MOMENTUM

INTEGRATED HEALTH RESILIENCE

Technical Brief

April 2024

INTRODUCTION OF THE SAFE CHILDBIRTH CHECKLIST IN FRAGILE AREAS IN MALI

The U.S. Agency for International Development's (USAID's) MOMENTUM Integrated Health Resilience provides technical assistance in partnership with the Mali Ministry of Health and Social Development (MOHSD) and the Government of Mali to help reduce maternal and newborn mortality, particularly in the northern regions of Gao and Timbuktu. The Safe Child Checklist is an important tool in this partnership.

WHO Safe Childbirth Checklist

The WHO Safe Childbirth Checklist (SCC) is a patient safety tool which consolidates essential birth practices to prevent the major causes of maternal and newborn morbidity and mortality.

In Mali's Gao Health District, MOMENTUM Integrated Health Resilience supported the launch of the World Health Organization (WHO) Safe Childbirth Checklist (SCC), which increasing evidence shows can lead to improved birth outcomes when coupled with broader quality improvement initiatives. Since 2019, the SCC has shown demonstrable results in the southern regions of Mali as part of the National Reproductive, Maternal, Newborn, and Child Health Standard Operating Procedures. However, context-specific factors can influence implementation success (Molina et al., 2021).

BACKGROUND

While the number of maternal deaths has decreased by more than a third globally since 2000, major inequalities remain, with sub-Saharan Africa representing two-thirds of the world's total maternal mortalities (Onambele et al., 2022; United Nations Maternal Mortality Estimation Inter-Agency Group, 2023). For over 20 years in Mali, the MOHSD, with partner support, has made major efforts to reduce the number of preventable maternal and newborn deaths. Despite this, the maternal mortality rate remains high at 440 per 100,000 live births. The Sustainable Development Goal (SDG) target is less than 70 maternal deaths per 100,000 live births by 2030 (Trends in Maternal Mortality, 2023).

In 2015, the USAID Applying Science to Strengthen and Improve Systems (ASSIST) project partnered with the MOHSD to rollout the SCC in four southern regions. SCC use in Mali increased from 14 percent of deliveries in December 2016 to 88 percent of deliveries in August 2017 in 306 maternity wards. Quality improvement teams and healthcare providers were trained in standards and skills for infection prevention, SCC use, and partograph use for deliveries. ASSIST promoted key standards such as systematic identification of risk factors for infection, verification of equipment and commodities required for delivery, and infection prevention. This correlated with a decrease in postpartum hemorrhage rates from 17.2 to 2.1 cases per 1,000 deliveries. Case fatality rates for maternal sepsis during the postpartum period decreased from 5.5 percent in December 2016 to 1 percent by August 2017. Proper use of the checklist also improved the quality of care for newborns and their mothers during the 24 hours after delivery. Complications are being detected early and adequately managed, and the care rating for newborns and mothers at facilities has improved from 15 to 89 out of 100. The use of SCC is now widespread in almost all health facilities in the southern and central regions of the country, due to the technical and financial support of partners, including USAID (HRH2030, 2021).

MOMENTUM Integrated Health Resilience initiated work in the under-resourced Gao region in 2021, but the SCC use did not cascade to the region's health facilities, mainly due to a protracted armed conflict that has led to insecurity, poor health service provision, damaged infrastructure, and a shortage of skilled health providers. The Mali government requested MOMENTUM Integrated Health Resilience support for the 2022 launch of the SCC in Gao Health District.

The estimated population of Gao Health District is 367,553 (2023). There is one referral hospital (*Centre de Santé de Référence*, or CSRéf), 49 primary health centers (*Centres de Sante Communautaire* or CSComs, 9 of which are Basic Emergency Obstetrics and Newborn Care [BEmONC] facilities), 14 private health clinics, 12 private pharmacies, and 52 community health worker (CHW) sites. MOMENTUM Integrated Health Resilience supports 1 CSRéf, 20 CSComs, and 2 private clinics. The ratio of health care providers per 10,000 population is 4.56, which remains well below the standard recommended by WHO (23 per 10,000 inhabitants). In Gao,

midwives and obstetrical nurses generally provide maternal and newborn health (MNH) services. Midwives have more extensive training, but are not available in all facilities, particularly at the primary health facility level, so obstetric nurses are the primary birth attendants in lower-level facilities. According to Mali's official health information system, about 7,757 out of 10,370 (75 percent) deliveries were done by skilled birth attendants in the district in 2022 (Mali Health Management Information System).

MOMENTUM INTEGRATED HEALTH RESILIENCE IN GAO

In 2021, MOMENTUM Integrated Health Resilience conducted a baseline health facility assessment in 11 supported facilities in Gao detailing the facilities' capacity to provide MNH services. All assessed facilities provided antenatal care (ANC), labor and delivery care, and postnatal care. However, only 24 percent could provide BEmONC functions. Facilities reported no cases requiring BEmONC services in the 3 months prior to the survey. This raised questions about the ability of providers to identify and diagnose complications during labor and delivery, particularly at the CSCom level. The survey cited training issues as the primary barrier to providing BEmONC services. MOMENTUM worked with the Government of Mali and Gao District Health Office to support clinical training for MNH, including a BEmONC training (May 2022). MOMENTUM Integrated Health Resilience also launched a quality improvement framework, focused on supportive supervision, with a training of trainers in late 2022, and then cascaded trainings in early 2023. Supervisors were trained in the Plan-Do-Study-Act (PDSA) model to monitor adherence to evidence-based practices and provide on-the-job training, coaching, and mentorship to reinforce clinical skills for MNH service provision.

Results from ASSIST's southern Mali rollout of the SCC demonstrate the feasibility and effectiveness of implementation (URC, 2020). However, specific guidance on how to implement the SCC within broader quality improvement interventions in fragile settings needs more examination, particularly regarding its feasibility and acceptance in conflict-affected areas. Recognizing the need for job aids to assist labor and delivery providers, the utility of the SCC in southern Mali, and the invitation from the Mali government to launch the SCC in Gao, MOMENTUM Integrated Health Resilience incorporated the SCC into its quality improvement approach.

SAFE CHILDBIRTH CHECKLIST TRAINING

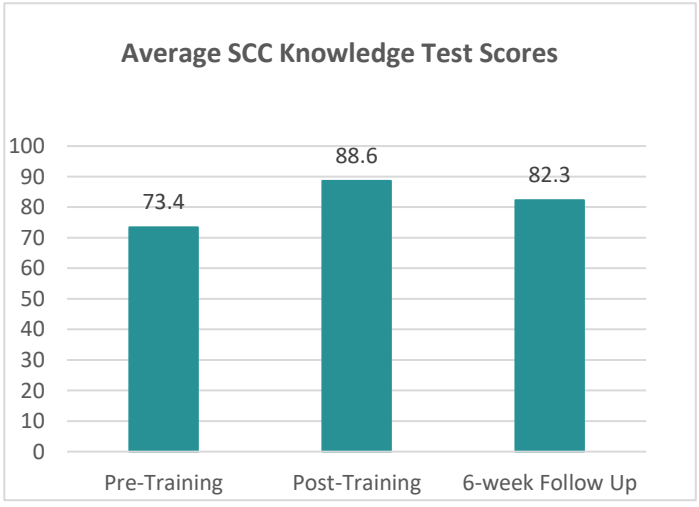
In November 2022, MOMENTUM Integrated Health Resilience trained 25 labor and delivery providers in Gao. MOMENTUM undertook five steps to introduce the SCC as part of efforts to improve the quality of MNH services, including identifying MNH providers for SCC rollout, training selected MNH providers, distributing WHO's SCC to all supported facilities, following up with facilities and health providers post-training,[1] and recording implementation data.

[1] The WhatsApp group under Step 4 in the graphic began in late 2022 and continues to present. The group was/is helpful to understand the implementation status and challenges faced, and for general troubleshooting.

Step 1: Identify MNH Providers for SCC Roll-out	MOMENTUM consulted with the Gao District Health Office to identify health providers in MOMENTUM supported facilities who could champion the use of the SCC at each facility. A total of 25 health providers from 20 CSCom, one CSRef, and two private clinics were identified.
Step 2: Train selected MNH Providers	MOMENTUM held a workshop from December 2nd- 6th, 2022 to train 25 MNH providers from supported health facilities in Gao on WHO's SCC. The training was facilitated by four staff, from MOMENTUM and CSRef Gao, who had received prior training on the SCC during its incorporation into Mali's national policies and standards in 2021. The training took place in two parts – theoretical education for three days and a clinical practicum for two days at the maternity wards of the CSRef and CSCom Aljanabandia in Gao. The training package was from the GoM, the same one that was used for the SCC roll-out in the southern regions in 2016. The participatory sessions included time for participants to share their experiences, brainstorm solutions to common challenges, and identify ways to support quality improvement.
Step 3: Distribute WHO's SCC to all supported facilities	Following the training, all health facilities received paper SCC copies based on the average number of deliveries carried out in each maternity unit over the three months preceding the training (September - November 2022).
Step 4: Follow-up with facilities and health providers post-training	A peer support WhatsApp group was established for those who participated in the SCC training. Trainers were available on the chat for problem-solving, mentorship, and ongoing support as the participants rolled out the SCC in their respective facilities. This was a helpful tool for training follow-up. The facilitators visited each of the trainees in their facilities six weeks after the training to ensure the effective application of the knowledge learned and to assess the quality of SCC forms utilized according to the standards. The supervision team was made up of MOMENTUM and Gao Ministry of Health staff.
Step 5: Record data on the implementation of the SCC	MOMENTUM collected data on the service providers' knowledge of using the SCC before the training, immediately after the training, and at 3 months after the training. Additionally, supervisors collected data on utilization and completion of the SCC during the six weeks following the training. A survey on the user-experience for the SCC was conducted 8 months after the training among all participants.

RESULTS OF SCC TRAINING

The SCC training brought together 17 midwives and 8 obstetric nurses working in maternity wards supported in Gao (1 CSRef, 20 CSComs, and two private clinics) for 5 days of training. MOMENTUM Integrated Health Resilience administered a 20-question, multiple choice knowledge assessment at three intervals. Results showed that the level of participant knowledge of safe birth practices improved from an average pre-test score of 73.4 percent to 88.6 percent for the immediate post-test. Participants said the main factors that contributed to these positive results were: i) the



quality of the exchanges between the participants and the facilitation team; ii) the active participation of the participants during each of the sessions; and iii) the diversity of the learning methodology adapted to adult training and to the context. Six weeks after the training, 22 re-took the same tool. (Three participants were unavailable.) Knowledge retention remained high, with an average assessment score of 82.3 percent.

PROFILE

Obstetric nurse Samaou Abdourhamane has worked 6 years at CSCom Forgho in Gao. Her story: "I was lucky enough to be one of the health providers trained in using the WHO checklist in December 2022. Although prior to this training, I had benefited from an orientation in 2020 through another district partner, my skills in filling in the checklist according to the standards were really strengthened during this training workshop, and thanks to the practical training. Having really embraced the importance of the tool in detecting risk factors in time and managing them early on, I had the courage to be more assiduous in using it daily. From December 2022 to February 2023, I performed 60 deliveries with systematic administration of the checklist. The most important positive change that it brings to my daily practice is diligently checking ANC records for all women who arrive at the maternity ward in labor, and the availability of essential medicines that could be required urgently during delivery or in the immediate postpartum period. Before the training, honestly, this was not a common practice for me. The use of the checklist has strengthened my confidence in monitoring a woman in labor, but above all has improved my relationships with women in labor through establishing a permanent dialogue between women and me."

SAFE CHILDBIRTH CHECKLIST IMPLEMENATION

Assessment data were collected from 1 CSRef, 18 CSComs, and 2 private clinics on SCC use and completion between December 2022 to February 2023. (Providers were on annual leave at two facilities.) Findings show that the SCC was used in 1,298 out of 1,698 deliveries (76 percent), and some 75 percent of completed checklists were up to WHO SCC Implementation Guide standards. That is, they were fully and correctly completed across the four pause points: admission, just before birth, soon after birth, and on discharge.

- The CSRef utilized the SCC for 79 percent of deliveries during this period, and 76 percent of those were completed to standard.
- Eighteen CSComs used the SCC for 800 of 1,058 deliveries (75 percent) and 602 SCCs were completed according to standards (75 percent). There was variation in performance among the CSComs, as shown in the table (following page).
- Three facilities used the SCC in all deliveries (100 percent), and all checklists were completed correctly.
- Four CSComs utilized the checklist for 40 percent or fewer of the total deliveries, while six CSComs completed less than half of the SCCs in accordance with standards.

Data were mixed at the private health facilities. At one, there were only two deliveries during the 3-month period, and both were monitored with the SCC. At the other, 9 of 18 (50 percent) deliveries used the SCC. At

neither private clinic, however, were SCCs completed to the standards. The supervision team attributed differences in facility performance to health providers motivations and facility management.

SCC DATA COLLECTION FINDINGS

Name of Facility	Level of Facility	Providers in labor and delivery	MNH providers trained on SCC	Total deliveries (Dec 2022 – Feb 2023)	Total deliveries monitored with SCC (n)	Total deliveries monitored with SCC (%)	SCCs completed up to standards (%)
CSRef Gao	Hospital/ CEmONC	10	3	620	487	79%	76%
CSCom Château	PHC/ BEmONC	7	1	177	71	40%	96%
CSCom Aljanabandia	PHC/ BEmONC	5	1	192	192	100%	100%
CSCom Kokorom	PHC	1	1	92	8	9%	63%
CSCom Wabaria	PHC	4	1	65	48	74%	73%
CSCom Sossokoira	PHC	4	1	60	54	90%	11%
CSCom Forgho	PHC	3	1	60	60	100%	100%
CSCom Boulgoundié	PHC/ BEmONC	6	1	59	59	100%	63%
CSCom Berrah	PHC	3	1	56	56	100%	50%
CSCom Kareinbandia Gourma	PHC	1	1	41	41	100%	100%
CSCom Tchirissoro	PHC	2	1	40	9	23%	11%
CSCom Haoussa Foulane	PHC/ BEmONC	2	1	40	40	100%	85%
CSCom Kareinbandia Haoussa	PHC	1	1	36	36	100%	94%
CSCom Djiddara	PHC	2	1	30	30	100%	90%
CSCom Tacharane	PHC/ BEmONC	4	1	28	28	100%	71%
CSCom Kochakarey	PHC	2	1	22	8	36%	63%
CSCom Bagoundié	PHC	3	1	21	21	100%	0%
CSCom Doumbaria	PHC	3	1	20	20	100%	45%
CSCom Barigouma	PHC	1	1	19	19	100%	0%
CSCom Gadeye	PHC/ BEmONC	4	1	NA	NA	NA	NA
CSCom Magnadaoué	PHC	3	1	NA	NA	NA	NA
Clinique Koima	Private	1	1	18	9	50%	0%
Clinique du Nord	Private	1	1	2	2	100%	0%
TOTAL	**23**	**73**	**25**	**1,698**	**1,298**	**76%**	**75%**

USER EXPERIENCE SURVEY RESULTS

Six months after implementation, an 18-question SCC user experience survey was sent to the 25 trained staff; of those, 22 CSCom or CSRef facility personnel responded (there were no responses from the private facilities). Key results are highlighted below.

noted that SCC was very useful, guiding them to make better clinical decisions they wouldn't have been able to make without the tool

said that if they were transferred to another facility, they would bring the SCC with them and continue its use at every childbirth

reported using the SCC at least once per week

Respondents also reported on their confidence levels while using the SCC:

reported feeling always confident on routine activities to perform every childbirth

reported feeling always confident to know when to refer a woman to a higher-level facility

reported feeling always confident to know when to treat a woman with oxytocin

reported feeling always confident to know when to treat a woman with antibiotics during childbirth

reported feeling always confident to know when to treat a woman with magnesium sulfate

When asked how often the facility had all necessary resources (medicine, equipment, and supplies) available to deliver safe care for mothers and babies, 14 (64 percent) of the 22 respondents reported "always" and 8 (32 percent) reported "sometimes." Seventeen respondents (77 percent) felt very confident in their ability to teach others at the facility on how to use the SCC and had already done so.

The primary challenge reported for using the SCC was insufficient printed copies available at the facility (reported by 45 percent). Another 27 percent noted the shortage of trained providers available at the facility, while 27 percent said there were no challenges experienced.

When asked about the most helpful intervention for improving SCC uptake at the facility, 59 percent requested more training on the SCC for more health workers, 18 percent asked for more support from facility management to promote the use of the SCC, and 5 percent requested a digital version of the checklist. Eighteen percent reported no additional interventions needed.

FOLLOW-UP SUPERVISION OF SCC USE

To understand the long-term impact of the implementation of SCC use in Gao, and separate from the assessment data noted above, MOMENTUM Integrated Health Resilience carried out post-training follow-up monitoring between February and March 2023 in 21 of the 23 health facilities. The monitoring included onsite visits by supervisors to review clinic registers and SCCs in patient files. Observed strengths and areas for improvement, along with action points for the supervision team, are highlighted below. Supervision visits have continued as a part of quality improvement efforts in Gao. When possible, supervisors continue to review SCC usage and completion at supported health facilities.

Observed Strengths	Action Points for Supervision Team
Availability of trained service providers in the 21 sites visited.	• Continue to monitor the retention of trained providers in supported sites. • Follow up through supportive supervision to ensure trained providers are cascading knowledge and skills for the SCC to all health providers working in labor & delivery.
Availability of printed SCC sheets in all labor and delivery units of health facilities visited.	• Continue to monitor availability of printed SCC in all maternities. • Support district health office with routine distribution of printed SCC at supported facilities.
Frequent use of the SCC in maternity wards.	• Continue to monitor use of SCC across all supported sites. • Promote and encourage sites with high SCC usage.
Systematic archiving of the completed checklists appended to the partograph and the obstetrical record of the patient.	• Continue to monitor and encourage systematic documenting and archiving of maternal health patient cards.
Areas for Improvement	**Action Points for Supervision Team**
Low level of documented debrief or data use sessions; only 5 of 21 (24 percent) facilities conducted a debrief.	• Coach facility management on the importance of how to lead routine MNH data review meetings in the maternities. • Provide SCC data use discussion guide to facilitate the routine review of SCC.
Insufficient completion of the various data collection forms (registers and report forms) at the maternity level.	• Provide on-the-job training and coaching for health providers on how to fill out patient forms and register books in a complete, accurate, and timely manner. • Encourage facility management to routinely review documentation forms and provide feedback to providers.
Absence of an internal monitoring mechanism on how to file checklists within the CSRef maternity unit (disappearance of certain checklists for deliveries carried out by unqualified personnel).	• Work with facility management to improve filing systems in ways that are easy for health providers to use. • Support trained providers to cascade knowledge and skills on documenting the SCC to other staff working in the CSRef maternity ward.
No referral logbooks or notebook in private clinics; identified need to strengthen collaboration between the public and private facilities.	• Assist the private clinics to adopt referral logbooks and documentation consistent with what is used in public facilities. Work with facility management to identify areas of collaboration for MNH across public and private facilities.
Low uptake of SCC in some health facilities	• Engage with these health facilities to explore the reasons behind low uptake, and develop plans to address them.

CONCLUSION

In a context like the Gao Health District, where there are insufficient resources for trained MNH providers and referral systems, it is important to implement decision-making tools such as the SCC to reduce the second and third delays[2] (reaching an appropriate facility and receiving adequate care) in the management of women while pregnant, in labor, and immediately postpartum. Strengthening the capacity of existing providers by linking them to job aids such as the SCC, providing support, and coaching them through the follow-up are key interventions in improving the availability and quality of services and care within health facilities.

MOMENTUM Integrated Health Resilience's efforts to introduce the SCC to 23 facilities in Gao demonstrate that it is feasible to launch the SCC in the challenging northern regions of Mali with adequate training and follow-up. Findings from implementation demonstrated that the tool was easy to use and implement at most facilities in Gao, although more data are needed to understand differences in uptake between facilities. While uptake was high across most facilities, there is still room for improvement in the completeness and accuracy of the checklists. The primary challenges reported by the participants in the user experience survey were insufficient printed checklists and a shortage of trained staff, which can be addressed through close collaboration with the Gao District Health Office for continued supportive supervision. This initial launch sought only to track utilization and completion rates for the SCC; MOMENTUM Integrated Health Resilience cannot yet link those data to MNH quality of care and patient outcomes.

RECOMMENDATIONS

These recommendations, based on the experience of introducing the SCC as a decision-support tool to health providers, were developed to support implementation, adaptation, and scale-up of SCC use in fragile contexts.

- Implementing the SCC is possible in fragile contexts. Local adaptations may be required to ensure success.
- It is important to identify health facilities with an adequate number of births and skilled providers for successful implementation.
- As a prerequisite to SCC use, implementation should accompany birth care training or at least take place in health facilities with providers who have been trained in care around time of birth.
- Post-training follow-up, supervision, and mentoring are crucial to enhance the use of the checklist and sustain the necessary skills.
- Availability of the SCC forms is important to sustain the use of the checklist.
- Implementation of the SCC should be linked with other quality improvement efforts to help maximize its use and impact, as well as to strengthen health providers skills in clinical care.
- Identifying measurements and clinical indicators is essential to help determine the effect of SCC use on clinical outcomes.

[2] The "Three Delays" model proposes that pregnancy-related mortality is overwhelmingly due to delays in: (1) deciding to seek appropriate medical help for an obstetric emergency; (2) reaching an appropriate obstetric facility; and (3) receiving adequate care when a facility is reached.

REFERENCES (in order of their use in the text)

1. Molina, R. L., A-C. Benski, L. Bobanski, D.E. Tuller, and K.E.A Semrau. 2021." Adaptation and implementation of the WHO Safe Childbirth Checklist around the world." *Implementation Science Communications*, 2(1), 76. https://doi.org/10.1186/s43058-021-00176-z.
2. Onambele, L., W. Ortega-Leon, S. Guillen-Aguinaga, M.J. Forjaz, A. Yoseph, L. Guillen-Aguinaga, R. Alas-Brun, A. Arnedo-Pena, I. Aguinaga-Ontoso, and F. Guillen-Grima. 2022. "Maternal Mortality in Africa: Regional Trends (2000–2017)." *International Journal of Environmental Research and Public Health*, 19(20), 13,146. https://doi.org/10.3390/ijerph192013146.
3. United Nations Maternal Mortality Estimation Inter-agency Group. 2023. "Trends in maternal mortality 2000 to 2020: Estimates by WHO, UNICEF, UNFPA, World Bank Group, and UNDESA/Population Division." World Health Organization. https://apps.who.int/iris/handle/10665/366225.
4. HRH2030. 2021. *Final Report: HRH2030 in Mali*. Chemonics International. https://hrh2030program.org/final-report-mali/
5. URC. 2020. *USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project – Country Summaries.* University Research Co., LLC. https://www.urc-chs.com/wp-content/uploads/USAID-ASSIST-Country-Summaries.pdf.

Suggested citation: Traore, Demba, Lazare Coulibaly, and Ida Kankindi. 2024. *Introduction of the Safe Childbirth Checklist in Fragile Areas in Mali*. Washington, DC: USAID/MOMENTUM Integrated Health Resilience.

Acknowledgements: Adizatou Boubacar, Ousmane Sankaré, F. Konotio, Aminatou Traoré, and Joseph Obure also contributed significantly to the development and completion of this technical brief.

Photos: Cover: Dr. Lazare Coulibaly, MIHR Mali Technical Director; Interior: Dr. Demba Traore, Technical Director, FP/RH and Gender Lead, MIHR Mali

Cover photo caption: Clinical health worker and Technical Director Fatoumata Ousmane stands in front of Tacharane Community Health Center in Mali's Gao region.

MOMENTUM

USAIDMomentum.org
TWITTER: @USAIDMomentum
FACEBOOK: USAID Momentum
LINKEDIN: USAID-Momentum
YOUTUBE: @usaidmomentum2161

MOMENTUM Integrated Health Resilience is funded by the U.S. Agency for International Development (USAID) as part of the MOMENTUM suite of awards and implemented by IMA World Health with partners JSI Research &Training Institute, Inc., Pathfinder International, GOAL USA Fund, CARE, and Africa Christian Health Associations Platform (ACHAP) under USAID cooperative agreement #7200AA20CA00005. For more information about MOMENTUM, visit www.USAIDMomentum.org. The contents of this technical brief are the sole responsibility of IMA World Health and do not necessarily reflect the views of USAID or the United States Government.