Assessment of Emarti Clinic Health Care Provision 12.01.24

This report was compiled by Dr Laura Marshall-Andrews using information from

1. The 2019 AMREF report and
2. A scoping meeting with the community leaders and clinicians at the clinic on the 12.01.12

1. Access to Primary and Secondary Care Services – existing network
2. Current Morbidity and Mortality outline
3. Investigation capacity and current potential
4. Community Health Volunteers training
5. Level of clinical expertise in situ currently
6. Ambulatory services
7. Water and Sanitation
8. Power
9. Current management structure of the clinic
10. Family Planning – teenage pregnancy rates etc. STI's
11. Health Education and Preventative Medicine delivery
12. Nutrition assessment and support
13. Incorporation of local health beliefs
14. Other barriers to accessing healthcare other that transport and cost
15. Data collection methods
16. National Health Insurance Fund

Primary care in Kenya is often challenged by a lack of sustainable funding, poorly-equipped facilities, erratic supply chains, and shortages of healthcare professionals.

The cost associated with AMREF's proposal in 2019 was $633,320 which is likely to more like $7500,000 in today's environment.

There is clearly a need here to break this implementation down into more affordable waves of development.

Everything which is done must be sustainable, this will depend on ongoing support from the primary stakeholders

1. The local community
2. The local government and NHIF
3. AMREF
4. Private Funding streams (Friends of the Mara)
5. Other charitable partners on the ground such as the Maa Trust

Summary of identified need

1. **Accessibility:** The health centre serves quite a large population of about 10,000 members within the conservancy and some of the community members walk for long distances to access the services. Delay in accessing services was highlighted by the Emarti Clinic clinical staff as a leading cause of mortality.
2. **Poor amenities** : The Emarti health centre has an acute shortage of water and they depend on water trackers that get water from as far as Kilgoris, Bomet and Narok Counties. With a maternity wing the presence of water is critical in infection control as well as the hygiene of the facility. The facility depends entirely on rainfall which is very scarce within the area and hence not sufficient to cater for its water needs. In addition the facility has two ground tanks that are dilapidated and require urgent repair for rain water harvesting and storage. The plumbing system is not functioning the drainage system does not work and backs up into the delivery suite. There is no running water anywhere in the clinic. This presents a serious risk to life through increased risk of Puerperal sepsis, leading to maternal and infant death. The power in the Emarti Health Centre is sporadic and 'single phase' so it does not support the running of steriliser machine. Frequent blackouts mean that often the nursing staff are having to conduct deliveries and episiotomies by the light of a mobile phone. Although not documented power outages are also likely to affect the temperature in the vaccination fridge which may affect the 'cold chain' and hence the effectivity of the vaccinations stored.
3. **Maternal and Child Health, Nutrition and Family Planning service;** Emarti Health centre has a maternity wing and almost 25 deliveries are conducted monthly. However the maternity does not have vital equipment for management of basic emergencies such as newborn resuscitator and the staff do not have adequate capacity to provide Basic emergency obstetric care (Bemonc). The staff have not also been adequately trained to provide Long Acting and Reversible Contraceptives and other new technologies. The health center does not have a nutritionist to provide nutrition education and counselling.
4. **Ambulatory Services**: The distance between the nearest referral facility either private or public to the Emarti health facility is more than 60 Km away either in Narok County or Bomet County. Any emergency case in Emarti will have to use the County contracted E-Plus ambulances and the nearest one is usually more than 100 Km away as they are driven by the need and population coverage. The communities in Emarti are therefore forced to use alternative means of travel and in this case motor bikes on the poor road terrain. This is notwithstanding the discomfort and the risks posed by the motor bikes. This means that any kind of emergency at Emarti the patient wellbeing suffers with each minute individuals wait for an ambulance.
5. **Community Health Volunteer (CHV) Network**: CHVs are an integral part of the primary health landscape in Kenya, and only one Community Health Unit is functional with only 3 CHVs serving the entire community in Emarti. As a result, patients often self-refer to the wrong level of care, resulting in misuse of limited resources, or they forgo care entirely because they have not been informed, engaged, or screened properly. The health workers in the facility expressed a desire for

Community Health Volunteer integration into communities, noting the benefits of basic screenings, preventative healthcare, health education, and referral management.

6. **Current Disease Prevalence and most significant disease burden as identified by the Emarti Health Clinic:** Most Common Minor Illnesses: URTI, Diarrhoea disease, Malaria, Rheumatic Fever, Dog and Snake bites. Most Common Serious Illnesses : High blood pressure, PET, Diabetes type 1, Peptic Ulcer Disease, HIV and AIDS, TB. Most Common Causes of Death: delayed presentation to healthcare facilities, Asphyxia in neonates, Diarrhoea and dehydration in < 5yrs, Pneumonia in <5yrs, TB, HIV AIDS. Although mental illness and poor nutrition are not cited here it is likely that there is a greater prevalence than recorded and that poor nutrition may underpin some of these illnesses.
7. **Reliable and sufficient medical supplies:** There is irregular and insufficient supplies of essential medicines, vaccines, labatory and testing equipment.
8. **Staff accommodation and remuneration:** There are two units for staff accommodation and six permanent members of staff who live on the premises. Therefore currently one nurse is living with her family in the laundry unit, and the wards have been converted into staff accommodation. The staff are supplied with funding for a cup of tea at 10am but nothing else. Remuneration for the cleaners is sporadic and months late meaning the cleaning of the Clinic is irregular.
9. **Essential equipment shortages**: there are many shortages in equipment but the Emarti Clinic have highlighted the following items as a priority: a neonatal incubator, a neonatal rescusitare, mattresses and linen for the maternity unit, observation lamps and drip stands, kidney dishes, scissors, sterilisation materials, full heamogram machine, and biochemical analysis machine, Olympus microscope, slide warmer, Rotator,
10. **Ineffective Governance, oversight and data collection**: There is very little oversight or governance. Poor data collection ability with everything being recorded in attendance books. Patient notes are held by the patient themselves and not accessible to the clinic. There was no evidence of effective monitoring or protocols involving the delivery of care. No managerial or administrative staff at the Clinic with everything being done by the clinical staff including collecting supplies from Kilgoris when they are low.
11. **Incorporation of local health beliefs into the delivery of care**: There was no evidence of incorporation of local health practices into the delivery of care. A cited factor in diagnostic delay is the use of traditional medicine before presentation. Incorporating local medicinal practices into the offering of care can increase early presentation and diagnosis and increase the availability of potential treatment options for appropriate conditions.
12. **Youth Friendly services**; Narok county has one of the Highest Teenage pregnancy rates in Kenya. Emarti Health center lacks adequate capacity to plan and offer youth friendly services. Staff have not been on how to provide services to youth in a non-judgmental manner.

The Partnership will improve population health by addressing primary health access, quality, community engagement, financial sustainability, and system efficiency in a replicable and scalable way. We will identify interventions that will strengthen the primary health system and ensure Emarti Health Centre maximizes the efficiency and effectiveness of care provision. The partnership aim to:

i) Increase quality of care and bringing services in line with identified standards where lacking
ii) Efficiently deliver public services, and reinvesting savings into the system
iii) Treating patients at the right time at the right place with the right care
iv) Introduction of private value-add services that increase quality of care and
v) Enhance enrolment into NHIF (National Hospital Insurance Fund).

This new and innovative approach is a first of its kind model in Kenya and has the potential to revolutionize healthcare access in low-resource settings. The model is currently being implemented in Makueni County through a Public Private Partnership and the partnership proposes to adopt the model to improve the services delivery at Emarti health Centre.

System Interventions

Establish Governance: Partners will establish a Governance Committee that provides joint oversight and accountability into management of the facilities. Made up of representatives from Amref, Friends of Mara, and the Narok County Department of Health Services, this committee will provide strategic direction and guidance to the Health Facility Management Committee.
Partners will establish a Governance Structure which will ensure oversight of the implementation and adherence to protocols and procedures around the delivery of care. This will involve the employment of a full time Practice Manager on an ongoing basis who will ensure that the practice buildings are maintained and that the protocols and 'system operating procedures' are adhered to and that this can be demonstrated to the Governance Commitee.

Expand NHIF Coverage: Financial coverage is essential not only to increase accessibility of healthcare, but to ensuring the long-term sustainability of the partnership model.

Input interventions

1. **Upgrade Facilities, Infrastructure, and Equipment:** The funds raised by the Friends of Mara will provide the infrastructure, equipment, and facility upgrades necessary to support high quality care at Emarti Health Centre. These upgrades range from adding furniture and shelving for proper drug storage; to providing basic equipment such as defibrillators; to providing water and electricity infrastructure. All upgrades have been determined based on community needs and current facility gaps, and are in line with the government-mandated infrastructure norms and standards required of each facility. The partners will train health workers on the improved workflow and use of equipment and will service all equipment in order to ensure operational availability and use.

2. **Train Health Workers**: Amref will leverage its capacity-building expertise to deliver enhanced and cost-effective training for clinical officers, and nurses. With other technology partners we will train facility health workers on the improved clinical workflows and the use of equipment and IT systems.

3. **Develop and Strengthen Community Health Units**: Recruiting, training, and supporting a team of Community Health Volunteers and Extension Workers is essential to the success of the partnership. These individuals will act as the primary point of patient interaction. This critical piece of the solution fills a large void in the current system, and we expect that it will help improve access for those who are unable to travel long distances to primary care facilities, reduce the cost of care by triaging nonemergent cases away from high-cost centers (i.e., hospitals), and enable care providers to better tailor services to meet the needs of specific communities. Additionally, CHVs will support data collection efforts and NHIF registration. Amref and partners will launch retention campaigns to reduce CHV attrition particularly in Emarti community. The support mechanisms will include provision of T-shirts, notebooks, and identification credentials bearing an official logo; provision of medical screening and diagnostic tools as well as first aid supplies; and provision of data collection tools. Amref will deploy Leap, a mobile learning platform for Community Health Volunteers, to speed knowledge transfer, boost retention, and support ongoing learning. Leap costs less than traditional training programs and improves CHV retention. The importance of CHVs to the primary care system in Narok West sub-county cannot be overstated. Partner interventions are designed to address the current attrition rate of roughly 80% today – with only 2 CHVs covering the whole area. Retaining CHVs allows for a strong, trusted advisor network of individuals that develop more intimate understandings of community health needs.

4. **Implement MJali for Data Collection and NHIF Registration**: The partnership will leverage MJali, Amref's community-based health management information system, to collect timely and accurate healthcare data at the community level. This system will be used by Community Health Volunteers in the course of their duties. This actionable information will give the Health Facility Management Team insight into community health needs and allow it to effectively plan for care provision. At the same time, MJali will give Community Health Volunteer the ability to register patients for NHIF. To support this effort, CHVs will be incentivized with a 3% commission on all premiums paid for those they enroll.

5. **Establish Supply Chain Commitments**: At present, Emarti Health Centre experience occasional and near intermittent shortages and stock-outs due to prioritization of supply delivery and distribution at the County level. The partnership will strive to achieve accurate forecasting and pharmaceuticals based on enhanced data collection and tracking. Further, partners will work with the Department of Health Services to ensure timely delivery of materials. In the event of stock-outs, the County will redistribute materials in quick order.

6. **Fill Gaps in Current Public Services**: Some services, while required at the primary care level by government standards, are not currently offered at pilot facilities due to lack of equipment, strains on staff capacity, and limited funding. Partners will invest in enhancing the scope of public services so as to improve access to essential primary health services (in accordance with the KEPH).

7. **Clinical Staff:** Where the need exceeds capacity, we plan to hire additional staff on contractual basis to cover gaps in healthcare provision. As partners make quality improvements, there are expectations for the demand for services to rise, and must ensure there is adequate staff to address population needs.

8. **Implement Information Technology Systems**: In addition to providing CHVs with MJali to facilitate and improve data collection in the community, the partners will install new systems at Emarti Health centre that will improve collection, manipulation, and application of healthcare data (for example, electronic medical records) and allow remote access to the facilities for monitoring equipment and facility KPI's

Service Delivery Interventions

1.**Improve Quality of Care:** As part of its governance role, the Health Facility Management Team (HFMT) (initially this will comprise of the Practice Manager and the Governance Board) will be responsible for identifying opportunities to improve quality of care delivery through everyday operations, such as implementing and standardizing clinical practice guidelines.

2. Enhance Performance Measurement and Management: The HFMT will enhance performance measurement and management so as to align with the Impact Framework. Not only will this support management, training, and incentives for health workers, but it will provide insight into the effectiveness of the pilot.

3. **Introduce Private Value-Add Services**: In addition to enhancing standard public services, Amref and other partners – medical technology - will introduce new value-add services that are not part of the standard, public package. These "private" services, delivered will be provided at Emarti Health Centre, and will be reimbursed by NHIF on a fee-for-service basis or the patients will pay out of pocket for the services. Private services may include ultrasounds or additional lab services.

4. Improve Efficiency of Current Offerings: The enhanced Health Facility Management Team will increase efficiency of the current healthcare provision by more accurately forecasting supply demand requests, analyzing workflow and proposing improvements, optimizing allocation of human resources, and implementing best practices. This will reduce waste of time and resources, which may be reinvested in the system.

OUTLINE OF PRIORITY OF WORKS

As there is insufficient funding to implement these changes all together a staggered approach needs to be taken with waves of improvements which can be sold as packages to potential donors.

Immediate priority works which may be able to be carried out in kind by HIW and small donations from Naretoi Community ??

1. Reparation of the existing generator
2. Instillation of the new water tank which is sitting outside the staff accommodation.
3. Removal of all broken equipment from the premises
4. Provision of good quality rechargeable head torches x4 for suturing etc.. in poor lighting
5. Provision of 3 waterproof mattresses for the maternity wing
6. Provision of 24 bedsheets 6 pillows with protective covering.
7. Provision of 8 chairs and a table for the staff meeting room

Package 1. Reparation and upgrade of water supply and drainage repair to the Emarti Health Centre approx. $5000
To include repair of existing water storage tank and renovation of the plumbing and drainage system to each of the clinical rooms.

Package 2. Solar power instillation approx. $7000
To include purchase of observation lamps for procedures and good lighting throughout the clinic.

Package 3. Replaster and repaint all the buildings, approx. $10,000
To include reparation of the broken ceilings panels and fix and holes in the roofing, provide new signage and repaint the gate

Package 4. Employ a high quality Practice Manager to work with Governance committee approx. $15,000 p/a
This needs to be someone with high levels of activation and ideally with some form of accountancy or business management training at some level. (Does Jane know of anyone?)

Package 5. Employ 3 fulltime cleaners approx. $5000 p/a
To ensure a good supply of Jik and good quality cleaning material

Package 6. Essential equipment list (only to be purchased after the basic reparations of the clinic have been carried out and governance structure is in place)

1. Olympus microscope
2. Defibrillator
3. Haemogram machine
4. Biochemistry analysis machine
5. Rotator
6. Slide warmer
7. Neonatal resusitaire with oxygen and suction
8. Neonatal incubator

Package 7. Provision of 2x motorbikes and 2x Probox or other vehicles with fuel allowance to provide ambulatory services to allied hospitals in the area. (This can be broken down to each unit
For example – one motorbike plus one year fuel approx. $2000

Package 8. Documentation of local medicinal plants and quantification of optimum dosages approx. $15,000
There is some research already compiled : Nankaya J, Gichuki N, Lukhoba C, Balslev H. Medicinal Plants of the Maasai of Kenya: A Review. Plants (Basel). 2019 Dec 27;9(1):44. doi: 10.3390/plants9010044. PMID: 31892133; PMCID: PMC7020225 Found at : https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7020225/ which can be refined and improved with standardisation of dosages and treatment protocols (will need collaboration from a university possibly Andrew Weil Centre for Integrative Medicine)

Package 9. Training of 15 HCW by AMREF on modern FP techniques and emergency obstetrics. Approx. $7000 (needs discussion with AMREF or Maa Trust)
To be conducted by with AMREF/Maa trust and worked into the Governance structure of the Emarti Health Centre to ensure ongoing consistent practice and regular training/peer learning.

Package 10. Training of youth friendly services on STI and FP by AMREF approx. $3,000 (Needs discussion with AMREF or Maa trust)
To be agreed with AMREF/Maa trust and worked into the Governance structure of the Emarti Health Centre to ensure ongoing consistent practice and regular training/ peer learning.

Package 11. Creation of 2 mobile health pods as per AMREF approx. $25,000 per pod (Needs discussion with AMREF)
To be conducted by AMREF to include the incorporation the Mjali data collection and NHIF registration and a high quality digital record keeping system and training of Community Health Volunteers

Package 12. Funding for additional pharmaceuticals and supplies to fill the gap in Government supply $3000 a month (is this something Lisa can help with)
The practice manager would be able to predict shortages and document supply and ensure back up stores are available to prevent lack of essential items)

There are clearly ongoing and additional costs which will come up over time. We will need to investigate ongoing funding streams possibly through provision of some private services and possible recurrent funding commitments from international institutions.