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MCSP Madagascar Technical Brief

Improving Quality of Maternal and Newborn Care and Postpartum Family Planning Services

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Background

Madagascar's maternal mortality ratio has stagnated in the last decade, lingering at 488 and 478 per 100,000 live births in 1997 and 2013, respectively. Despite progress, newborn mortality remains high, contributing to one-third of under-5 child mortality. Many factors contribute to poor maternal and perinatal outcomes, including weak health systems and low coverage and quality of maternal and child health services, including postpartum family planning (PPFP). The 2008–2009 Demographic Health Survey demonstrated that 51% of all nonfirst



A mother receives a postnatal checkup from a midwife at an MCSP-supported hospital. Photo by Karen Kasmauski, MCSP.

pregnancies occurred within a less-than-optimal interpregnancy interval. A 2014 assessment completed by the United States Agency for International Development (USAID)'s Maternal and Child Survival Program (MCSP) demonstrated widespread gaps in infrastructure; availability of essential drugs; quality of maternal and newborn care; and health worker training, supervision, and use of data. Fifty-six percent of facilities lacked basic supplies and drugs for essential care, and 19% of midwives had not received any recent technical updates in evidence-based maternal and newborn health (MNH) best practices. Only 2% of primary health centers (*centres de santé de base*, or CSBs, the lowest-level health facilities in Madagascar) and 52% of hospitals surveyed were able to provide basic emergency obstetric and newborn care services. Despite a 2015 national PPFP action plan, PPFP services were not integrated into MNH services in practice at the start of the program. In addition, there are no Ministry of Public Health (MOH)-led national quality improvement (QI) reproductive, maternal, newborn, and child health (RMNCH) strategies or monitoring mechanisms in the country.

Goal

This brief describes MCSP support to the Madagascar MOH from 2014 to 2018 to strengthen the quality of maternal, newborn, and PPFP care in primary health centers and hospitals in 16 regions for improved health outcomes for women and newborns.

Program Approaches

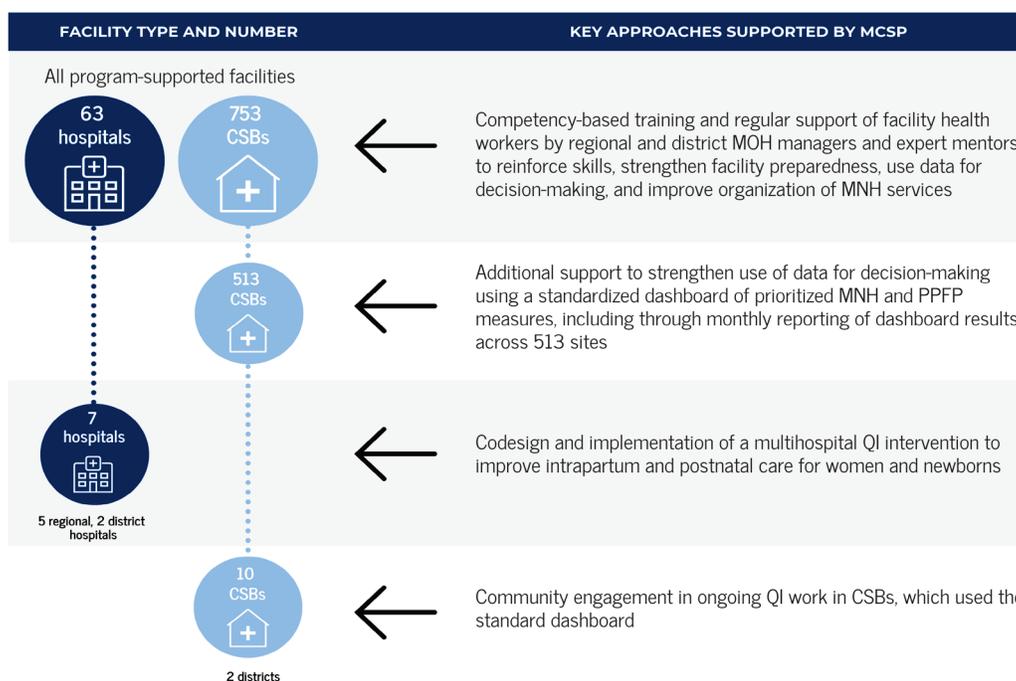
At the **national level**, MCSP, together with partners, supported the MOH to update maternal, newborn, and family planning (FP) policies, and to define strategies to implement evidence-based best practices spelled out in these policies. MCSP supported the MOH to develop a national Roadmap to Accelerate Reduction in Maternal and Neonatal Mortality and to update the national Reproductive Health Norms and Protocols as well as MNH, FP, and malaria training curricula in keeping with global norms and standards. In addition, MCSP introduced the World Health Organization Framework for Quality of Maternal and Newborn Healthcare to the MOH at national and subnational levels, and advocated with the MOH for the development of a national quality strategy and supportive quality structures.

At the **regional and district levels**, MCSP worked closely with regional and district health managers, facility teams, and partners to strengthen integrated maternal and newborn services, including PFP services, across the antenatal, childbirth, and postnatal continuum. Figure 1 provides a snapshot of key program approaches applied to strengthen quality of maternal and newborn services by facility type in USAID-supported regions. Further information on each approach is provided below.

MCSP applies a set of **core quality principles** to support countries across system levels to design and implement quality activities based on families' health needs, country priorities, and local assets and country structures:

-  Governance and leadership of quality via country structures (national, sub-national, facility, community)
-  Measurable, clear aims focused on important health outcomes
-  Prioritize client needs, values, and desires
-  Engage hearts and minds of health care workers
-  Overcome critical gaps (bottlenecks) in local care processes
-  Quality improvement teamwork with representatives for key system functions
-  Change management driven by local health workers
-  Real-time use of data to monitor, improve, and guide change
-  Regular shared learning within and across countries to accelerate improvement

Figure 1. Snapshot of key approaches across program-supported facilities



Key Program Approaches in Program-Supported Hospitals and CSBs

MCSP worked closely with national, regional, and district MOH counterparts and expert clinicians (nurses, midwives, and doctors) to strengthen health worker skills, facility preparedness, organization of MNH services, and use of data for decision-making, progressively scaling up to support a total of 816 facilities (753 CSBs and 63 hospitals) in 16 regions. In collaboration with district MOH managers, the program provided additional support to health workers in CSBs to use a standard MNH and PFP indicator dashboard, and to report results monthly for aggregation, beginning in 180 CSBs in four regions in 2014 and scaling to 513 CSBs in 16 regions by the end of the program. Table 1 highlights program approaches supported by MCSP to strengthen MNH care and PFP services, working closely with national, regional, and district MOH counterparts and frontline health workers.

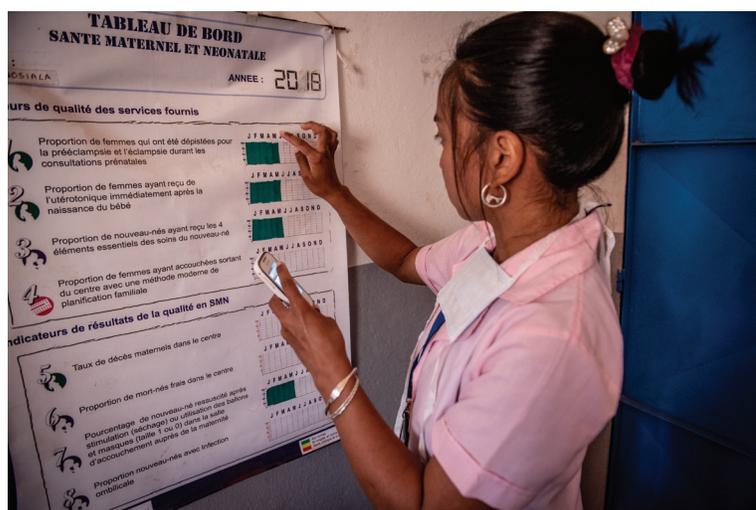
Table 1. Key program approaches to strengthen MNH and PFP services in CSBs and hospitals

MCSP-Supported Facilities	MCSP-Supported Approaches
All supported facilities (753 CSBs and 63 hospitals) in 16 regions	<ul style="list-style-type: none"> • Competency-based, sequential, onsite MNH and PFP training for providers focused on low doses of content using a revised RMNCH curriculum and led by national and regional clinicians working within the health system supported by MCSP • Regular reinforcement of MNH and PFP skills via onsite practice, supportive supervision, and blended in-person and mobile mentoring by clinician mentors supported by MCSP • Supportive supervision and mentoring of facility health workers by regional and district MOH managers to assess and strengthen facility preparedness (e.g., by tracking of key commodities), organization of MNH and PFP services (e.g., by refining antenatal care (ANC) patient flow, reorganizing labor and delivery rooms), and provider competence for essential skills (clinical, QI, data use) • Program provision of selected instruments (e.g., blood pressure cuffs, stethoscopes, newborn resuscitation kits) so that facilities could offer basic ANC, delivery care, and long-acting contraceptive methods before discharge from the maternity ward
513 CSBs receiving additional support to monitor a dashboard of common quality measures	<ul style="list-style-type: none"> • Training and supervision of CSB health workers by program-supported district managers to generate, use, and analyze monthly results of common MNH and PFP quality measures using a standard dashboard • Use of laminated wall posters by CSB staff to visualize and interpret their data to guide actions to improve performance on dashboard indicators • Regular aggregation of results across all CSBs on an electronic dashboard platform supported by the program and accessible to district and regional managers (all CSBs sent their results on a monthly basis via short message service) • Support of CSB staff by regional and district managers (aided by MCSP) to conduct data quality assurance as part of facility supervision visits and mentorship sessions • Transition of the program-supported CSB dashboard electronic data platform to the MOH so its use could continue after the close of program support

Additional QI Support in Five Regional and Two District Hospitals

In a subset of five regional and two district hospitals, MCSP provided additional support for the codesign and implementation of a QI intervention to improve quality of childbirth services for routine care and for women and newborns with complications. The program collaborated with regional and district MOH managers and hospital health workers to define a set of common measurable improvement aims and quality indicators focused on high-impact interventions, local burden of disease, and local quality of care gaps. Common improvement aims across the seven hospitals in the first phase of improvement work focused on several goals:

- Improving integrated routine maternal and newborn intrapartum and postnatal care (e.g., monitoring of progress of labor, administration of an immediate postpartum uterotonic to prevent postpartum hemorrhage [PPH], provision of essential newborn care)
- Improving detection and management of prolonged labor
- Improving management of newborn asphyxia
- Improving detection and management of PPH



A midwife uses the standard MNH indicator dashboard in an MCSP-supported CSB. Photo by Karen Kasmauski, MCSP.

Regional and district MOH management teams (aided by MCSP) supported the formation and ongoing work of facility QI teams to achieve identified common improvement aims. Hospital QI teams identified critical bottlenecks in care processes and management functions; made changes to overcome these bottlenecks; and monitored, visualized, and analyzed trends in common quality indicators to track progress toward improvement aims. Periodically, the program supported regional MOH managers to convene the hospital QI teams to share their improvement work, including successful and unsuccessful changes they had implemented, positive and negative indicator results, and common challenges and solutions across hospitals. At the end of learning workshops, teams collectively highlighted emerging best practices for improving quality of labor, birth, and postnatal care for women and newborns in the hospital setting in Madagascar.

Additional Support in 10 CSBs for Community Engagement

In 10 CSBs in the Vakinankaratra region, the program worked with district health management teams to engage members of the community in ongoing work to strengthen MNH and PFP services, increase utilization of MNH services by women and families, and promote prompt care seeking and access to care for women and newborns with complications. Working with district health management teams and partners, including the USAID-funded Mikolo Project, the program supported formation and regular meetings of CSB teams that included community members and CSB health workers. Community members included the village mayors and members of selected community committees. Village mayors and community members met regularly with CSB staff to prioritize areas for improvement and execute action plans. These CSBs tracked the same performance indicators as the larger number of CSBs supported by the program.

Results

Results for 513 Program-Supported CSBs That Regularly Tracked a Common Dashboard of Quality of Care Indicators

The 513 CSBs that received additional support to use data for decision-making achieved the results below between October 2015 and June 2018. Illustrative changes introduced by CSB staff to improve the quality of MNH and PFP care to achieve the measured results are described further below.

- Women screened for pre-eclampsia and eclampsia (PE/E) via routine blood pressure measurement during ANC visits increased from 41% in October 2015 to 96% in June 2018 (n = 1,002,989 total ANC visits in which a woman's blood pressure was measured) (see Figure 2).
- Women receiving an immediate postpartum uterotonic to reduce PPH increased from 85% in October 2015 to 98% in June 2018 (n = 188,264 total postpartum women receiving an immediate postpartum uterotonic).

- Newborns not breathing or crying at birth who were successfully resuscitated increased from 71% in October 2015 to 90% in June 2018 (n = 13,663 total newborns with asphyxia who were successfully resuscitated).
- Women discharged with an FP method of choice after delivery increased from 8% in March 2016 to 21% in June 2018 (n = 28,204 total postpartum women adopting a PPF method of choice; does not include lactational amenorrhea method) (see Figure 3).
- The CSB maternal mortality ratio decreased from 242 maternal deaths per 100,000 total deliveries (live and stillborn) to 20 maternal deaths per 100,000 total deliveries from August 2015 to June 2018 (n = 151 total maternal deaths; 183,483 total deliveries) (see Figure 4).
- The institutional fresh stillbirth rate decreased from 16.4 fresh stillbirths per 1,000 total births to 8.4 fresh stillbirths per 1,000 total births from August 2015 to June 2018 (n = 183,483 total newborns; 2,035 total fresh stillbirths) (see Figure 5).

Common changes made by CSB health workers included:

- Reorganizing ANC patient flow to facilitate routine measurement of blood pressure for every pregnant woman (e.g., with blood pressure check by ancillary personnel upon arrival of woman to ANC)
- Reorganizing ANC and childbirth care areas to expedite delivery of high-impact clinical interventions and ensure immediate availability of essential commodities and drugs (for routine care and management of complications)
- Preparing and storing a ready-to-use obstetric and newborn care kit in the delivery room at every birth for essential routine care and management of obstetric and newborn complications (e.g., a clean cloth to dry and wrap the baby; a prefilled syringe of oxytocin for immediate postpartum administration to prevent PPH; magnesium sulfate for treatment of PE/E; and a newborn resuscitation bag and mask, previously commonly stored in the head nurse's office)
- Providing PPF counseling during ANC and early labor, and using counseling results to guide systematic provision of a woman's PPF method of choice before discharge, including an immediate postpartum intrauterine device or contraceptive implant if chosen by a woman



A midwife checks a woman's blood pressure during an ANC visit, with CSB dashboard indicator results visible in the background. Photo by Karen Kasmauski, MCSP.

Figure 2. Percentage of women screened for PE/E with a blood pressure check during ANC visits (n = 1,002,989 total ANC visits in which women's blood pressure was checked in 513 CSBs)

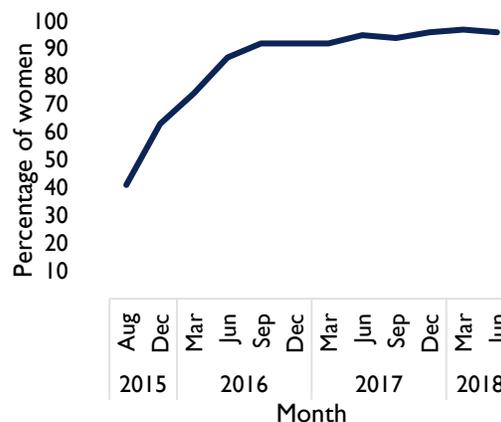


Figure 3. Percentage of postpartum women discharged with an FP method of choice in CSBs (n = 28,204 total postpartum women discharged with an FP method of choice in 513 CSBs; does not include lactational amenorrhea method)

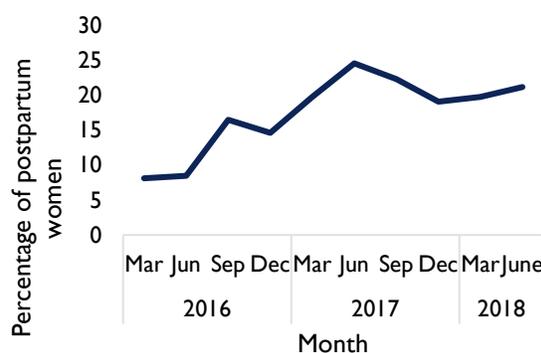
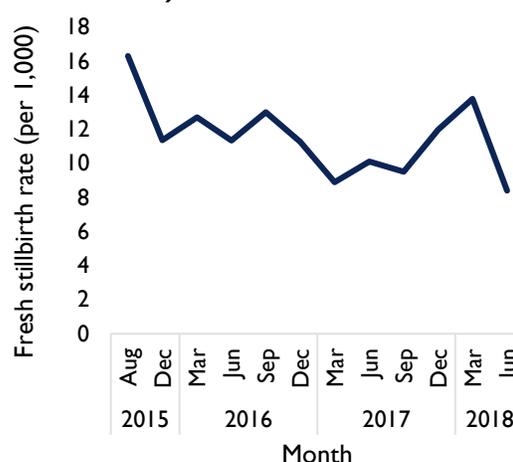


Figure 4. Maternal mortality ratio (MMR) in CSBs (n = 183,483 total women delivered and 151 total maternal deaths in 513 CSBs)



Figure 5. Fresh stillbirth rate in CSBs (n = 183,483 total newborns [live and stillborn] and 2,035 total fresh stillbirths in 513 CSBs)

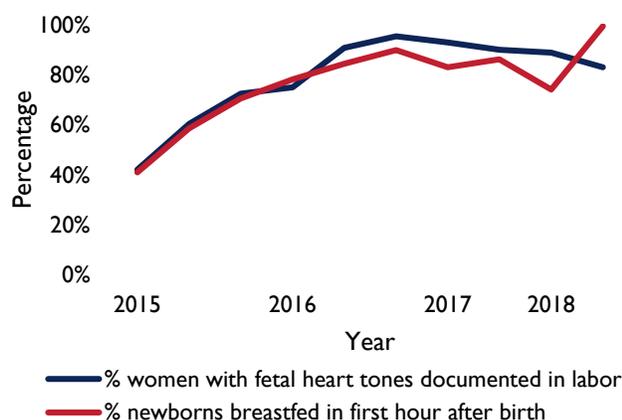


Results for Program-Supported Hospitals Receiving Additional QI Support

Hospitals participating in the design and implementation of an intervention to improve the quality of integrated intrapartum and postnatal care for women and newborns measured several improvements in care. Because the duration of QI activities was shorter in district hospitals (which joined the QI program nearly a year after the regional hospitals), results are presented for the five regional hospitals. These regional hospitals provided care for 10,017 births over the 27-month QI intervention period (December 2015–March 2018).

- Women with fetal heart tones documented in labor increased from 42% at the start of the QI intervention in December 2015 to 83% in March 2018 (n = 8,013 total deliveries with documented fetal heart tones) (see Figure 6).
- Newborns initiating breastfeeding in the first hour after birth increased from 44% in December 2015 to 99% in March 2018 (n = 7,022 total live newborns initiating breastfeeding in five regional hospitals) (see Figure 6).
- Women with PPH treated with a therapeutic uterotonic increased from 40% in December 2015 to 100% in March 2018 (n = 99 total women diagnosed with PPH and treated with a uterotonic in five regional hospitals) (see Figure 7).
- The newborn mortality rate (pre-discharge) in regional hospitals decreased from 35 newborn deaths per 1,000 live births at the start of the QI intervention in December 2015 to eight pre-discharge newborn deaths per 1,000 live births in March 2018, in line with measured improvements in intrapartum care and postnatal care of the newborn (n = 211 total pre-discharge newborn deaths) (see Figure 8).

Figure 6. Percentage of women in labor with documented fetal heart tones and percentage of newborns breastfed in the first hour after birth, December 2015–March 2018 (n = 8,013 total deliveries with documented fetal heart tones and 7,022 total live newborns initiating breastfeeding in five regional hospitals)



Illustrative changes introduced by hospital QI teams included:

- Mapping and redesigning patient care pathways to improve flow, efficiency, and provision of high-impact interventions, including by displaying patient flow information in the maternity reception area
- Enhancing coordination of services across hospital departments to speed up provision of needed care (e.g., by streamlining coordination between maternity and blood bank personnel to expedite blood transfusions for women with PPH, streamlining communication processes and protocols to ensure rapid emergency measures and response by the hospital pediatrician [or neonatologist] for newborns with complications)
- Strengthening adherence to national guidelines for routine monitoring of women and newborns after birth for early detection of danger signs and complications (e.g., by assessing newborn breathing, assessing bleeding in postpartum women)
- Introducing and maintaining an obstetric emergency kit with oxytocin and magnesium sulfate in the maternity to improve timely management of PPH and severe PE/E
- Introducing and maintaining a newborn resuscitation bag and mask in the hospital operating room where cesarean sections are performed (before initiation of QI work, newborns with asphyxia were carried from the operating room to a separate unit of the hospital for resuscitation)

Results for CSBs Receiving Additional Support for Community Engagement

CSB health workers and community counterparts

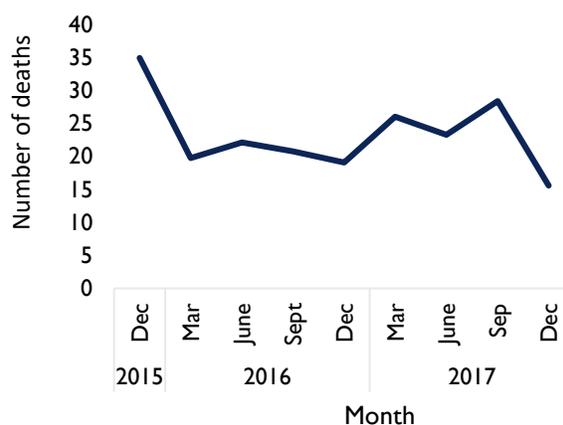
met regularly to review CSB dashboard indicator results and to prioritize and implement activities to improve CSB infrastructure and the workplace environment for women, families, and health workers. Examples of activities co-led by community members and CSB health workers included:

- Construction (or renovation) of toilets and showers for women to wash after delivery, including installation of pipes to introduce a running water supply in several CSBs
- Construction of a covered waiting room for women and families attending ANC and other services
- Posting of signage (e.g., signs in the town pointing to the CSB, a plaque with the name of the CSB, and signs in the CSB indicating where clients can go for specific services, like maternity, sick care, or ANC)
- The village mayor and other community members regularly broadcasting the benefits of CSB RMNCH services during community events
- Regular collaboration between CSB health workers and community stakeholders to sensitize people, including families, newlyweds, and pregnant women, to the importance of CSB ANC, childbirth, postnatal care, immunization, and child health services

Figure 7. Percentage of women diagnosed with PPH treated with a uterotonic (n = 99 total women diagnosed with PPH and treated with a uterotonic in 5 regional hospitals)



Figure 8. Hospital predischarge newborn mortality rate (n = 9,321 live births; 211 predischarge newborn deaths in five regional hospitals)



Conclusions and Recommendations

- Even in a weak health system without a national quality RMNCH strategy or local QI structures, district managers and facility health workers can measure and improve the quality of integrated maternal and newborn care and PFP at relative scale in a short time frame.
- Continued monitoring is needed to assess the sustainability of program results.
- Monitoring improvements in health indicators across multiple facilities and regions was observed to be motivating for frontline health workers and subnational managers.
- Health worker QI capacity and quality of routine health data remained a challenge throughout program implementation; regular data quality assurance processes and health worker QI capacity-building are essential.
- The low utilization of district hospital services for maternal and newborn complications compared with regional hospitals may reflect a lack of community confidence in the quality of district hospital care. The MOH should invest in improving district hospital care for obstetric and newborn complications by engaging regional hospital health workers who demonstrated substantive improvements in MNH care and can mentor district hospitals.
- Leadership and commitment of regional, district, and facility managers and health workers from the earliest program stages are essential to improve and sustain quality of care.
- Program approaches were implemented with the close support of regional, district, and facility managers in the day-to-day context of Madagascar health system activities. The MOH should invest in and lead the ongoing support of continuous improvement approaches by MOH actors and partners across the health system to sustain and scale up measured gains.
- The MOH should invest in and support the ongoing monitoring of RMNCH quality of care indicators (e.g., through CSB and hospital dashboards) to inform national strategy and regional and district management processes, and to guide continuous improvements in RMNCH services and health outcomes for women and children.
- The MOH should invest in and lead the development of a costed national quality strategy and associated operational structures and implementation processes across all system levels (e.g., district quality focal points and regular monitoring of quality indicators and shared learning) across all system levels.

QI in Action

Premature at 34 weeks, Baby Latifah was born on August 29, 2017. She weighed only 2.2 kilograms and failed to start breathing on her own. She owes her life to midwife Malala's quick action. Malala is one of the five midwives at the Vakinankaratra CHRR (regional hospital) trained in newborn resuscitation with MCSP support. The facility's QI team had made several changes to improve care for newborns with asphyxia. One important change was to allow trained midwives to perform newborn resuscitation in the delivery or operating room instead of carrying the newborn to a separate newborn unit. Another change was to ensure the availability of a newborn resuscitation bag and mask in the operating room at all times for babies delivered via cesarean section. Eighty-two newborns have been successfully resuscitated in the Vakinankaratra CHRR since the QI initiative was introduced in December 2015.



Baby Latifah in the newborn unit. Photo by MCSP.

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