A Rapid Community Birthing Center Assessment of Matongo Health Centre in Kisii County, Kenya

Saving lives of mothers and children through Community Based Birthing Centers: taking the Casa Materna global and testing it in new contexts in Guatemala, Kenya and Sierra Leone

Curamericas Global – Hope Through Health

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Abstract

In January 2018, Curamericas Global and the Kisii County Department of Health (KCDOH) began a three-year maternal, newborn and child health (MNCH) project in the Kitutu Chache South sub-county of Kisii County, Kenya. The project includes maternal and child health outreach as well as strengthening current health facilities to provide high-quality, culturally-appropriate, respectful care. The project is tightly focuses on: 1) improving attention to obstetric emergencies; 2) preventing and treating postpartum hemorrhage; 3) improving immediate neonatal care; and 4) reducing stunting in under-2 children. The overall expected impact is reduction in maternal and neonatal mortality, which, in Kisii County, are both higher than the national rates. The core intervention is the Community Birthing Center (CBC), a partnership between the health facilities attending deliveries and referring complications, and the communities in their catchment.

In January 2018 Curamericas representatives assessed the Matongo Health Centre (MHC), the program's pilot health facility, using the Rapid Community Birthing Center Assessment (R-CBCA) tool developed by Curamericas. This comprehensive assessment measures the extent that a health facility meets the criteria of a CBC and then guides the improvements needed for it to qualify as a CBC. The assessment includes interviewing health workers, reviewing facility and ministry records, and directly observing clinical practices, protocols, and inventories.

The R-CBCA confirmed the potential of MHC for meeting CBC criteria, while also identifying areas for growth. The MHC met 57% of the CBC criteria. Failure to meet CBC criteria was due to three major obstacles. First, the centre is critically understaffed, having only four nurses out of the recommended sixteen. The staff feel the strain of this deficit, and additionally are unable to provide consistent, twenty-four-hour services. Second, the MHC lacks essential medical equipment and facility capacities. Most notably this includes basic medical equipment for the maternity wing, including ultrasound, resuscitator, doppler and infant warmer; as well as electricity and a water tap for the maternity wing. Finally, the links with the community must be strengthened, since a CBC depends on community partnership and active community involvement in the operations and success of the CBC. This includes strengthening and re-activating the Village Health Community (VHC), many of which have been inactive. This raises serious issues because community is a vital element of the CBC. Assessment of these shortfalls will be used to make recommendations for the facility and to move forward with the county-wide project.

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Glossary

ANC	Antenatal Care
CBIO	Community-based, Impact-Oriented Methodology
CBC	Community Birthing Center
CHC	Community Health Committee
HFC	Health Facility Committee
KCDOH	Kisii County Department of Health
M&E	Monitoring and Evaluation
MHC	Matongo Health Centre
MMR	Maternal Mortality Rate
MNHC	Maternal and Newborn (Neonatal) Healthcare
MRC	Micro-Regional Committee
PC	Program Coordinator
PM	Program Manager
R-CBCA	Rapid Community Birthing Center Assessment
SBA	Skilled Birth Attendant
TBA	Traditional Birth Attendant
VHC	Village Health Committee

Background

Since 1983, Curamericas Global has partnered with underserved communities to make measurable and sustainable improvements in their health and well-being. Curamericas makes measurable impacts on the health of the community by focusing on prevention, health education and establishing relationships with existing health facilities. The organization's programs are founded on a combination of Community-Based, Impact-Oriented (CBIO)[1] and Care Group[2] methodologies with proven success in low-resource countries like Guatemala, Haiti, and Liberia.

In January 2018, Curamericas Global (Curamericas) and the Kisii County Department of Health (KCDOH) began a three-year maternal, newborn and child health (MNCH) project in the Kitutu Chache South sub-county of Kisii County, Kenya. The project includes maternal and child health outreach as well as strengthening current health facilities to provide high-quality, culturally-appropriate, respectful care. The project is tightly focuses on: 1) improving attention to obstetric emergencies; 2) preventing and treating postpartum hemorrhage; 3) improving immediate neonatal care; and 4) reducing stunting in under-2 children. The overall expected impact is reduction in maternal and neonatal mortality, which, in Kisii County, are both higher than the national rates. The core intervention is the Community Birthing Center (CBC), a partnership between the health facilities attending deliveries and referring complications, and the communities in their catchment. Evidence from Curamericas' work in Guatemala and Liberia has shown that when the provision of quality, respectful, culturally appropriate care in the health facility is combined with increased community engagement via community mobilization, household-level health education and behavior change, community emergency transport plans, and improved danger sign recognition and response, dramatic reductions – and even elimination – of maternal and neonatal mortality is possible.

The project is being implemented in Kitutu Chache South Sub-County, targeting a catchment population of three health facilities: Matongo, Iranda, and Mosocho Market. Matongo Health Centre is the pilot facility for PY1 which has a catchment area comprised of 12,537 people in 22 communities. Iranda and Mosocho will be incorporated into the project in PY2.

Two weeks after the program launch in Kisii County, two representatives from Curamericas visited Kisii County to conduct formative research and hire program staff while continuing to garner support and build partnership with local communities and district-level health staff. A major objective of the trip was to conduct a Rapid Community Birthing Center Assessment (R-CBCA) of the MHC.

The R-CBCA is a multi-purpose instrument that can be utilized to assess the extent to which an already existing health facility meets the criteria of a CBC and then guide the improvements needed for it to meet all CBC criteria. A CBC sets a unique standard for a community-based health facility in that it is managed or co-managed by the communities it serves, is strategically located in proximity to these communities, and offers high-quality, respectful, culturally appropriate maternal/neonatal care provided by professional health workers who are of the culture and/or speak the language of the communities

[1] Curamericas Global. *Our Methodology: Community-based, Impact-Oriented.*
[2] World Relief; Food for the Hungry. *Establishing Care Group Criteria.* November 2010.

served. An essential characteristic is that the communities it serves are fully engaged in the design, creation, and subsequent operation of the CBC.[3]

The R-CBCA is based on the detailed description of the criteria of the CBC's processes, characteristics and scope provided in a companion document, *The Community Birthing Center: an innovative approach to reducing maternal and neonatal mortality in low-resource contexts*. The CBC criteria it describes are derived from the experience of the partnership of Curamericas and Curamericas Guatemala in the creation of *Casas Maternas Rurales*, community-built and -operated birthing centers serving marginalized indigenous populations in the Guatemalan Western Highlands. Most of its content has been directly adapted from Curamericas Guatemala's *Casa Materna Replication Manual*. The criteria have been expanded and modified to be applicable to the adaptation of existing health facilities – primarily health posts and clinics - to the Casa Materna model. The R-CBCA and its tool reflect this expansion of the CBC definition and criteria.

Methods

The R-CBCA was conducted on the Matongo facility by the Curamericas Program Manager (PM) and the KCDOH Program Coordinator (PC) using the Rapid Community Birthing Center Assessment (R-CBCA) Tool User's Guide and tool. The assessment involved interviews of facility staff (including CHEWs, Matongo facility leadership, and line staff), direct observation, review of CBC records, self-assessment by Skilled Birth Attendants (SBAs), review of data, and interviews with mothers who are users of the facility.

In addition, to assess the community engagement, group Interviews were conducted with 17 members of Village Health Committees, 6 mothers who delivered at the facility, and 5 mothers who had delivered at home.

These interviews were conducted by the PM and the PC. Questions were asked in English and translated to Kiswahili or Ekegusii (local language) when necessary, but all responses were recorded in English. The PM and PC used their discretion for which method to employ depending on the criteria in question, validating findings with a secondary method when possible or appropriate. Data collection for the RCBCA took about 5 hours.

Results

Below are the results of the R-CBCA in table format. Criteria are arranged in eight sections as outlined in a companion document called *The Community Birthing Center*: 1) CBC location, 2) CBC services, 3) CBC staffing and support, 4) CBC Physical Plant/Equipment/Supplies, 5) Respectful Culturally Appropriate Care, 6) Health Information and M&E, 7) Community Partnership, and 8) Women's Empowerment.

The "Status" column denotes if the given criteria was met (**yes**), if the given criteria was partially met (**part**), or if the given criteria was not met at all (**no**). A scoring system was created to quantify percentage of adherence to CBC standards. The scores can be found above the table of each section. Rows highlighted in gray are desirable criteria but not essential for meeting CBC standards.

[3] Stollak, Ira. *The Community Birthing Center: an innovative approach to reducing maternal and neonatal mortality in low-resource contexts.* December 2017.

The complete R-CBCA can be found in Appendix A.

Following the tables of the criteria is a section for comments and observations. These were reported by the Curamericas PM. Adherence to CBC standards was calculated and represented in a graph.

1. CBC Location — CBC SECTION SCORE: 100%

No.	Criteria	Status			Notes
		yes	part	no	
1.1	Catchment area (micro-region) of the CBC has a high MMR and low coverage of health facility deliveries	X			
1.2	CBC strategically located a maximum of 30 minutes by vehicle from the most distant catchment communities	X			
1.3	CBC located no more than 2 hours from nearest referral hospital	X			

2. CBC Services — CBC SECTION SCORE: 63%

No.	Criteria	Status			Notes
		yes	part	no	
2.1	Services provided 24/7 (including holidays)			X	Lack of regular night service
2.2	Equipped with sleeping quarters for staff and/or staff sleeping accommodations provided in or near the community of the CBC (optional/desirable)	X			
2.3	CBC skilled birth attendant (SBAs) possess the skills to do normal/vaginal deliveries	X			
2.4	All deliveries include the Essential Newborn Actions (clean umbilical cord care, thermal care- immediate drying and wrapping, immediate breastfeeding, weighing and measuring, BCG and Hep B vaccinations)	X			Hep B is not given due to lack of government policy requirement
2.5	CBC staff skilled in the diagnosis/ stabilization/ management/referral of obstetric complications, including post-partum hemorrhage	X			
2.6	CBC has coordinated with the communities in its catchment to establish a transportation system to pick up women from villages and bring them to the CBC			X	
2.7	CBC has well-developed referral/counter-referral system arranged with referral hospital(s), including accessible affordable transportation		X		Exists, but poorly coordinated
2.8	Fueled and maintained ambulance with driver available 24/7 (optional/desirable)			X	Present in writing, but unavailable in reality
2.9	CBC staff – SBAs and Supervisory Nurse - debrief every obstetric emergency and referral to derive and apply lessons learned	X			
2.10	CBC provides holistic maternal/newborn care services- at the minimum: antenatal care, deliveries, attention to obstetric emergencies, postpartum care, family planning, Pap smears	X			
2.11	CBC has a lab or is linked to a nearby lab facility		X		Basic laboratory services, e.g. malaria, HIV but not comprehensive ANC testing
2.12	CBC offers voluntary counseling at testing for HIV and PMTCT services	X			
2.13	CBC offers support classes for pregnant women (optional/desirable)		X		A room exists, but validation of programming was not recorded

2.14	CBC offers birth planning counseling for each pregnant woman as standard part of antenatal care	X			
2.15	CBC offers breastfeeding support groups for lactating women (optional/desirable)	X			For first-time mothers only
2.16	All CBC clinical services offered free of charge			X	National Health Insurance Fund subsidies will end soon. Patients will need to pay per month, which is a burden for the community

3. CBC Staffing and Support — CBC SECTION SCORE: 64%

No.	Criteria	Status			Notes
		yes	part	no	
3.1	Staffing is sufficient to respond to the anticipated number of pregnancies/deliveries of the micro-region			X	Four active nurses out of the 16 recommended
3.2	CBC staff work in rotating shifts to allow 24/7 services		X		Staff rotation done for day, only one nurse assigned to night shift
3.3	CBC offers team attended deliveries – the primary SBA is always assisted	X			
3.4	Primary skilled birth attendants (SBAs) are MOH-certified health professionals (RN, professional midwife, Auxiliary Nurse or equivalent)	X			
3.5	CBC utilizes task shifting from doctors and RNs to lower level professional staff- e.g., Auxiliary Nurses- as primary SBAs (optional/desirable)	X			No doctors on staff
3.6	Primary SBAs are trained and supervised by a Supervisory Nurse (a skilled obstetric RN)	X			
3.7	Supervisory Nurse does regular (at least quarterly) evaluation and continuous quality improvement (CQI) of SBA skills	X			
3.8	Availability of a Supervisory Nurse 24/7		X		Only effectively during the day shift
3.9	Staff includes Support Women (Doulas, delivery assistants, care navigators, Mujeres de apoyo) who provide emotional and logistical support to the mother, assist in the deliveries, and/or accompany women to the CBC or referral hospital	X			Peer Educator, Peer Mother, and sometimes informal referred support women
3.10	Staff includes at least one community Health Educator or Community Health Extension Worker	X			
3.11	Traditional Birth Attendants are trained (by CBC or MOH staff) and integrated into CBC staffing with specified responsibilities			X	Not recognized, outlawed by the government

4. CBC Physical Plant/Equipment/Supplies — CBC SECTION SCORE: 29%

No.	Criteria	Status			Notes
		yes	part	no	
4.1	CBC is constructed and/or maintained with help of volunteer community labor			X	Done by MoH
4.2	CBC is designed or adapted with input from partner communities according to their preferences			X	
4.3	Exam/counseling room that offers adequate privacy	X			
4.4	Delivery room with at least 2 beds, that offers adequate privacy		X		One bed, one couch
4.5	Post-partum recovery room for resting	X			

4.6	Space for family members to wait and practice birth customs	X			
4.7	Potable water supply			X	No potable water or water tap for the maternity wing
4.8	Complete toilet facilities (toilet, sink, shower)			X	Handwashing stations not fully functional, especially in maternity wing
4.9	Proper waste disposal facilities, including medical waste/sharps, and application of proper infection control and sterilization practices	X			
4.10	24/7 electricity			X	No electricity in the maternity wing
4.11	A washing machine or utility sink for laundry			X	
4.12	Reliable phone communication (landline or reliable cell phone signal)	X			
4.13	Information Technology (i.e. computers/printers/ back-up batteries)			X	
4.14	Internet access (via modem/Wi-Fi)			X	
4.15	Essential clinical equipment, including bag and mask, ultrasound, Doppler, autoclave			X	No ultrasound, Doppler, resuscitator, baby warmer, or oxygen concentrator for maternity wing
4.16	Essential clinical supplies (IVs, gloves, surgical instruments, bandages/gauze, syringes, etc.)			X	Insufficient IVs and surgical instruments, lack of many basic supplies (i.e. cotton, gauze, etc.)
4.17	Essential medicines and drugs (tetanus vaccine, iron/folate, maternal vitamins, antibiotics, saline/Ringers/Hartmann solution, contraceptives, etc.)			X	No iron/folate, MgSO4, Hartmann/Ringers; maternal vitamins only for children
4.18	Supply of oxytocin (or misoprostol) sufficient to last until next scheduled restocking, with no evidence of stock-outs			x	No regular supply, but purchased when needed
4.19	Transfer incubator for premature newborns (optional-desirable)	X			
4.20	Positive airway pressure (PAP) machine (for premature newborns with respiratory distress syndrome) (optional-desirable)			X	Rarely have the need, instead stabilize and refer
4.21	Household supplies (linens, blankets, pillows and pillowcases, etc.)			X	Insufficient
4.22	Supplies for newborns – caps, booties, blankets, pajamas, diapers, etc.			X	
4.23	Training supplies – mannequins (e.g. Mama Natalie, Resuscitation Annie), training videos, manuals, instructional posters, etc.			X	
4.24	Cleaning supplies – soap, shampoo, detergent, mops, sponges, etc.	X			

5. Respectful Culturally Appropriate Care CBC SECTION SCORE: 86%

No.	Criteria	Status			Notes
		yes	part	no	
5.1	CBC staff provide friendly attentive care that respects the woman's right to be free from harm or ill treatment; that respects her liberty, autonomy, self-determination, and freedom from coercion	X			
5.2	CBC staff provide right to information, informed consent, and right of refusal	X			

5.3	CBC staff provide privacy and confidentiality	X			
5.4	Women allowed choice of delivery attire and position during delivery		X		Facility does not offer attire, women use their own clothing; only use Lithotomy position (have not had issues)
5.5	CBC allows presence of the TBA and at least one family member during delivery	X			
5.6	CBC allows culturally appropriate delivery; woman and family allowed to practice nonintrusive traditional birth customs and rituals	X			No protocol, however there are no customs/rituals practiced
5.7	CBC services provided in woman's 1st language (or preferred language)	X			

6. Health Information and M&E

CBC SECTION SCORE: 80%

No.	Criteria	Status			Notes
		yes	part	no	
6.1	Register maintained of all deliveries handled at CBC (including miscarriages and stillbirths)	X			
6.2	Register maintained of all obstetric complications (including outcomes), both referred and resolved in the CBC	X			
6.3	Clinical file for every client	X			
6.4	Signed document noting a refusal of a woman/family to comply with an obstetric emergency referral, properly witnessed and recorded by CBC staff (recommended/optional)	X			Protocol exists, but clinic has never experienced refusal, so this has never been needed (self-referral)
6.5	Vital Events Register maintained for each community to track all births, new pregnancies, and deaths	X			
6.6	Pregnancy Register maintained to detect and track progress of new pregnancies in the partner communities	X			
6.7	Birth Register maintained for all births within partner communities	X			
6.8	Death Registers for all maternal and perinatal deaths (stillbirths and neonatal deaths) in partner communities	X			No death at this facility, but registers are available
6.9	All maternal and perinatal deaths receive verbal autopsy/death audit by CBC clinical staff (or other MOH staff) to determine causes of death and which delays contributed	X			
6.10	CBC uses an M&E system to monitor key indicators such as coverage of ANC, including: health facility deliveries, and PPC; C-section rate; coverage of attention to obstetric emergencies; and FP coverage	X			
6.11	M&E system includes household surveys to obtain accurate baseline and subsequent data on coverage of key indicators				Inconclusive: health workers have not seen this
6.12	Monthly, quarterly, and annual reports generated of production/outputs and M&E data of each CBC; reports shared with partner communities, MoH, and other stakeholders.	X			
6.13	Maternal mortality ratio and perinatal and neonatal mortality rates determined for partner communities, as well as causes, calculated quarterly and annually, based on vital events data			X	
6.14	CBC integrates its M&E data with the MoH HMIS	X			
6.15	CBC staff utilize mobile data technology for field data capture and transmission to a local server or to "the cloud"			X	

7. Community Partnership — CBC SECTION SCORE: 36%

No.	Criteria	Status			Notes
		yes	part	no	
7.1	Catchment communities are mobilized to partner with the CBC, with community buy-in secured after a process of orientation to the goals and operations of the CBC			X	
7.2	Each catchment (partner) community has a Community Health Committee (CHC)/Village Health Committee (VHC) to oversee community health efforts		X		HFCs are active, but VHCs are inactive
7.3	All partner communities have written/signed Memorandum of Understanding (MOU) with the CBC that formalizes its partnership with the CBC and defines each party's commitments and responsibilities			X	
7.4	CHC/VHC creates a community emergency transportation plan to facilitate transport of women in labor or having obstetric emergencies to the CBC			X	
7.5	CHC/VHC works with CBC to establish a system of community vital events surveillance so all new pregnancies, births, and deaths are detected and reported to the CBC for follow-up		X		Many VHCs not active
7.6	The CBC Health Outreach staff meets regularly with the CHC/VHC to review community health data and do data-driven decision-making; community health data is posted in a public place for all to view.		X		Many VHCs not active
7.7	The CHC/VHC works with the CBC Health Outreach Worker and the Community Health Volunteer to establish a Care Group infrastructure of mother peer educators (Care Group Volunteers) to deliver behavior change communication and health education at the household level and to detect vital events (new pregnancies, births, deaths)			X	Conducted for HIV, not for maternal and reproductive health practices
7.8	Care Group Volunteers deliver behavior change communication to all pregnant women and women with under-2 children.			X	No resources or support in existence
7.9	Member of the VHC is present at CBC for every delivery/obstetric emergency from their community (optional/desirable)			X	Many VHCs are inactive, none practice this
7.10	CHC/VHC has representation on a Micro-Regional Committee (MRC)/Health Facility Committee (HFC) that represents all the catchment communities served by the CBC	X			
7.11	The MRC/HFC co-manages the CBC with the CBC staff, with regular quarterly and annual meetings to review CBC and community data, discuss challenges, solve problems, set policies and procedures, and do joint planning	X			

8. Women's Empowerment — CBC SECTION SCORE: 67%

No.	Criteria	Status			Notes
		yes	part	no	
8.1	Women represented on CHCs/VHCs and on MRC/HFC	X			
8.2	TBAs are integrated into CBC operations			X	TBAs are not recognized, outlawed by government
8.3	Women's committees established to assist the VHC with community health work and with CBC operations	X			

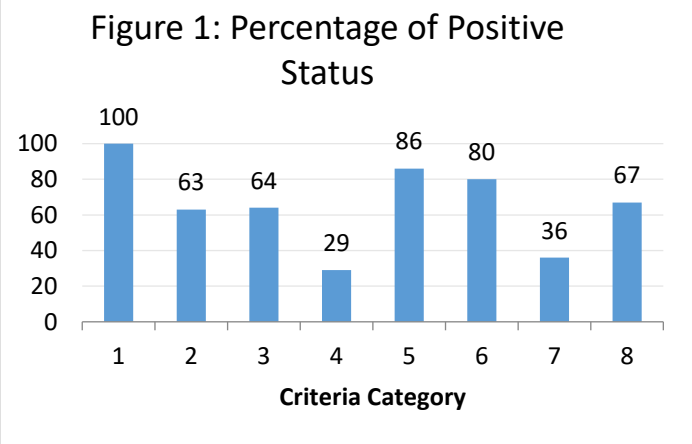
Comments and Observations (written by Curamericas PM)

Matongo facility has sufficient room (buildings) and a great, self-motivated team. Even with the challenges they face, they are doing everything they can to ensure that no mother or child dies in their hands. They are keen at detecting conditions they cannot handle and immediately referring to the next level. I believe that mobilizing the community to support this staff will be of great help.

They can be supported by either building their capacity to handle emergencies, or building a community referral system (including savings clubs) to ensure that no emergency goes unattended. One thing that is not clear is how many of the mothers who self-refer actually make it to the referral facility. According to CBC staff, they do not get feedback unless they follow up, which they don't always have the capacity to do.

Although they have plenty of room (in terms of buildings), there may be a need for organizing their services so they can flow from one room to another – making use of the space more efficiently. The project will be instrumental in activating the VHCs which seem to be dormant presently.

Column	Criteria Category
1	Location
2	Services
3	Staffing and Support
4	Physical Plant, Equipment, Supplies
5	Respectful Culturally Appropriate Care
6	Health Information and M&E
7	Community Partnership
8	Women's Empowerment



A simple scoring system was developed to quantify meeting of CBC criteria. These calculations were based solely on the percentage of "yes" statuses within each category (*figure 1*). These percentages can serve as a reference for areas of weakness to address as the project progresses. MHC excels as an CBC in its location and accessibility, its focus on respect for cultural norms, and its communication of health information with the KCDOH. MHC is lacking in CBC Services and CBC Staffing and Support, but can easily improve by addressing staffing needs to improve sustainable and effective delivery of services. The facility faces major challenges in reaching CBC status due to weaknesses in the Physical Plant, Equipment, and Supplies (category four) and the Community Partnership (category seven). The metric for Women's empowerment is unreliable because integration of TBAs is required, but the KCDOH does not recognize them.

Discussion

The MHC has yielded positive results for development as a CBC despite challenges. The major issues faced by MHC are related to understaffing of clinical health workers, lack of various supplies and equipment, and the inactivity of VHCs. More specific details for the status of MHC can be found by consulting either of the two appendices to this document. Appendix A is the original R-CBCA report as completed by the Curamericas PM. Appendix B is a series of questionnaires done and written up by a Curamericas volunteer on a post-assessment visit to MHC. Addressing these issues would aid in MHC meeting CBC criteria. Below is a summary of the findings for each section of CBC criteria.

COMPOSITE CBC SCORE: 57%

Location (100% score)

The facility met all CBC criteria based on location due to its high maternal mortality rate (MMR), low coverage of health facility deliveries, and accessibility for catchment communities and the nearby referral hospital.

CBC Services (63% score)

The facility offers comprehensive services for holistic maternal and newborns care including skilled birth attendants, counseling, and support groups. The facility staff are motivated and well-trained in delivering these services. However, the facility falls short in providing these services at all times due to understaffing, especially for the night shift.

Additionally, the facility lacks access to transportation services, such as an ambulance. This has led to poor coordination of the referral system. The facility members will also face challenges in access to these services as funding for MNCH clinical services will no longer be subsidized by the MOH. This will place the responsibility of payment on facility members, many of whom cannot sustainably afford this burden.

CBC Staffing and Support (64% score)

While all staff members of the CBC are well-trained and various structures for community health workers exist, the facility lacks sufficient staff coverage. The facility only meets 25% of the recommended number of nurses. Additionally, TBAs are not integrated into services at Matongo because they are not permitted by the government. See Appendix B for further detail. See the “Nurse Questionnaire” section in Appendix B for further detail.

CBC Physical Plant/Equipment/Supplies (29% score)

The facility has sufficient room and was designed to meet the needs of patients with access to most basic needs and privacy practices. However, essential supplies, medicine, and equipment are either insufficient or not carried by the facility.

After careful inventory, MHC and Curamericas have identified the following shortcomings in materials. In terms of equipment, the facility is in need of a Doppler machine, resuscitator, baby warmer, oxygen concentrator, and an ultrasound machine. Medicines that are lacking are iron/folate supplements,

maternal vitamins, magnesium sulfate, and Ringer's lactate solution. The facility also lacks sufficient basic medical materials, such as IVs, cotton, and gauze. Meeting these needs is a vital step towards consistent and dignified MNCH. See the "Nurse Questionnaire" section in Appendix B for further detail.

The facility also lacks information technology resources, internet access, and training supplies. Electricity is currently not available in the maternity wing, and there is not water tap for potable water or hand-washing in the maternity wing. These are serious shortcomings in providing consistent care.

Respectful Culturally Appropriate Care (86% score)

The facility met CBC criteria effectively for providing respectful, culturally-appropriate care. The facility could improve further by allowing the women who delivery their choice of position during delivery.

Health Information and M&E (80% score)

The facility excels in recording salient health information and M&E protocol. Good communication exists between the facility and the KCDOH through established information channels, and duties are well-distributed among facility and community staff members. The facility and county could improve the efficiency of these methods with access to information technology such as computers, printers, back-up batteries, etc.

Community Partnership (36% score)

Partnerships with the local communities in the catchment area are lacking for many reasons. VHCs are lacking or inactive. Stronger partnership, interaction, and integration with the VHC will be vital in strengthening partnerships with local communities. This could be reinforced by formalizing these relationships with MOUs for partner communities. This would help to activate the VHC by defining roles and expectations for members. Eventually, implementing the Care Group approach for household-level education and further empowering and training CHVs will also strengthen community partnership. See the "Clan Elder Questionnaire," "Community Health Volunteer (CHV) Questionnaire," and the "TBA Questionnaire" sections in Appendix B for further detail.

Women's Empowerment (67% score)

The facility demonstrates commitment to empowerment of women with female presence on various committees as well as additional women's committees for HIV-positive and pregnant mothers.

Conclusion

The results of the R-CBCA with a composite score of 59% for MHC show great potential for the facility's capacity to operate fully as a CBC. These results will be addressed by Curamericas and MHC staff members to assess immediate needs and areas of further development. The project will continue to succeed with strong communication and a mutual commitment to further developing partnerships.

Appendix A: Rapid Community Birthing Center Assessment Tool

Rapid Community Birthing Center Assessment Tool

Name of Health Facility: Matongo Health Center (Level 3)
Date(s) of Assessment: January 24, 2018

Evaluator(s):_Florence Amadi (Curmericas Global), Justus Makori (SCHMT)

Abbreviations used: ANC- Antenatal care; CBC- Community Birthing Center; CHC- Community Health Committee; CHEW- Community Health Extension Worker; CHV – Community health volunteer; CHW- Community Health Worker; CGV- Care Group Volunteer; EmOC- Emergency obstetric care; FP- Family Planning; HFC- Health Facility Committee; HFD- Health Facility Delivery; HMIS- Health Management Information System; MMR- Maternal mortality rate; MoH- Ministry of Health; MRC- Microregional Committee; PPC- Postpartum care; TBA- Traditional Birth Attendant; VHC- Village Health Committee

1. CBC Location

No.	Criteria	Assessment Method Options- Indicate method(s) used	Summary of Findings
1.1	Catchment area (micro-region) of the CBC has a high MMR and low coverage of health facility deliveries	Review of MoH data____ Review of civil registry data___ Household Survey/Interviews with end-end-users___ Mortality Survey (census, Sisterhood, etc)____ Other: Staff interview_____ __X__	Criteria met? Yes_X__ No___ Not determined____ **Comments**: Monthly target is 30. In November, they had 12 deliveries. They have not had a maternal mortality at the facility since they are very keen at referring cases that they foresee being complicated.
1.2	CBC strategically located a maximum of 30 minutes by vehicle from the most distant catchment communities	Analysis of maps/GPS coordinates____ Test-drive _X___ Other: ___Staff___X_____	Criteria met? Yes_X__ No___ Not determined____ **Comments:** Catchment population is approximately 9908. Furthest is about 15 minutes' drive. However, patients come from as far as 30/40 minutes away. They bypass other facilities, by choice.
1.3	CBC located no more than 2 hours from nearest referral hospital	Analysis of maps/GPS coordinates____ Timed test-drive __X__ Other: _Staff __X__	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Iranda - 45 minutes to one hour.

2. CBC Services

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
2.1	Services provided 24/7 (including holidays)	Primary: Interview with facility staff_____ Direct observation_____ Review of CBC clinical records_____ Triangulation/validation: Interviews with end-users_____ Other: __Staff__X__	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Sometimes there is no staff for night shift since they are understaffed. Night service will possible if at least two more nurses are deployed
2.2	Equipped with sleeping quarters for staff and/or staff sleeping accommodations provided in or near the community of the CBC (optional/desirable)	Direct observation__X___ Other_____ ____	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Staff stay on rented quarters outside of the facility
2.3	CBC skilled birth attendant (SBAs) possess the skills to do normal/vaginal deliveries	Primary: Review of CBC clinical records_____ Interviews with CBC staff___X___ Triangulation/validation: Results of supervisory skill evaluations_____ Review of training records/certifications___ Direct observation__X____ Interviews/surveys of end-users_____ Other_____	Criteria met? Yes_X__ No___ Not determined___ **Comments:** All nurses are trained in midwifery
2.4	All deliveries include the Essential Newborn Actions (clean umbilical cord care, thermal care-immediate drying and wrapping, immediate breastfeeding), weighing and measuring, BCG and Hep B vaccinations)	Primary: Review of CBC clinical records_____ Interviews with CBC staff__X____ Triangulation/validation: Results of supervisory skill evaluations_____ Direct observation_____ Interviews/survey of end-users_____ Other: Nurse in charge__X__	Criteria met? Yes_X__ No___ Not determined: **Comments:** All nurses are trained on this. Hep B is not given. There is no government policy for Hep B vaccinations

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
2.5	CBC staff skilled in the diagnosis/ stabilization/ management/referral of obstetric complications, including post-partum hemorrhage	Primary: Review of CBC clinical records_____ Interviews with CBC staff_____ Validation/triangulation: Results of supervisory skill evaluations_____ Review of training records/certifications___ Direct observation_____ Interviews/survey of end-users_____ Other: _Nurse in charge_X___	Criteria met? Yes_X__ No___ Not determined___ **Comments:** All nurses are trained on this. They've never had a post-partum hemorrhage case
2.6	CBC has coordinated with the communities in its catchment to establish a transportation system to pick up women from villages and bring them to the CBC	Primary: CBC clinical records_____ Interviews with CBC staff__X__ Validation/triangulation: Interviews/surveys with end-users_____ Interviews of Village Health Committees___ Other: Nurse in charge_X___	Criteria met? Yes___ No_X__ Not determined___ **Comments:** Women find their own means to get to the facility (self-referral). Most of them use "boda bodas" (motor bikes). Red Cross helped during the transition and things were good but got worse once they left. Staff sometimes contribute for a "boda boda" to take a patient.
2.7	CBC has well-developed referral /counter-referral system arranged with referral hospital(s), including accessible affordable transportation	Primary: CBC clinical records_____ Interviews with CBC staff__X__ Validation/triangulation: Referral hospital clinical records_____ Interviews with referral hospital staff_X___ Interviews with end-users_____ Interviews with Village Health Committees__ Other____	Criteria met? Yes_X__ No__ Not determined___ **Comments:** There is one but it's poorly coordinated. No transport but there is protocol for calling the referral hospital to be prepared to receive the referral County government has provided one ambulance per sub-county but it's unavailable most of the time
2.8	Fueled and maintained ambulance with driver available 24/7 (optional/desirable)	Direct observation_X__ Interviews with CBC staff_X__ CBC clinical records___	Criteria met? Yes___ No_X__ Not determined___ **Comments:** In writing yes. But it been a while since the facility saw an ambulance.

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
2.9	CBC staff – SBAs and Supervisory Nurse - debrief every obstetric emergency and referral to derive and apply lessons learned	CBC Clinical records_____ Interview with CBC staff_X__ Other_____	Criteria met? Yes_X__ No___ Not determined____ Comments:
2.10	CBC provides holistic maternal/newborn care services- at the minimum: antenatal care, deliveries, attention to obstetric emergencies, post-partum care, family planning, Pap smears	Primary: CBC Clinical records_____ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Review of end-user's maternal health cards__ Other___	Criteria met? Yes_X__ No___ Not determined___ **Comments:** No pap smear done at the facility
2.11	CBC has a lab or is linked to a nearby lab facility	Direct observation__X___ CBC Clinical records_____ Interviews with CBC staff__X__	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Basic laboratory services e.g. Malaria and HIV
2.12	CBC offers voluntary counseling at testing for HIV and PMTCT services	Primary: Direct observation__X___ CBC Clinical records_____ Interviews with CBC staff__X___ Validation/triangulation: Interview with end-users____ Other___	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Provided by trained staff
2.13	CBC offers support classes for pregnant women (optional/desirable)	Primary: Direct observation__X__ Class attendance logs____ Interviews with CBC staff____ Validation/triangulation: Interviews with end-users____ Other___	Criteria met? Yes___ No___ Not determined___ **Comments:** Facility has a room designated for this
2.14	CBC offers birth planning counseling for each pregnant woman as standard part of antenatal care	Primary: Direct observation____ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users__X__ Review of women's birth plans____ Other___	Criteria met? Yes_X__ No___ Not determined___ **Comments:** CHEWs also reinforce this in the community

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
2.15	CBC offers breastfeeding support groups for lactating women (optional/desirable)	Primary: Direct observation____ Support group attendance logs____ Interviews with CBC staff_X___ Validation/triangulation: Interviews with end-users_X___ Other : _____	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Offered to primy gradidas (1st pregnancies). There's a Mentor Mother based at the facility to provide support to those delivering for the first time
2.16	All CBC clinical services offered free of charge	Primary: CBC clinical records____ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Other____SCHMT	Criteria met? Yes___ No_X__ Not determined___ **Comments:** Facility receives Ksh. 2500 per delivery through the NHIF (National Health Fund). However, this program is coming to an end and patients will pay Ksh. 500 per month. Too much for the community

3. CBC Staffing and Support

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
3.1	Staffing is sufficient to respond to the anticipated number of pregnancies/deliveries of the micro-region	Primary: CBC clinical records____ Review of catchment population data____ Review of staffing roster/schedule____ Interviews with CBC staff__X___ Review of MOH staffing standards ___ Validation/triangulation: Interviews with end-users_____ Other__Observation__X_	Criteria met? Yes___ No_X__ Not determined___ **Comments:** Staffing is insufficient. Only four nurses are currently available, out of the 16 nurses recommended/required. There are 6 but two are currently out of duty
3.2	CBC staff work in rotating shifts to allow 24/7 services	Primary: CBC clinical records____ Staff attendance/work logs____ Interviews with staff_X___ Validation/triangulation: Interviews with end-users____ Direct observation_____ Other_____	Criteria met? Yes___ No__X_ Not determined___ **Comments:** Staff rotation is done for the day shift with one nurse doing the night shift which is straining.

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
3.3	CBC offers team-attended deliveries – the primary SBA is always assisted	Primary: CBC clinical records____ Staff attendance/work logs____ Interviews with staff__X__ Validation/triangulation: Interviews with end-users____ Direct observation_____	Criteria met? Yes_X__ No___ Not determined___ **Comments:** They help whenever possible. They are strained due lack of staff
3.4	Primary skilled birth attendants (SBAs) are MOH-certified health professionals (RN, professional midwife, Auxiliary Nurse or equivalent)	Primary: Review of personnel records___ Review of CBC clinical records____ Interviews with CBC staff_X__ Validation/triangulation: Interviews with end-users___ Direct observation____ Other: SCHMT_____ __X__	Criteria met? Yes__X_ No___ Not determined___ **Comments:** They are all trained in midwifery
3.5	CBC utilizes task shifting from doctors and RNs to lower level professional staff- e.g., Auxiliary Nurses- as primary SBAs (optional/desirable)	Primary: Review of personnel records___ Review of CBC clinical records____ Interviews with CBC staff_X__ Validation/triangulation: Interviews with end-users___ Direct observation__X__ Other____	Criteria met? Yes_X__ No___ Not determined___ Comments: Facility only has trained nurses. No doctors
3.6	Primary SBAs are trained and supervised by a Supervisory Nurse (a skilled obstetric RN)	Review of personnel records____ Review of supervision records____ Interviews with CBC staff__X__ Other___	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Every nurse is a trained midwife and are trained in pronto in OB emergency including resuscitation
3.7	Supervisory Nurse does regular (at least quarterly) evaluation and continuous quality improvement (CQI) of SBA skills	Review of supervision records____ Interviews with CBC staff__X__ Other___	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Weekly meetings with Facility Health Committee (9 members from the community – HIV, disabled, youth, women representative, accounting). There's also a monthly staff evaluation and data review meeting

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
3.8	Availability of a Supervisory Nurse 24/7	Primary: Review of CBC personnel schedule/work logs____ Interviews with CBC staff___X___ Review of CBC clinical records____ Validation/triangulation: Direct observation____ Other___	Criteria met? Yes___ No_X__ Not determined___ **Comments:** Only during the day since only one serves at night.
3.9	Staff includes Support Women (Doulas, delivery assistants, care navigators, Mujeres de apoyo) who provide emotional and logistical support to the mother, assist in the deliveries, and/or accompany women to the CBC or referral hospital	Primary: Review of CBC personnel schedule/work logs____ Review of CBC clinical records____ Interviews with CBC staff__X____ Direct observation__X__ Validation/triangulation: Interviews with end-users____ Other: Nurse in charge_____ _X_	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Facility has a Peer Educator and Peer Mother. Sometimes women are referred by CHVs but this is not coordinated
3.10	Staff includes at least one community Health Educator or Community Health Extension Worker	Primary: Review of CBC personnel logs____ Interviews with CBC staff__X____ Direct observation__X__ Validation/triangulation: Interviews with end-users____ Interviews with Village Health Committees_X_ Other__	Criteria met? Yes_X__ No___ Not determined___ **Comments:** Three CHEWs (two at the facility, and one in the community). Peer Educators (including for HIV) do follow ups and provide health talks
3.11	Traditional Birth Attendants are trained (by CBC or MOH staff) and integrated into CBC staffing with specified responsibilities.	Primary: CBC clinical records____ Interviews with CBC staff___X___ Direct observation_X___ Validation/triangulation: Interviews with TBAs____ Interviews with end-users____ Interviews with VHCs/HFCs__ Other: SCHMT__X__	Criteria met? Yes___ No_X__ Not determined___ Comments: TBAs are not recognized. They are not trained and no specific responsibility is given to them. They are actually outlawed by the government

4. CBC Physical Plant/Equipment/Supplies

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
4.1	CBC is constructed and/or maintained with help of volunteer community labor	Primary: Interviews with CBC staff__X__ Validation/triangulation: Interviews with VHCs/HFCs___ Direct Observation____ Other: SCHMT__X__	Criteria met? Yes___ No_X__ Not determined___ **Comments:** This is done by the MOH
4.2	CBC is designed or adapted with input from partner communities according to their preferences	Primary: Interviews with CBC staff__X__ Validation: Interviews with VHCs/HFCs___ Interviews with end-users____ Other: SCHMT__X__	Criteria met? Yes___ No_X__ Not determined__ Comments:
4.3	Exam/counseling room that offers adequate privacy	Direct observation___X___	Criteria met? Yes_X__ No___ Not determined__ Comments:
4.4	Delivery room with at least 2 beds, that offers adequate privacy	Direct observation__X__	Criteria met? Yes_X__ No___ Not determined__ **Comments:** One bed, one couch
4.5	Post-partum recovery room for resting	Direct observation_X___	Criteria met? Yes_X__ No___ Not determined__ Comments:
4.6	Space for family members to wait and practice birth customs	Primary: Direct observation_X___ Interviews with CBC staff_X__ Validation/triangulation: Interviews with end-users_____	Criteria met? Yes_X__ No___ Not determined__ **Comments:** They have a waiting space outside
4.7	Potable water supply	Primary: Direct observation__X__ Validation/triangulation: Water quality tested____ Other___	Criteria met? Yes___ No_X__ Not determined__ **Comments:** Shallow well is available plus rainwater harvesting – 10,000 to 30,000-liter tanks. Sometimes there's shortage of water, especially during the dry season. They buy water from the community costing up to Ksh. 4000/day

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
4.8	Complete toilet facilities (toilet, sink, shower)	Direct observation_X___	Criteria met? Yes___ No__X_ Not determined__ **Comments:** Toilets are outside (pit latrines). There are two handwashing stations at the maternity wing but not fully functional
4.9	Proper waste disposal facilities, including medical waste/sharps, and application of proper infection-control and sterilization practices	Direct observation (utilizing MOH medical waste and infection control protocol checklist) _X___ Interviews with CBC staff_X___ Other___	Criteria met? Yes_X__ No___ Not determined__ **Comments:** Placenta pit is available. There are two sterilizers (one manual and one electric). There's also a burning chamber for sharps. No sharps dispenser though
4.10	24/7 electricity	<u>Primary</u>: Direct observation_X____ Interviews with CBC staff__X__ <u>Validation/triangulation</u>: Interviews with end-users____	Criteria met? Yes___ No_X__ Not determined__ **Comments:** There is one pressure lamp for emergency, but this is unreliable. The facility faces power outages.
4.11	A washing machine or utility sink for laundry	Direct observation___X__	Criteria met? Yes___ No_X__ Not determined__ **Comments:** Washing is done outside in the open
4.12	Reliable phone communication (landline or reliable cell phone signal)	<u>Primary</u>: Direct observation/testing____ Interviews with CBC staff_X__ <u>Validation/triangulation</u>: Interviews with end-users___ Other____	Criteria met? Yes_X__ No___ Not determined__ Comments: Two cellphones. They have a budget for airtime from the reimbursement money
4.13	Information Technology (i.e. computers/printers/ back-up batteries)	Direct observation_X___ Interviews with CBC staff_X___	Criteria met? Yes___ No_X__ Not determined__ **Comments:** Iranda has, Raganga has, but Mososcho and Matongo don't

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
4.14	Internet access (via modem/WiFi)	Direct observation/testing__X__	Criteria met? Yes___ No_X__ Not determined__ Comments:
4.15	Essential clinical equipment, including bag and mask, ultrasound, Doppler, autoclave	Direct observation utilizing MOH equipment protocols___ Ambu bag and mask present__X__ Doppler ___ Ultrasound ____ Autoclave _X__ Blood pressure cuffs/monitor_X__ Other___	Criteria met? Yes___ No_X__ Not determined__ **Comments**: No ultra sound, Doppler, resuscitator, baby warmer, oxygen concentrator
4.16	Essential clinical supplies (IVs, gloves, surgical instruments, bandages/gauze, syringes, etc).	Direct observation utilizing MOH clinical supply protocols_X__ IVs___ Gloves_X__ Surgical instruments___ Bandages/gauze_X__ Disposable syringes__X_	Criteria met? Yes___ No_X__ Not determined__ **Comments:** IVs not sufficient. Staff has to improvise with water and salt solution. Also lacking many basic supplies – cotton, gauze, etc.
4.17	Essential medicines and drugs (tetanus vaccine, iron/folate, maternal vitamins, antibiotics, saline/Ringers/ Hartmann solution, contraceptives, etc.)	Direct observation utilizing MOH essential medicine lists____ CBC clinical records____ Tetanus vaccine__X_ Iron/folate___ Maternal vitamins____ Hartmann/Ringers____ MgSO4_____ Antibiotics__X__ Contraceptives _X__	Criteria met? Yes___ No_X__ Not determined__ Comments: Iron/folate – stock out for about a year; maternal vitamins – just for children (stock out not common)
4.18	Supply of oxytocin (or misoprostol) sufficient to last until next scheduled restocking, with no evidence of stock-outs	Direct observation____ Review of CBC clinical/supply records___ Interviews with CBC staff_X__ Other: SCHMT_X__	Criteria met? Yes___ No_X__ Not determined__ **Comments:** No regular supply. Facility buys when need arises

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
4.19	Transfer incubator for premature newborns (optional-desirable)	Direct observation__X__ Review of CBC clinical records___	Criteria met? Yes__X_ No___ Not determined__ **Comments:** Incubator is available. Given by Novatis
4.20	Positive airway pressure (PAP) machine (for premature newborns with respiratory distress syndrome) (optional-desirable)	Direct observation__X__ Review of CBC clinical records_____	Criteria met? Yes___ No_X__ Not determined__ **Comments:** They rarely have the need. They refer cases they think will require this. They stabilize and refer
4.21	Household supplies (linens, blankets, pillows and pillowcases, etc.)	Direct observation_X___	Criteria met? Yes___ No_X__ Not determined__ **Comments:** Not sufficient. What they have was given by KEMSA during central government. KEMSA is the Kenya Medical Supply Authority
4.22	Supplies for newborns – caps, booties, blankets, pajamas, diapers, etc.	Primary: Direct observation__X__ Validation/triangulation: Interviews with end-users__X__	Criteria met? Yes___ No_X__ Not determined__ Comments:
4.23	Training supplies – mannequins (e.g. Mama Natalie, Resuscitation Annie), training videos, manuals, instructional posters, etc.	Direct observation__X__ Interviews with CBC staff__X____ Mannequins/models___ Manuals___ Videos___ Posters___	Criteria met? Yes___ No_X__ Not determined__ **Comments:** None
4.24	Cleaning supplies – soap, shampoo, detergent, mops, sponges, etc.	Direct observation__X__	Criteria met? Yes_X__ No___ Not determined__ Comments:

5. Respectful Culturally Appropriate Care

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
5.1	CBC staff provide friendly attentive care that respects the woman's right to be free from harm or ill treatment; that respects her liberty, autonomy, self-determination, and freedom from coercion	Primary: Direct observation___ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Interviews with VHCs/HFCs_ X_ Other___	Criteria met? Yes_X__ No___ Not determined__ Comments:
5.2	CBC staff provide right to information, informed consent, and right of refusal	Primary: Direct observation___ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Interviews with VHCs/HFCs__X Other___	Criteria met? Yes_X__ No___ Not determined__ Comments:
5.3	CBC staff provide privacy and confidentiality	Primary: Direct observation_X__ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Interviews with VHCs/HFCs__X Other___	Criteria met? Yes_X__ No___ Not determined__ **Comments:** HIV counseling is done in private room. Noone is allowed into the delivery room, except spouse
5.4	Women allowed choice of delivery attire and position during delivery	Primary: Direct observation___ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Interviews with VHCs/HFCs_X_ Other___	Criteria met? Yes__X_ No___ Not determined__ **Comments:** Facility does not provide attire – women use their own clothing. Only Lithotomy position is used at the facility. There has not been any issue with using Lithotomy.
5.5	CBC allows presence of the TBA and at least one family member during delivery	Primary: Direct observation___ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Interviews with VHCs/HFCs__X Other_____	Criteria met? Yes_X__ No___ Not determined__ **Comments:** Only spouse is allowed unless the mother requests for someone else

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
5.6	CBC allows culturally appropriate delivery; woman and family allowed to practice non-intrusive traditional birth customs and rituals	Primary: Direct observation___ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Interviews with VHCs/HFCs__X Other___	Criteria met? Yes__X_ No___ Not determined__ **Comments:** There is no protocol for this. However, there are no birth customs/rituals practiced at the facility
5.7	CBC services provided in woman's 1st language (or preferred language)	Primary: Direct observation_X__ Interviews with CBC staff__X__ Validation/triangulation: Interviews with end-users____ Interviews with VHCs/HFCs__X Other___	Criteria met? Yes_X__ No___ Not determined___ Comments:

6. Health Information and M&E

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
6.1	Register maintained of all deliveries handled at CBC (including miscarriages and stillbirths)	Direct observation__X__	Criteria met? Yes_X__ No___ Not determined__ Comments:
6.2	Register maintained of all obstetric complications (including outcomes), both referred and resolved in the CBC	Direct observation__X__	Criteria met? Yes_X__ No___ Not determined___ Comments:
6.3	Clinical file for every client	Direct observation_X__	Criteria met? Yes_X__ No___ Not determined__ Comments:

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
6.4	Signed document noting a refusal of a woman/family to comply with an obstetric emergency referral, properly witnessed and recorded by CBC staff (recommended/optional)	Primary: Review of CBC clinical records____ Interviews with CBC staff_X___ Validation/triangulation: Interviews with end-users/families___	Criteria met? Yes__X_ No___ Not determined__ Comments: They have not experienced a refusal. It's self-referral
6.5	Vital Events Register maintained for each community to track all births, new pregnancies, and deaths	Review of register_X__	Criteria met? Yes__X_ No___ Not determined___ **Comments:** This is sent to the County DOH every month
6.6	Pregnancy Register maintained to detect and track progress of new pregnancies in the partner communities	Review of register__X__	Criteria met? Yes__X_ No___ Not determined__ **Comments**: CHEWs are responsible for this
6.7	Birth Register maintained for all births within partner communities	Review of register_X___	Criteria met? Yes_X_ No___ Not determined__ **Comments:** The SCHMT is responsible for this
6.8	Death Registers for all maternal and perinatal deaths (stillbirths and neonatal deaths) in partner communities	Review of registers__X__	Criteria met? Yes__X_ No___ Not determined___ **Comments:** No death at the facility but registers are available

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
6.9	All maternal and perinatal deaths receive verbal autopsy/death audit by CBC clinical staff (or other MOH staff) to determine causes of death and which delays contributed	Review of Death Register__X__ Review of verbal autopsies/death audits___ CBC staff interview __X__	Criteria met? Yes__X_ No___ Not determined__ **Comments:** No maternal deaths at the facility but there is protocol for this
6.10	CBC uses an M&E system to monitor key indicators such as coverage of ANC, including: health facility deliveries, and PPC; C-section rate; coverage of attention to obstetric emergencies; and FP coverage	Review of M&E records and source documents___ Interviews with CBC staff_X_ Other_____ _____ ___ <u>Data monitored/evaluated</u>: ANC ___ HFD___ PPC___ C-section rate___ EmOC___ FP___	Criteria met? Yes__X_ No___ Not determined___ Comments: Data clerk compiles report every day, it's reviewed weekly by the nurse in charge. It's then sent to the Health Records Information Officer (HRIO) at the Sub-County office who compiles for the whole county and sends to the County
6.11	M&E system includes household surveys) to obtain accurate baseline and subsequent data on coverage of key indicators	Review of HH survey results_____ Baseline data____ Interim data___ End line data____	Criteria met? Yes___ No___ Not determined_X_ **Comments:** Not sure if this is included. They have not seen it
6.12	Monthly, quarterly, and annual reports generated of production/outputs and M&E data of each CBC; reports shared with partner communities, MoH, and other stakeholders.	<u>Primary</u>: Review of monthly, quarterly, and annual reports___ Interviews with CBC staff_X__ <u>Validation/triangulation</u> Interview with HFC__X Interviews with VHCs___ Interviews with other stakeholders____	Criteria met? Yes__X_ No___ Not determined__ Comments:

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
6.13	Maternal mortality ratio and perinatal and neonatal mortality rates determined for partner communities, as well as causes, calculated quarterly and annually, based on vital events data	Review of vital events registers____ Review of mortality data____ Review of verbal autopsies/death audits__ Other: SCHMT	Criteria met? Yes___ No_X__ Not determined___ Comments:
6.14	CBC integrates its M&E data with the MoH HMIS	Review of MoH HMIS___ Interviews with CBC staff_X_ Interviews with MoH district/sub-county or area/county staff__X__	Criteria met? Yes__X No___ Not determined___ Comments:
6.15	CBC staff utilize mobile data technology for field data capture and transmission to a local server or to "the cloud"	Direct observation_X__ Interviews with CBC staff_X___	Criteria met? Yes___ No_X__ Not determined___ Comments:

7. Community Partnership

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
7.1	Catchment communities are mobilized to partner with the CBC, with community buy-in secured after a process of orientation to the goals and operations of the CBC	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with VHCs__X__ Interview with HFC__X_	Criteria met? Yes___ No__X_ Not determined___ **Comments**: This is lacking
7.2	Each catchment (partner) community has a Community Health Committee (CHC)/Village Health Committee (VHC) to oversee community health efforts	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with Village Health Committees____ Interview with Health Facility Committee___ Other: SCHMT	Criteria met? Yes__X_ No_X__ Not determined___ **Comments:** Only FHCs are active and meet quarterly (monthly for executive). VHC are supposed to be there but are not active.

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
7.3	All partner communities have written/signed Memorandum of Understanding (MOU) with the CBC that formalizes its partnership with the CBC and defines each party's commitments and responsibilities	Primary: Interviews with CBC staff_X__ Review of MOUs___ Validation/triangulation: Interviews with Village Health Committees___	Criteria met? Yes___ No_X__ Not determined__ Comments:
7.4	CHC/VHC creates a community emergency transportation plan to facilitate transport of women in labor or having obstetric emergencies to the CBC	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with Village Health Committees____	Criteria met? Yes___ No__X_ Not determined___ Comments:
7.5	CHC/VHC works with CBC to establish a system of community vital events surveillance so all new pregnancies, births, and deaths are detected and reported to the CBC for follow-up	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with Village Health Committees____ Interviews with CHEWs/Health Promoters and CHVs/CHWs/ Community Facilitators_X__ Interviews with Care Group Volunteers___ Other_____ ___ ___	Criteria met? Yes___X No___ Not determined____ Comments:
7.6	The CBC Health Outreach staff meets regularly with the CHC/VHC to review community health data and do data-driven decision-making; community health data is posted in a public place for all to view.	Primary: Interviews with CBC staff_X__ Validation/triangulation: Interviews with Village Health Committees____ Interviews with CHEWs/Health Promoters and CHVs/CHWs/ Community Facilitators_X__ Observation of posted community health data___ Other___	Criteria met? Yes__X_ No___ Not determined___ Comments:

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
7.7	The CHC/VHC works with the CBC Health Outreach Worker and the Community Health Volunteer to establish a Care Group infrastructure of mother peer educators (Care Group Volunteers) to deliver behavior change communication and health education at the household level and to detect vital events (new pregnancies, births, deaths)	<u>Primary</u>: Interviews with CBC staff_X_ <u>Validation/triangulation</u>: Interviews with VHCs___ Interviews with Health Promoters/CHEWs/CHVs_ _X_ Interviews with CGVs___ Interviews with mothers in Neighborhood Women's Groups/Self-Help Groups___	Criteria met? Yes___ No_X__ Not determined___ **Comments:** Only HIV. Dialogue days are held monthly
7.8	Care Group Volunteers deliver behavior change communication to all pregnant women and women with under-2 children. At a minimum: 1) to obtain at least 4 antenatal care checks; 2) to take iron/folic acid supplementation and receive tetanus immunization during pregnancy; 3) to deliver in the CBC or other health facility; 4) to obtain postpartum care within 48 hours after delivery; 5) family planning benefits and options; 6) recognition and response to danger signs in pregnancy, delivery, and post-partum; and 7) to have a birth plan that includes provisions for emergency transportation.	<u>Primary</u>: Interviews with CBC staff_X_ <u>Validation/triangulation</u>: Interviews with Health Promoters__ Interviews with Care Group Volunteers___ Interviews with Neighborhood Women's Groups___ Direct observation of Care Groups and Neighborhood Women's Groups___ Review of lesson plans/curriculum for Care Groups___ <u>Lessons taught</u>: 4 ANC__ Fe/folate___ Tetanus___ HFD___ PPC < 48 hrs___ FP___ Danger signs___ Birth plan___	Criteria met? Yes___ No_X__ Not determined___ **Comments**: No resources/support for this

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
7.9	Member of the VHC is present at CBC for every delivery/obstetric emergency from their community (optional/desirable)	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with VHCs___ Direct observation of delivery___	Criteria met? Yes___ No_X__ Not determined___ Comments:
7.10	CHC/VHC has representation on a Micro-Regional Committee (MRC)/Health Facility Committee (HFC) that represents all the catchment communities served by the CBC	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with VHCs__ Interview with MRC/HFC__X_	Criteria met? Yes__X_ No___ Not determined___ **Comments:** As stated earlier
7.11	The MRC/HFC co-manages the CBC with the CBC staff, with regular quarterly and annual meetings to review CBC and community data, discuss challenges, solve problems, set policies and procedures, and do joint planning	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with VHCs__ Interview with HFC_X__ Review of minutes of HFC meetings___	Criteria met? Yes__X_ No___ Not determined___ Comments:

8. Women's Empowerment

No.	Characteristics	Assessment Method Options Indicate method(s) used	Summary of Findings
8.1	Women represented on CHCs/VHCs and on MRC/HFC	Primary: Interviews with CBC staff_X_ Validation/triangulation Interviews with VHCs and HFC_X_ Minutes of VHC and HFC meetings__ Review of official rosters of VHCs and HFC__	Criteria met? Yes___X No___ Not determined___ Comments:

No.	Criteria	Assessment Method Options Indicate method(s) used	Summary of Findings
8.2	TBAs are integrated into CBC operations	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with TBAs__X_ Interviews with end-users___ Interviews with CBC staff___ Direct observation of TBA work___ Other_____ ___	Criteria met? Yes___ No_X__ Not determined___ Comments:
8.3	Women's committees established to assist the VHC with community health work and with CBC operations	Primary: Interviews with CBC staff_X_ Validation/triangulation: Interviews with women's committees____ Interviews with VHCs and HFCs__ Direct observation of women's committees at work___	Criteria met? Yes_X__ No___ Not deteremined___ **Comments:** HIV positive and pregnant mothers have support groups

Comments and Observations:

Matongo facility has sufficient room (buildings) and a great, self-motivated team. Even with the challenges they face, they are doing everything they can to ensure that no mother or child dies in their hands. They are keen at detecting conditions they cannot handle and immediately referring to the next level. I believe that mobilizing the community to support this staff will be of great help.

They can be supported by either building their capacity to handle emergencies, or building a community referral system (including savings clubs) to ensure that no emergency goes unattended. One thing that is not clear is how many of the mothers who self-refer actually make it to the referral facility. According to CBC staff, they do not get feedback unless they follow up, which they don't always have the capacity to do.

Although they have plenty of room (in terms of buildings), there may be a need for organizing their services so they can flow from one room to another – making use of the space more efficiently.

The project will be instrumental in activating the VHCs which seem to be dormant presently.

Appendix B: Matongo Health Center Community Partner Questionnaires

The Okoa Mama Project (*Save the Mothers*)
Matongo 4/18/18 Questionnaire Response
Surveyor: Evan Tooker

Nurse Questionnaire

1) **What are the primary medical resources your facility most needs to better serve your patients? Please rank the 5 most important items in order of necessity.**
   a) #1 Oxygen Concentrator, currently no oxygen supply
   b) #2 Delivery (slanted) bed with stirrups, currently one poor birthing bed
   c) #3 Backup generator
      i) Power is frequently lost during rainy season. Electricity and gasoline here are expensive, electricity especially. My suggestion is to install solar panels and battery storage for long term self-sufficient power supply. There are numerous NGOs and private companies we could partner with to reduce the cost. Additionally, the money they currently spend on electricity could go towards hiring more nurses or medical supplies.
   d) #4 Portable ultrasound. Currently no ultrasound is available at the Matongo clinic.
   e) #5 Birthing suction machine.
   f) Incubators—currently one incubator provided by Novartis Pharmaceuticals
   g) Baby warmer
   h) Blood pressure cuff (mechanical pump)
   i) Delivery room space heater—deliveries are often at night when it is cold
   j) Water tank storage for rain water collection.
   k) Hand washing station around the facility.
   l) Blood sugar monitor
   m) Hemoglobin monitor
   n) Linens for bed
   o) Medical aprons and surgical masks
   p) Arm length surgical gloves
   q) Mobile facility phone for outreach to mothers that don't come to prenatal checkup
   r) Ambulance—Expensive and unsustainable. Possibly motorbike to transport mothers.
2) **What is the structure of the medically trained staff at the Matongo facility**
   a) 1 medical supervisor and 8 nurses. Nurses work in shifts of 2, 24/7.
3) **What is your medical training and where did you train?**
   a) All nurses received basic nursing training at local university. Some nurses received additional training through NGOs such as the American Red Cross.
4) **What type of training do you most need to better treat your patients?**
   a) Nurses need training in 1) obstetric emergency medicine, 2) newborn management, 3) Prevention of transmitting HIV from mother to child, 4) Medical imaging (ultrasound reading) if they receive an ultrasound 5) recent medical advancements
5) **How can we encourage more women from the village to use this birthing center?**

a) Work with the CHVs to bring in more mothers
b) Encourage CHVs by providing them with uniforms (white rubber boots, hats, umbrellas, name tag—CHVs want the status and respect of a medical uniform.

6) **How many medical visits do mothers receive over the course of their pregnancy?**
   a) Mothers receive 2-3 prenatal visits. The nurses try to get mothers to come in for 4 prenatal visits. Often women come only for delivery
7) **During what trimesters do mothers visit your facility.**
   a) Normally during the end of their 2nd trimester or into their 3rd trimester. Nurses encourage visits during the 1st trimester.
8) **What is the typical age of women who give birth and are these planned pregnancies?**
   a) Pregnancies are most often unplanned, women most commonly range in age between 14 and 17 years.
9) **What can be done to reduce child malnutrition and stunting?**
   a) Provide vitamins and fortified foods. Affording the vitamins is a challenge for many mothers. Vitamin A and D insufficiencies are the biggest challenge
10) **What is the cost of your service to the mother?**
   a) Free. Service is also free at major hospitals unless there is a complication.
11) **How far away do mothers travel to receive care?**
   a) Mothers commonly travel from 10kms away and up to 20km away.
12) **How can we best encourage CHVs in the community to be involved in supporting mothers other than a traditional stipend?**
   a) Stipends are an issue of compensation. Previous NGOs have compensated them between 2,000 and 5,000 Ksh per month. Instead our teams suggest reimbursing CHVs 1.5X for their costs in transporting mothers on a motorcycle—the most reliable source of transport as country roads are often impassable to cars during rainy season. This way CHVs would be encouraged to bring in as many mothers as possible, not just for birthing but also for prenatal checkups.
   b) Other stipend options to CHVs would be to provide them a collective group stipend so that they can pool their money into a revenue generating item such as a cow for milk. This will discourage women from leaving the CHVs and selling goods in the market as they would lose their portion of the stipend.

Clan Elder Questionnaire

1) **What are the primary roles of clan elders in maternal neonatal and child health (MNCH)?**
   a) Our primary role is mobilizing the village people to better support the mothers and treat them with more respect.
   b) Select the CHVs based on behavior, respect of mothers, and experience in birthing.
   c) Provide security and protection of mothers from village people.
   d) Education husbands and males in the community of the important of utilizing birthing centers
2) **What training do clan elders have in MNCH?**
   a) No formal training, but they have the respect of people in the village and have good relationships with people in the village to help implement health changes.
   b) They would like formal training in MNCH.
3) **What are the major challenges for MNCH in your village?**
   a) A major challenge is lack of training in MNCH.
   b) A major challenge is a lack of supplies in the community for MNCH

4) **What types of support are most need for MNCH delivery in your village?**
   a) Work uniforms—including identification tags, umbrellas or rain jackets, white rain boots, organization logos on clothing. These items will help the CHVs and TBAs receive more respect from the women and instill confidence in the mothers that they are receiving professional care as well as to empower the workers with more status. The rainy season in Kisii makes water resistant uniforms a necessity.
   b) Supplies including notebooks, pens and bags for documenting work. Additionally, flash lights for the evening work. Deliveries often occur at night and the electric grid for light is unreliable or not available in most areas.
   c) Reimbursement of expenses they incur in transporting women for prenatal screening visits and births—small transportation costs.

Community Health Volunteer (CHV) Questionnaire

1) **What is your role as a CHV in maternal neonatal child health?**
   a) Encourage pregnant mothers to attend at least four prenatal clinic visits over all 3 trimesters
   b) Provide mothers health education in family planning, the importance of exclusive breast feeding, nutrition (balanced diet), the importance of Vitamin A and D, and proper hygiene
   c) Encourage mothers not to use herbal medicine
   d) Encourage mothers to sleep under treated mosquito nets with their babies
   e) Encourage male involvement
2) **What are your achievements /successes in relation to MNCH?**
   a) Reduced maternal deaths
   b) Child spacing, time off between births, in the community
   c) Reduce child malnutrition and stunting
   d) Improved the sanitation and hygiene
   e) Reduced neonatal deaths
   f) Children are fully immunized
   g) Defaulters (women who don't attend their prenatal visits) in the community have been reduced
   h) Increased male involvement
3) **What are the challenges you face in relation to MNCH?**
   a) Cost of delivery in health facility
   b) Traditional customs, example = amasangi—a traditional belief that if a husband has another partner outside of marriage, and the partner comes to see the wife during or after delivery, she will bleed to death.
   c) Poor road network especially during rainy season
   d) Stigma for girls who get pregnant while still young
   e) Community member believe that the CHVs are paid and in turn expect the CHVs to use their money to take them (mothers) to health facilities
4) **What types of resources, training or financial support, will help you improve the health of women and children?**
   a) Increase stipend from 2000ksh to 5000ksh, Kenya CARE and the American Red Cross NGO have provided these compensations
   b) Work uniforms—identification tags, umbrellas or rain jackets, white rain boots, organization logos on clothing. These items will help the CHVs receive more respect from the women and

instill confidence in the mothers that they are receiving professional care as well as to empower the workers with more status. The rainy season in Kisii makes water resistant clothing a necessity.

c) Supplies including first aid kit, notebooks, pens and bags for documenting work. Additionally, flash lights for nighttime work—deliveries often occur at night and the electric grid for light is unreliable or not available in most areas.

5) **What should be done to encourage more women to deliver in health facility?**
   a) Educate the mothers on the importance of medical facility delivery, the free cost of delivery in community birthing centers, and the dangers associated with home births.
   b) Transportation reimbursement for training seminars and prenatal visits for mothers. Kenya CARE NGO used to provide 300ksh.
   c) Encourage male involvement, without male support and approval the mother will not come to the medical clinic as the males are the primary decision makers
   d) TBAs or CHVs should accompany pregnant mothers to the health facility.
6) **What should be done to ensure respectful treatment of women receiving maternal care?**
   a) Respect the mothers' decisions
   b) Educate mothers on individual birth plans
   c) Better medical equipment in the facility
   d) Follow up with women who don't complete their prenatal care checkups.
7) **What should be done to reduce child malnutrition and stunting?**
   a) Encourage exclusive breastfeeding
   b) Encourage mothers to have a kitchen garden
   c) Provide health education on a balanced and nutritional diet
   d) Provide vitamin A and D supplements

TBA Questionnaire

1) **Can you please describe your work as a TBA?**
   a) Traditionally going to the homes of mothers and assist mothers in home births. Now, we are changing to be encouraged to bring mothers to medical centers. We are compensated with nonmonetary items—food or clothing.
2) **What training did you go through to become a TBA?**
   a) All the TBAs mentioned that they first assisted somebody to safely deliver at home, having learned from older women in the community. Their services as a midwife spread by word of mouth
   b) TBAs are most often the eldest daughter-in-law in their families hence it is their responsibility to assist younger generations in births.
   c) Most commonly they were taught by mothers, mother-in-law, grandmothers, elder neighbors, other TBAs, or self-taught.
3) **What are the methods you use during pregnancy to treat mothers?**
   a) The basic concept they learned is to apply warm water and massage with pressure to the stomach of the delivering mother as she pushes the baby out.
   b) Some NGOs such as Kenya CARE have provided additional training

c) Although they were all aware of health facilities, they can't access them during off hours—during the night and especially during very urgent situations.

4) **How do you establish relationships with pregnant women and their family?**
   a) TBAs are respected members of the community with established positions—they don't need to reach out and build relationships.
5) **What fees do you charge for your service?**
   a) They usually don`t receive any monetary payment. However, they receive nonmonetary compensation—food or clothing.
6) **Is this your only job or do you have other jobs?**
   a) Most TBAs are also traditional herbalists.