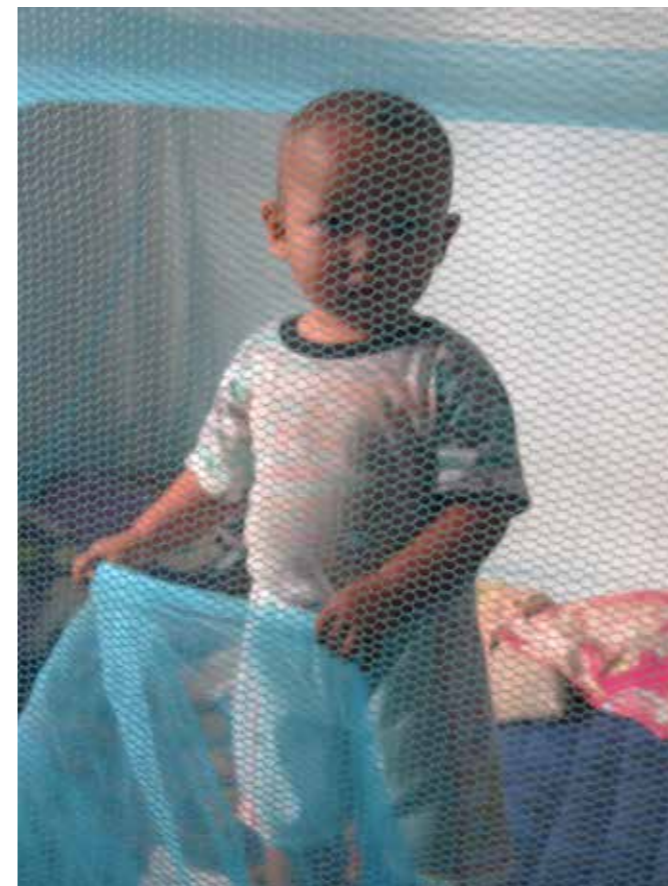
Coordinating the implementation of the MiP-MCH program at the provincial and district level can be challenging, particularly at the managerial level. This includes a lack of clarity regarding who is primarily responsible for training, coordination and monitoring both at the DHO and PHO level. Additionally, data integration at the local level remains challenging, partially due to inconsistent definitions of first ANC (ANC-1) between the malaria and maternal health programs – the malaria program refers to first access to the health service at any point during pregnancy; and maternal health program refers to access during the first trimester only. Knowledge and capacity gaps between provincial and district managers further add to the challenges associated with program coordination and implementation.

Challenge 3: Human resources for health

The success of MiP-MCH heavily depends on health worker capacity to provide the service. In most villages, health services are provided by midwives, who were specially trained for maternal health during their formal education. Problems occur in remote areas where health workers are intern midwives (PTT) and will only be in the area for a short period of time. This means training needs to be provided continuously to maintain the quality of care and the integrity of the program. The district health authorities are currently assessing mechanisms to ensure and sustain the level of skills required through a range of in-service training scenarios.

Challenge 4: Financial sustainability

The MiP-MCH program was financed by UNICEF, The Global Fund and USAID during the initial implementation. While the program is now co-financed by the national budget (APBN), and in some districts the local budget (APBD), the program is still heavily dependent on external resources, particularly from the GFATM for LLIN procurement. A reduction in financial contributions from other donors has also resulted in a reduced number of coordination meetings which has also affected the program implementation.



Lessons learned and the way forward

Despite the challenges and barriers faced across all levels, the MiP-MCH program is a promising program to protect pregnant women and children from malaria in high malaria transmission areas. Strengthening the program in the future would require addressing several remaining challenges. **First**, cooperation and collaboration should be strengthened between sub-directorates, stakeholders, and other sectors beyond health at the national and local level. To date coordination at provincial and district levels has proven to be the most challenging. Current coordination facilitated by UNICEF at the provincial and district level has brought together key stakeholders – government and non-government – to support better coordination. This coordination need to be sustained by the PHO and DHO.

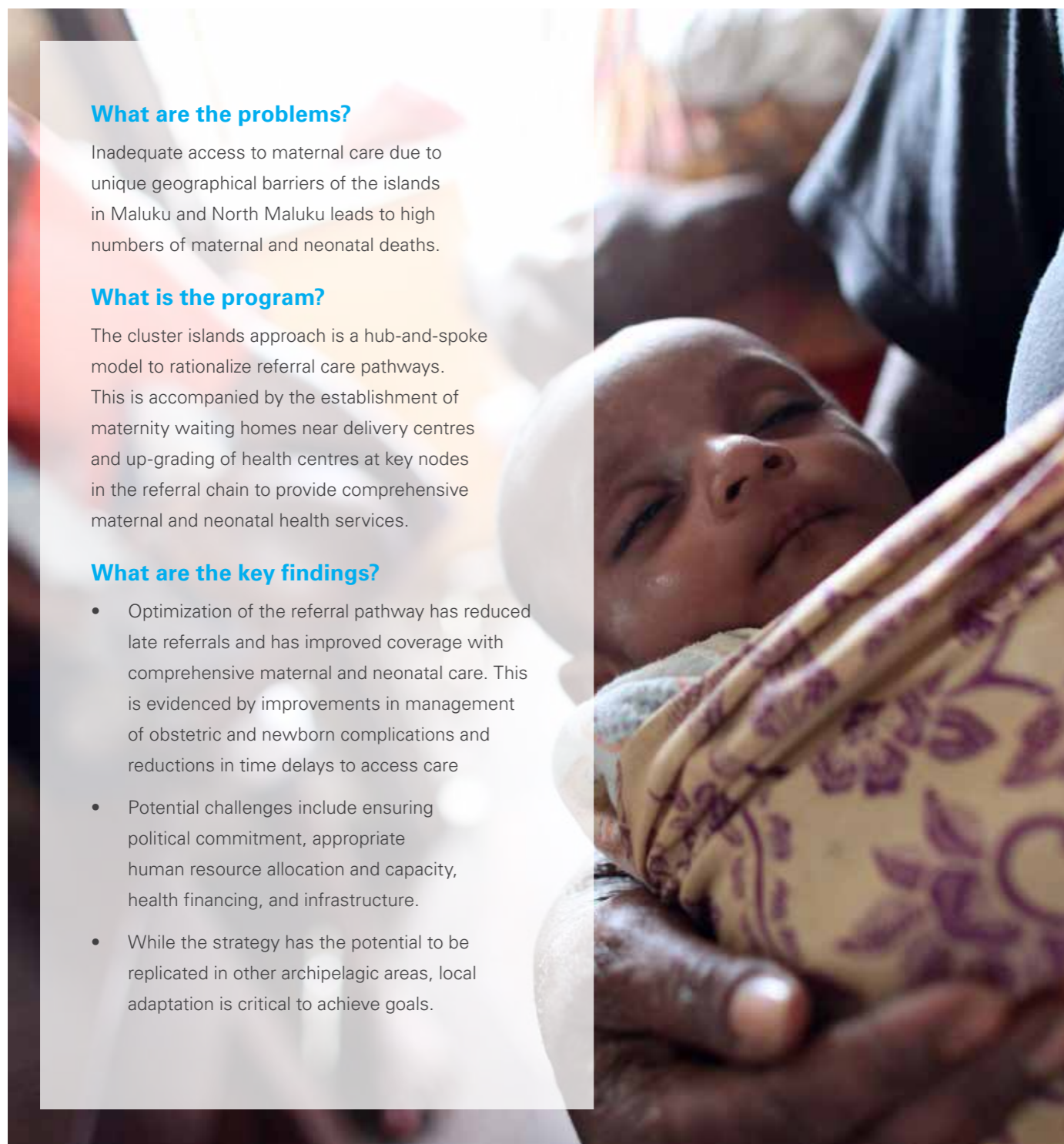
Second, logistics issues are an emerging problem that needs to be resolved - particularly for LLINs and RDT distribution. Meanwhile, a strategy should be developed at the national and local level to maintain the provision of these key commodities, particularly if there is no longer support from GFATM and other donors. Diversion of procurement to national and local budgets may be an option.



The MiP-MCH program provides important lessons for other integrated health programs. Throughout the process –from initiation until the national roll-out – the program has managed to integrate two priority health programs (malaria and MCH), has drawn together multi-stakeholders (government, UNICEF, USAID, GFATM, and DFAT), and has potentially contributed to the reduction of maternal and neonatal mortality in high malaria transmission areas.

Finally, while the MiP program itself was initiated as a pilot in 11 districts, it has since expanded to national scale. A range of factors contributed to this success including: embedding the intervention into a system (MNCH) that is operating at scale; revision of guidelines at multiple levels to formalize the process; effective coordination between malaria and MNCH; creative strategies to foster national ownership including joint missions by the malaria technical working group to implementation sites; efforts to strengthen coordinated malaria monitoring efforts; integrating the model into the midwifery curriculum (currently this has taken place in 17 midwifery schools, health polytechnics, other health related higher education in Eastern Indonesia); and leveraging additional resources including from The Global Fund and national/district budget allocations.

CLUSTER ISLANDS APPROACH IN MALUKU TENGGARA BARAT DISTRICT: REFERRAL PATHWAYS TO ENHANCE ACCESS TO MATERNAL-NEWBORN CARE



What are the problems?

Inadequate access to maternal care due to unique geographical barriers of the islands in Maluku and North Maluku leads to high numbers of maternal and neonatal deaths.

What is the program?

The cluster islands approach is a hub-and-spoke model to rationalize referral care pathways. This is accompanied by the establishment of maternity waiting homes near delivery centres and up-grading of health centres at key nodes in the referral chain to provide comprehensive maternal and neonatal health services.

What are the key findings?

- Optimization of the referral pathway has reduced late referrals and has improved coverage with comprehensive maternal and neonatal care. This is evidenced by improvements in management of obstetric and newborn complications and reductions in time delays to access care
- Potential challenges include ensuring political commitment, appropriate human resource allocation and capacity, health financing, and infrastructure.
- While the strategy has the potential to be replicated in other archipelagic areas, local adaptation is critical to achieve goals.

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Context

Geographic access barriers to essential services remain a major challenge in Eastern Indonesia and contribute towards preventable maternal and newborn deaths. The Maluku Tenggara Barat (MTB) District of Maluku consists of 126 islands, and more than 88% of the district is covered in water. The nationally designed referral pathways were not able to provide comprehensive maternal and neonatal health services for people who reside in remote islands such as those in MTB, and as a result there are high numbers of preventable maternal and newborn deaths.

To address the need for a closer and timelier referral system for maternal newborn care in MTB, a 'cluster island approach' was implemented. Since 2007, UNICEF has assisted the District Health Office and the MTB local Government in designing the cluster island program which includes optimization of referral pathways to take account of the geographical barriers; ensuring facilities at each point in the referral chain are appropriately skilled and equipped; establishing maternity waiting near skilled delivery centers; and engaging local solutions to support transport costs.



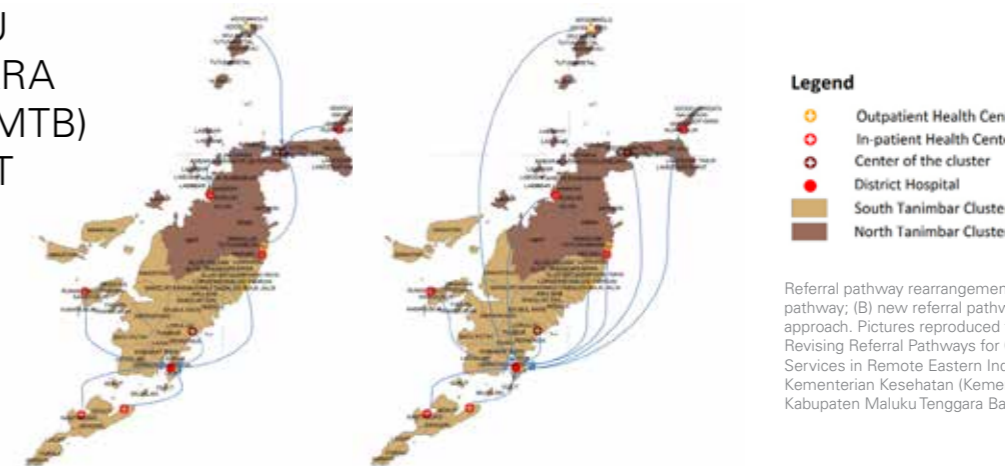
Objectives

- 1 Describe the current implementation of the cluster island based health care system in MTB and its achievements
- 2 Identify the successes and challenges in implementing the program
- 3 Identify the issues need to be addressed for program sustainability and replication

Findings

The two clusters and the referral pathway

MALUKU TENGGARA BARAT (MTB) DISTRICT



Referral pathway rearrangement in MTB: (A) initial referral pathway; (B) new referral pathway in cluster islands approach. Pictures reproduced from "Beyond Boundaries: Revising Referral Pathways for Greater Access to EmOC Services in Remote Eastern Indonesia." A poster by Kementerian Kesehatan (Kemenkes—MOH), Pemerintah Kabupaten Maluku Tenggara Barat, UNICEF.

MTB District revised its referral pathway and reorganized the service into two clusters, North Tanimbar and South Tanimbar cluster, with Larat and Lorulun as the centre of clusters, respectively. These centers are the responsible nodes for supporting the programmatic referral pathway. Dr. Anaktototy Larat hospital and Dr. PP Magretti Saumlaki hospital have been appointed as the centres for case management for the north and south clusters, respectively. These two hospitals are responsible for providing treatment for cases that cannot be treated at the CHCs.

Implementation at the local level: achievements, successes and challenges

Achievement 1: Reduced travel time and enhanced coverage with quality maternal-newborn care services

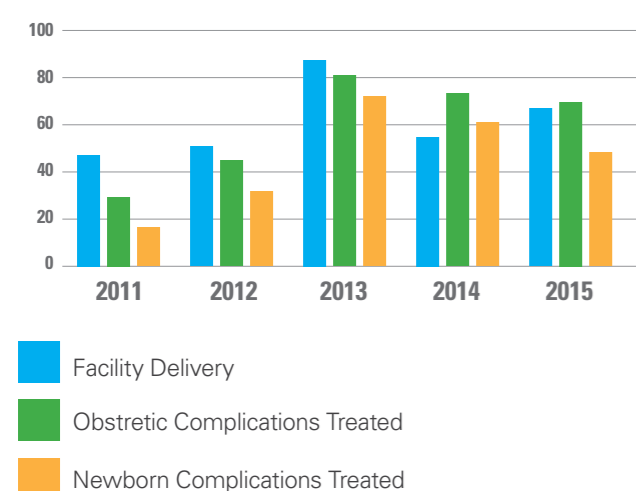
The cluster island approach aimed to improve access and ensure services at key nodes achieved minimum thresholds. There is evidence that rationalizing referral networks has reduced travel time to skilled referral facilities from the most distant islands from 48 to 8 hours.

Regarding quality of care, the strategy also worked to improve both health care infrastructure and health worker capacity, with a strong emphasis on Basic Emergency Obstetric Neonatal Care (BEmONC) and BEmONC (+) provision - supporting early detection of high risk pregnancies, emergency treatment for life-threatening neonatal conditions, and the performance of emergency caesarean sections by general practitioners.

Associated with the introduction of these interventions, the provision of emergency obstetric care (defined as proportion of obstetric complications that receive a standard care package) has doubled (from 25% in 2011 to 72% in 2015); while the number of newborn complications appropriately managed as increased by more than 4-fold in the past 5 years (from 10% to 40%). There has been an encouraging reduction in the numbers of newborn deaths in the pilot district of MTB from 2007 through 2015.



COVERAGE OF FACILITY AND EONC IN MTB 2011-2015



Maternity Waiting Homes

What is the relation between cluster island approach and Maternity Waiting Homes?

Maternity waiting homes are an innovative program endorsed by the MTB health office, supported by UNICEF. It is a part of cluster islands approach, with at least one facility established in each center of sub-clusters. The program aims to provide timely access to quality facilities for childbirth and to avoid complications during pregnancy, childbirth and in the days after birth.

Maternity waiting homes were first piloted in 2007 in Selaru, MTB, Houses in the community that are located near the centre of sub-clusters and which meet minimum criteria are designated as maternity waiting homes. In this program, a high risk pregnant mother is advised to stay at the maternity waiting home seven days prior and seven days after delivery. The cost for a mother with one family member or one friend is financed using the social insurance scheme for delivery (Jampersal).

The initiative addresses the three main causes of maternal mortality – delays in high-risk assessment, delay in patient referral, and delay in the provision of medical treatment. According to the data from MTB district health office, in the first two years since implementation of maternal waiting homes in Selaru, the number of skilled deliveries has increased 2-4 fold.



Achievement 2: Strengthened public awareness and community engagement

The cluster island concept on health which initially focused on improving referral access for the mother and newborn has also resulted in increased public awareness on the importance of institutional deliveries and timely access to maternal health services. This is reflected in active community participation in maternity waiting homes, and in the support provided for transportation costs for mothers who need to be treated at the hospital. As stated by one of the key stakeholders:

“(We) did not build a designated house for the maternity waiting home. We encouraged the community to participate in this program (...) When they were aware that the program is important to help mothers, they were willing to let a room in their house (for the MWH)...”

(Health policy worker, MTB, male)

Success factors

Several factors contribute to the success of the cluster island approach. **First**, a decentralized health system has provided an opportunity for the local government to create a health initiative that addressed key access bottlenecks in a locally appropriate manner. **Second**, health care provision requires strong involvement, commitment and coordination by relevant stakeholders. In the cluster islands program in MTB, this included health offices (provincial and district), local government (governor, head of district, local planning board), health service providers (CHC and hospital), and the community. Mobilizing these diverse stakeholders was felt by respondents to be critical to the program’s success. **Finally**, the cluster island approach and maternity waiting home model receive strong support from the community. This strong sense of local ownership and community commitment facilitated early health seeking and improved access to high quality and timely health care.

Challenge 1: Human resource allocation and capacity

There is an inadequate number of health workers who want to be based in remote areas or have the capacity to perform emergency caesarean section as required for BEONC (+) certification. The recently endorsed national program Healthy



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Archipelago – Nusantara Sehat, which aims to reduce disparities in the allocation of health workers, has not yet been effective in addressing the problem. The program is not fulfilling the current demand for medical professionals as opposed to medical internships (PTT) related to its a lack of coordination with local authorities, which in turn leads to a minimum level of monitoring and supervision. Currently there is no obstetrician in either hospital, and the referral hospital relies on a part-time obstetric trainee. Meanwhile, the doctor plus program (six-month training course for general practitioners to obtain obstetrician competencies including for caesarean section) is a promising strategy that is currently being deployed in the center of clusters. Discussions on expanding this program for the two hospitals is underway.

Challenge 2:

Health infrastructure and medical equipment

While infrastructure at some of the health facilities has improved, the provision and distribution of medical equipment is still concerning. In multiple sites there is lack of medical equipment and essential commodities particularly for critical treatments such as emergency caesarean section.

Challenge 3:

Transportation system and its related costs

Even though the current referral pathway has reduced travel time to health facilities, transportation barriers remain – especially for patients in critical condition. Additionally, the health service cost within national health insurance (BPJS) system – both for primary health care and hospital services– does not adequately account for transport and referral needs inherent to the island context of MTB. While the treatment cost for BPJS' beneficiaries at hospital is

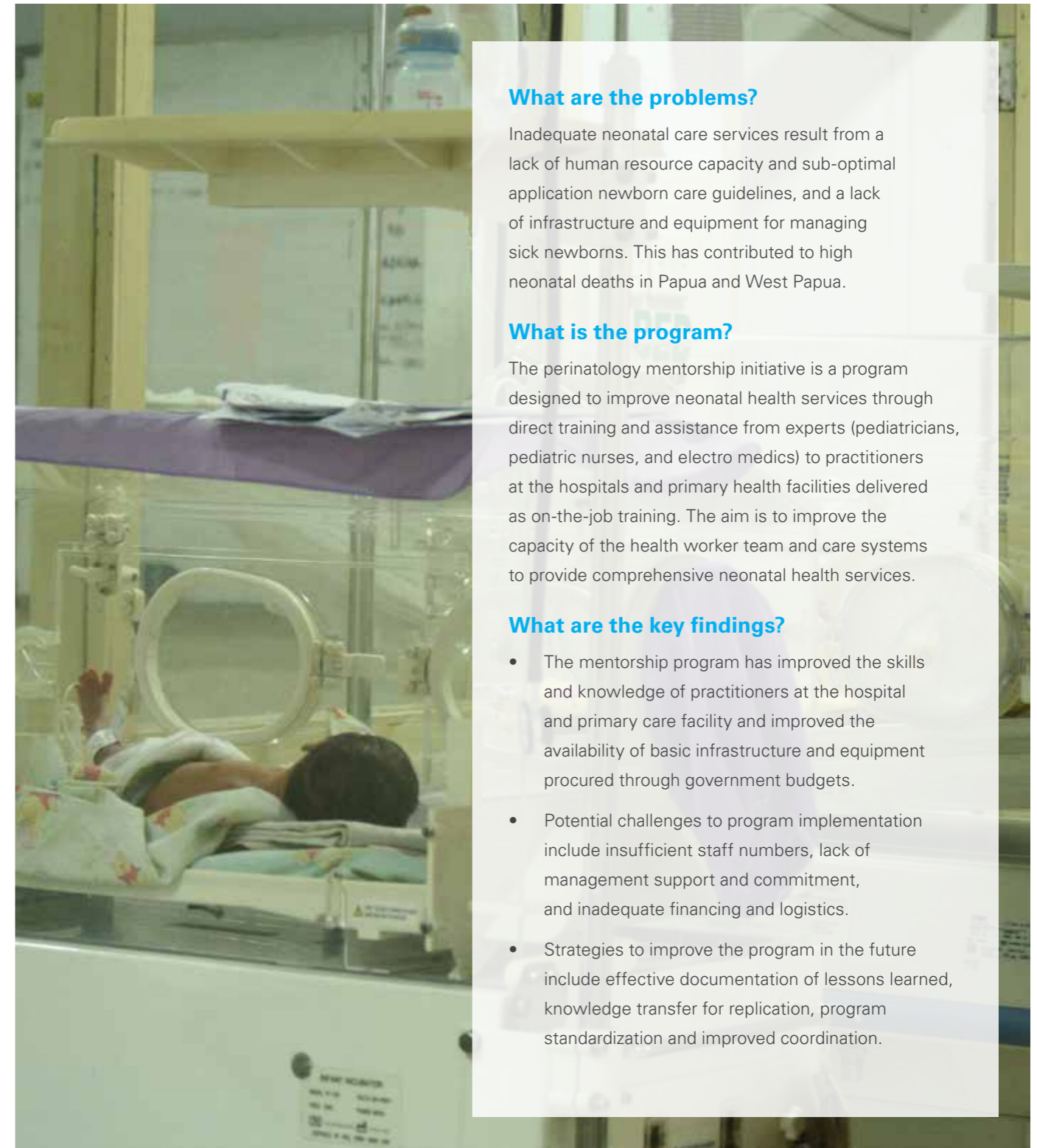
covered through the INA-CBG system, indirect costs such as transportation often act as the biggest access barrier. Even with the new policy of Jampersal (child birth insurance) which covers transport costs through a Special Allocation Fund (DAK), the resource allocation of Jampersal is based on population numbers and not geographical hardship.

Lessons learned and the way forward

Optimizing referral pathways through the cluster islands approach was viewed as a promising innovation for improving access to maternal and newborn care in MTB. The piloting of maternity waiting home in Selaru has also contributed to timely access to skilled delivery services

UNICEF has worked with the local government to document the results of this initiative regarding shifts in maternal and newborn health outcomes. Support at the district level has informed a legislative decree at the provincial level that formalizes the cluster island model within the Maluku Health System (Perda Provinsi Maluku No. 2 tahun 2014). This has resulted in expansion of the model across 7 districts in Maluku and North Maluku since 2014 using the government's own resources. UNICEF Indonesia provided support for the initial coordination and guideline development of the cluster island approach including for replication in the 7 new districts in 2014. . Operational costs historically and presently are funded through the district budget (APBD) and national budget (APBN through special allocation fund-DAK) for transportation purposes. To ensure its sustainability, the program and its synergistic activities (e.g. human resource capacity building, community empowerment) should be incorporated in the local development plan. The roles of the local government and development planning board are essential, and the district health office plays a critical advocacy role.

A PERINATOLOGY MENTORSHIP INITIATIVE TO IMPROVE NEONATAL CARE IN PAPUA AND WEST PAPUA



What are the problems?

Inadequate neonatal care services result from a lack of human resource capacity and sub-optimal application newborn care guidelines, and a lack of infrastructure and equipment for managing sick newborns. This has contributed to high neonatal deaths in Papua and West Papua.

What is the program?

The perinatology mentorship initiative is a program designed to improve neonatal health services through direct training and assistance from experts (pediatricians, pediatric nurses, and electro medics) to practitioners at the hospitals and primary health facilities delivered as on-the-job training. The aim is to improve the capacity of the health worker team and care systems to provide comprehensive neonatal health services.

What are the key findings?

- The mentorship program has improved the skills and knowledge of practitioners at the hospital and primary care facility and improved the availability of basic infrastructure and equipment procured through government budgets.
- Potential challenges to program implementation include insufficient staff numbers, lack of management support and commitment, and inadequate financing and logistics.
- Strategies to improve the program in the future include effective documentation of lessons learned, knowledge transfer for replication, program standardization and improved coordination.

Context

Despite substantial reductions in the number of child deaths and the under 5 mortality rate since 1990 in Indonesia, preventable newborn deaths are far too common (1). Asphyxia, low birth weight and infection are the main causes of death. Papua and West Papua Provinces face among the highest neonatal mortality rates in the country – with figures 1.5 to 2-fold higher than the national average.

The perinatology mentorship program aims to enhance the quality of service delivery for sick newborns. This program was implemented in three district hospitals in Papua (Jayapura, Biak and Nabire), and four district hospitals in Papua Barat (two district hospitals in Sorong, and one each in Manokwari and Fak Fak). Some primary care facilities with BEmONC and delivery services were also supported by the program in basic newborn resuscitation, care and referral. The activities included periodic visits by experts (pediatricians, pediatric nurses and electro medic technicians) to the implementation sites. The initiative was adopted following an initial assessment which found a lack of evidence-based practice to prevent neonatal mortality in referral settings; suboptimal application of standardized neonatal nursing services; and challenges related to the availability of functioning essential infrastructure and equipment to care for sick newborns(8).

Objectives

- 1 Describe the mentoring approach program that has been implemented in five district hospitals in Papua and West Papua.
- 2 Identify the potential successes and challenges in implementing, replicating and scaling-up the program.
- 3 Identify strategies to improve the program in the future.

Findings

Program description

The perinatology mentorships initiative has been implemented since 2014. The program was designed and developed by the MoH and professional organizations, supported by UNICEF. Acknowledging the diversity in financial and

human resources across Indonesia, the program is uniquely tailored to improve neonatal care delivery in resource limited settings. Therefore, unlike other classroom-based capacity training programs, all sessions are conducted in a hands-on manner in participating health facilities.

In 2013, following a MoH and UNICEF request, a team of facilitators comprising three professional organizations was established including pediatric specialists, pediatric nurses and technicians (IDAI, IPANI, and IKATEMI). The final goal of the program is to reduce neonatal mortality in Indonesia, with a current focus in Papua and West Papua. The initial selection of districts and health facilities was made by the MoH. UNICEF and the PHO followed the regional referral care guidelines as outlined in MoH Decree No. HK.02.02/Menkes/390/2014.

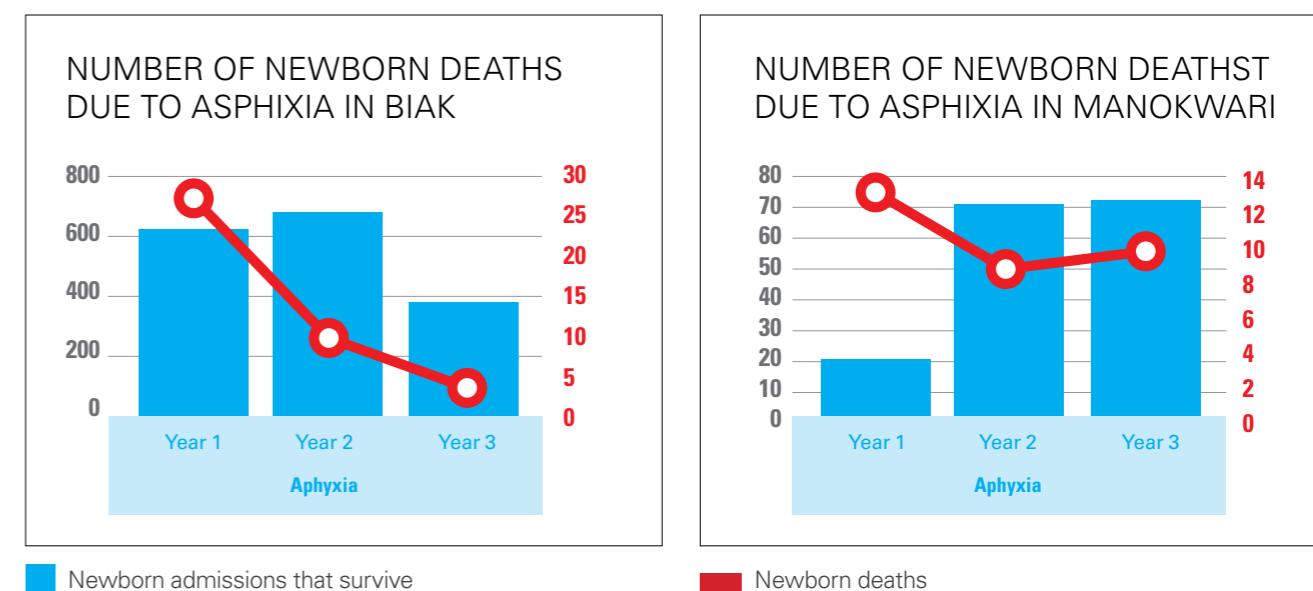
These professional associations are responsible for providing experts to facilitate capacity improvement for pediatricians (or physicians responsible for perinatology unit), perinatology nurses, and hospital technicians. Each professional has their own task: pediatricians from IDAI focus on enhancing medical services provided by medical staff at the primary and secondary level of service; pediatric nurses focus on enhancing the capacity of nurses to provide nursing service to neonates (essential newborn care, case management of asphyxia, low birth weight babies and infection, breastfeeding and infection control); IKATEMI focus on the medical equipment (technical and maintenance aspects) as well as ensuring appropriateness to the resource limited setting. At an early stage, IDAI, IPANI and IKATEMI were responsible for identifying minimum requirements for perinatology services and facilities, including best practices, basic and essential tools, infrastructure, and equipment needed.

The mentorship program is delivered through series of mentoring trainings conducted every 3-4 months; each session requiring one to two weeks. As part of the program mentors provide close assistance to facilitate improvement in staff capacity, with a focus on the team and the newborn care system. The program was implemented in Papua in 2014 – 2015 (in Jayapura District, Biak, and Nabire), and rolled-out in West Papua in 2015 – 2016 (in Manokwari, Sorong, and Fak Fak).

Implementation at the local level: achievements, successes and challenges

Achievement 1:

Improved clinical skills and knowledge



Based on interview reports, the mentorship initiative has contributed to improvements in the clinical skills and knowledge of program participants, both at the perinatology service in target hospitals and at primary health facilities. The most notable improvement has been in the ability of participants to provide treatment for life-threatening conditions such as asphyxia and complications due to low birth weight. Skills surrounding the use of medical equipment were also enhanced. It was noted that the primary health facilities involved in the program could provide life-saving treatment prior to hospital referrals. Quantitative data complement these findings and suggest major reductions in asphyxia-related mortality (asphyxia related deaths relative to cases managed) – from 4.3% to 1.5% in Biak; and 65% to 14.3% in Manokwari.

Achievement 2:

Improved best practice

Medical doctors, nurses, and electro medic technicians working in the neonatal ward and primary care facilities are now able to apply best practice as taught by the mentors. An example of best practice performed by doctors and nurses is handwashing before and after treating a patient, as stated by a mentorship participant:

“I have followed 3 training on newborn care in the past 4 years, none can be implemented in my hospital due to non-availability or difference of equipment specification. This mentorship is more useful as the mentor directly see the hospital situation and adjust or give direct solution based on that. The result in improving staff competency and compliance is much faster”

(Pediatrician of Sorong Hospital)

It was also reported that there is now enhanced communication and coordination within the team. In addition to health professional capacity building, the program has also been successful in advocating the participating hospitals to improve the perinatology unit using their own budget allocations - supporting infrastructures required to deliver high-quality of neonatal care. Several notable improvements include the establishment of perinatology unit in Selebe Solu hospital (in 2015), clean water facilities provision in Sorong and Manokwari hospital, and rearrangement of perinatology unit set up in all target hospitals and primary care facilities

Human Resources for Health (HRH) Capacity Building: Planning a Suitable Approach

Learning from the experience of the perinatology mentorships program, planning a suitable approach for HRH capacity building involves five main components:

1. Constitute a capacity building team. This requires a strong collaboration between related professional associations, and MoH/PHO/DHO.
2. HR assessment, including availability, education, and needs assessment. This is important to define target participants and assess what training/mentoring materials should be provided;
3. Support a systems assessment - referring to hospital management, medical equipment, provincial/district technical and financial capacity;
4. Obtain prior commitment from targeted facilities, program manager at hospital, PHO/DHO, to ensure a success implementation and sustained results;
5. Decide on a monitoring and evaluation method. Results from monitoring evaluation can be utilised not only to evaluate the program impact but also to decide on numbers of sessions needed in the program.

Furthermore, in a resource limited setting, the gold standard for clinical services may not be feasible, due to lack of medical equipment and facilities. At the same time, life-threatening conditions require the best treatment possible. Therefore, the training approach and materials delivered in such settings may need to be adjusted.



Challenge 1:

Human resource allocation and distribution

The program has potentially contributed to an increased survival rate in perinatology units and an increased number of neonates treated in the unit. Additionally, the number of referral cases from surrounding primary care facilities has increased. However, there are a limited number of doctors and nurses working in the neonatal unit and the increase in demand could affect their performance. The situation reflects a need for redistribution of human resources in the hospital especially on the neonatal unit which previously dominated by midwives rather than nurses.

Challenge 2:

Inadequate management support and commitment

While some services related to neonatal care reported endorsement from the hospital management for implementing the mentorship program, others noted that they did not receive adequate support. Lack of management support and commitment from DHO was reflected by inadequate space for neonatal care at primary care facilities, and the absence of financial and staff planning for perinatology units. In addition, a lack of commitment from district and provincial health offices was also reported in Papua, where DHO and PHO is rarely active in the program evaluation and internal staff rotation within hospital by the new hospital director.

Challenge 3:

Inadequate financial and logistic support.

A lack of support from management results in inadequate financial and logistics support for the program. Most of the services reported that they did not have sufficient resources in terms of money and facilities to enhance their performance. Some primary facilities, for example, did not have space for neonatal resuscitation. While all facilities visited had incubators, these were not always functional. In one CHC, the program could not be continued because no clean water was available.



Lessons learned and the way forward

The perinatology mentorship initiative has contributed to strengthening neonatal care services in Papua and West Papua. To maintain its sustainability, a few issues require further attention.

First, while the current mentorship program has already involved an initial assessment process, it is important to evaluate and re-identify aspects needed for ongoing assessment prior to program roll-out, based on the current experience. Additionally, it is critical to ensure that the hospital and local government are committed throughout the whole process. For example, the distribution of human resources needs to be improved, and a capacity assessment across service units needs to be conducted at relevant hospitals. This will require close collaboration between MoH, the professional organizations involved as mentors, and the local stakeholders. Keeping the same team member of mentors throughout the program – in Sorong and Manokwari – has shown to be effective in maintaining local stakeholders' active involvement in the program, due to a solid coordination established and maintained between the mentor teams, hospital managers, health professionals, and health office.

Second, while the main focus of this mentorship program is to improve neonatal health services in the hospitals, there is a need to improve obstetric care as well. The integration of this mentorships program into BEmONC and CEmONC is advisable to ensure a continuum care for mother during delivery and early newborn period.

Third, improving the capacity of health workers is important. However, this is simply one component of necessary system-wide improvement. It is important to reach beyond clinical care alone and also engage complex issues such as advocacy efforts to hospital management, strategies to enhance local government commitment, and so forth. Currently, there is a “missing-link” between the health professionals who work on the front line, and the management and logistic units within health services. Health professionals are not involved in logistics planning for perinatology, and not aware whom to talk to if they need support for perinatology services. Program supervision and monitoring by the health office should be improved.

Finally, to replicate the program in other districts, knowledge transfer is required. The sites that have experienced improvements will need to act as models for other hospitals in providing neonatal services. The skilled doctors (general practitioner) and nurses will need to train others in surrounding hospitals and primary facilities so that best practices can be transferred throughout the district. While the current program is supported through UNICEF, shifting to local budgets is advisable in future to promote sustainability and local ownership. Ministry of Health in close collaboration with professional organizations (Pediatric and Pediatric Nurse association) need to consider the establishment of a pool of mentors that can be mobilized should there be a request from district hospitals to have the same mentoring approach.



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Annex 1 – Research Methodology

The three case studies involved a document review, a qualitative study, and secondary data analysis

Document Review

Policies, reports and guidelines related to the neonatal mentorships program were reviewed to:

1. Identify the background and objectives of the mentoring program
2. Identify the program indicators, expected output and outcomes
3. Identify the key stakeholders that should be involved in the programs and their responsibilities
4. Identify the target participants of this program at the hospital level
5. Analyze the system synergy with the current national health program

Content analysis was performed in the document review, where pre-selected themes were searched across all the documents. The pre-selected themes included background, program implementation, actors' tasks and responsibilities, program achievements and challenges, and program management.

Qualitative Study

Qualitative study was performed to:

1. Elicit the perceptions, knowledge and opinion of the related key stakeholders on the program, including their perceived benefits of the program
2. Identify the challenges in implementing the program from the related stakeholders' perspectives
3. Identify the feasibility to replicate or expand the program, and the essential factors needed to do so

Participants Recruitment and Data Collection

Data was collected through face-to-face in-depth interviews during September – November 2016. Potential participants selected for these case studies were based on suggestions by UNICEF Indonesia (Jakarta, Papua, West Papua, and Maluku office). To be eligible to participate in this study, the participant needed to be: (1) residing in Indonesia; (2) aged 18 years and above; (3) previously or currently involved in at least one of the programs documented; (4) able to consent to participate in the study. Potential participants were contacted via phone and given a brief explanation about the case study – background, objectives, and data collection procedures. Following the initial agreement to participate in this study, interview schedules were arranged.

Interview guidelines (Annex 2) were developed based on a previous evaluation report provided by UNICEF, and in discussion with UNICEF project officers. Core questions asked in the interviews focused on the program's background, design, early and current implementation, challenges, achievements, and future plans. Interviews were concluded by asking the participants if they had anything else they wished to ask or add to the interview, or if they were willing to share reports related to the implementation of the any of the case study documented. The time taken for the interviews ranged from 35 minutes to 1 hour and 15 minutes.

Data Analysis

Each interview was audio-recorded using a digital recorder and annotated using the interviewers' notes. Thematic analysis was conducted using the annotated transcripts. Predefined categories were developed based on the interview guidelines including: 'definition of program', 'related policies', 'early implementation', 'current implementation', 'financial arrangement', 'roles and responsibilities', 'coordination', 'challenges', 'sustainability', 'way forward'. Coding and category development was both deductive (based on predefined categories) and inductive (based on additional codes and categories identified from the interview). The codes and categories matrix was firstly developed for each individual interview and then compared between the participants. Multiple codes describing similar discussion points were collated into categories and similar categories were grouped into themes. The results were then triangulated and complemented with the document review findings.

Secondary Data Analysis

Secondary data analysis was performed to assess program achievements in accordance with indicators over time. When applicable, data analysis was conducted for national level and district level. Data for this analysis were provided by participants in the qualitative study. These include national maternal health routine data, malaria monitoring data from DHO, hospital data collected by UNICEF West Papua, and district health profile report.

Annex 2 – Research Tools

Case Study 1: Integrated Malaria – MCH program

Section	Data collection method (participants)	Potential questions
Background Why it is important – BoD	Desk review: Riskesdas report, BPS report, Health profile report Interview: <ul style="list-style-type: none"> Former head of malaria sub-directorate Former head of maternal health sub-directorate MoH 	<ol style="list-style-type: none"> Could you describe the MiP program design in Indonesia? What is the objective of the program? (Probe: immediate outcomes, main goals, indicators)
Program initiation Pilot, scaling-up, evolving program	Interview: <ul style="list-style-type: none"> Former head of malaria sub-directorate Former head of maternal health sub-directorate MoH 	<ol style="list-style-type: none"> Could you describe the first design of the MiP program? (Probe: How was it initiated? Related stakeholders? Structures? Coordination?) Where did the pilot areas of this program (Probe: why did the area been selected? Funding sources? Results? Lesson-learned?) Could you describe the scale-up process of the program? How was it taken-up by the national government? (Probe: the expansion area? Advocacy? Related stakeholders? Funding sources? Power exercise between stakeholders?) Compared to the first design of the MiP program, is there any significant change on the current program? (Probe: on what aspects? Why has it changed?) What do you think with the changes? Any significant benefit for the changes?
Coordination and Program management	Interview: <ul style="list-style-type: none"> MoH Data manager 	<ol style="list-style-type: none"> What do you think about the program itself? (Probe: how it is managed? innovation? Feasibility? Effectiveness? Synergy with other programs?) What is the role of your directorate/sub-directorate in this program? (since when has the subdit been involved?) How is the current structure of the program? (Probe: who has been involved? Roles and responsibilities? The roles of provincial and district health office?) How does your institution coordinate with other related subdirectorates? (Probe: challenges in coordination, data integration?)
Achievement Program coverage: starting from 2008	Interview: MoH Data: <ul style="list-style-type: none"> ANC coverage LLIN coverage Malaria routine service data 	<ol style="list-style-type: none"> In which regions/ province/ district has the program been implemented? (background, area selection? Pilot? Scale-up?) How does it affect your program at the national level? (Probe: expansion of passive case detection, concept on malaria routine service? effect on ANC? impact on logistics management of malaria/ANC commodities? impact/benefit on program management?)

Section	Data collection method (participants)	Potential questions
Financing (central level) Financial contribution from each stakeholders	MoH Data: Donor report	<ol style="list-style-type: none"> Who has been the main funder of the program so far? Is there any other donor that has invested in this program? What is the main funding source for the current program implementation? Is there any other source? How it has been arranged between central and local level? Does it work as agreed by both central and local level?
Challenges	MoH	<ol style="list-style-type: none"> Do you think the program has been successfully implemented? If YES (success), justify/ describe your opinion. If NOT, Why? (Probe: challenge and barriers? How it has been solved? Potential successive factors?)
The way forward Opportunities	MoH	<ol style="list-style-type: none"> What aspect that should be improved from the program? Do you think the program can be sustained? What are the essential factors needed for the program to be sustained? Who should be involved in the future program implementation? What are their roles and responsibilities? What kind of assistance that should be given from the central level to provincial/ district level for program implementation? What should be advocate to local government for its sustainability?

District level – Jayapura and MTB

Section	Data collection method (participants)	Potential questions
Program initiation	Interview: <ul style="list-style-type: none"> PHO Papua PHO Maluku DHO Jayapura DHO MTB Poltekes CHC 	<ol style="list-style-type: none"> How do you describe the MiP program implemented in your area? (Probe: background, any policy related to it? Objectives of the program) Since when has MiP been implemented in your areas? (Probe: the initiation? What kind of activities have been done? Why it is implemented? Preparation? Integration Process) Could you describe your level of involvement in designing the implemented program? Is there any flexibility to adjust with local context? <p>For Puskesmas</p> <ol style="list-style-type: none"> When did the program start? What is the current stage? Have you received training related to the program? (Probe: skills training, program socialization, module delivery) How should the program be implemented at Puskesmas level?



Section	Data collection method (participants)	Potential questions
Current implementation and challenges	Interview: <ul style="list-style-type: none"> • PHO Papua • PHO Maluku • Bappeda Maluku • Bappeda Jayapura • CHC 	For PHO, DHO, UNICEF: <ol style="list-style-type: none"> 1. How does the current implementation differ from what has been initially implemented? 2. Do you think the program has been successfully implemented? <i>If YES (success), justify/ describe your opinion. If NOT, Why?</i> (Probe: challenge and barriers? How it has been solved? Potential successive factors?) 3. Is there any coordinator for program integration at district level? 4. How is the coordination between CDC and MCH division implemented? 5. How about the data integration? (Probe: current status? Integration process? Data coordinator?) 6. How about the logistic availability and distribution? 7. How is current implementation and challenges for pre-service training? 8. How is Bappeda support for integrated malaria program? For Puskesmas: <ol style="list-style-type: none"> 1. How is the internship for Health Institute / midwifery academy students working? 2. When did the program start? What is the current stage? 3. How has it been implemented? (Probe: malaria routine? Immunization program? ANC? Who delivers the service?) 4. Does the integrated service can be effectively delivered? 5. How is the health staffs' compliance, capacity in implementing the integrated programs? (Probe: acceptance by health staff, work load, coordination between health staffs) 6. How about the reporting system? (reporting mechanism? Which routine report covers the program? Who is the main person in charge? Data integration?) 7. What are the challenges and barriers that you were facing in implementing the integrative program? Has it been well addressed? What key factors for a success integrative program? How does it influence budgeting in Puskesmas for the program? How do you best approach the community to involve in program achievement? 8. What kind of assistance did your centre received from district/provincial health office?

Section	Data collection method (participants)	Potential questions
		For health worker at Puskesmas: <ol style="list-style-type: none"> 1. Could you explain the routine service delivery for ANC? (Probe: who got screened? How if a mother is detected for malaria? Treatment? LLIN distribution?) 2. Could you explain the routine immunization program deliver in this centre? (Probe: in re to LLIN) 3. What are the challenges and barriers that you were facing in implementing the integrative program? Has it been well addressed? 4. What kind of assistance was given by the PHC manager, district health office? 5. What do you think about public acceptance/ compliance towards ANC, LLIN usage and immunization? (Probe: does the program increase ANC coverage? Increase immunization coverage? Do people use the LLIN? What are the challenges?) 6. In your opinion, who has benefited from the program? (Probe: mother, other family members, malaria passive case detection?) 7. How does the reporting mechanism work for this program? (Probe: integrated vs separate report? Data/ report coordinator?)
Coordination and program management	Interview: <ul style="list-style-type: none"> • PHO Papua • DHO Jayapura • PHO Maluku • DHO MTB 	<ol style="list-style-type: none"> 1. What is your institution's involvement in the program implementation? 2. How do you best approach other programs/ sectors to involve to achieve targeted goals? 3. Who else has been involved in the program? (Probe: Roles and responsibilities? The roles of provincial and district health office? Coordination? from central government?) 4. What kind of assistance received by your institution from MoH (provincial health office) in relation to this program?
Achievement Program coverage, EPI coverage, LBW, anemia – overtime: starting from 2008	Interview: <ul style="list-style-type: none"> • PHO Papua • DHO Jayapura • PHO Maluku • DHO MTB Data: <ul style="list-style-type: none"> • Province and District health profile • Malaria routine data (PHO + DHO) • ANC coverage (PHO + DHO) 	<ol style="list-style-type: none"> 1. How does it affect your program at the provincial/ district level? (Probe: expansion of passive case detection, concept on malaria routine service? effect on ANC and EPI? impact on logistics management of malaria/ANC commodities? impact/benefit on program management? impact/benefit on data recording and reporting)

Section	Data collection method (participants)	Potential questions
Financing	Interview: <ul style="list-style-type: none"> UNICEF PHO Papua DHO Jayapura Poltekkes Bappeda Jayapura Bappeda Maluku 	<ol style="list-style-type: none"> Who has been the main funder of the program so far? Is there any other donor that has invested in this program? What is the main funding source for the current program implementation? Is there any other source? Is there any local budget allocated for the program? If yes, for what aspect/ activity? Is there any budget assistance from central (or provincial) for the program?
Replication process and sustainability	Interview: <ul style="list-style-type: none"> PHO Papua PHO Maluku DHO Jayapura DHO MTB Poltekkes 	<ol style="list-style-type: none"> Could you describe the replication process of the program? How was it taken-up by the district government? (Probe: the expansion area? Advocacy? Related stakeholders? Funding sources? Power exercise between stakeholders?) Is there any documentation of the good practices been developed to support advocacy for scale up and replication?
The way forward Opportunities	<ul style="list-style-type: none"> PHO Papua PHO Maluku DHO Jayapura DHO MTB Poltekkes 	<ol style="list-style-type: none"> What should be done in the future for program implementation? What aspect that should be improved from the program? Do you think the program can be sustained? What are the essential factors needed for the program to be sustained? Who should be involved in the future program implementation? What are their roles and responsibilities? What kind of assistance that should be given from the central level to provincial/ district/ puskesmas level for program implementation? What should be the advocacy points to local government for its sustainability?

Case Study 2 – Cluster Island approach

Section	Data collection method (participants)	Potential questions
Background Why it is important?	Interview: <ul style="list-style-type: none"> PHO, DHO Cluster islands initiator Data: MTB health profile	<ol style="list-style-type: none"> Re. the islands areas, what do you think about cluster islands health care system? (Probe: why it is designed? How does it improve access to health care?).
What is cluster islands referral care? descriptive explanation, How it is design differences with national referral system	Document Review: <ul style="list-style-type: none"> PMK 90/ 2015 Perda Maluku PMK 01/2012 Interview: <ul style="list-style-type: none"> PHO, DHO Cluster islands initiator MoH 	<ol style="list-style-type: none"> Is there any policy endorsement by the MoH or other government institutions to address the geographical barriers in accessing health care? (Probe: e.g. remote areas? Islands? Coordination with MoHA) How has the program been designed? (Probe: reason? Advocators? Who has been involved? Why?) What is the role of your institution in this program? (Probe: which directorate is involved? Roles?) Who else has been involved in the program design? (Probe: Roles and responsibilities? The roles of provincial and district health office?)

Section	Data collection method (participants)	Potential questions
Implementation: Pilot – scale-up – current implementation	Document review: Bappeda Report Interview: <ul style="list-style-type: none"> PHO, DHO Cluster islands initiator Puskesmas Hospital 	<ol style="list-style-type: none"> How has the cluster islands approach been implemented in Maluku/ MTB? (related stakeholders? Stages of activities? Health service acceptance and compliance? Funding sources?) How was the geographical/ islands arrangement for the approach determined? What is your institution’s involvement in the program implementation? What kind of stages that your institution involved in the program implementation? (Probe: collaborating partner? Coordinator? Preparation stage?) What is the role of your institution in the program design? (Probe: how your areas have been selected to apply the approach? Assistance to hospitals? Coordination with local government?) What kind of assistance received by your institution from MoH (provincial health office) in relation to this program?
Achievement/ program effect	Document review: Bappeda Report Data: number of cases referred from Puskesmas Interview: <ul style="list-style-type: none"> PHO, DHO Cluster islands initiator Puskesmas Hospital 	<ol style="list-style-type: none"> Do you think the program has been successfully implemented? Why? (Probe: challenge and barriers? How it has been solved? Potential successive factors?) How does it improve access to health care?) How long has your hospital been appointed as the Hospital? (background? Acceptance? Capacity?) How many districts covered by your hospital? What do you think about it? (load? Hospital capacity? Involvement in program design?) How it has been implemented and how it affects your hospital’s operational? (capacity, HRH availability, funding sources?) What are the challenges and barriers that you faced in providing service for those population? (coordination with health office, CHC, local government) How does your hospital coordinate with the CHC in your areas
Lesson learned and Way Forward	<ul style="list-style-type: none"> PHO, DHO Bappeda 	<ol style="list-style-type: none"> Do you think the program can be sustained? What are the essential factors needed for the program to be sustained? Who should be involved in the future program implementation? What are their roles and responsibilities? What kind of assistance that should be given from the central level to provincial for program implementation? What kind of assistance that should be given from provincial level to district level for program implementation? What kind of assistance needed for health facilities in cluster islands approach? What is your institution strategy in addressing the needs of the population served? What should be prepared for hospital before it is appointed as referral health care?

Case Study 3 – Neonatal Mentorships

Section	Data collection method (participants)	Potential questions
Background Neonatal mortality in hospital in Papua and West Papua	Interview: MoH, PHO, DHO Data: Hospital report	1. Why do the stakeholders endorse the program? 2. What is the objective of the program?
Neonatal mentorships Initiation Program design Pilot? Aspects mentored	Document Review: “Buku Biru” Interview: <ul style="list-style-type: none"> Professional organisations (mentors) MoH 	1. How do you describe the mentoring approach program implemented at district hospitals in Papua and West Papua? (Probe: background, any policy related to it? Objectives of the program, alignment with the current program and policy?) 2. How has the program been developed? (Probe: who has been involved? Why? Roles?) 3. What is the role of your institution in this program? (Probe: which directorate is involved? Roles?)
Implementation Progress Challenges	Document review: Program’s progress report Interview: <ul style="list-style-type: none"> Professional organisations (mentors) MoH PHO, DHO Hospital Puskesmas 	1. How long has the program been implemented? Where has it been implemented? 2. How it has been implemented? (Probe: mentoring method? Evaluation? Acceptance?) 3. Are there any specific criteria for the hospital to receive the program? 4. Who are the target participants of this program? 5. Do you think the program has been successfully implemented? Why? (Probe: challenge and barriers? How it has been solved? Potential successive factors?) 6. Do you think the methods of learning embedded in this program fit with the participants’ need? (probe: how the participants went with the program)
Achievement/ program effect	Document review/ Data: <ul style="list-style-type: none"> Hospital report Papua and West Papua health profile Interview: <ul style="list-style-type: none"> Professional organisations (mentors) MoH PHO, DHO Hospital Puskesmas 	1. What do you personally think about the program itself? (Probe: innovation? Feasibility? Effectiveness? Synergy with other programs? Benefits? Potential effect to health system) 2. Do you think the program has improved the quality of care? 3. How has the program improved your skills and capacity?
Lesson learned and Way Forward	Interview: <ul style="list-style-type: none"> Professional organisations (mentors) MoH PHO, DHO Hospital Puskesmas 	1. Do you think the program can be sustained? 2. What are the essential factors needed for the program to be sustained? 3. Who should be involved in the future program implementation? What are their roles and responsibilities? 4. What kind of assistance that should be given from the central level to provincial for program implementation? 5. What kind of assistance that should be given from provincial level to district level for program implementation?

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