TICH

hera
right to health & development

MNH PROGRAMME
SUMMATIVE EVALUATION

Volume I

Final Report

January 2020

Laarstraat 43
B-2840 Reet
Belgium

Tel +32 3 844 59 30
hera@hera.eu

www.hera.eu

Acknowledgement

The evaluation team is grateful to the County Director, the County and Sub-County health management teams (C/SCHMT) of Bungoma County who made themselves available for key informant interviews and facilitated the organisation of the context and outcome mapping (CDO), the health facility & services study and the household survey in Bungoma sub-counties; to the CHMTs and the County Innovation Challenge Fund (CICF) implementing agencies in the six CICF programme counties; to the CHMTs and the Kenya Medical Training Centre (KMTC) in the counties covered by the Making it Happen (MiH) evaluation; and to the central Ministry of Health (MoH), DFID, implementing partners (LSTM, Options) and consortium partners for making time available and providing essential information for the evaluation; and mostly to all the women and men who gave their time to participate in focus group discussions, e-survey, household survey as well as the health staff participating in facility assessments, data audits and interviews.

Authors

The summative evaluation was carried out by Leo Devillé (team leader), Kashi Carasso, Josef Decosas, Margaret Kaseje and Marc Réveillon.

The Tropical Institute of Community Health & Development (TICH, Kisumu) carried out the data collection for the CDO study and the health facility study. Margaret Kaseje and Kashi Carasso guided the CDO study. For the health facility study they were joined by Larry Gelmon and Stephen Okeyo. The International Centre for Reproductive Health Kenya (ICRHK) collected the data for the household survey. The Value for Money study was led by Marc Réveillon. The MiH programme evaluation was implemented by Kashi Carasso and Margaret Kaseje. Josef Decosas led the CICF evaluation.

Disclaimer

hera was granted visitor privileges to the DHIS2 database by the MoH and has used 2013 to 2019 DHIS2 data for the summative evaluation. hera acknowledges that before publishing excerpts of the summative report, DFDI will have to seek authorisation from MoH.

TABLE OF CONTENTS

LIST OF FIGURES

List of Tables

Volume II (provided under separate cover)

Abbreviations

AIA	Appropriation In Aid
AMREF	African Medical and Research Foundation
ANC	Antenatal Care
ANC4	Four (or more) Antenatal Care visits
APHI. A+	AIDS, Population and Health Integrated Assistance project (PATH)
APHRC	African Population and Health Research Centre
AR	Annual Review
ARA	Afya Research Africa
ASAL	Arid/Semi-Arid Lands
ASC	Aura Safira Consulting
AWP	Annual Work Plan
BEmONC	Basic Emergency Obstetric & Neonatal Care
BoD	Burden of Disease
BRH	Bungoma Referral Hospital
CCT	Conditional Cash Transfer
CDO	Context – Delivery - Outcome
CE	Cost-Effectiveness
CEA	Cost-Effectiveness Analysis
CEC	County Executive Committee
CEMD	Confidential Enquiry in Maternal Deaths
CER	Cost-effectiveness Ratio
CEmONC	Comprehensive Emergency Obstetric & Neonatal Care
CHEW	Community Health Extension Worker
cHIS	Community-based Health Information System
CHMT	County Health Management Team
CHP	Community Health Policy
CHS	Community Health Strategy
CHV	Community Health Volunteer
CICF	County Innovation Challenge Fund
CME	Continuous Medical Education
CMHI	Centre for Maternal Health Innovation Limited
cMNH	Community-based Maternal & Neonatal Health
CMNH	Centre for Maternal and New-born Health
CPHD	Centre for Public Health and Development
COPE	Client oriented provider efficient services
CORE	Clarity and Openness in Reporting
CS	Caesarean Section
CU	Community Unit
CW	Concern Worldwide
DALY	Disability Adjusted Life Year
Danida	Danish Development Aid Agency
DFID	Department for International Development, UK
DG	Demand Generation
DHIS2	District Health Information Software 2 (open source HMIS platform)
DHM	Donated Human Milk
DMS	Director Medical Services
DP	Development Partner
DQA	Data Quality Audit
DSF	Demand-Side Financing
EAC	East African Community
EHPT	Essential Health Products and Technologies
EMMS	Essential Medicines and Medical Supplies
EmONC	Emergency Obstetric & Neonatal Care
ENAP	Every Newborn Action Plan
EQ	Evaluation Question
ET	Evaluation Team
FANC	Focused Antenatal Care
FAT	Fountain Africa Trust
FBO	Faith-Based Organisation
FGD	Focus Group Discussion
FMHC	Free Maternal Health Care
FY	Financial Year
GBP	British Pound Sterling
GDI	Gender Development Index
GDP	Gross Domestic Product
GFF	Global Financing Facility
GoK	Government of Kenya
GSC	Grant Selection Committee
HCF	Health Care Financing
HDC	Health Data Collaborative
HF	Health Facility
HFA	Health Facility Assessment (Health facility & services assessment)
HH	Household
HHS	Household Survey
HISP	Health Insurance Subsidy Programme

HMIS	Health Management Information System
HQ	Headquarters
HRD	Human Resources Development
HRH	Human Resources for Health
HS	Heath Systems
HSS	Health System Strengthening
ICD-MM	International Classification of Diseases-Maternal Mortality
ICER	Incremental Cost-Effectiveness Ratio
ICF	International Climate Fund
ICT	Information and Communication Technology
IE	Independent Evaluation
IHME	Institute for Health Metrics and Evaluation
IHPMR	Institute of Health Policy Management and Research
IMCI	Integrated Management of Childhood Illnesses
INGO	International Non-Governmental Organisation
KDHS	Kenya Demographic and Health Survey
IRC	International Rescue Committee
KEPH	Kenya Essential Package for Health
KEMSA	Kenya Medical Supply Authority
KES / KSh	Kenyan Shilling
KHSSP	Kenya Health Sector Strategic Plan
KII	Key Informant Interview
KMC	Kangaroo Mother Care
KMTC	Kenya Medical Training College
KPA	Kenya Paediatric Association
KPNA	Kenya Progressive Nurses Association
KQMH	Kenya Quality Model for Health
KSP	Kenya Signature Programme (of Save the Children International)
LBW	Low birthweight
LDP+	Leadership Development Programme Plus
LSTM	Liverpool School of Tropical Medicine
M&E	Monitoring and Evaluation
MANI	Maternal and Newborn Initiative
MDG	Millennium Development Goal
MDTF	Multi-Donor Trust Fund
M&E	Monitoring and Evaluation
MGH	Massachusetts General Hospital
MICS	Multiple Indicator Cluster Survey
MiH	Making it Happen
MKU	Mount Kenya University
MM	Maternal Mortality
MMR	Maternal Mortality Ratio
MNCH	Maternal, Newborn and Child Health
MNDR	Maternal & Neonatal Death Review
MNH	Maternal and Newborn Health. DFID's programme to Reduce Maternal and Neonatal Deaths in Kenya
MoH	Ministry of Health
MOM	Mother's Own Milk
MPDSR	Maternal and Perinatal Death Surveillance and Response
MSH	Management Sciences for Health Inc.
MSI	Marie Stopes International
MTR	Mid-Term Review
NBU	New-born Unit
NHA	National Health Accounts
NHIF	National Hospital Insurance Fund
NMR	Neonatal Mortality Rate
OCA	Organisational Capacity Assessment
OCFR	Obstetric Case Fatality Rate
OECD	Organisation for Economic Cooperation and Development
O&M	Operation and Maintenance
OR	Operational Research
PATH	Program for Appropriate Technology in Health
PBF	Performance Based Financing
PEPFAR	President's Emergency Plan for AIDS Relief
PMB	Programme Management Budget
PMTCT	Prevention of Mother to Child Transmission of HIV
PNC	Postnatal Care
PPH	Postpartum Haemorrhage
PWC	Price Waterhouse Coopers
QI	Quality Improvement
QuIC-PBF	Quality Improvement – Performance Based Financing (score card)
RAG	Red-Amber-Green (rating system)
RBF	Results Based Financing
RCTP-FACES	Research Care and Training Program - Family AIDS Care and Educational Services
RDQA	Review Data Quality Audit
RH	Reproductive Health

RMC	Respectful Maternity Care
RMFLF	Road Maintenance Fuel Levy Fund
RMNCH	Reproductive, Maternal, Neonatal and Child Health
RMNCAH	Reproductive, Maternal, Newborn, Child and Adolescent Health
SBA	Skilled Birth Attendance
SBCC	Social Behavioural Change Communication
SBM-R	Standard Based Management and Recognition
SBR	Stillbirth Rate
SC	Sub-County
SCI	Save the Children International
SCHMT	Sub-County Health Management Team
TA	Technical Assistance
TBA	Traditional Birth Attendant
THE	Total Health Expenditure
THS-UC	Transforming Health System for Universal Care
ToC	Theory of Change
ToR	Terms of Reference
ToT	Training of Trainers
TWG	Technical working group
UBT	Uterine Balloon Tamponade
U5MR	Under Five Mortality Rate
UHC	Universal Health Coverage
UN	United Nations
Unicef	United Nations Children's Fund
UNOPS	United Nations Office for Project Services
US$	United States Dollar
VfM	Value for Money
VLBW	Very low birthweight
VSL	Village Savings and Loans
WASH	Water Sanitation and Hygiene
WB	World Bank
WHO	World Health Organisation
ZO	Zonal Office (Unicef)

Executive Summary

Programme and evaluation context

DFID's programme to Reduce Maternal and Neonatal Deaths in Kenya (the MNH Programme) was originally a £75.3 million programme over five-years (2013-2018). After programme restructuring in 2017, the budget was reduced to £60.6m. Following a cost extension of the programme to March 2023 the budget was increased again to £64.6m. At the time of the summative evaluation in 2019, £53.2m had been spent. The expected outcome of the MNH Programme was increased access to and utilisation of quality maternal and newborn health services.

After restructuring in 2017, the MNH Programme had three linked components: (i) the Maternal and Newborn Initiative (MANI) Health System Strengthening (HSS) project in Bungoma County; (ii) the County Innovation Challenge Fund (CICF) in six counties; and (iii) the Making it Happen (MiH) health worker training programme in 32 counties. The first two components were implemented by Options Ltd. and the third by the Liverpool School of Tropical Medicine (LSTM). Prior to restructuring, UNICEF implemented an HSS programme for MNH in 5 counties which was not included in the summative evaluation.

The **hera** consortium was appointed to undertake the summative evaluation of the MNH Programme with the terms of reference to ***generate more evidence on the effectiveness of strengthening health systems towards reduction of maternal mortality***. The evaluation was guided by a Theory of Change (ToC) developed with the participation of the implementing partners in 2016. It was implemented in 2018-2019 and included a mix of quantitative and qualitative methods such as a household survey of end-beneficiaries in Bungoma County, a nation-wide on-line survey of health workers trained under the MiH programme, a health facility and services assessment (HFA), community focus group discussions (FGD), key informant interviews (KII), direct observations, document reviews, an economic analysis and an in-depth review of a sample of CICF-funded innovation and scale-up projects in four of the six counties.

The MANI Health System Strengthening Project

The MANI Bungoma HSS project aimed at (i) strengthening health systems to manage and deliver maternal and newborn health services, and (ii) increasing demand for and uptake of maternal and newborn health services in Bungoma County. It supported six of ten sub-counties in Bungoma County.

The MANI project implemented a comprehensive whole system's approach to strengthening MNH services, addressing both the demand and supply side. It was flexible, adapting strategies and approaches to needs as they arose or became apparent and by applying lessons from programme experience. The project implemented a wide range of MNH and HSS related activities from community level up to county level, but not with the same intensity or coverage for all interventions. It worked in close partnership with the county health authorities and supported the development of a county-led donor coordination forum. It is widely credited by health partners in Bungoma County for elevating maternal and neonatal health in the county's political agenda. The project's documentation of lessons learnt throughout the implementation period was exemplary.

The health system in Bungoma County was substantially strengthened and at the end of the MANI project (2018) delivered better quality MNH services compared to the baseline. Overall, MANI achieved most if not all objectives of the support as outlined in the MNH Programme's logical framework. Health facility assessments documented an overall improvement of the quality and an increase in the availability of maternal health services in Bungoma County. The household survey confirmed that MANI contributed to increased accessibility and use of antenatal and delivery services and to increased satisfaction of women with the quality of services they received. It did, however, not document an increase in access, use and

perceived quality of postnatal care for infants. Interviews with MANI staff confirmed that the issue of postnatal and early neonatal care was relatively neglected in the MANI project.

An analysis of indicators for maternal health reported by the national health information platform (DHIS2) showed that during the time of the MANI project, Bungoma county was on an accelerated track of improved performance, passing from below average to a position of leadership when compared with the average performance of the ten counties of Western Kenya. This applied to all indicators from antenatal care, facility deliveries, facility maternal mortality rates and stillbirth rates to maternal and neonatal death audits. A sub-analysis at the sub-county level showed that this improvement in performance trends in Bungoma County was driven by the six sub-counties supported by the MANI project.

A significant contribution to the positive results recorded in the MANI-supported sub-counties can be attributed to the project's flexibility to adjust to and mitigate the effects of the 2017 health workers' strikes. Because of the performance-based financing system of the MANI project as well as by intensifying the support of faith-based health facilities, essential maternity services in Bungoma experienced less disruption than in neighbouring counties.

Health systems governance, coordination, partnership, planning and budgeting, information management and service delivery capacity in Bungoma County were strengthened by the MANI project. The remit and resources of the project for the support of other health systems building blocks such as the management of infrastructure, human resources for health, health financing and commodity management at sub-county level was less. Although some results were also achieved in these areas, they were only partially effective.

During the last year of implementation, the MANI project carefully prepared and implemented an exit and hand-over strategy to the county health authorities that is likely to assure the sustainability of some of the results achieved. Most key informants, however, voiced the opinion that the short duration of the project prevented the achievement of a greater scope of sustainability.

The County Innovation Challenge Fund

The CICF aimed at generating innovative solutions or at supporting the scale-up of proven solutions to problems in maternal and neonatal health. The evaluation examined the extent to which the CICF succeeded in funding new solutions and/or the scaling of such solutions. It was not an evaluation of end-user outcomes but delivered a contribution to this objective of the overall MNH Programme evaluation.

All CICF-funded projects were implemented in partnership with government and the majority also with local community-based partners. The majority of projects engaged and mobilised communities and end-users of MNH services. Technical support to grantees and technical capacity building was intensive and highly appreciated. The CICF implemented a highly effective communication strategy and, with support of a contracted communications partner, generated a large media footprint for the Fund and for a number of funded projects.

CICF scaling grants supported sustainable interventions for maternal and neonatal health in Kenya and contributed to their sustainability. The potential for sustainability and scalability of the solutions funded with innovation grants varied from project to project.

With a management cost of less than 40 percent which was used to about 50 percent for technical assistance and capacity building, management of the CICF programme can be considered as highly cost-efficient. This assessment still holds when the management costs incurred by the grantees are added (around 15%).

In order to assess the cost-effectiveness of the CICF programme, a single metric would be required for aggregating the results of all grants, which does not exist. The final assessment of the cost effectiveness of

the CICF programme is therefore mixed: An efficiently managed portfolio of grants that generated a number of positive results and many lessons learnt, but rather moderate innovation outcomes.

The Making it Happen Programme

The MiH programme in Kenya aimed at (i) increasing the availability and improving the quality of skilled birth attendance and emergency obstetric and newborn care (EmONC) through inventions such as in-service competency-based training in EmONC (as from 2014); and (ii) strengthening EmONC training capacity within pre-service training institutions nationally (as from 2016). In a phase prior to its integration in the MNH Programme, MiH had provided EmONC training in 15 counties of Kenya. With the integration in the MNH Programme, 32 counties were added thereby achieving nation-wide coverage.

The MiH programme delivered in-service competency-based training in EmONC of almost 11,000 health workers, either through training courses provided by LSTM or by government or partners supported by LSTM. The programme also conducted training in maternal and perinatal death surveillance and response (MPDSR), quality improvement (QI), data management and quality assurance and organisation/management in each of the 32 counties. Pre-service training in 14 Kenya Medical Training Centres (KMTCs) and two Universities ensured that cohorts of nursing, clinical officers and medical students received competency-based training in EmONC. Further support will be required to ensure effective integration of EmONC training in current curricula and increasing participation of KMTCs and Universities. Post training follow-up was emphasised as a key component to ensure knowledge and skills are correctly implemented and applied. However, the post-training supervision provided by the MiH programme was not integrated in the supervision package of sub-county and county health authorities which risks reducing the potential longer-term impact of the training investment.

In an on-line survey conducted by the evaluation team, former trainees reported that their confidence in carrying out EmONC signal functions increased. Capacity was built to continue in-service EmONC training through the establishment of a pool of trainers, comprising staff of KMTCs, Universities and the Ministry of Health at county and national level. Building this decentralised capacity for continued training in EmONC was a major achievement of the MiH programme. However, Ministry of Health officials interviewed by the evaluation team voiced criticisms about insufficient national ownership of training materials and insufficient access to other programme deliverables.

The MiH programme supported the first national Confidential Enquiry in Maternal Deaths (CEMD) report. The programme's role in the development and media launch of the report was appreciated by the Ministry of Health, but the CEMD action plan still needed to be implemented at the time of the summative evaluation.

The MiH programme start-up, office running cost and management fee represented 42% of the total expenditure for the whole duration of the programme. This is comparable with other internationally funded training support programmes. Once training targets were reached LSTM submitted a request to deliver more training from efficiency savings in April 2018, confirming efficient implementation. Direct cost per trainee (in-service) was around GBP 500, comparing favourably with international benchmarks.

After ten years of implementing health worker training programmes in Kenya, the MiH programme continues to confront sustainability issues. The establishment of pools of trainers and national and county level was a first step but requires county financing strategies for sustainability. Pre-service training, started in 2016, is not yet sustainable. This still requires full acceptance and integration in the existing curricula of all training schools.

The Combined MNH Programme Results

Through the combined effort of the three components, the MNH Programme contributed to establishing MNH as a priority in the political agenda at national level in Kenya and at county level in Bungoma County. It effectively influenced national and county MNH policies and guidelines and introduced structural changes and tools that will facilitate gains to be continued. Overall, policy dialogue and working with national level was a key element of the MNH Programme but was more formalised during the first phase of the programme (mainly through UNICEF) before restructuring. There is still scope to share more of the health system strengthening lessons from Bungoma County with the national Ministry of Health and its partners, using the evidence-based documentation developed by Options and the current summative evaluation.

Even in the complex socio-political context of rapid devolution (with limited county capacity and health budgets), introduction of free maternal health services affecting demand, major human resource constraints, frequent changes in county leadership and insecurity in some regions, implementing partners achieved or surpassed project targets and implement the MNH Programme in a timely manner. The achievement of the programme target of 77,000 deliveries attended by skilled providers cannot be confirmed by the evaluation and was likely an over-estimate of expected effect. However, the additional number of births with skilled provider attendance in Bungoma County during the MANI project period was 27,000 which can be in part attributed to a contribution by the MANI project, in part to the national introduction of free maternal health care, and in part to demographic growth.

The MNH Programme improved the understanding of the socio-cultural considerations that affect the uptake of maternal and newborn health care, before and after the restructuring of the programme. Important barriers were addressed, and new or innovative approaches were tested, launched and/or rolled out.

Evaluating the cost efficiency and value for money (VfM) of the combined MNH Programme was analysed by evaluating the combined effect of MANI, CICF and MiH support in Bungoma County. The analysis found that the MNH Programme was cost-effective or highly cost-effective provided that efficacy and attributability were assumed to be higher than 25% which is very likely. It is reasonable to assume that both rates are in the range of 50% or above, considering also that the Bungoma County health budget from domestic sources and on-budget development partner contributions increased between 2014 and 2018.

The short duration of the HSS support in Bungoma County reduced the chances of sustainability and raises some ethical question about generating expectations without guaranteeing continuity.

Main Lessons learnt

1. Improvement of maternal and newborn health by comprehensively strengthening health systems is effective.
2. Strengthening health systems sustainably requires time in order to be effective.
3. Mutual trust between national and international partners is important for assuring the effectiveness of technical cooperation for health systems strengthening.
4. System thinking requires a different approach from typical project thematic or vertical support.
5. Cooperation programmes for MNH need to generate the evidence that the supported interventions provide the most effective, equitable and efficient solutions to improve maternal and neonatal health in the context where they are implemented.
6. Improving postnatal care of infants and early neonatal care are essential for the improvement of neonatal health outcomes. Delivery systems, equipment, infrastructure, provider skills and community education for the care of newborns tend to be neglected in maternal and neonatal health programmes and should receive more attention.

Reet, Belgium, January 2020

1 INTRODUCTION

The Department for International Development (DFID) supports the Government of Kenya's (GoK) efforts to attain the country's development goals. DFID's investment in health is primarily targeted towards strengthening health systems, improving maternal and reproductive health, and preventing malaria and HIV.

DFID's programme to Reduce Maternal and Neonatal Deaths in Kenya was originally a £75.3 million programme (the MNH Programme) over five-years (2013-2018) that aims to reduce maternal and neonatal mortality. After programme restructuring in 2017, the budget was reduced to £60.6m. Following the agreed cost extension to the programme to March 2023 the budget was increased again to £64.6m. The outcome is increased access to and utilisation of quality maternal and newborn health services. The MNH Programme is described in section 2, including the objectives of the MNH Programme, its organisation and implementation, activities and inputs.

The **hera** consortium was appointed to undertake the evaluation (Component four) of the MNH Programme. A formative evaluation of the MNH Programme was implemented in 2016 and 2017. Objectives and scope of the summative evaluation, including of the three main subcomponents of the programme (health system strengthening in Bungoma County; Innovation Challenge Fund; and Making it Happen programme) are described in section 3.

The terms of reference (ToR) outline the following key questions to be answered by the evaluation:

- **Outcome and impact:** What has been the change in maternal and newborn health outcomes and can a clear contribution of the programme be found?
- **Relevance:** Is the maternal and newborn health programme supported by DFID an appropriate response to the Kenyan maternal and newborn health context (e.g., policy, devolution of the health system, epidemiology and what other development partners are doing)?
- **Effectiveness**: What works in what context?
- **Efficiency:** How do the programme costs and benefits look?
- **Sustainability**: What evidence is there to suggest that any gains will be sustained?

All evaluation questions are answered in detail in Volume II, Annex II, under separate cover.

During the inception phase a detailed methodology and data collection tools were developed and agreed with DFID and implementing agencies. The methodology is summarised in section 4 (and more details are provided in Annex 4 and in the inception report) .

Country context and relevant global information on cost-effective MNH interventions are outlined in sections 5 and 6 respectively. Programme outcomes and impact, as per Theory of Change (ToC) are discussed in section 7. Section 8 summarises the main findings from the Making it Happen (MiH) programme evaluation, the County Innovation Challenge Fund (CICF) evaluation and the Value for Money (VfM) assessment. Each of those evaluations is presented in more detail in Volume II, respectively in Annexes VI, VII and VIII, under separate cover. Main conclusions and lessons learnt from the three programme subcomponents are presented in section 9; and recommendations in section 10.

2 THE MNH PROGRAMME

2.1 MNH PROGRAMME OBJECTIVES

The DFID 'Reducing Maternal and Neonatal Deaths in Kenya Programme' (hereafter referred to as the 'MNH Programme') commenced in November 2013 with a planned duration of six years to June 2019. The programme was expected to contribute to preventing 1,092 maternal and 3,836 neonatal deaths by 2018 through increased access to and utilisation of quality maternal and newborn health services. A formative mid-term evaluation was conducted in 2016. In 2017 the MNH Programme was restructured and reduced in scope. After restructuring, the programme was expected to contribute to the provision of skilled birth attendance for an additional 77,000 women by end of 2018. The MNH Programme comprised three projects:

- Project 1: National scale-up of health worker training (including in-service and pre-service training) in emergency obstetric and neonatal care (EmONC), quality improvement (QI) and maternal and perinatal death surveillance and response (MPDSR) under the Making it Happen (MiH) Programme implemented by the Centre for Maternal and Newborn Health (CMNH) of the Liverpool School of Tropical Medicine (LSTM), covering 32 counties. This MNH Programme component is referred to as **MiH** in the remainder of this report.
- Project 2: Health systems strengthening (HSS; including demand and supply side systems) in six of nine[1] sub-counties of Bungoma County under the Maternal and Newborn Improvement (MANI) Project implemented by Options Consultancy Ltd (hereafter called Options). This MNH Programme component is referred to as **MANI** in the remainder of this report.
- Project 3: The County Innovation Challenge Fund (CICF) supporting 19 innovation or scale-up MNH projects (see Volume II, Annex VII) selected in a competitive process in 6 counties. (Bungoma, Garissa, Homa Bay, Kakamega, Nairobi and Turkana) The CICF is implemented by Options in partnership with KPMG. This MNH Programme component is referred to as **CICF** in the remainder of this report.

Monitoring through annual performance reviews and the programme evaluation were additional components of the MNH Programme.

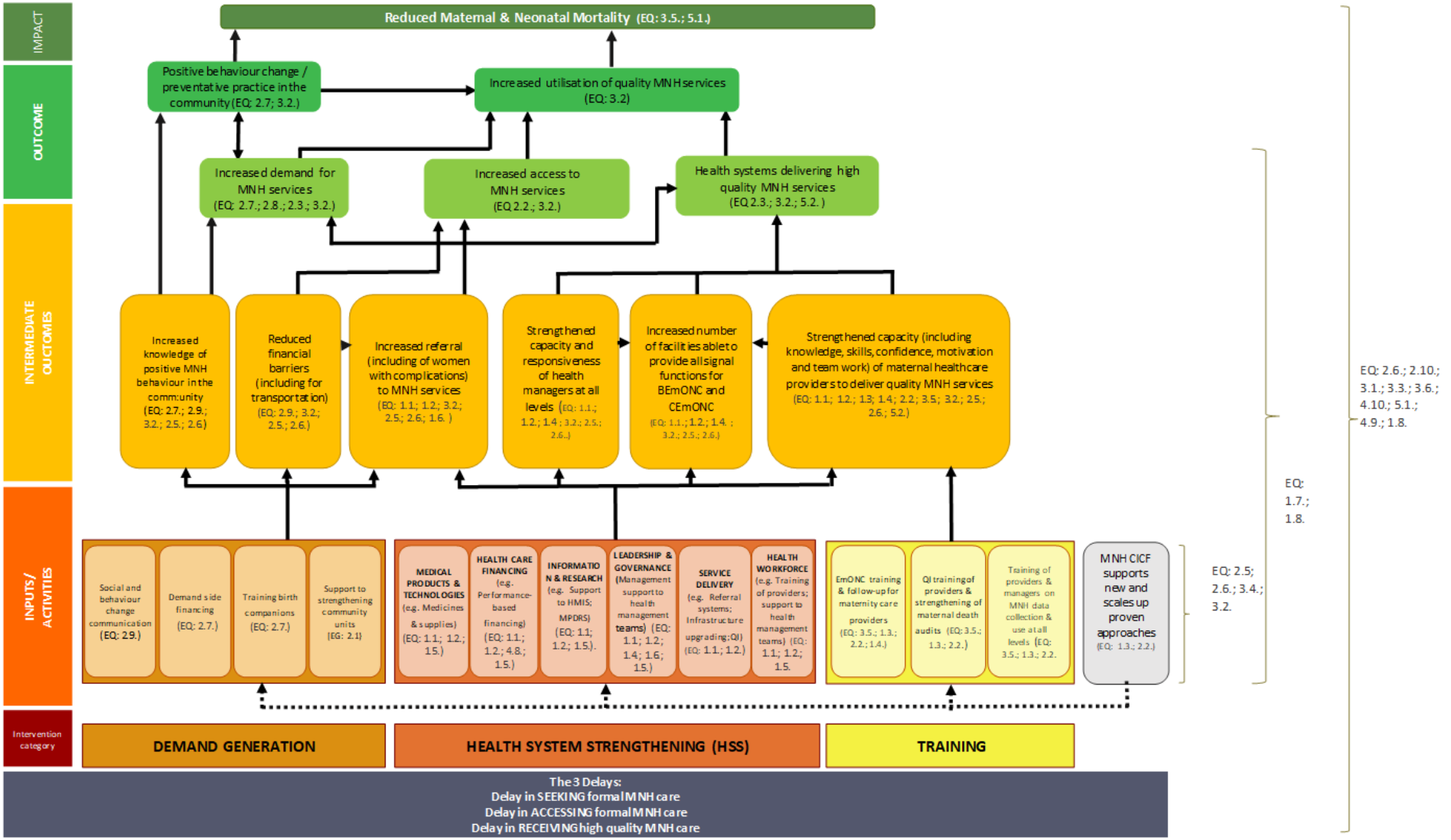
Component projects were closed on December 31st 2018 for MANI health systems strengthening (HSS), on March 31st 2019 for LSTM MiH, and on June 30th 2019 for CICF.

2.2 MNH PROGRAMME THEORY OF CHANGE

The Theory of Change (ToC) of the programme uses the 'three delays' model, which identifies three groups of factors that may stop women and girls accessing the levels of maternal health care they need. The first and the second delays (delay in a decision to seek care, and delay in reaching care) are addressed through demand generation under MANI HSS and through about half of the projects funded under the CICF. MANI HSS, LSTM MiH and the remaining CICF projects address the third delay: to receive adequate health care. This latter component is further divided into activities of the six health systems building blocks (governance, human resources, financing, health information, supply chain management and service delivery), and also includes organisational capacity development, planning and budgeting. The programme's Theory of Change was agreed with all implementing partners during the inception workshop in January 2016 and is presented on the next page. See section 3.2.2 for more discussion on the use of the ToC in the evaluation.

[1] One sub-county in Bungoma, not supported by MANI, was split into two sub-counties. Bungoma now counts ten sub-counties of which six were supported by MANI.

Figure 1. MNH Programme Theory of Change



DFID approved the MNH Programme in October 2013. Implementation commenced in November 2013 with a planned duration of nearly six years to June 2019. The programme was restructured in 2017. The HSS component was reduced from initially six counties (of which five were supported by UNICEF as from 2014) to one county (Bungoma, supported by MANI as from 2015). The CICF component, which started in 2015 continued in six counties as originally planned. Similarly, the MiH programme continued to cover the original 32 counties.

2.3 ORGANISATION AND IMPLEMENTATION CONTEXT

The programme, which started in November 2013, was originally due to end in June 2019 but, following restructuring in 2017, was extended to March 2023. Before restructuring there were three partners implementing the MNH Programme: UNICEF, MANI/Options and LSTM. UNICEF was contracted in December 2013 to implement the MNH Programme in Turkana and Homa Bay counties. The programme scope was extended in May 2014 to include two constituencies in Nairobi County (Embakasi and Kamukunji), Kakamega and Garissa counties, and in August 2015 to add a green technology component. This component was closed down in 2017, as part of the programme restructuring.

After restructuring, there were two main partners managing different components of the programme at different geographical levels, as indicated above. Each main partner had a contract with DFID. LSTM conducted trainings (EmONC, Quality of care, MPDSR, M&E) directly or indirectly in 32 counties, including the original six MNH Programme counties. In Bungoma County, the Maternal and Newborn Initiative (MANI) contracted by Marie Stopes International (MSI) was implemented by Options with support from AMREF, CARE, the Institute of Health Policy Management and Research (IHPMR), and, Mannion Daniels. MANI covered six sub-counties in Bungoma County[2].

The County Innovation Challenge Fund (CICF) was contracted by MSI, but managed and delivered by Options, whereby Options provided the technical leadership of the project. Options subcontracted KPMG to manage the Fund, in collaboration with the Population Council. Technical management of the CICF moved from the Population Council to Options as of February 2017.

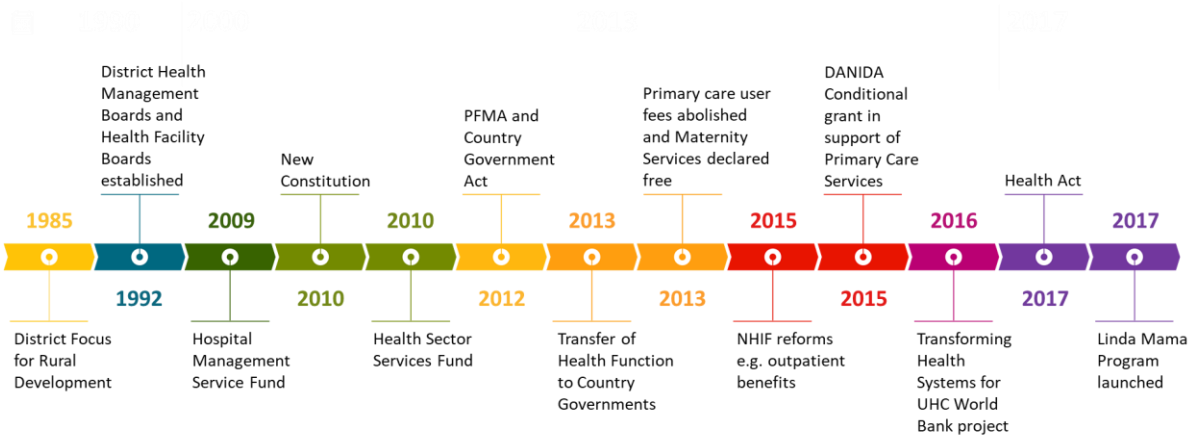
LSTM was contracted in April 2014 to implement the training programme in 32 counties (complementary to the 15 counties covered by the previous phase of Making it Happen). The contract for in-service training was extended to include a pre-service training component in June 2016.

MSI was contracted in January 2015 to implement the MNH Programme in Bungoma County and implement the CICF across the original six programme counties (contract amended in February 2016). MSI requested DFID for a no-cost extension of the contract till June 2019 which was granted.

Implementation of the different MNH Programme components was influenced by other factors such as the decentralisation policy of the GoK, the institution of free maternal health care by the GoK, and the implementation of MNH or other programme related initiatives by other international and national organisations (such as capacity building of County Health Management Teams) as well as by DFID (the Health programme and Support to Family Planning, both active in 47 counties; private sector innovation for health; adolescent girls; and nutrition).

[2] In this report we refer to MANI when we mean the MANI consortium that implements the programme in Bungoma County or the CICF project. For the contracted agency we refer to MSI.

Figure 2. Legal, institutional reforms and financial support modalities towards decentralisation in Kenya



Source: Options, Autonomy in the Bungoma County Health System: Effects on Health System Performance

As indicated in the 2019 report of the DFID Mid-Term Review (MTR), several key changes occurred in the country policy context that affected MNH Programme implementation: a) Responsibility for health services was devolved to 47 newly-created counties following the March 2013 election. Devolution was implemented in a shorter timeframe and with less management / technical support than initially planned, resulting in a number of local challenges; b) introduction of free maternity services in the public sector (June 2013), with the aim of increasing access to skilled delivery care and reducing maternal and newborn mortality. Delays in receiving reimbursements for provision of maternity services and different interpretations about the scope of free services hampered implementation; c) step-wise introduction of the Linda Mama scheme (October 2016), with government funds for free maternity services managed by the National Hospital Insurance Fund (NHIF), first covering faith-based and private health facilities (April 2017), adding public health facilities (July 2017), and in March 2018, expanding the scope from delivery care to include antenatal care (ANC) and post-natal care (PNC); d) and following the 2017 election, focus on achieving Universal Health Care (UHC) by 2022, with implications for national and county health sector financing and access to and demand for health services.

2.4 PROGRAMME ACTIVITIES AND INPUTS

This section provides a brief summary about type of areas supported by the programme at central and county level as well as the respective budgets. For a more detailed list of activities we refer to Volume II, Annex II, where we respond to specific evaluation questions; and to Volume II, Annexes VI, VII and VIII for the specific reports respectively on MiH, CICF and VfM. Activities cut across the three delays and are described as part of three main blocks: a) training[3]; b) health system strengthening; and c) demand generation. Activities are implemented at three levels: a) national (Ministry of Health; other development partners); b) county and sub-county (health providers); and c) community.

2.4.1 Inputs at national level

Before restructuring, the main support at national level focused on policies, norms and standards in a subset of health systems building blocks, including health services (MNH / Reproductive health, referral systems, county planning / budgeting, green energy component) and community health; and to a lesser extent human resource development (EmONC pre-service and in-service training; county health management team

[3] Training is part of health system strengthening but is listed separately in the ToC to capture specific LSTM training inputs.

(CHMT) training; Leadership Development Programme Plus training), commodity security and health information (MPDSR secretariat, Reproductive health, ICT, Health Data Collaborative [HDC]). Inputs were coordinated with other development partners supporting MNH to avoid duplication and to achieve synergies. Support at national level was provided by programme staff based in Nairobi (UNICEF, LSTM, KPMG) or Bungoma (Options). UNICEF, Options and LSTM were part of the national MNH technical working group (TWG). UNICEF supported the Division of Family Health and within the division the units of Reproductive and Maternal Health Services and Community Health Services.

After 2017, the support at national level was substantially reduced as UNICEF was no longer part of the programme[4]. MANI/Options shared experiences and coordinated with other partners at central level through its presence in the MNH, M&E and Green Energy TWGs and as member of the MNH Steering Committee; but had no mandate of national level support. LSTM continued its national level activities as before, including its support to the MPDSR secretariat at MoH. Coordination with LSTM and other partners on pre-service training and MPDSR took place through the Pre-Service Taskforce, the MPDSR Committee and the CEMD working group.

Other central level building blocks were not strategically or substantially supported by the MNH Programme. These include governance (e.g. decentralisation), health financing (e.g. demand side financing, performance based financing, domestic financing including for free maternal health care (FMHC)), medical products and technologies (apart from participation in the commodity security TWG before 2017), and human resource development (apart from specific trainings indicated). Many other international partners support other health systems building blocks[5] as well as the building blocks supported by the MNH Programme.

As indicated, the MNH Programme also put efforts into coordination with other partners (e.g. participating in TWG, advisory committees, interagency committees, task forces, Development Partners' Forum). Coordination with other partners is discussed in Volume II, Annex II, Evaluation Question (EQ) 1.6.

2.4.2 Inputs at county, sub-county and community level

Before 2017, the MNH Programme addressed all health systems (HS) building blocks, as per logframe and ToC, at county level, at least to a certain extent, but not systematically or comprehensively across all six counties. Some programme elements covered in the UNICEF-supported counties were not part of the Bungoma County programme design (e.g. infrastructure and supply of medicines). Also, some elements of the programme were delayed, mainly in UNICEF-supported counties (e.g. on health financing and human resource development [HRD]), which affected programme outcomes. DFID and Options agreed on extending the programme scope to include some of the missing elements (eg. green energy, blood transfusion, provision of medicines through performance based financing (PBF)).

Inputs at county and sub-county level included[6]:

1. Leadership and governance - including leadership and management training, support to planning and budgeting, performance review, capacity building.
2. Service delivery focused on MNH - including support to and capacity building of a selection of high-volume health facilities; hospital management boards; health facility management committees;

[4] Only UNICEF had a specific mandate to support the national level (apart from LSTM supporting MPDSR). UNICEF may have continued providing support at the national level, but no longer funded by the DFID MNH Programme.

[5] For example, many other partners provide HMIS/DHIS2 technical support at central level: AFIDEP (evidence in Policy); KEMRI; AMREF (information software for community level); CDC; USAID; WHO; Measure Evaluation (funded by USAID/CDC); JICA (global financing facility); Danida (printing & dissemination); WB (M&E structures; birth & death registration). At county level: USAID/CDC/PEPFAR through recipients/sub-recipients

[6] This includes inputs before and after restructuring of the MNH Programme.

infection prevention and control; performance review; supportive supervision; mentorship; quality improvement; referral systems.

3. Infrastructure and equipment - including rehabilitation, reconstruction and green technology for a selection of targeted health facilities in UNICEF counties; green technology and rain water harvesting for a selection of targeted health facilities in Bungoma county; community-led total sanitation or WASH support in selected UNICEF counties; MNH equipment to most/all supported facilities.
4. Human Resources - including establishing a Human Resources for Health (HRH) task force at county level, support for HR situation analysis, HR database, HR strategy and HR Development plan in UNICEF supported counties; developing staff transfer guidelines in Bungoma county; many training activities (mainly but not exclusively through the MiH programme in 32 counties, including in Bungoma County), including specific training in life saving skills (emergency obstetric care and newborn care), Quality of Care & Maternal and Perinatal Death audit, supportive supervision, mentorship and monitoring/ evaluation of MNH.
5. Health information and research – including strengthening the health management Information system (HMIS-DHIS2), use of reproductive, maternal, neonatal and child health (RMNCH) score cards, MPDSR support, community tools, data quality assessments and data management at health facility level, data review and performance review meetings and use for decision-making at county and sub-county level; several studies, assessments and some operational research.
6. Health Financing – including support to the county initiative of Oparanya care in Kakamega and implementation of a transport voucher scheme and PBF in Bungoma. Planned support to a voucher scheme and community level PBF in Turkana, and PBF in Homa Bay was abandoned because of restructuring.
7. Medical products & technologies – including donation of selected MNH commodities in UNICEF counties; procurement policy, procurement capacity building, training in supply management, supply of MNH commodities in kind to health facilities, establishment of blood transfusion services, etc. in Bungoma county.
8. Community support – including support to implementing the national community health strategy and more specifically establishing and strengthening community units (CU); support to Community Health Volunteers (CHV) and birth companions; social behaviour change and communication; respectful maternity care; community scorecard and demand generation.

More details on inputs are provided in Volume II, Annex II, EQ 1.1 and EQ 2.1.

2.4.3 County Innovation Challenge Fund

The County Innovation Challenge Fund (CICF) was planned with a budget of £16 million to support innovative local initiatives to improve the supply, quality and demand for maternal and newborn health services in the six programme counties. During its lifetime, the total available budget decreased to approximately £12 million as DFID funds were reprogrammed to other priorities. CICF grants were provided on a competitive basis following open calls for proposals. Three rounds of proposal calls were launched. The first two rounds had separate funding windows for innovation and for scale up grants; the third round had a single window for innovation. A budget of £1.5 million was retained for the scale-up of innovative projects from the first two rounds.

2.4.4 estimated mnh programme expenditures

MANI HSS and CICF

As the MSI contract with DFID was output-based, MSI did not provide detailed expenditure data to DFID. Additional data and assumptions provided by Options and or collected/elaborated by the evaluation team were necessary to do an annual apportionment of expenditure between the following components: HSS Bungoma, overall CICF, and CICF in Bungoma. The assumptions are explained in the VfM report (Volume II, Annex VIII, section 3.1). The apportionment is presented in the tables 2 and 3 below (Bungoma HSS and CICF).

Table 1. MANI-HSS Bungoma expenditure per year (GBP and %, 2015 to 2018)

GBP	2015	2016	2017	2018	Total	%
Inputs (LT & ST days, management days, travel costs and living costs)	1,072,708	1,536,738	1,536,738	909,040	**5,055,224**	51%
Equipment	91,132	130,554	130,554	77,227	**429,466**	4%
Activity	426,360	610,794	610,794	361,308	**2,009,256**	20%
Performance base financing	149,473	214,132	214,132	126,667	**704,405**	7%
Demand side financing	187,732	268,941	268,941	159,089	**884,703**	9%
Other	185,214	265,333	265,333	156,955	**872,835**	9%
Total	**2,112,619**	**3,026,492**	**3,026,492**	**1,790,286**	**9,955,889**	**100%**

The DFID additional funding for MNH in Bungoma County varied between 2 GBP and 3.2 GBP per capita over the four years of implementation. This represented about 60% of MNH expenditures in Bungoma County.

Table 2. CICF expenditure per year (GBP and %, 2015 to 2018)

	2015	2016	2017	2018	Total	%
Management cost	**740,458**	**1,173,814**	**1,173,814**	**324,164**	**3,412,249**	**28%**
KPMG	482,004	764,099	764,099	211,016	2,221,218	
Options	104,784	166,108	166,108	45,873	482,873	
Population Council	104,784	166,108	166,108	45,873	482,873	
Internews	48,887	77,498	77,498	21,402	225,284	
Expenditure on CICF	**1,871,095**	**2,966,160**	**2,966,160**	**819,143**	**8,622,558**	**72%**
Total	**2,611,553**	**4,139,973**	**4,139,973**	**1,143,307**	**12,034,806**	**100%**

MiH programme

Based on detailed quarterly expenditure data, provided by LSTM, we calculated annual expenditures by MiH as follows.

Table 3. LSTM/MiH Expenditure per year (GBP and %, 2014 to 2019)

	GBP 2014	GBP 2015	GBP 2016	GBP 2017	GBP 2018	GBP 2019	GBP total	%
Start-up & Office running cost	209,177	440,776	912,468	921,830	824,163	198,454	3,506,868	35%
In-service training	1,264,834	908,181	1,152,665	365,455	27,199	83,762	3,802,096	38%

	GBP 2014	GBP 2015	GBP 2016	GBP 2017	GBP 2018	GBP 2019	GBP total	%
Pre-service training	4,693	214	411,580	36,110	88,094	423	541,114	5%
Quality improvement	2,287	76,792	208,175	155,416	86,858	18,190	547,718	5%
M&E, Supp Supervision, Operational research	8,626	55,122	48,796	235,399	322,091	33,721	703,755	7%
Dissemination	33,064	140,380	17,105	1,797	6,180	0	198,526	2%
Management Fee	121,815	129,716	220,064	137,281	108,366	26,764	744,006	7%
Total	**1,644,496**	**1,751,182**	**2,970,853**	**1,853,286**	**1,462,949**	**361,314**	**10,044,080**	**100%**

Total MNH Programme

The total expenditure 2014-2019 represents around GBP 32 million, of which GBP 8.6 million (26%) for direct CICF grants (excluding CICF management), and around GBP 13 million for technical assistance (TA; 40%) (including ST TA, LT TA, management, travel and living costs, start-up & office running costs, and management fee). See the VfM study (Volume II, Annex VIII) for a detailed analysis per year and per component (MANI HSS Bungoma, MANI CICF (with KPMG), and MiH/LSTM quarterly expenditure per category of cost) based both on actual data provided by the implementers and on a series of assumptions for some apportionment of costs.

Table 4. Total Expenditure per year of MANI HSS, CICF and MiH (GBP and %, 2014 to 2019)

GBP	2014	2015	2016	2017	2018	2019	Total	%
MANI HSS Bungoma		2 112 619	3 026 492	3 026 492	1 790 286		9 955 889	31%
CICF		2 611 553	4 139 973	4 139 973	1 143 307		12 034 806	38%
MiH/LSTM	1 644 496	1 751 182	2 970 853	1 853 286	1 462 949	361 314	10 044 80	31%
Grand Total	**1 644 496**	**6 475 354**	**10 137 318**	**9 019 751**	**4 396 542**	**361 314**	**32 034 775**	**100%**

Before restructuring UNICEF spent GBP 21,202,531, bringing the total MNH Programme expenditure to GBP 53,237,305.

We refer to the VfM report for more discussion and details of programme inputs by programme component and type of inputs (see Volume II, Annex VIII).

3 OBJECTIVES AND SCOPE OF THE EVALUATION

3.1 OBJECTIVES AND PURPOSE

The objectives of the evaluation, as outlined in the terms of reference (Annex 1) are to:

- Explore the effectiveness and impact of the maternal health training package
- Explore the effectiveness and impact of health systems strengthening
- Understand whether providing health systems strengthening alongside training brings additional benefits
- Understand the extent to which the MNH Programme was a relevant response to the needs in the contexts in which it was operating.

As explained in the ToR, "there is existing evidence to demonstrate that training, health systems strengthening and demand side financing result in improved maternal and newborn health outcomes. However, no single intervention will substantially reduce maternal and neonatal mortality, and it is universally accepted that this requires a functioning health system that provides a continuum of care.[…] It is intended that the evaluation of the MNH Programme will *generate more evidence on the effectiveness of strengthening health systems towards reduction of maternal mortality. It is hoped that utilisation of the evaluation findings will help inform the effective management of maternal health programmes within the context of Kenya, taking account of other Government initiatives such as the free maternity pack and beyond zero campaign*."

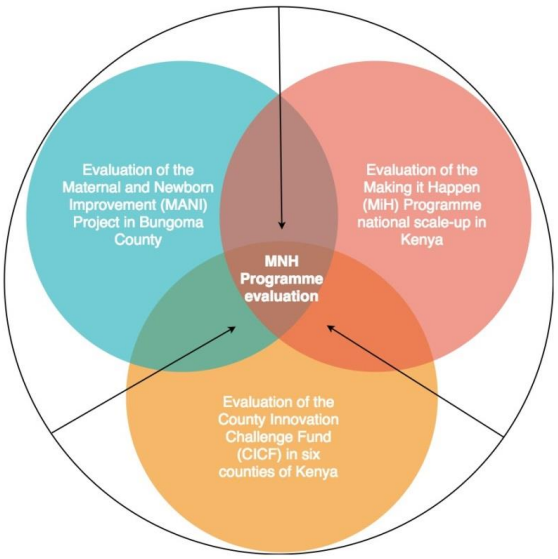
3.2 SCOPE

3.2.1 The MNH Programme evaluation

The MNH Programme summative evaluation assesses the relevance, effectiveness, efficiency and sustainability of the DFID-funded contributions to the improvement of maternal and newborn care in Kenya between 2013 and 2018. It also, to the extent possible, explores the impact of the Programme. The evaluation questions defined in the terms of reference of the assignment are presented in the evaluation matrix in Volume II, Annex I. The Theory of Change (ToC) framework, as developed in a participatory workshop in 2016 prior to the MNH Programme restructuring, was maintained as the organising framework of the evaluation (see section 2.2, Figure 1).

To fully appreciate the scope of the evaluation, we have disaggregated it into the three component projects. The evaluation findings relevant to each project are contextualised in a review of the political economy of maternal and neonatal health care in Kenya, including a review of national policies and initiatives and of the cooperation and support by international development partners.

Figure 3. Evaluation Scope



3.2.2 Theory of Change

The agreed consolidated ToC (see Figure 1) takes as its starting point the 'three delays' in maternal care. It then groups the programme activities and inputs into three main categories – namely, (1) work in demand generation, (2) work in health system strengthening (HSS), and (3) the training component led by the LSTM. The HSS categories were grouped using the WHO framework of health systems building blocks. Illustrative examples of interventions are included but are not intended to be comprehensive. The CICF is a potential source of inputs to each of the three intervention categories.

Building on the inputs and activities, the ToC defines the key intermediate outcomes, which are shorter-term preconditions to success. They include areas such as increased knowledge of community members, strengthened capacity of providers and health managers, and reduced financial barriers. These feed up into three higher level and critical outcomes – namely, increased demand for MNH services, increased access to MNH services and health systems delivering high quality MNH services. The theory suggests that these three elements combined should lead to the higher order outcome of increased utilisation of quality MNH services (for example, as measured by the proportion of women giving birth with a skilled birth attendant), and thereby generate the expected impact of reduced maternal and neonatal mortality.

We used the consolidated ToC as a way to frame the EQs (defined in the ToR) which were mapped against its constituent parts to identify the data collection requirements and analysis methods/components. The evaluation team addressed all EQs, taking into account the evaluability of each question (see Volume II, Annex II).

3.2.3 The Bungoma County MANI Project

The scope of the evaluation of the MANI project comprises a time series analysis of health systems and health facility performance in Bungoma County since the start of the project in 2015, as well as a comparison of the overall county indicator trends with national trends, a comparison between supported and un-supported sub-counties and an assessment of performance trends in supported health facilities. In detail, this includes:

a) A qualitative analysis of county health systems performance using the Context, Delivery and Outcome (CDO) tool developed for the formative evaluation, and a comparison with data collected during this evaluation in 2016 and 2017.

b) The use of the same tool to compare the health systems performance of two supported sub-counties of Bungoma County (Tongaren and Sirisia) with matched non-supported sub-counties (Kimilili and Bumula)

c) A comprehensive health facility & services assessment (service availability, human resources training and availability, support supervision, infrastructure, equipment, financial resources, EmONC signal functions, MPDRS, HMIS data quality, community appreciation) of nine MANI-supported health facilities and a comparison of five of them to facility assessments at baseline in 2015. Community appreciation was collected through focus group discussions. Five of the sampled facilities were included in the Options / Population Council baseline study. The facilities that were assessed are listed in the Volume II, Annex IV, Health facility & services assessment.

d) A comparison of end-user perceptions of the demand-side and supply-side performance of the comprehensive facility and community support provided by the MANI project in the service areas of eight EmONC health facilities[7] and eight matched service areas of non-supported facilities in Bungoma County using a household survey of women living in these areas who had delivered a live infant, had a stillbirth, or who had a third trimester spontaneous abortion within the last 12 months. The facility service areas that were compared are listed in Volume II, Annex III, Household Survey report.

e) A before/after analysis of supply-side and demand-side performance of MANI support to the eight sampled health facilities and the communities in their service area using the same household survey and comparing service coverage, use and outcomes with data collected in the same geographic areas in the baseline survey conducted by the Population Council in 2015.

f) A comparison of trends in key MNH indicators for the period from 2013 to 2018 between Bungoma County, ten Western counties and the rest of the country (excluding Nairobi County) using the national health management information system (HMIS) database DHIS2. A comparison of trends in key MNH indicators for the period from 2013 to 2018 between six Bungoma programme sub-counties and four Bungoma non-programme sub-counties.

g) A value for money analysis that explored the efficiency of support to Bungoma County provided by MANI (see section 8.3 and Volume II, Annex VIII).

3.2.4 The County Implementation Challenge Fund (CICF)

Under the CICF, 19 projects were funded under 18 grant agreements.[8] Of the 18 agreements, 14 were awarded under the 'innovation competition' and four under the 'scaling competition' of CICF. The characteristics of projects funded under these two competition streams were outlined in the CICF inception report as follows:

[7] Bungoma County hospital, being the county referral hospital, cannot be matched with a similar hospital in Bungoma. It has therefore been excluded from the sample for the household survey.

[8] One scaling grant agreement with Save the Children in Bungoma County includes funding for an additional innovation project

INNOVATION COMPETITION	SCALING COMPETITION
CICF projects must describe new and untried innovative local solutions in service delivery, financing, technology, processes and products that are readily available to and will influence the quality of maternal and newborn health services in low-resource settings.	CICF projects must demonstrate deliberate efforts to increase impact of innovative interventions or service models or technologies that have been successfully tested and are supported by evidence of programmatic effectiveness and can easily be replicated to benefit more people, are sustainable and can demonstrate potential to improve the quality of maternal and newborn health services for the poor.

Innovation grants aimed at providing opportunities for the testing of new ideas and innovative solutions whereas scaling grants had the objective of taking the findings of promising innovations one step further towards demonstrating and creating conditions of scalability, including through knowledge translation, consensus building and policy development. The expected results differed for projects funded under each of these two types of grants. An evaluation that uses the metrics of MNH service coverage, use and outcome of the Programme's Theory of Change was not appropriate for either project types. The scope of the CICF evaluation included:

a) A comprehensive evaluation of a sample of nine CICF-funded projects (including both innovative and scaling projects) selected by purposive sampling

b) An evaluation of the relevance of the CICF grant-making process in terms of the appropriateness of grants disbursed in the context of maternal and neonatal health in Kenya, including an analysis of equity aspects.

c) An evaluation of the efficiency of the CICF grant-making process including the value for money of the expenditures for grant selection, administration and monitoring

The main findings of the CICF evaluation are summarised in section 8.1. Main conclusions and recommendations are integrated in sections 9 and 10 respectively. The full report, including detailed recommendations, is provided in Volume II, Annex VII.

3.2.5 The Making it Happen Programme (MiH) in Kenya

MiH is a multi-country programme of the Centre for Maternal and Newborn Health (CMNH) at the LSTM implemented in 11 countries to increase the availability and improve the quality of skilled birth attendance (SBA) and EmONC. MiH in Kenya started in 2009 in 15 counties. Between 2012 and 2015, the MiH programme Phase II has been implemented through funding from DFID UK to support the Ministry of Health in Central, Nyanza and Western regions. The third (expansion) phase of the programme, the national scale-up from 2014 to March 2019, was integrated under the umbrella of the MNH Programme. During this phase, the programme was gradually rolled out to include the remaining 32 counties (covering all 47 counties of Kenya), including Bungoma. This phase is within scope of the evaluation. The activities included under this phase comprise health worker training in EmONC, training in Maternal and Perinatal Death Surveillance and Response (MPDSR) and Quality Improvement (QI), pre-service training, supportive supervision and M&E. The scope of the evaluation included:

a) An evaluation of programme effectiveness in terms of service improvement and changes in MNH outcomes through the review of performance monitoring and evaluation documents, DHIS2 data, as well as key informant interviews with senior officers in a sample of Health Facilities and CHMTs nationwide and, more focused, in Bungoma County through the CDO and health facility & service study. This also included a review of supervision systems and practices.

b) An evaluation of the relevance of the training, primarily through the review of training curricula and interviews with trainers, including staff of health worker training institutions. This also included in-

depth interviews with graduates of training programmes working in health facilities in Bungoma County.

c) An evaluation of curriculum relevance and trainee satisfaction through an on-line survey of graduates and trainers of MiH training programmes.

The main findings of the MiH programme evaluation are summarised in section 8.2. Main conclusions and recommendations are integrated in sections 9 and 10 respectively. The full report, including detailed recommendations, is provided in Volume II, Annex VI.

3.2.6 Overall programme evaluation

To contextualise the findings of the three project assessments and assess programme support at central level, we conducted key informant interviews with senior Ministry of Health staff at national level as well as with development partners active in the cooperation and support of MNH services in Kenya. All findings were triangulated and summarised in the summative evaluation report. Detailed findings and evidence supporting those findings are provided in Volume II including the respective component reports on MiH (Annex VI), CICF (Annex VII) and the summative report (including Bungoma HSS); and in the respective annexes in Volume II, including the responses to the evaluation questions (Annex II), HH Survey (Annex III), HF Assessment (Annex IV), Focus Group discussions (Annex V), VfM Assessment (Annex VIII).

4 METHODOLOGY AND LIMITATIONS

A summary of the methodology is provided in Annex 3 (see section 11.3). Hereunder we briefly list the evaluation methods and main limitations for each programme component.

Evaluation of the MANI project in Bungoma County

We combined a variety of data collection tools including:

a) **Mapping** of the **C**ontext, project and health services **D**elivery and **O**utcomes (as defined in the ToC) in the MNH Programme sub-counties (**CDO**), which included a baseline (2016), mid-line (2017) and end-line assessment (2018) and follow-up with the CHMT between assessments. This exercise was designed to generate detailed snapshots of the way the programme was implemented over time and how this mapped against the generic ToC. The CDO included key informant interviews (KII), observations and document reviews.

b) A **health and services facility assessment** (HFA) during the formative evaluation (2016) and the summative evaluation (2018), which included a comprehensive study of nine MANI supported health facilities in the six programme sub-counties and compared the performance with five health facilities covered in the baseline assessment. The main purpose of this work was to better understand what change had happened and why change happened within the supported facilities. The HFA also included a data quality assessment.

c) In the context of the facility assessment of nine MANI-supported health facilities, we conducted 16 **Focus Group Discussions** (FGD), two in the service area of eight facilities (one with influential community representatives and gate keepers; one with community health volunteers (CHV) and Birth Companions).The purpose of these discussions was to (a) ascertain the extent of community participation in the planning, governance and monitoring of services provided by the facilities, and (b) the extent to which Community Units (CUs) and the participating CHVs and Birth Companions were implicated in the maternity care provided by the facilities.

d) A **household survey** to measure the effectiveness of the comprehensive demand- and supply-side support to maternal and neonatal health services provided by the MANI project over four years to health facilities and surrounding communities in Bungoma County. It included a comparison between baseline and end-line (before/after analysis) and a comparison between service areas in MANI supported sub-counties and matched areas in control sub-counties in Bungoma County (quasi experimental analysis).

e) **Analysis of DHIS2 data** of key MNH indicators for the period from 2013 to 2018 allowing for a comparative analysis of MNH indicator trends between Bungoma County, ten Western counties and the rest of the country (excluding Nairobi County); and a comparison of trends in key MNH indicators for the period from 2013 to 2018 between six Bungoma programme sub-counties and four Bungoma non-programme sub-counties.

f) A **Value for Money assessment (VfM)** addressing a cost-effectiveness analysis of the three projects/implementers (MANI Bungoma, MANI-CICF and MiH/LSTM) in Bungoma county.

Main limitations to the above methodology included a) the complexity of matching health facilities and service areas in programme sub-counties and control sub-counties for the household survey; b) large unexpected data gaps in the database of the baseline household survey, reducing the number of indicators that could be analysed for the before/after analysis; c) the quality of the DHIS2 database, that did not allow for some analysis (e.g. neonatal deaths; macerated stillbirths; referrals of MNH patients) and required

correcting data outliers; d) the limited MNH specific expenditure data that were available at county level, requiring allocating costs based on expert assumptions.

Evaluation of CICF

There were two distinct evaluation axes for CICF:

a) The evaluation of the **relevance**, **effectiveness** and **efficiency** (including value for money) of **CICF as an instrument** to foster local innovation aimed at reducing maternal and neonatal mortality, and to promote the adoption at scale of those innovations that have proven their effectiveness. For a time-limited grant-making mechanism, **sustainability** was not a relevant evaluation parameter, while it was too early to assess its **impact**.

b) An evaluation of the **projects funded with CICF grants** according to their potential for developing or scaling innovations as well as the results of implementing, monitoring and documenting the innovative solution or, in the case of scaling projects, the results of increasing the acceptance and replication of a proven intervention. This included a specific efficiency and equity analysis of the nine CICF grants.

For either of these axes, the logic of outcome indicators of the MNH Programme Theory of Change only apply indirectly. A distinct evaluation framework for the CICF was therefore developed with a set of evaluation questions that did not fit well into the framework of evaluation questions of the terms of reference (Annex 1). A sub-set of evaluation questions and indicators were developed that are specific to the CICF evaluation. These were agreed during inception with DFID and the implementing agencies (Table 2 in Volume II, Annex VII). To answer the questions, we evaluated CICF as a grant-making instrument as well as a sample of 9/19 funded projects. The selected sample of CICF projects is presented in Volume II, Annex VII, table 3. The methodology included **KIIs, observations and document reviews**.

The sampling approach used for the evaluation of the CICF strengthened the evidence in support of the reported findings, but it also had a number of **limitations**: a) Findings and conclusions are based on available documentation (mainly secondary data) of only 9 projects and a limited number of stakeholder interviews and site visits; b) two counties (of the six) with large pastoralist populations were left out; c) for some projects the end-line data and the results of their analyses were not yet available to the evaluation team which affected the completeness of the analysis and possibly also the conclusions reached. We mitigated these limitations by reviewing the documentation provided by CICF management for all 19 CICF-funded projects.

Evaluation of the MIH training programme

The methodology included a number of tools, including: a) A document review of existing M&E documentation of the MiH programme; b) key informant interviews at national level; c) visits to three counties (including meetings with CHMTs, Kenya Medical Training Colleges (KMTCs), Universities) and telephone interviews with an additional five counties; d) an online survey via SurveyMonkey of all MiH graduates (for whom an email address was available) since 2014 and trainers; e) in-depth data collection in Bungoma County in conjunction with the CDO assessments (see above); f) analysis of selected DHIS2 MNH indicators; and g) analysis of monitoring data provided by LSTM.

Limitations included a) the response rate of 15% of the e-survey (in total 737 out of 5,030 responded); b) timing of the evaluation, when LSTM was in a transition phase to the next programme phase and busy with re-organising its programme set-up, limiting somewhat timely access to people and data; c) incomplete data on EmONC trainings conducted between 2014-2017 which were used to assess potential correlation between the MiH programme and MNH indicators from the DHIS.

Methodological approach for the VfM analysis

Expenditure and outputs/outcomes analysed included a) DFID MNH additional (incremental) resources to the existing domestic and other external resources, per implementer (MANI Bungoma, MANI CICF + KPMG, CICF projects, MiH/LSTM), per year and per category of cost ; b) Bungoma County overall financial resources for health and more specifically for MNH, per year (2014-2018); c) Bungoma County and ("MANI" sub-counties) MNH outcomes as per DHIS2.

The information listed above enabled a cost-effectiveness analysis (CEA) for Bungoma County as a whole, based on the specific burden of disease (related to MNH), MNH coverage trends in the 6 sub-counties covered by the MANI project, and incremental MNH expenditure (MANI, LSTM and CICF scale-up projects in Bungoma). A sensitivity analysis was applied both to the efficacy rate[9] and to the attributability to DFID funding, with a Red-Amber-Green (RAG) rating system based on WHO thresholds of CEA and on the Kenya Gross domestic product (GDP) per capita 2018 (expressed in current US$, converted in GBP).

Beyond the cost-effectiveness analysis of the three projects/implementers (MANI Bungoma, CICF and MiH/LSTM) in Bungoma County, the VfM analysis also analysed some efficiency aspects of each project individually (MANI Bungoma project; MiH programme; CICF).

Limitations include a) the limited MNH specific expenditure data readily available at county level (government and partners), requiring allocating part of the costs based on expert assumptions; b) limited availability of detailed expenditure data by line item from Options, given that the DFID contract was output-based.

Overall Programme Evaluation

The analysis includes all programme inputs at the central level (e.g. health system strengthening or training activities carried out at central / national level) not covered in the other evaluation components. It triangulates and summarises findings from the evaluation of the three programme components, the MANI HSS project, the CICF and the LSTM training programme. The overall programme analysis was carried out as part of the summative evaluation.

The main **limitation** or challenge for the overall analysis was the different scope of the main MNH Programme components, including health system strengthening (HSS) focused on one county, CICF including 6 counties and MIH targeting 32 counties. This was, to some extent, mitigated by focusing more in detail on the combined effect of HSS, CICF and MiH in Bungoma County. A second limitation was the absence of counties to compare performance with (as was the purpose of the original MNH Programme evaluation covering 6 counties). To mitigate this, performance of Bungoma County, based on DHIS2 data, was compared with the average performance of 10 Western Counties with a similar socio-economic profiles (including Bungoma County). After programme restructuring, a comparison of programme performance in Bungoma County with the performance in a control county was no longer possible. Instead, the performance in six MANI supported sub-counties was compared with the performance in four sub-counties not supported by MANI in Bungoma County. This was not a true counterfactual analysis as Save the Children International (SCI) supported MNH in the four control sub-counties, MANI support to the CHMT also affected sub-counties supported by SCI, and CICF projects were implemented in both MANI and SCI supported sub-counties.

[9] An efficacy rate of 100% would mean that there is no maternal/neonatal death/DALY anymore among additional deliveries in health facility (SBA), which is very unlikely. We use efficacy rates varying from 25% to 100%.

5 COUNTRY CONTEXT

Kenya is the fifth largest economy in sub-Saharan Africa. The country has experienced strong economic growth of around 5.7% on average in the last five years. Based on the Gross Domestic Product (GDP) growth rate, Kenya was re-classified as a lower-middle income country in 2014. The most recent World Bank Group economic update for Kenya projected an economic growth at 5.8% in 2019, rising to 6% in 2020[10].

The economic growth has however not been inclusive. High levels of poverty exist, as well as regional and economic disparities. Poverty levels vary widely between rural and urban areas, as well as among counties. About 45.2% of Kenya's population lives below the poverty line and the richest 20% have 10 times the income of the poorest 20%[11]. While some social indicators saw significant improvements, the country's Gini index of 47.7 in 2013[12] compares less favourably with other countries in the region. Kenya's Human Development Index (HDI) improved from 0.455 in 2000 to 0.548 in 2014, and to 0.590 in 2017, but the country still remains in the low human development category (142 out of 188 countries, 2017)[13].

Pro-poor budgetary allocations in the health sector did not increase over the period FY 2015/16-2017/18. There were no changes in the KES 900 million PHC allocation and in the KES 4.3 billion allocation for free maternal health care up to FY 2016/17; while the conditional grant, now special grant to the National Hospital insurance Fund, of KES 3.4 billion was reduced by KES 900 million as from 2017/18[14].

The pilot roll out of UHC in four counties is a progressive move towards achievement of UHC by 2022. The government's allocation of KES 2.5 billion in the 2018/19 budget, an increase from KES 1.1 billion from FY 2017/18, shows commitment[15].

In general, the health status of Kenya's population has improved over the last decade. Life expectancy at birth dropped from 60 years in 1990 to 52 years in 2000 due to the HIV epidemic, but rose again to 67 years by 2017.[16]

There are geographic and gender-specific differences in health indicators and among different age groups across the country. Disparities between regions persist, with the Gender Development Index (GDI) ranging from 0.628 (Central Region) to 0.401 (Arid/Semi-Arid Lands - ASAL). Infant and child mortality rates have remained lowest in the Central and Nairobi regions, but they are persistently higher than the national average in the Nyanza, Western and Coast regions.

The following table provides an overview of the progress that Kenya made in Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH), according to the Kenya Demographic Health Surveys (KDHS) of 2008/2009 and 2014. KDHS2014 is the latest source available and data present baseline data for the DFID funded MNH Programme.

[10] https://www.worldbank.org/en/country/kenya/overview. Last update March 28, 2019
[11] Development Initiatives (March 2017), Analysis of Kenya's budget 2017/18, what's in it for the poorest people?
[12] http://hdr.undp.org/en/content/income-gini-coefficient
[13] UNDP (2018). Human Development Report 2018: Work for Human Development. New York.
[14] Development Initiatives (March 2017), Analysis of Kenya's budget 2017/18, what's in it for the poorest people?
[15] Price Waterhouse Coopers (2018), Reimagine the possible Budget 2018/2019
[16] Ibidem

Table 5. Key RMNCAH indicators for Kenya (KDHS 2008/09 and 2014)

Key indicators	KDHS 2008/2009	KDHS 2014
Neonatal mortality rate (per 1,000 live births)	31	22
Infant mortality rate (per 1,000 live births)	52	39
Under-five mortality rate (per 1,000 live births)	74	52
Maternal mortality ratio (per 100,000 live births)	488	360
Total fertility rate (per women)	4.6	3.9
Adolescent (15-19) fertility rate (per 1,000 girls)	103	96
Children under-five stunted (%)	35	26
Deliveries attended by a skilled provider (%)	43	62
Women who had 4+ antenatal visits during their last pregnancy (%)	47	58
Children (12-24 months) who had received all basic vaccines (%)	65	71
Children under 6 months exclusively breastfed (%)	32	61
Contraceptive prevalence rate (any modern method) among currently married women (%)	39	53
Unmet need for family planning (%)	25	18

Most of the indicators show positive trends over time. Under-five mortality and infant mortality rates were halved between 2003 and 2014 due to the increased use of essential health services such as immunisation, vitamin A supplementation, and use of insecticide treated nets. Still Kenya fell well short of the 2015 millennium development goal (MDG) targets. Neonatal mortality experienced a much slower rate of decline in the last decade. Despite improvements in the nutrition status, more than one in four children under five were stunted. Moreover, the maternal mortality ratio remained high, and adolescent pregnancy rates barely decreased. Considerable differences by geographic and socioeconomic factors remain an important concern. For example, skilled birth attendance was 22% in Wajir county compared to 93% in Kiambu county, and 31% among the poorest wealth quintile compared to 93% among the richest[17].

Evidence-based and cost-effective high impact interventions to improve RMNCAH outcomes are well known and have been summarised in the third edition of the World Bank's Disease Control Priorities[18]. The Kenya Essential Package for Health (KEPH) is well aligned with these priorities. It defines the health services and interventions to be provided by levels of care and population cohorts to achieve Universal Health Coverage[19]. The KEPH also foresees staffing norms and standards for each level of care.

The Kenya Health Sector Strategic Plan (KHSSP) 2014-2018 places the main emphasis on maternal and newborn health, as it is the major impact area for which progress was not attained under the previous strategic plan. The abolition of user charges for maternity services in public health facilities was announced by President Kenyatta in 2013 with the objective to remove financial barriers in order to reduce maternal and neonatal mortality rates[20]. After the policy change, uptake of antenatal care (ANC) services increased by 75% in the public sector, and the total number of deliveries in public health facilities increased by 26%. There were no documented changes in the uptake of ANC services or number of deliveries in faith-based facilities.

[17] KDHS 2014

[18] Black RE, et al. (eds.) (2016). Disease Control Priorities 3rd Edition: Reproductive, maternal, newborn, and child health. World Bank

[19] MoH, Kenya RMNCAH investment framework, March 2016 (referring to Lawn JE et al, Every Newborn: progress, priorities, and potential beyond survival. Lancet. 2014 Jul 12; and Liu L et al, Regional and national causes of child mortality in 2000-12, with projections to inform post- 2015 priorities: an updated systematic analysis. Lancet. 2014 Sept 30)

[20] MoH Circular on Abolition of User Fees and Provision of Free Maternal Health Care, June 2013

The policy change was found to be pro-poor in the public sector, whereas the richest may seek care in faith-based institutions[21]. Faith-based health service providers, however, play a key role in providing services in hard to reach areas and populations. These organisations face challenges in playing an effective role because of an unsupportive regulatory environment with multiple licensing requirements that increase the cost of doing business, and limited access to alternative sources of funding from the public sector, for instance for providing free maternity services. This has recently been addressed to some extent by the Linda Mama resources also covering faith-based and for profit health providers.

Overall, demand- and supply-side barriers have constrained the utilisation and coverage of essential services. On the demand side, socio-cultural beliefs and practices, low status of women, poverty, high cost of services (including transportation), long distance to health facilities especially in ASAL counties, and poor health provider attitudes impede the demand for essential services. On the supply side, some of the key barriers include weak stewardship and evolving governance structures, a fragmented and poorly regulated private health sector, inadequate health information and civil registration and vital statistics systems, weak management of human resources for health, insufficient essential medicines and medical supplies, inadequate and inequitable health care financing, and poor quality of care.

In order to strengthen linkages between the household, community, primary health care facilities and district hospitals, an integrated package of services and interventions to be provided at the community and at the different levels of the health system was developed, including outreach activities. These remain however inadequate and erratic, especially for mobile pastoralist and nomadic populations.

In the run-up to the 2013 general elections, Kenya embarked on a process to move resources closer to the people by the devolution of funds and functions to 47 newly created counties. While this presents opportunities to improve health services and may contribute to greater equity, it also poses challenges. Roles and responsibilities of national and county governments[22] still need to be further clarified and capacity at the county level needs to be strengthened for implementation of the new mandate. A national health budget analysis revealed that there is wide variation among counties in allocation of resources[23]Public financing for the health sector fell sharply after devolution from 7.5% of total government expenditure in 2012/13 to 5.5% in 2013/14 but then recovered in 2014/15 to reach 7.5%. In 2015/16 it was 6.7%[24]. The donor contribution decreased from 32% of the total health expenditure in 2009/10 to 26% in 2012/13[25], 23.4% in 2015/16[26], and 19,5% in 2016/17[27]. Still, substantial financial resources are required to improve maternal and newborn health outcomes. The limited fiscal space requires the country to make strategic choices and to rely on external sources of financing. Despite recent efforts to strengthen coordination, there is still a lot of fragmentation of financing streams, and transaction costs are high. As a front-runner country

[21] Maina, T. and D. Kirigia. 2015. Annual Evaluation of the Abolition of User Fees at Primary Healthcare Facilities in Kenya. Washington, DC: Futures Group, Health Policy Project

[22] "Roles and responsibilities for national and county governments are outlined in the Constitution, the Kenya Health Policy (KHP) and the County Government Act. The national government is responsible for policy, regulation, norms and standards, national referral hospitals, selected national institutions, as well as capacity building and technical assistance to the counties. The counties own the health facilities in their territory and have the mandate to run the curative, preventive, and promotive, as well as environmental health services. There are a number of tasks that the two levels of government share (for example, resource mobilisation, maintenance of health infrastructure including medical equipment and devices, HRH management, and monitoring and evaluation)." Source: World Bank. May 2016. *Transforming health systems for universal care project. Appraisal Report.*

[23] MoH. 2017. National and County Health Budget Analysis Report, FY 2016/17.

[24] MoH. Kenya National Health Accounts 2015-16

[25] MoH. Kenya National Health Account 2012-13

[26] MoH. Kenya National Health Accounts 2015-16

[27] WHO, Kenya Health accounts, downloaded 14 September 2019

for the Global Financing Facility (GFF), Kenya developed an RMNCAH investment framework to scale up a set of effective, efficient, and equitable interventions. The GFF combines external support, domestic financing and innovative sources for resource mobilisation and delivery, including the private sector. The targets set in the investment framework include increasing skilled birth attendance to 87%, 4+ ANC visits to 69%, and full immunisation to 76% by 2020. It also aims to reduce stunting among children under five to 19% and contribute to a decrease in neonatal mortality to 18%. The absolute number of deaths of children under-five years is projected to decrease from 77,761 to 48,590 and of maternal deaths from 5,453 to 3,276 between 2014/15 and 2019/20. Finally, the framework aims to ensure that at least three out of four births will be registered, thereby providing more robust denominators to effectively plan and monitor service delivery.

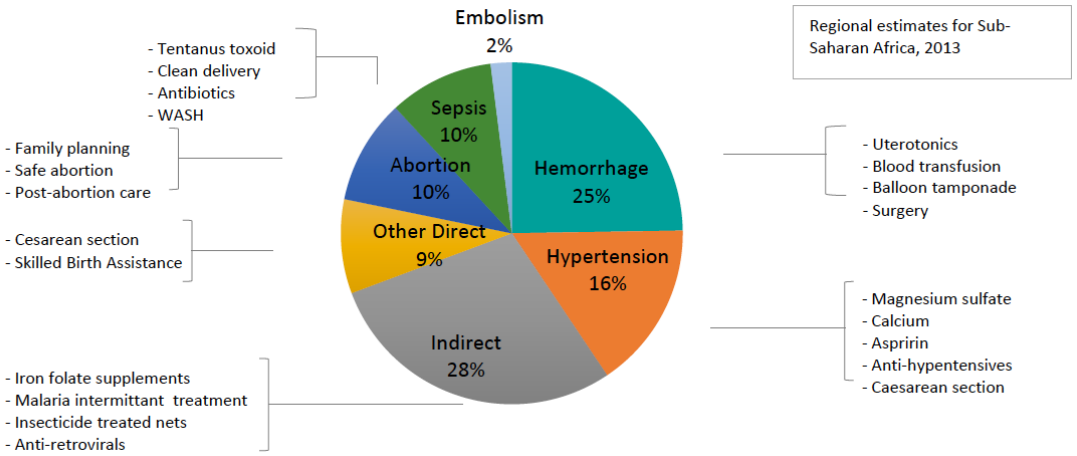
6 HIGH IMPACT INTERVENTIONS TO ADDRESS MNH

As indicated in Table 5, most of the MNH indicators show positive trends over time in Kenya up to 2014. The maternal mortality ratio, however, remained high (360 per 100,000 live births, decreasing from 488 in 2008, according to KDHS 2014). In terms of the neonatal mortality rate, the KDHS 2014 shows a decrease from 31 to 22 per 1,000 live births between 2008 and 2014. The main causes of maternal mortality in Kenya are haemorrhage, hypertensive disorders, sepsis, obstructed labour, abortion complications and other indirect causes (e.g. HIV). This was also confirmed by the first Confidential Enquiry in Maternal Deaths (CMED, 2017)[28]: two out of five maternal deaths[29] were due to obstetric haemorrhage, one out of five was due to non-obstetric complications mainly HIV/AIDS and anaemia. Of the mothers who died only 50% had attended antenatal care and only 20% attended ANC at least four times. Sub-standard care was identified in 9 out of 10 maternal deaths. 91% of women who died of obstetric haemorrhage received sub-optimal care, where different management would have resulted in a different outcome.

Main causes of neonatal mortality include preterm delivery, intra-partum related asphyxia, neonatal sepsis, congenital and other neonatal causes (e.g. HIV).

Evidence-based and cost-effective high impact interventions to improve MNH outcomes are well known. The following figure from the Kenya RMNCAH investment framework summarises high impact interventions to address maternal mortality in Kenya based on regional estimates of causes in sub-Saharan Africa. Additional high impact interventions to reduce neonatal mortality include neonatal resuscitation, kangaroo mother care (KMC), support for feeding preterm infants, management of jaundice, tetanus immunisation for pregnant women, and management of neonatal sepsis.

Figure 4. High impact interventions to address maternal mortality in Kenya, by cause of maternal death, based on regional estimates



Source: Kenya RMNCAH investment framework, March 2016.

Skills-and-drills competency-based training in birth attendance and emergency obstetric and newborn care (EmONC) is an approach focused on "having sufficient content to improve the health-care provider's competency in evidence-based, effective and woman- and baby-friendly care; and be of short duration and as close to the working environment as possible"[30]. There is emerging evidence of improved knowledge and skills resulting in improved availability and quality of care. The Making it Happen (MiH) programme, funded

[28] MoH, 2017. Saving Mothers Lives, First Confidential Report into Maternal Deaths in Kenya
[29] The analysis was done on 51% of 945 maternal deaths recorded in the DHIS2 in 2014.
[30] Utz B, Kana T, van den Broek N (2015). Practical aspects of setting up obstetric skills laboratories – a literature review and proposed model. Midwifery. 2015;31:400–408.

by DFID, is a multi-country programme aimed at improving the quality and availability of EmONC through a skills-and-drills training approach. To date it has been implemented in 11 countries, including in Kenya. The key interventions under the MiH programme are EmONC pre-service training and in-service training of healthcare providers working in maternity care, quality improvement using audit methodology and improved monitoring and evaluation[31].

Common health system constraints related to maternal and newborn care in high-burden countries include the health workforce, financing, and service delivery. The 2017 Confidential Enquiry in Maternal Deaths (CEMD) report indicates that one or more associated factors related to health worker, administration, patient and community factors were identified in the majority (89.3%) of maternal deaths analysed. Delay in starting treatment (33%), inadequate clinical skills (28%), and inadequate monitoring (27%) were the most frequently identified health workforce-related factors. Over 7 out of 10 deaths occurred out of office hours (between 5pm and 8am on weekdays, weekends and public holidays).

Fast progressing countries were examined in order to identify strategies to reduce neonatal mortality. The following key factors were identified: i) workforce planning to increase numbers and upgrade specific skills for care at birth and of small and ill newborn babies, task sharing, incentives for rural health workers; ii) financial protection measures, such as expansion of health insurance, conditional cash transfers, and performance-based financing; and iii) dynamic leadership including innovation and community empowerment[32].

The continuum of care approach recognises the links from mother to child and the need for health services across the life course. It includes integrated preventive and therapeutic interventions delivered through service platforms ranging from the community to the primary health centre and to the hospital. Well-targeted investments along the continuum of care can bring many benefits, including financial risk protection, improved and more equitable access to services, strengthening of health systems, and improved integration of services[33].

[31] Ameh, Charles A. et al. Making It Happen: Training health-care providers in emergency obstetric and newborn care Best Practice & Research Clinical Obstetrics & Gynaecology , Volume 29 , Issue 8 , 1077 - 1091

[32] Dickson KE et al. (2014). Every Newborn: health-systems bottlenecks and strategies to accelerate scale-up in countries The Lancet, 2014, 384: 438 - 454

[33] Black RE, et al. (eds.) (2016). Disease Control Priorities 3rd Edition: Reproductive, maternal, newborn, and child health. World Bank

7 MAIN SUMMATIVE FINDINGS AS PER THEORY OF CHANGE

The responses to each of the evaluation questions (EQ) as per ToR are discussed in Volume II, Annex II. It presents the supportive evidence for each of the findings, triangulating information and data from all the evaluation studies.

The findings in this section are presented against the six intermediate outcomes (section 7.1), the higher-level outcomes (section 7.2) and the impact indicator (section 7.3) of the Theory of Change (see sections 2.2 and 3.2.2). For each level, we answer two main questions:

- Is there evidence of change?
- Can we infer that the MNH Programme has contributed to this change?

This section presents the combined effect of the three MNH programme subcomponents (Bungoma HSS, CICF and MiH) in Bungoma County. This includes the full HSS component, the contribution of four CICF projects in Bungoma County and the MIH training that occurred in Bungoma County in 2014 and 2015. Main findings of the overall MiH programme and the CICF are presented in section 8.

Data used in this section were downloaded from the national health information system (DHIS2) database (accessed 19/06/2019 and 15/08/2019), or collected during the MiH review, the household (HH) survey, the health facility study, the focus group discussions (FGDs) and the key informant interviews (KIIs) at county, sub-county, facility (CDO study) and national level. Detailed findings are presented in Volume II for the HH survey (Annex III), the health facility study (Annex IV) and the FGDs (Annex V). The data quality audit performed during the CDO study suggests that the number of most events reported to DHIS2 by the sampled health facilities in the programme and control sub-counties in September 2018 were reliable, with the exception of fresh stillbirths and neonatal deaths. Reporting rates for Nairobi county were consistently different from the national average which affects some indicators, especially for interventions such as caesarean sections that are performed at a much higher rate in Nairobi than in other counties. Furthermore, reporting by private health facilities to the national health information system is increasing but not complete. This affects some of the calculated rates in counties with a high proportion of private maternity services and primarily Nairobi County. For the purpose of the summative evaluation we compare performance between Bungoma County, ten Western counties (including Bungoma County) with a similar agricultural socio-economic profile and national data for Kenya excluding Nairobi because of its exceptional profile. Within Bungoma County we compare MNH performance between the six programme sub-counties supported by MANI and the four control sub-counties supported by Save the Children International (SCI). Comparison between programme counties that received health systems strengthening (HSS) support under the DFID MNH Programme before restructuring in 2017 is only done for some indicators to compare trends with Bungoma County. No additional information for these counties was collected during the summative evaluation.

Data in Table 6 confirm that reporting to DHIS2 improved from 2014 onwards and reached 97% for the whole of Kenya, and 100% in the 10 Western counties including Bungoma County. This however does not confirm completeness of reporting. Up to 2016, there were large gaps in the DHIS2 database for some MNH indicators such as for postnatal care, stillbirths and neonatal deaths.

Table 6. DHIS2 % Reporting Rate for Report MoH 711[34] (per year, 2013-2018)

	2013	2014	2015	2016	2017	2018
Kenya	83	86	90	93	87	97
Western counties (10)	88	90	93	95	92	100
Bungoma County	74	79	85	95	97	104

Limitations of DHIS2 data are discussed in section 4. They are acknowledged, but DHIS2 provides the most complete serial dataset to measure changes over time, and the use of national systems is an agreed good practice of effective development cooperation. The evidence collected in the 2019 HH survey puts the DHIS2 data into context, confirming or questioning some of the findings.

7.1 CHANGES AT THE INTERMEDIATE OUTCOME LEVEL

7.1.1 Increased knowledge of positive MNH behaviour in the community

The first intermediate outcome in the Theory of Change framework of increased knowledge and positive behaviour is closely linked to the next higher-level outcome of behaviour change and improved preventive practice. Evidence for changes at these two levels is therefore examined jointly. Since the evaluation did not include any surveys of knowledge, attitude and practice, the main evidence that was collected for changes at this level are the data on the use of health services for antenatal, delivery and postnatal care. These are, however, outcomes at a high level that are generated by a combination of causal links to practically all intermediate outcomes of the ToC framework. They are therefore discussed separately in the ToC analysis at the outcome level in section 7.2.

Some information on knowledge and behaviour change was collected in focus group discussions and in the household survey.

Positive behaviour change / preventive practice in the community

The MNH Programme invested major efforts in the community component, including rolling out the community health strategy, strengthening and making Community Units (CU) functional (73 CUs in Bungoma County), supporting community health volunteers (CHVs) and birth companions, using community score cards (37 health facilities in Bungoma County), supporting communication for social and behaviour change and introducing respectful maternity care. All these demand side inputs aimed at contributing to increased knowledge and behaviour changes by communities, resulting in increased health facility deliveries.

Community programming to change behaviours and practices related to pregnancy and childbearing were also included in several CICF projects, for instance to promote earlier access and more active participation in antenatal care by the group ANC project in Kakamega County and by efforts to increase birth preparedness that were a component of the M-Afya project in Nairobi and the comprehensive newborn health project (CICF) in Bungoma County. KIIs with health facility staff in Kakamega, Nairobi and Bungoma counties

[34] MoH 711 Integrated Summary Report: Reproductive & Child Health, Medical & Rehabilitation Services Reporting rate

confirmed that the project contributed to behaviour changes in terms of better birth preparedness as well as earlier and more regular attendance to ANC.

Seventy **focus group discussions** (FGD) were organised for the formative or summative evaluation missions with a view to identifying barriers to skilled birth attendance. Several findings are interesting and suggest some changes having occurred[35].

Initially, women in Bungoma faced significant social, economic and cultural challenges when accessing maternal and new-born health care. This was confirmed by the FGDs with communities during the formative and the summative evaluation missions. Prior to the start of the MNH Programme, many women would stay at home to give birth because of lack of transport or money, lack of knowledge about the risks of childbirth, poor conditions of the health facility, unfriendly staff, or for a variety of cultural reasons including the custom of performing burial rituals for the placenta. Pregnant women attended their first antenatal consultation late in their pregnancy, often only in the third trimester, there were many maternal and neonatal deaths and the babies born in the community were often in poor health.

The most frequent change mentioned in the FGDs during the summative evaluation was that women now delivered in health facilities rather than at home. Women also started to attend antenatal care earlier in their pregnancy and had more regular visits.

The household survey explored the effectiveness of community outreach in motivating women to attend antenatal care. Respondents were asked a number of unprompted questions about their motivation. Only the 885 women who reported any contact with a formal ANC provider were included in the analysis. Multiple answers were allowed. In the four control sub-counties, 30 percent mentioned community health workers, community events or radio programmes compared to only 20 percent in the MANI programme sub-counties. SCI implemented the Kenya Signature Programme (KSP) in the four control sub-counties which had an overall more rural profile than the six MANI programme counties. More intensive community outreach by SCI and the more rural environment may have contributed to the difference. It did, however, not affect attendance nor timeliness of ANC. In fact, more surveyed women in programme areas reported 4+ ANC visits and ANC within the first trimester than in control sub-counties, although the difference was not statistically significant (see Figure 11).

There is evidence from focus group discussions and key informant interviews that a behaviour change related to ANC and skilled birth attendance in MNH Programme areas occurred. The household survey, however, found that the community mobilisation activities implemented by SCI in the control sub-counties of Bungoma county were more readily cited as motivating factors for ANC although ANC attendance rates did not differ between programme and control areas

7.1.2 Reduced financial barriers

Financial barriers for women to receive maternal care are the cost of health services including the cost of medications and supplies, and the cost of transport. Indirect costs such as time spent attending antenatal and postnatal clinics may also play a role but are not considered further. In client exit surveys conducted in

[35] A more detailed report of the FGD during the summative evaluation is provided in Volume II, Annex V.

2016 a large majority of women stated that waiting times in ANC and PNC clinics were not an issue. We assessed changes in the reduction of financial barriers by analysing the amount of out-of-pocket expenditure reported by women in the household survey, and by the ranking of themes raised by community members in focus group discussions.

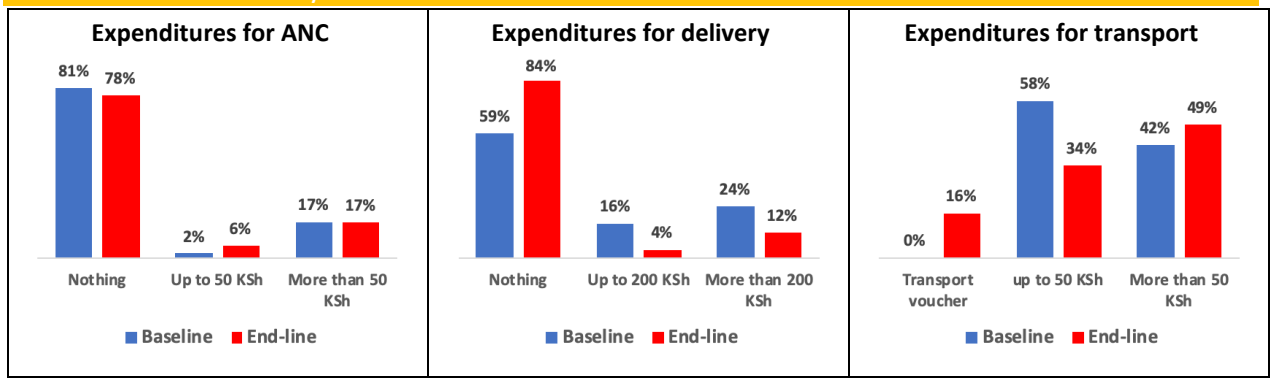
The issues of timing, transport and distance were near the top of all frequency ranking scales of the community focus group discussions during the formative evaluation. This indicates that delays in reaching services, the second delay in the three delays model, was a major issue in all sub-counties (except for the facilities in Nairobi). Costs of delivering at a health facility was only mentioned in one third of the focus groups suggesting that the free maternal health care policy was already effective at the time of the FGDs in 2016. It was no longer mentioned as an important issue in the FGDs in 2018.

The third most frequent subject mentioned in the FGDs of 2018, the importance of providing transportation suggests that this is a key factor affecting access to maternal and neonatal health. Having the funds to pay for transport – for going to ANC visits, and for delivery in the facility – was said to be a major obstacle to pregnant women seeking care. Apart from the funds, focus group participants and key informants often mentioned that boda-boda drivers were reluctant to transport women at night because they feared harassment or even arrest by police officers because of traffic bylaws prohibiting motorcycle taxi services at night. Identification cards for accredited boda-boda drivers issued with support of the MANI project, together with education of chiefs and police departments overcame this issue. The boda-boda drivers who participated in the MANI voucher programme were said to be reliable and safe drivers which made pregnant women more confident in using their services.

The free maternal health care policy reduced the direct costs for women to attend ANC, PNC and delivery care in public health facilities. This is confirmed by the strong increase in deliveries in health facilities and skilled birth attendance starting in 2013. The number of facility-based deliveries and deliveries attended by skilled providers in Kenya increased by 14% between 2012 and 2013, by 16% in the subsequent year, and by 7% between 2014 and 2015. The increases were larger in the MNH Programme counties (excluding Nairobi), with 24%, 23% and 11% respectively.

The household survey asked women how much they spent for ANC services, delivery services and for transport to reach the health facility for delivery. Expenditures for ANC increased slightly between 2015 and 2019, however only for expenditures of 50 KSh or less whereby a majority of these charges in 2018 were reported to have been for photocopying to issue Linda Mama cards. The increase in expenditure for ANC was nevertheless statistically significant. Expenditures for delivery decreased for caesarean sections and vaginal deliveries with 84% of women reporting that they received services without charge in 2019. The decrease was large and statistically significant. There was also a significant decrease in women who had to pay for transport to health facilities for delivery. While the decrease in user fees could be primarily attributed to the free maternal health care policy and the Linda Mama scheme (since 2017), the decrease in transport costs which was also statistically significant was primarily attributable to the transport voucher scheme of the MANI project that was still active in the first months of 2018.

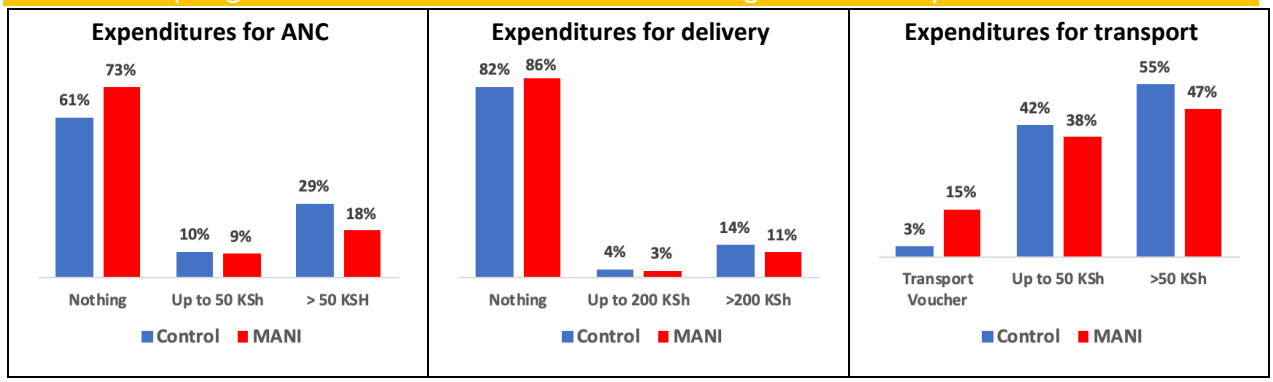
Figure 5. Changes in expenditures on user fees and for transport to access maternity services between 2015 and 2019



Expenditures in Kenyan Shilling (KSh) reported by proportion of survey respondents in 2015 and in 2019 in MANI programme areas

While the baseline/end-line survey explored the changes in utilisation and access of MNH services in Bungoma County during the programme period, the quasi experimental arm explored the evidence for the MANI project contribution to these changes by asking identical questions in 2019 to women in the programme and control areas. Although expenditures on ANC services increased slightly since 2015, the increase was considerably smaller in the programme area than in the control area. Expenditures on user fees for deliveries were also lower in the programme area, but the difference from the control area was not statistically significant. The differences in expenditure on transport among women who used public transport for reaching a health facility for delivery was however large, confirming again the effect of the transport voucher scheme although it was no longer available for most women who accessed maternity services in 2018.

Figure 6. Comparisons of expenditures on user fees and for transport in programme and control areas of Bungoma County in 2019



Expenditures in KSh reported by proportion of survey respondents in 2019 in MANI programme and in control areas

A study of exit interviews by MANI reported that the poor disproportionately benefited from the transport voucher scheme, thus contributing to the goal of increased equity of access[36]. These findings were, however, not confirmed by the household survey. The survey was conducted in April 2019, interviewing women who had delivered between April 2018 and March 2019 during a time when the transport voucher programme was closing or had already closed. Among 237 women who reported that they used public transport (in almost all cases a boda-boda motorcycle taxi) to reach the health facility for delivery, only 39 (16%) reported the use of a transport voucher. Voucher use was not correlated with wealth as seen in Table 7 although the sample was too small to be conclusive.

[36] MANI (2018). Transport vouchers for maternal health: A key strategy for increasing facility based deliveries in Bungoma County

Table 7. Transport voucher use by wealth quintile (survey respondents)

Wealth Quintile	Proportion of women who used a voucher to pay for public transport
1 (poorest)	14%
2	16%
3	19%
4	22%
5 (richest)	15%

Financial barriers for women to receive maternity services include user charges and charges for medicines and supplies as well as the cost of transport to reach health facilities. The HH survey confirmed the effect of the transport voucher scheme in reducing financial barriers and increasing access to maternity services, but without evidence of an effect on social equity. Costs for maternity services generally decreased between 2015 and 2019 with some variation for ANC costs which were slightly higher in 2019 but only in control counties. The main cause for the reduction of costs for deliveries was the introduction of the free maternal health care policy in 2013. The contribution by the MNH Programme to reducing financial barriers in Bungoma County was mainly through the transport voucher scheme.

7.1.3 Increased referral to MNH services

According to our audit of data reported in May 2016 by selected health facilities to the HMIS, referrals from Community Units to health facilities and from lower tier to higher tier facilities were not systematically reported or not specific to maternal health complications. Referral data from the DHIS2 system can therefore not be used for an assessment of changes in referral practice. Information about changes in referral practice were therefore primarily provided in KIIs and collected in the health facility surveys (HFAs) of a sample of facilities in 2015 and 2018.

The HFAs found that overall, the referral process had improved by the end of the programme, including the use of referral slips, calling the next level facility, receiving feedback and providing feedback. This was confirmed by the analysis of the nine health facilities in 2018. Changes that occurred between 2015 and 2018 are documented by the comparison of five health facilities that were assessed in 2015 and in 2018.

Table 8. Analysis of referral services at base and end line (Bungoma county 2015 and 2018; sample of 5 and 9 health facilities)

	Change in 5 HF 2015-2018	Situation in 9 HF 2018	Comments
Availability of functional ambulances	5 - 5 HF	All 5 hospitals	No change. All hospitals have an ambulance
Available funds for ambulance services	From 2 to 3 hospitals	All 5 hospitals	Hospital budget and Linda Mama
Practice of referrals of maternity cases in the last month	From 0 to 5 HF	9 HF	More maternity cases are being referred at the end-line
Availability of referral slips	From 3 to 5 HF	8/9 HF	Not available in one dispensary

	Change in 5 HF 2015-2018	Situation in 9 HF 2018	Comments
Use of referral slips	From 2 to 4-5 HF	7-8/9 HF	Always (6), mostly (1), sometimes (1) Availability of referral slips increased
Calling the higher-level HF when referring a patient	5 HF	8.5 HF	No change. One HF does it mostly.
Receiving feedback from the higher-level HF	2 out of 5 HF	5.5/9 HF[37]	No change
Providing feedback to the HF that referred	From 2.25 to 3.25 / 5 HF	6.5/9 HF	Some improvement
Receiving referrals from CHV	From 4 to 5/5 HF	9HF	Some improvement
Providing feedback to the CHV	From 2 to 5/5 HF	9HF	Major improvement

Ambulance services were available in five sampled hospitals with no change during the programme period, apart from the availability of Linda Mama resources at all facilities since 2017 to cover ambulance costs when needed. Referral practice improved, however, according to Options, availability of a reliable system of ambulance services remains an issue.

Under the assumption that timely referral to a higher-level facility helps reduce the number of stillbirths we also examined stillbirth rates as proxy indicators for effective referral practice. A detailed analysis of stillbirth rates is presented in the ToC analysis at the impact level (section 7.3). Although there is evidence of reduced fresh stillbirth rates in Bungoma County, it is not sufficiently strong to infer a causal link to increased timely referrals of women with complications during labour and delivery.

Repeated assessments of a sample of health facilities in Bungoma County confirmed that referral practices improved in health facilities supported by the MNH Programme. Referral data recorded in the HMIS system are, however, not disaggregated by type of condition and can therefore not be used in an analysis of referrals for complications during labour and delivery. An analysis of trends in fresh stillbirth rates in Bungoma County as a possible proxy indicator for timely referral was also not conclusive.

7.1.4 Strengthened capacity and responsiveness of health managers

We assessed this fourth intermediate outcome of the Theory of Change by analysing the training, capacity assessment, planning and budgeting activities supported by the MNH Programme through document reviews, key informant interviews, and results from organisational capacity assessments, quality improvement assessments and MNH SBM-R score cards.

[37] Weighted average. Always = 1; mostly = 0.75; sometimes = 0.5; never = 0.

MiH Programme

LSTM effectively supported the MPDSR Secretariat of the central MoH, built its capacity and continues to do so in the MiH extension programme (2019-2023). This facilitated rolling out maternal death reviews in all counties and institutionalising the CEMD analysis. Perinatal death reviews were less successful (apart from Bungoma County with MANI support) and are likely to receive more focus in the future. Capacitating County MPDSR Committees was less successful and is being further tested in the new LSTM programme.

LSTM worked closely with CHMTs, especially in providing capacity support to the county RH coordinators. A total of 94 health staff were trained as course directors to organise and manage EmONC training in their counties. This capacity is currently used as a training resource by other partners.

Supportive supervision was added to the portfolio of LSTM activities in 2016. The supervision visits were conducted jointly by an LSTM staff member and the CHMT RH coordinator, four times during one year after saturation (80% of staff in targeted facilities trained). After this, the counties were expected to continue the supervision visits to facilities. However, with an average of 250 health workers trained per county, it is unlikely that the RH coordinator could provide supportive supervision to all. Furthermore, the LSTM system for supervision was implemented in parallel to the regular (national) supportive supervision system that is based on quarterly supervisions conducted by CHMTs or Sub-County health management teams (SCHMTs), and did not work within or build on national structures. This makes the likelihood of continuation of post-training supportive supervision less likely.

Capacity was built at 14 KMTCs and 2 Universities in pre-service training of EmONC. Extension to all 68 KMTCs and 20+ Universities is required to ensure nationwide impact.

MANI HSS

MANI worked closely with government structures at county and sub-county level. At county level, policy dialogue resulted in a number of tangible outputs including the development of the County Health Policy, the County Health Bill, County Procurement Policy, the new Staff Transfers Policy, County Annual Work Plans and budgets, Annual Review reports and application of the organisational capacity assessment (OCA) tool and capacity development plans. Fora used were the monthly management breakfast meetings with county leadership, the set-up of Technical Working Groups and a partner coordination forum. A major focus included coaching and mentorship on leadership and governance of the CHMT.

In Bungoma County, six technical working groups (TWGs) were operational, including for human resources for health, health care financing, quality of service delivery, monitoring and evaluation, community health services, and health products and technology management. Specific terms of reference exist for each TWG and Options participated in each of the TWGs.

At sub-county level support focused on the six sub-county Annual Work Plans and budgets and application of the OCA with six sub-county teams as well as orientation and training of Hospital Management Boards (HMBs), micro support for health facility planning and budgeting and orientation and training of 11 Health Facility Management Committees (HFMC).

According to Options, roll-out of the OCA in Bungoma saw impressive results that allowed management teams to plan and implement more effectively. Aggregate OCA results of December 2017, reflecting the performance of the CHMT and 6 SCHMTs are presented in Table 9.

Table 9. Scores of Organisational Capacity of CHMT and six SCHMTs in Bungoma County (December 2017)

VERSION 3.0 Jan 2017

MATERNAL AND NEONATAL HEALTH ORGANISATIONAL CAPACITY ASSESSMENT TOOL (MNCH-OCAT) FOR BUNGOMA COUNTY MINISTRY OF HEALTH

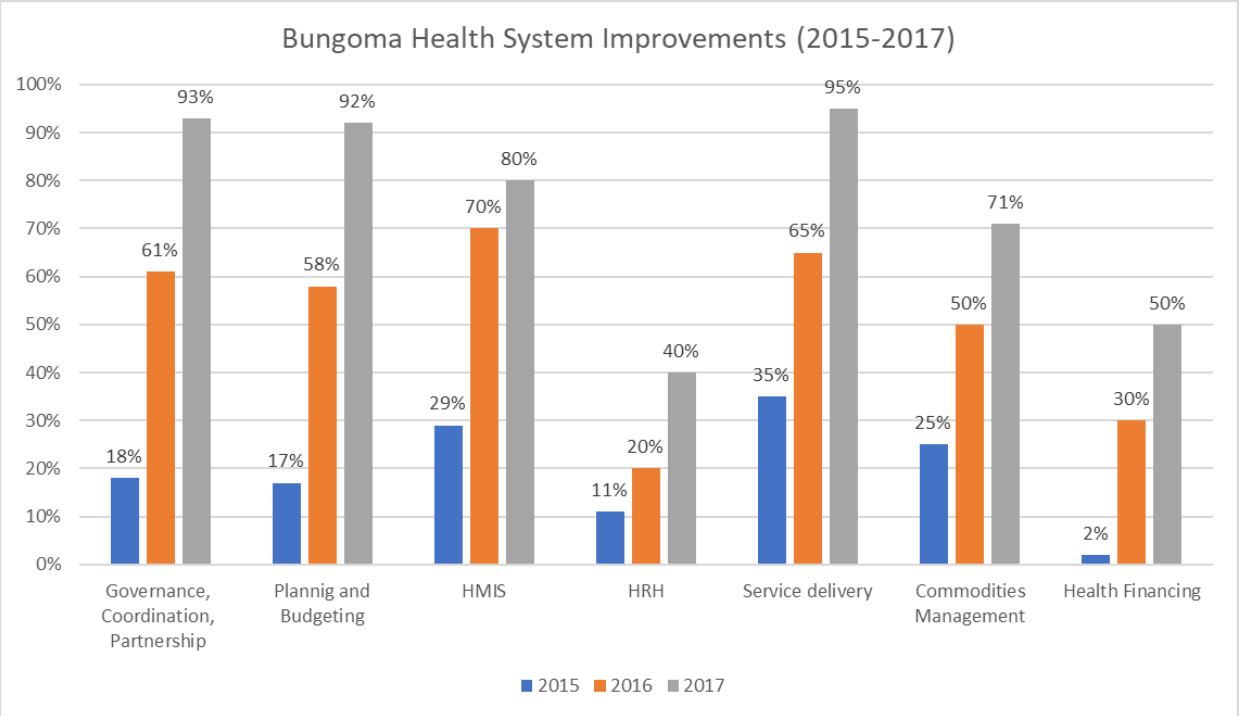
Summary of OCA Results	Governance, Coordination and Partnership	Planning and Budgeting	Health Management Information System	Human Resources for Health	Service Delivery	Commoities Management	Health Financing	Health Infrastructure	Weighted score as percentage
Bungoma County	26	11	16	8	19	17	10	0	64%
Maximum score possible	28	12	20	20	20	24	20	12	
Performance score	93%	92%	80%	40%	95%	71%	50%	0%	
Bungoma North-Tongaren	9	9	17	8	16	13	9	0	55%
Bungoma South-Kanduyi	13	8	19	9	19	20	10	0	66%
Bungoma West-Webuye	14	7	19	7	19	11	7	0	57%
Bungoma East-Webuye	14	10	20	7	19	8	8	0	58%
Bungoma West-Sirisia	11	10	18	8	20	10	9	0	58%
Bungoma Central-Kabuchai	7	9	14	4	14	7	5	0	41%
Maximum score possible	16	12	20	20	20	24	12	12	
Average/domain	11	9	18	7	18	12	8	0	
Performance score	71%	74%	89%	36%	89%	48%	67%	0%	

Source: MANI project, MANI's approach to strengthening health system performance in Kenya's devolved context, June 2018

The scores confirm that the areas where the MANI project was less successful in building local capacity included management of infrastructure (not covered in the MANI project), human resources, health financing (especially at county level) and commodity management at sub-county level.

In the other focal areas including governance, coordination, partnership, planning and budgeting, HMIS and service delivery capacity was strengthened with a score reaching more than 70% in December 2017. Capacity in commodity management was also sufficiently strengthened at county level but less so at sub-county level. Progress made in capacity strengthening from 2015 to 2017 is documented in the figure below.

Figure 7. Evolution of performance in specific health system building blocks, Bungoma County



2015, 2016 and 2017 performance scores in percentage
Source: MANI project, MANI's approach to strengthening health system performance in Kenya's devolved context, June 2018

Quality Improvement results confirm that capacity was built over the programme period in 7 hospitals[38]. Hospital performance scores at baseline varied between 18% and 38% and increased to between 41% and 87% in 2018. Similar results are documented for another 30 health facilities where quality was regularly assessed[39]. The health facility assessment study of the summative evaluation confirmed the increased capacity of health facilities to deliver MNH services.

The HFA confirmed that quality Improvement teams were in place in 4/5 HF, of which 2 had clear ToR as per KQMNH guidelines (compared to only 1/5 HF at baseline, Bungoma Referral Hospital, BRH). In two HF the MNH department worked with a work improvement team (no change). While at baseline only BRH used KQMNH guidelines, CORE, SBMR and safe care, at the end of the project 2 or 3 HF were using the above standards / guidelines; and 4 HF followed health reforms, leadership and governance courses. HF staff participated in CME training and in QI learning sessions in 3/5 HF (compared to 1 HF at baseline). QI Teams met twice in the last quarter, compared to no meetings at baseline. However, a quality improvement plan was only available at one HF (0 at baseline) and HFs did not document best practices yet.

While, according to the HFA, the Health Facility Management Boards became less active compared to the baseline, the quality improvement teams became much more prominent and active. This situation is confirmed by the analysis of the 9 HF for the QI Teams. The increased focus on Quality Improvement Teams is a result from the MANI programme (and likely also the MiH programme). Although the MANI programme also addressed the health facility management committees and boards as one of the supply interventions, this is less visible from the HFA data.

MANI also used a detailed SBM-R score card[40], which allowed senior staff to monitor changes over time (when capacity is built and specific training provided). This score card was specific for each supported facility and covered up to 12 different areas. The MNH SBM-R score card for Kenya was developed at central level with JHPIEGO support and adapted for use in Bungoma by Options.

Finally, MANI also used a QuIC-PBF facility scorecard, monitoring quality at the 37 health facilities that participated in the PBF scheme.

One particular MANI innovation to note was the introduction of monthly breakfast meetings between the MANI leadership and the county government leadership. Due to the presence of the CEC / Chief Officer / Director, the meetings were action oriented and a major vehicle for promoting accountability. Examples of topics addressed included: gaps in the county's blood supply; procurement system bottlenecks; operationalising Linda Mama through the National Hospital Insurance Fund (NHIF); and leveraging funding through new revenue streams. Although not initially planned for, this approach was instrumental in building a strong partnership between MANI and the county government, and for advancing progress in key areas.

Capacity strengthening of the CHMT was a deliberate MANI strategy. MANI used an executive coaching package to build the leadership and management capacity of the CHMT, combining group work and one-on-one coaching. Options documents that *"through this training, participants were able to overcome barriers of confidence and resourcing gaps, and articulate ideas on how to move forward in a productive manner*

[38] Performance areas included Antenatal Care, Normal Labour, Childbirth, Newborn Care, Postpartum Care, Management of Antenatal, Intra-partum and Postpartum Complications; Infection Prevention; Laboratory, Pharmacy; Human, Physical and Material Resources infrastructure; IEC and Community Participation; Management Systems; Caesarean Section; Monitoring & Evaluation.

[39] Areas covered included human resources, infrastructure, equipment & supplies, drugs, hygiene & waste disposal, management & governance, data management, admission & referral.

[40] The Standard Based Management and Recognition (SBM-R) score card is different from the national RMNCH score card which reports on 19 indicators, of which 6 deal with MNH, 2 with community and 3 with health systems (including two on HMIS and one on HR).

around the initiatives they had selected. This process allowed CHMT members to move beyond positions of blockages, have a deeper understanding of root causes of challenges, and find tangible and actionable steps in the right direction – even amidst intractable obstacles. CHMT individuals who fully committed to this process feel more emboldened, empowered and effective in performing their critical roles as government health leaders" (Mani results Brief on Coaching). OCA results confirm that capacity of CHMTs improved sufficiently over the programme period in 5 out of 7 focal areas (excluding infrastructure not covered by MANI).

MANI was also instrumental in helping the county government cope with the national health workers' strikes in 2017. The programme looked for creative solutions to mitigate the effects of the strikes and started to work with mission health facilities that carried part of the burden of service shutdowns in most government facilities.

Capacity of CHVs and community units was strengthened as confirmed by the FGDs and by the increased access to MNH services as confirmed by the HH survey. Sharing of lessons learned by MANI with the central MoH and development partners, including using a dedicated media partner, is likely to contribute to MNH management and accountability in Kenya.

Responsiveness of health managers is best documented through improved MNH indicators as discussed elsewhere in this report. In addition, the smaller relative decrease in health facility deliveries during the industrial action of 2017 and the faster recovery to normal levels in programme sub-counties, compared to the situation in the ten Western Counties and the control sub-counties suggests that health staff are more responsive to crises (partly as a result of PBF and mission facilities covering part of the gap of public facilities). PBF management prepared health staff to cope with changes such as the introduction of Linda Mama. The efforts invested by MANI, in close collaboration with CHMT and other management staff most likely resulted in greater resilience.

Results from the regular organisations capacity assessments, quality improvement, SBM-R score cards, the improved quality of the annual work plans as well as specific deliverables such as county policies, strategies and guidelines confirm that MANI invested a major effort in management capacity building of decision-makers. This was also confirmed by the health facility assessment, documenting specific improvements in several health system building blocks. Most likely, this contributed to improved MNH outcomes in programme sub-counties and possibly greater resilience.

7.1.5 Increased number of facilities able to provide all signal functions

We assessed this fifth intermediate outcome of the Theory of Change by analysing trends in the caesarean section rate reported in the DHIS2 database, as well as with information obtained from health facility assessments (2016, 2018), client exit interviews (2016), HH survey (2019) and key informant interviews in nine health facilities during the summative evaluation. Additional evidence is provided by LSTM monitoring data.

Increasing numbers of functioning BEmONC (basic emergency obstetric & neonatal care) and CEmONC (comprehensive emergency obstetric & neonatal care) facilities are a result of a mix of factors such as

availability of staff with the right skills, available equipment, supplies and infrastructure, and sufficient financial resources to maintain the services. According to the MNH Programme MTR 2019, as of November 2017, UNICEF-supported counties exceeded the target of 14 health facilities per county providing basic emergency obstetric and neonatal care (BEmONC), with the exception of the Nairobi sub-counties, and the target of 3 facilities providing comprehensive emergency obstetric and neonatal care (CEmONC) per county, with the exception of Turkana. With respect to BEmONC, as of April 2018, Kakamega had 23, Turkana had 18 and both Homa Bay and Garissa had 16 facilities able to provide BEmONC services.

Monitoring data collected by LSTM in 2014-2017 on 64 health facilities across the country to asses changes in performance confirm that the number of HFs providing all EmONC signal functions increased from 41% at baseline to 67% at 12 months (82% at 6 months).

Post restructuring, only Bungoma County was monitored. According to the 2019 MTR, MANI achieved its EmONC targets as follows: the number of facilities able to provide BEmONC increased from 0 to 27, exceeding the target of 16, and the number able to provide CEmONC increased from 1 to 3, not meeting the target of 4, although this had been achieved in previous quarters.

The HFA reviewed several aspects of the provision of MNH services (see Volume II, Annex IV for details):

- According to the HFA, the availability of **essential MNH services** was comprehensive in all nine assessed facilities. Total overall score in 2018 for the nine health facilities was 98%, up from 83% in the five health facilities assessed at baseline.
- Most HFs (7/9) confirmed that they had the necessary supplies, medicines and skilled staff for all **essential BEmONC or CEmONC functions**. The total score for the nine health facilities was 94%. The score for the five facilities for which baseline data were available improved from 77% to 94%. Both the MANI project and the MiH programme contributed to this result.
- Except family planning commodities that were less available (decrease from 88% to 79%), all other **supplies** were more available at end-line compared to baseline, including laboratory test kits[41] (increase from 82% to 96%), non-pharmaceutical supplies (59% to 77%), pharmaceuticals (64% to 76%) and vaccines (93% to 98%). The MANI project contributed considerably to improvements in the availability of pharmaceutical and non-pharmaceutical supplies by investing in the optimisation of procurement channels and using PBF resources for supplying medicines and commodities directly to health facilities. The evaluation team received anecdotal reports that the supply situation deteriorated after the end of the MANI support, although the facilities can continue using Linda Mama resources (if acceptable to the CHMT / county policy). Family planning commodities, test kits and vaccines were not the primary target of the MANI support, but the strengthened county procurement systems may also have affected the availability of these commodities. Overall, storage conditions in health facilities were found to be worse at end-line than at baseline. This area was not supported by MANI.
- **Essential maternity equipment and supplies** in the maternity ward were much more available at end line (93%) compared to baseline (47%). Similarly availability of neonatal resuscitation equipment improved from 37% to 63%. The five sampled hospitals with baseline data had fully screened blood in stock in 2018. At baseline no **blood bank** was in place and no blood was stored at any of these hospitals. This was a major contribution of the MANI project.

[41] Test kits assessed included ABO & RH grouping, blood sugar, HIV rapid test, cross match, malaria test, stool microscopy, TB microscopy, urinalysis, VDRL test, haemoglobin.

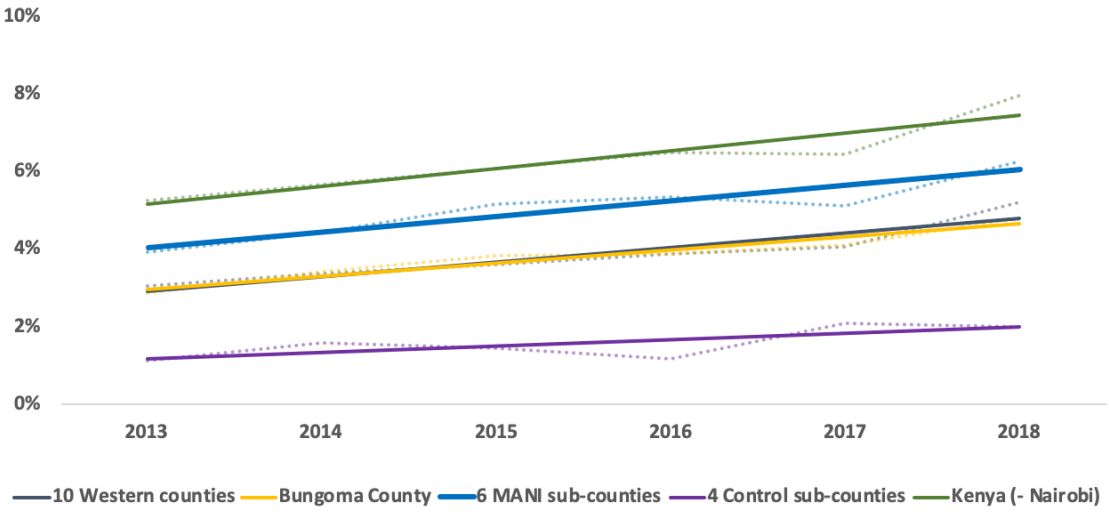
- Seven of 9 HF (78%) submitted all seven **HMIS** tools timely. Comparing baseline and end-line assessments in five facilities, timely submission increased from 60% to 100%. In 2018 all five hospitals submitted electronically; at baseline only Bungoma Referral Hospital submitted HMIS data electronically. All nine HFs received feedback on HMIS data quality in the last quarter. This improved from 80% at baseline to 100% in the five health facilities. All nine HFs used HMIS data for management decisions, compared to between 40% and 80% at baseline (depending on type of management area). On-site HMIS mentorship on MNH was received within the last year by 5/8 HFs (63%). Comparing base and end-line, this improved from 40% (2HFs) to 60% (3HFs). 7 of 8 HFs conducted review data quality audits (RDQA) in the last year. This improved from 40% at baseline (2/5 HFs) to 100% (5/5 HFs). MANI strongly supported the use of data in Bungoma County. The HFA included a focused data quality audit. Main data discrepancies were noted at hospital level, while health centres generally performed better. Data discrepancy between facility registers and DHIS2 reported data concerned mainly stillbirths and neonatal deaths.
- **Cleanliness, infection control and waste disposal** both in the maternity ward, labour room and operating theatre markedly improved in the five facilities between baseline and end-line. The nine facilities assessed in 2018 had an overall score of 74%, 80% and 83 % for cleanliness, infection control and waste disposal in maternity or labour ward respectively; and 89%, 77% and 92% in three operating theatres included in the sample. MANI invested much in support for infection control and waste management under the 'green energy' programme.

As discussed in the analysis of the ToC outcome level in Section 7.2, increased rates of skilled birth attendance, health facility deliveries and antenatal care confirm an increased use of health facilities in all Bungoma sub-counties as well as in the ten Western Counties. According to the KDHS 2014 report, the caesarean section rate in Kenya for deliveries between 2010 and 2014 was 8.4%, ranging from 0.5% in Turkana County to 20.7% in Nairobi County. Caesarean section rates can be calculated from the DHIS2 database using the two indicators of 'EAC Caesarean Sections Performed' and 'EAC Deliveries Expected'. As for other DHIS2 indicators, the rates are lower than those reported by the KDHS because of incomplete reporting, primarily from private health facilities and primarily from Nairobi County where most caesarean sections are performed. Trends established from DHIS2 data should also be interpreted with caution because reporting rates increased over the period under review

The DHIS2 caesarean section (CS) rate as a proportion of expected delivery in Kenya, excluding Nairobi, gradually increased since 2013 but in 2018 was still about two percentage points below the level of 10% where, according to WHO estimates, further increases in caesarean sections are unlikely to contribute to reductions in maternal and neonatal mortality[42]. Trends in the 10 Western Counties and in Bungoma County followed the national trend, albeit at a lower level, increasing from about 3% in 2013 to about 5% in 2018. In Bungoma County, almost all hospitals that perform caesarean sections and serve the entire county are located in the six sub-counites that were supported by MANI. This accounts for the much higher caesarean section rates in these counties. It is, however, an artefact and cannot be considered as a contribution of MANI.

[42] WHO (2015). WHO Statement on Caesarean Section Rates

Figure 8. Trends in the population caesarean section rates 2013 to 2018



Comparison of trends in Bungoma County, programme and control sub-counties, the average for 10 Western counties and the national average

The household survey confirmed that CS rates were similar among surveyed women in programme and control sub-counties in 2019. This, however, does not mean that the caesarean sections were performed in the sub-county where the women were resident. Many of them would likely have been transferred to either Bungoma or Webuye hospitals, and at least one woman reported that she had her caesarean section in Nairobi.

The **focus group discussions in 2016** already confirmed the appreciation by the communities of the quality of hospital care, both in the programme and control counties. The free maternal health care policy was mentioned as a positive change, and some groups referred to the voucher scheme in Bungoma.

In the **FGDs in 2018** all respondents were unanimously positive about changes that were observed over the past years in Bungoma county. As indicated elsewhere, the most frequently mentioned comment was that now women deliver in the health facility rather than at home. In addition, uptake of multiple (four or more) antenatal care visits was said to have increased, and staff attitude had changed for the better. Overall, deaths of mothers and their babies in the community were said to have gone down. Contributing reasons, in order of priority, included: a) training of CHVs and traditional birth attendants (TBAs), who in turn provided health education in the community; b) transport vouchers and / or means for transportation / referral; c) community meetings and dialogue days; d) the financial and in-kind incentives that MANI provided to CHVs, birth companions and boda-boda drivers.

Key informant interviews with management or senior staff in the nine health facilities, CHMTs and SCHMTs confirmed some of the positive changes, such as the increase in service coverage, including more facility-based deliveries, more antenatal care attendance, and more children immunised. The free maternal health care policy as a cause for increased access to care was often mentioned. Other aspects included training (including LSTM) and capacity building, MPDSR of deaths and near-misses, performance-based financing, blood transfusion services, community strategy, green energy and water harvesting, quality improvement teams, and facility self-assessment through scoring.

The challenges cited by health facility managers in programme and control areas were also very similar. They were primarily related to a shortage of staff, inadequate infrastructure often related to electricity and water supply, and financing problems, in many cases with specific mention of delays in receiving reimbursements under the free maternal health care programme and later Linda Mama. Facility managers in programme

sub-counties reported shortages of medicines, laboratory supplies and equipment less often than managers in control counties, confirming the findings of the health facility assessment.

The MNH Programme has contributed to an increase in the number of functional facilities providing quality BEmONC and CEmONC services in the programme sub-counties. This was achieved through a variety of investments in several health system building blocks and is likely to contribute to improved MNH performance and to help maintain positive trends in increased use of health facilities for ANC and delivery.

There is no evidence that MANI or the MiH programme affected the caesarean section rate in Bungoma County, which increased steadily but at the same rate as in the 10 Western Counties. In 2018 it had not yet reached the level of 10% beyond which no further improvement in maternal and neonatal survival should be expected according to WHO estimates.

7.1.6 Strengthened capacity of maternal health care providers to deliver quality MNH services

We assessed this sixth intermediate outcome of the Theory of Change on the basis of document reviews, key informant interviews, e-survey and findings of the health facility study and household survey. In addition, we analysed monitoring data collected by LSTM. Results in terms of quality MNH services are discussed under the higher-level outcomes (see section 7.2.3).

As discussed in the MiH Evaluation Report (see Volume II, Annex VI for more details), the MNH Programme made major investments in training health workers in quality maternal and new-born health care. In-service training was done in 32 of the 47 counties during this Phase of the MiH programme, whereby around 11,000 health workers (34% of the approximately 32,000 nurse workforce total)[43] received direct or indirect EmONC training. Supportive supervision of trained staff, though limited to one year post-training, was introduced in 2016. Submitting maternal and perinatal death reviews to DHIS2 was already improving at the time of the formative evaluation, with higher performance in Bungoma County and Kakamega County for maternal death reviews and in Bungoma County for perinatal death reviews (2016). MANI's strategy to improve MPDSR in Bungoma resulted in Bungoma being one of the few counties in 2018 that reviewed 100% of maternal deaths and uploaded the information on the DHIS2 platform. It was also leading all counties in reviewing perinatal deaths and uploading the reports (59% overall and 75% in the six MANI-supported sub-counties)[44].

At the formative evaluation, in all but one of the six programme counties, sub-county health managers rated the training provided as the input with the highest level of impact. This was confirmed in interviews with health facility staff. The increased coverage and quality of MNH services were rated as the most positive changes, while inadequate infrastructure and insufficient human resources were considered the greatest bottlenecks. At the time of the summative evaluation the quality of the EmONC training was still highly appreciated in the e-survey with trainees and trainers and in KIIs, as discussed below.

[43] Kenya Health Workforce Report: The Status of Healthcare Professionals in Kenya, 2015; Ministry of Health Kenya, 2017

[44] These figures are taken from DHIS2 where the very low levels of reporting of perinatal deaths can be seen.

Satisfaction scores of MiH trainees reported in the 2019 e-survey are presented table 10. As shown, overall the EmONC training (pre-service, in-service and training of trainers [ToT]) scored very high (excellent), with MPDSR and supportive supervision trainings rated mostly as 'good'. In-service trainees said that trainings given by LSTM/MiH were more useful (58%), equally useful (30%) or less useful (1%) than those given by other partners, mainly because of the combination of theory and practice in LSTM trainings. Trainers/supervisors said LSTM trainings were more useful (81%) or equally useful (17%) than those given by other partners. The main reasons given were the provision of equipment, competency-based approach and good follow-up afterwards.

Table 10. Trainee satisfaction among pre- and in-service graduates and trainers/supervisors with different LSTM trainings

Respondent	Training	Poor ♥	Reasonable ♥♥	Good ♥♥♥	Excellent ♥♥♥♥
Pre-service	**EmONC**	-	-	33%	67%
In-service	**EmONC**	-	-	37%	62%
	QI/MPDSR	1%	7%	55%	33%
Trainers/ supervisors	**EmONC ToT**	1%	1%	14%	82%
	Support supervision	7%	11%	43%	28%

Proportion of e-survey respondents

Graduate trainees as well as trained supervisors and trainers were asked about their level of confidence in performing EmONC signal functions or in training and supervising others (see table 11). A very high proportion of graduates felt very confident in carrying out all signal functions with somewhat lower scores for assisted vaginal delivery. Trainers reported that their ability to teach the signal functions had much improved with somewhat lower scores for assisted vaginal delivery and basic newborn resuscitation.

Table 11. Confidence levels of performing/supervising EmONC signal functions

		Pre-service graduates		In-service graduates		Trainers/ Supervisors
		as result of training	current level	as result of training	current level	as result of training
		(much) improved	*(very) confident*	*(much) improved*	*(very) confident*	*(much) improved*
1	Administer IV antibiotics	80%	92%	90%	96%	93%
2	Administer IV anti-convulsants	93%	95%	92%	93%	93%
3	Administer IV uterotonics	88%	95%	93%	96%	94%
4	Remove retained products of conception	93%	98%	90%	89%	94%
5	Assisted vaginal delivery	80%	75%	67%	64%	82%
6	Manual removal of placenta	85%	87%	88%	88%	88%
7	Basic newborn resuscitation	98%	95%	94%	92%	83%
8	Caesarean Section*	59%	96%	44%	96%	93%
9	Blood transfusion**	-	83%		97%	-

Proportion of e-survey respondents

** Responses only analysed for those cadres qualified to carry out Caesarean sections (medical officers, obs/gyn)*

*** Responses only analysed for health workers having indicated to work in a CEmONC facility*

Overall, key informants stated that the EmONC training had really improved health workers' skills and confidence in performing procedures. At the same time however, a follow-up needs assessment conducted in 2018 in Uasin Gishu county showed that a good number of staff needed to be (re)trained on EmONC, even

though a total of 207 staff in the county had received direct training from LSTM in 2016 and 2017. This finding was reported in other counties as well, including Bungoma County. Although the EmONC training was considered very helpful and of good quality, more was needed to ensure health workers have the level of skills to confidently carry out the signal functions. This finding is somewhat in contrast to the confidence levels indicated by the graduates who responded to the survey (which may be a sample biased to those currently working in MNH department, and thus more likely to use their taught skills). The situation is further exacerbated by the human resource shortage, high turn-over of staff, and rotation of staff trained on EmONC to other (non-MNH) departments.

Similarly, the training in QI/MPDSR may have improved knowledge and skills of health workers (although this training was less highly appreciated than the EmONC training, see table 10 above), but implementation of learnt skills was said to differ widely from one county to another. In Uasin Gishu, lack of partners identified to support the CHMT to take it forward and lack of tools to report meant that not much has been done since staff was trained on MPDSR in 2016. This training is now repeated in 2019, accompanied by appropriate measures/activities to support implementation. By contrast, in Kilifi the MPDSR training (2015/16) sparked the establishment of MDPSR Committees at county level and in three CEmONC facilities, reporting and maternal audits (with perinatal audits added in the near future) being conducted until today.

As part of the MiH M&E system, LSTM assessed changes in a sample of 64 health facilities (54 CEmONC and 10 BEmONC) during two follow-up supervision visits at approximately 6 and 12 months following in-service training. The facilities were located in 32 counties. Baseline assessments were made between March 2014 and October 2016 and end-line assessments between November 2015 and November 2017. In each visit, events over the three preceding months were recorded. The data analysis provided by LSTM document an almost 30% increase in facilities that performed all EmONC signal functions and a greater than 40% increase in recognised and treated obstetric complications.

Several of the 12-month follow-up visits were conducted in 2017 when several facilities did not perform any or very few deliveries because of the strikes, while some faith-based facilities had increases in volume of up to 300%. We therefore reanalysed the LSTM M&E data selecting only the 47 health facilities that had less than 50% difference in the number of deliveries between the baseline and end-line assessment (8 BEmONC and 39 CEmONC). The results of these 47 facilities are presented in table 12.

Table 12. Baseline and 12-month follow-up data after in-service training in 47 health facilities across 32 counties

	Baseline	12 Month Follow-up
Total Deliveries	36,906	36,352
Total Maternal Deaths	61	98
Facility Maternal Mortality Rate	165/100,000	270/100,000
Total Obstetric Complications	1,476	2,882
Obstetric Case Fatality Rate	4.1%	3.4%
Total Births	37,330	36,892
Total Stillbirths	1,249	1,211
Facility Stillbirth Rate	33/1,000	33/1,000

The data presented in the table above show that there was a significant increase in recognised and recorded obstetric complications with a decrease in the obstetric case fatality rate. Improved recording because of supportive supervision and observer bias may have influenced results to some extent. Part of the decrease of the obstetric case fatality rate reflects higher numbers of recorded obstetric complications. The stillbirth

rate, however, remained unchanged and the maternal mortality rate increased although this rate is based on small numbers of deaths and therefore not stable.

In Bungoma County additional health staff was trained by LSTM in 2016 (after completing the EmONC training in 2014 and 2015) and LSTM supportive supervision was complemented by mentorship and integrated supervision by SCHMTs/MANI. The combined results of those investments are likely to be higher than in the average county in Kenya.

Delivering quality MNH services is likely to reduce fresh stillbirths as well as facility based maternal mortality. This is being discussed in the next section on higher level outcomes.

Overall, key informants stated that the EmONC training improved health workers' skills and confidence in performing procedures. E-survey respondents stated that training helped to improve all taught signal functions. Around 90% of graduates stated that they were confident in performing all signal functions except assisted vaginal delivery.

There is evidence that high quality MiH training, to some extent complemented by MiH supportive supervision and MANI supported mentorship and quality improvement activities contributed to higher quality MNH services (e.g. recognising and treating obstetric complications). The impact of training is however difficult to measure and has been limited by high staff turn-over in MNH departments.

7.2 CHANGES AT THE OUTCOME LEVEL

The MNH Programme Theory of Change lists two high-level outcomes at the end-user level:

Positive behaviour change / preventive practice in the community

Increased utilisation of quality MNH services

These outcomes are the intended results of the entire MNH Programme, but the evaluation collected direct evidence for changes at the end-user level primarily through the household survey in Bungoma County. This evidence is presented in this section with the understanding that the MANI project in Bungoma County was not the only component of the MNH Programme that contributed to these changes, but that the clear geographic circumscription of MANI and the concurrent presence in Bungoma County of MANI HSS, CICF and MiH provided the best opportunity to examine and document the evidence.

7.2.1 Evidence from the household survey study

In the household survey conducted in 2019 women who had completed a pregnancy in 2018 were asked about their access, utilisation, perception of service quality and level of satisfaction with MNH services. Some results were already presented under previous intermediate outcome headings. Two comparisons were made, one with women in the same MANI project areas surveyed in 2015, and another with women living in matched areas of Bungoma County that did not have direct MANI project support. The first comparison was made to provide evidence that change had taken place. The second comparison explored the evidence of the MNH Programme contribution to this change although it was not a true counterfactual comparison for three reasons:

- In parallel to the MANI project, Save the Children International (SCI) implemented an MNH support programme in the sub-counties of the control area. The programme strongly focused on community and demand-side issues.

- The MANI project was a county health systems support programme. Service delivery support was limited to six sub-counties. However control sub-county staff and institutions also benefitted from MANI support for capacity-building and institutional strengthening initiatives that were implemented in collaboration with the CHMT.
- Several projects of the MNH Programme's County Innovation Challenge Fund (CICF) were implemented in Bungoma County at the same time as the MANI project. Most notably, two projects focusing on neonatal care by SCI and by Mount Kenya University (MKU). These projects were active in both MANI project and in control sub-counties. The same applies to the training programme MiH by the LSTM.

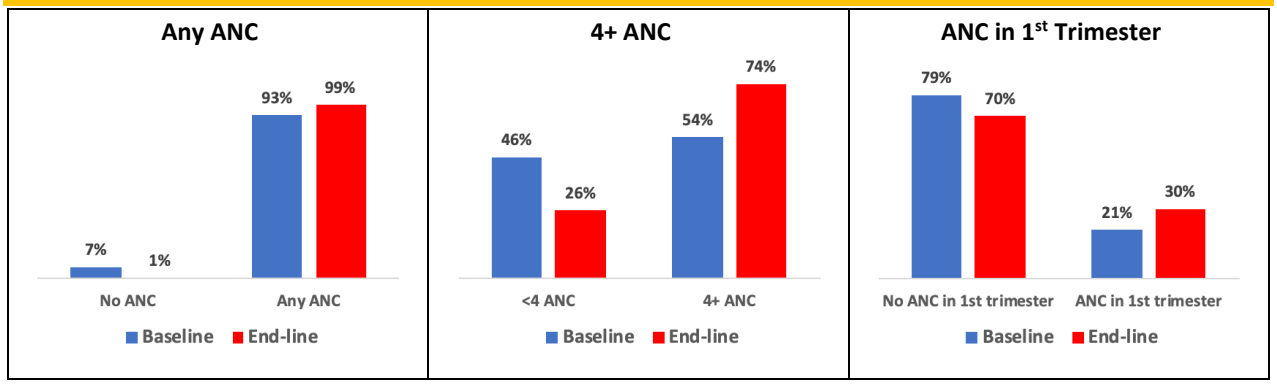
Changes in the **first outcome result** (behaviour and practice) were primarily generated via the first intermediate outcome (increased knowledge) and are discussed in Section 7.1.1.

For the **second outcome result** (utilisation and quality), contributions from all intermediate outcomes combine under three main pathways: Increased demand, increased access and increased quality of MNH services. Disaggregating the contributions of each of these paths to the result is not possible because of multiple feedback loops. Increasing access, for instance by lowering the cost of transport and user fees, stimulates increased demand. Increasing the quality of services by ensuring more client-oriented behaviour of staff will also stimulate demand and by assuring 24-hour electricity and staffing it will increase access. The three contributing paths meet at this level of the Theory of Change and cannot be disentangled at the end-user level. We therefore present the evidence generated by the household survey under the headings of **changes in utilisation** of MNH services and **changes in the perceived quality** of MNH services. Under a third heading, we document evidence for **changes in satisfaction** with MNH services as these are related to access, utilisation and perceived quality.

Changes in utilisation of MNH services

The household survey confirmed that the utilisation of ANC services in the programme areas increased between 2015 and 2019. More women surveyed in 2019 than in 2015 reported at least one ANC contact, more reported at least four ANC contacts, and more reported an ANC contact in the first trimester of pregnancy. All changes were statistically significant.

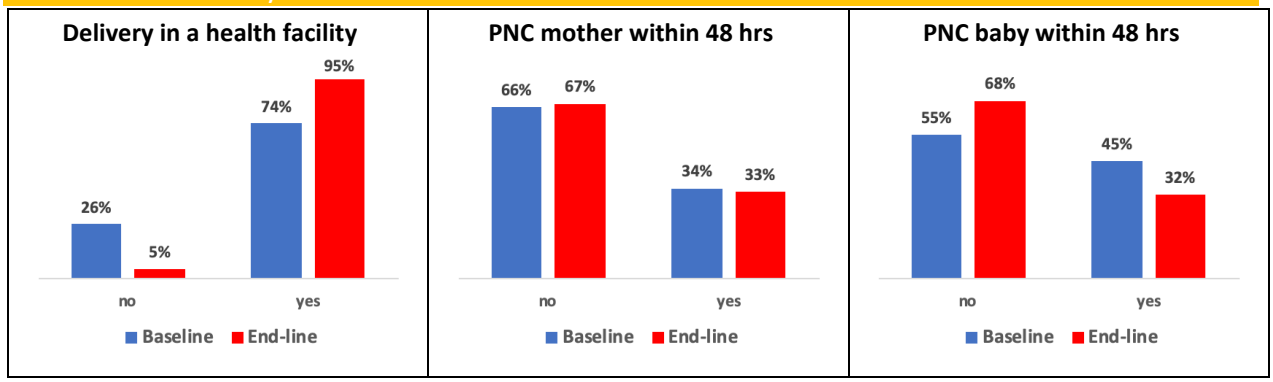
Figure 9. Changes in ANC utilisation in programme areas in Bungoma County between 2015 and 2019



Proportion of survey respondents in percentage

The household survey confirmed that the utilisation of health facilities for delivery increased between 2015 and 2019 at a level that was statistically significant. Timely postnatal care for the mothers (within the first 48 hours), however, remained largely unchanged according to the interviewed mothers, and timely postnatal care of the babies actually deteriorated between the 2015 and 2019 surveys, a change that was statistically significant.

Figure 10. Changes in facility deliveries and in postnatal care in Bungoma County between 2015 and 2019



Proportion of survey respondents in percentage

At baseline, education levels had a major influence on the decision to deliver in a health facility. In 2015, only 62 percent of women with the lowest educational achievement had facility deliveries compared to 100 percent of those with the highest. In 2019, this difference had almost disappeared. This increase in equity largely accounts for the overall increase in utilisation of health facilities for delivery.

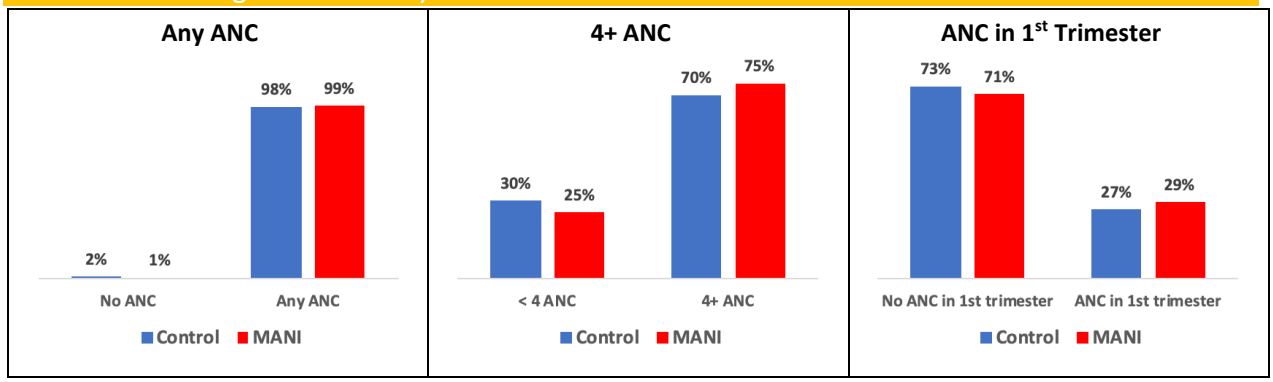
Table 13. Delivery in a health facility by education level at baseline and end-line

Educational achievement	Proportion of women who delivered in health facilities	
	2015	2019
None	62%	93%
Primary complete	73%	96%
Secondary complete	89%	95%
College complete	100%	100%

Proportion of survey respondents in percentage

The comparison of ANC utilisation in programme and control areas suggest that more women in programme than in control areas had any antenatal care, four or more antenatal contacts and their first antenatal contact in the first trimester of pregnancy. However none of the differences between programme and control areas are statistically significant. The survey therefore confirms that ANC utilisation increased during the programme period but does not provide evidence that the MNH Programme contributed to the increase over and above other contributions, including those by SCI in control sub-counties. A contribution of the MNH Programme to the increase in ANC coverage between 2015 and 2019 can still be assumed, but the survey did not have sufficient power (sample size) to generate evidence that this contribution was more effective than the contribution of domestic efforts, the SCI programme and other external support provided to the control sub-counties.

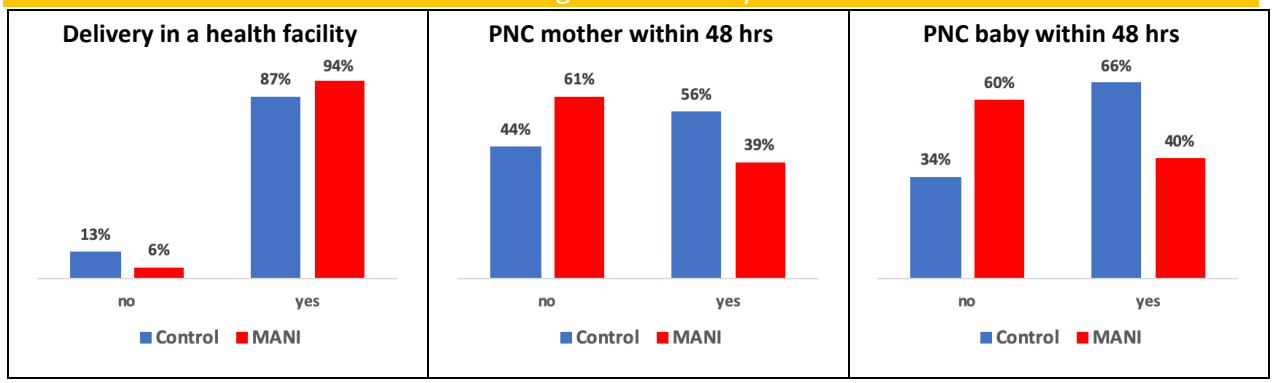
Figure 11. Comparison of ANC utilisation in programme and control areas of Bungoma County in 2019



ANC utilisation reported by proportion of survey respondents in 2019 in MANI programme and in control areas

A comparison of utilisation of health facilities for delivery and of timely postnatal care as reported by the surveyed women in programme and control areas yielded mixed results. The increase in health facility deliveries noted between 2015 and 2019 was greater in the programme areas to a degree that was statistically significant. A contribution of the MNH Programme can therefore be inferred that was over and above the contributions of the free maternal health policy, the Linda Mama programme or any specific project in the control areas. The two PNC indicators, however, confirm that no progress in timely PNC was achieved during the MNH Programme period in Bungoma County, and that this was primarily due to lack of progress in the MNH Programme areas. The performance in the control areas in 2019 was considerably better than in the programme areas in 2015 and in 2019 suggesting that PNC was a neglected area of the MNH Programme and that the sub-counties receiving MNH Programme support fell behind in comparison to progress in the control sub-counties.

Figure 12. Comparisons of facility deliveries and postnatal care in programme and control areas of Bungoma County in 2019



Facility delivery and postnatal care reported by proportion of survey respondents in 2019 in MANI programme and in control areas

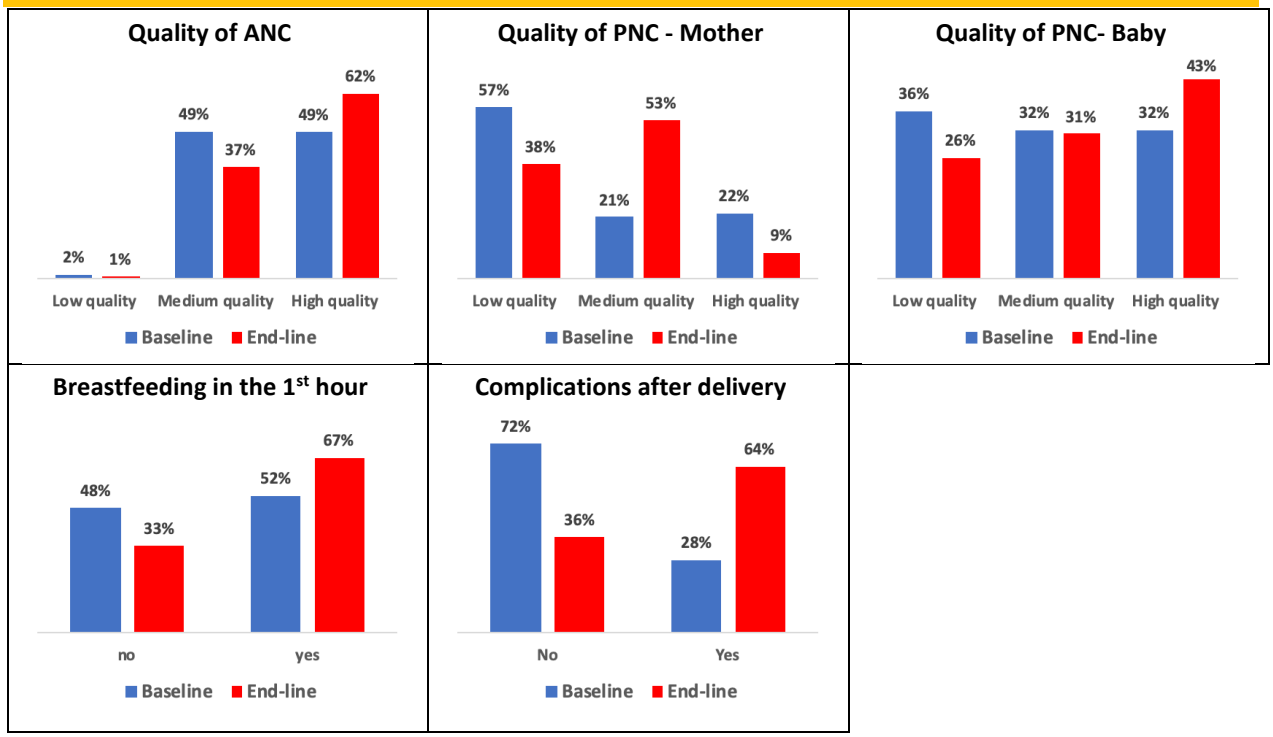
Changes in perceived quality of MNH services

To asses changes in the quality of MNH care as perceived by end-users, survey respondents were asked in 2015 and in 2019 about a list of examinations, laboratory tests and advice they remembered receiving during antenatal and postnatal care according to national MNH guidelines. Women who had a normal delivery in a health facility, were also asked whether they initiated breastfeeding within the first hour after delivery and all women were asked whether they perceived that they experienced any complications after delivery.

The evidence of change documented by the end-user survey is mixed. Based on the number of examinations, tests and advice received during ANC as recalled by mothers, the quality of ANC and postnatal care for the mother, as well as initiation of breastfeeding within the first hour had increased between 2015 and 2019 to a degree that was statistically significant. An increase in the quality of postnatal care for the baby was also

reported, however not at a level of statistical significance. There was a marked increase in complications after delivery as reported by mothers, most often excessive blood loss. It is unlikely that this is an objective reflection of actual events and more likely reflects a heightened awareness and knowledge of women about the risks associated with childbirth and therefore a heightened sensitivity of events. Although the questions asked in the baseline and end-line survey were identical, the interpretations and recording of the responses by the interviewers may also have differed.

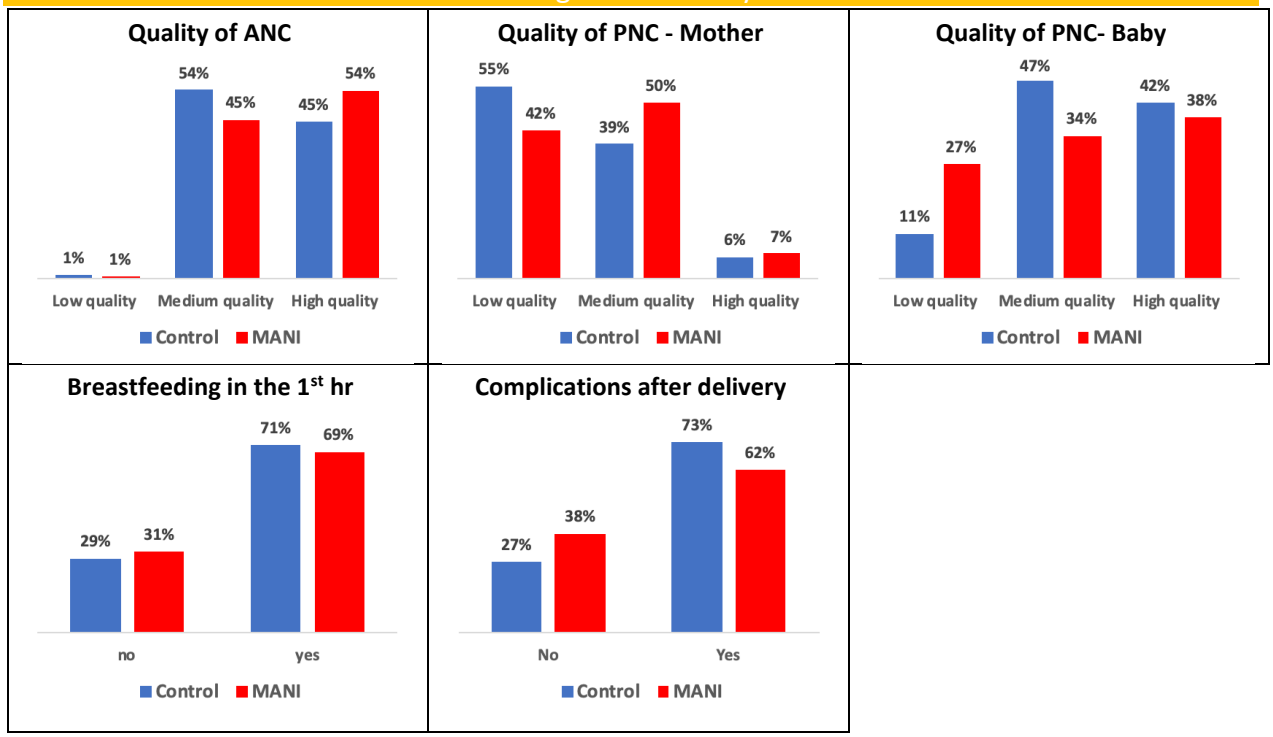
Figure 13. Changes in perceived quality of care by women in Bungoma County between 2015 and 2019



Perceived quality of ANC and PNC services, initiation of breastfeeding and perceived complications after delivery reported by proportion of survey respondents in MANI programme areas in 2015 and 2019

The comparison of the quality of care indicators as reported by women in programme and control areas yielded mixed results. The quality of antenatal care and postnatal care provided to the mother was perceived to be better in the programme areas to a degree that was statistically significant. The quality of postnatal care provided to the baby was, however, reported to be much better by women in the control areas. This strengthens the inference based on the before/after study that the MNH Programme did not focus sufficiently on the PNC aspect of MNH care. Breastfeeding within the first hour after delivery was reported slightly more often by women in control areas, but the difference was not statistically significant and within the level of a chance variation. Complications after delivery were more commonly reported by women in control areas to a degree that was statistically significant. Excessive bleeding was mentioned more frequently by women in control areas. This firms the evidence suggesting that education at the community level had increased women's sensitivity to the risks of childbirth and therefore their greater readiness to perceive and report complications. Under the discussion of the intermediate outcome of increased knowledge (Section 7.1.1) evidence is presented for a more active community outreach, mobilisation and education programme in the control areas supported by SCI. A higher frequency of recognising and recording obstetric complications by midwives at end-line may also have contributed to increased women's sensitivity (see section 7.1.6).

Figure 14. Comparisons of perceived quality of care by women in programme and control areas of Bungoma County in 2019

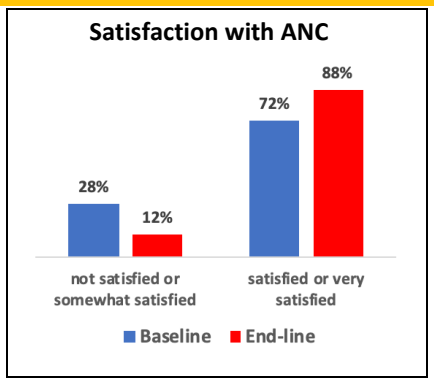


Perceived quality of ANC and PNC services, initiation of breastfeeding and perceived complications after delivery reported by proportion of survey respondents in MANI programme areas and in control areas in 2019

Changes in satisfaction with the care received

Satisfaction with MNH care reflects both the utilisation and the perceived quality of care. In the baseline survey, sufficient data were only available for the question on satisfaction with antenatal care which showed a major increase in the level of satisfaction between 2015 and 2019 that was statistically significant.

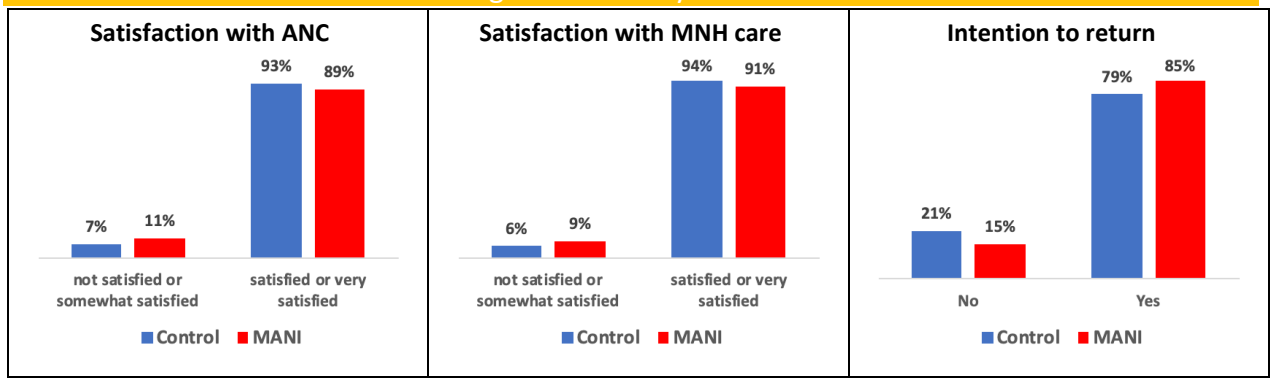
Figure 15. Changes in satisfaction with antenatal care received in Bungoma County between 2015 and 2019



Satisfaction with ANC services reported by proportion of respondents in 2015 and 2019

In the quasi experimental arm of the study, data were available to compare satisfaction with ANC and maternity services between women in programme and control areas, as well as information about intentions to return to the same facility for care during the next pregnancy which is a strong proxy indicator of satisfaction. Satisfaction levels for both ANC and maternity care where somewhat higher among women in control than in programme areas, however the difference was not statistically significant and therefore in the range of random sampling errors. The intention to return to the same facility was, however, expressed more frequently among women in the programme areas at a level that was statistically significant.

Figure 16. Comparisons of satisfaction with MNH care in programme and control areas of Bungoma County in 2019



Satisfaction with MNH services reported by proportion of respondents in MANI programme areas and in control areas in 2019

Overall evidence for changes in utilisation and quality of MNH services

The household survey study was a hypothesis-testing study that aggregated the indicators of utilisation, quality and satisfaction with additional indicators of access and community mobilisation presented under previous sections of intermediate outcomes. As such a study cannot 'prove' a hypothesis but only reject alternate hypotheses. Two null hypotheses were established and tested:

1. At the level of the ultimate beneficiaries, demand-side interventions implemented with MANI support have not resulted in a measurable improvement in access and utilisation of MNH services.
2. At the level of the ultimate beneficiaries, the supply-side interventions implemented with MANI support have not resulted in a perceived improvement of availability and quality of MNH services and a measurable improvement in the outcomes of pregnancies.

To provide evidence for the hypothesis test, all indicators measured in both arms of the study were assigned a score and weight. The indicator scores for which there was a statistically significant difference between the two groups in either arm of the study were prorated depending on the level of difference. The score values were summed into demand-side scores that generally reflected access and utilisation of MNH services and supply-side scores that generally reflected quality of services. Not all indicators were available in the baseline study and more indicator scores were therefore used for the comparison between programme and control areas. The score values can therefore only be compared within each arm of the study and not between the two arms. The result of the household survey study is presented in Table 14.

Table 14. Demand and supply-side summary scores determined by the household survey

Demand Side Scores	**Before (2015) / After (2019)**	**Control / MANI project**
Not exposed to MANI project	**51.4**	**84.2**
Exposed to MANI project	**57.0 (↑)**	**83.4 (↓)**
Supply-side Scores	**Before (2015) / After (2019)**	**Control / MANI project**
Not exposed to MANI project	**56.0**	**102.5**
Exposed to MANI project	**57.5 (↑)**	**103.6 (↑)**

Note: The score values are only vertically comparable because not all indicators could be scored in both study arms

The evidence generated by the survey data confirms that utilisation and access to MNH services in the programme areas of Bungoma County increased between 2015 and 2019, but that at the time of the end-line survey they were better in the control than in the programme sub-counties. **The study therefore did not provide evidence to reject the first null hypothesis**.

On the supply side measuring primarily the quality of care provided, higher summary scores were computed in both arms of the study for women in the programme areas. **The study therefore provided evidence to reject the second null hypothesis.**

In summary, the evaluation of the high-level outcome of the Theory of Change at the end-user level of **increased utilisation** of MNH services **was not confirmed** by evidence generated in the household survey. The high-level outcome of **increased quality**, however, **was confirmed**. These are findings of only one component of the evaluation and are contextualised and modified by findings generated from other components, including the analysis of HMIS data, focus group discussions, key informant interviews, health facility assessments as well as the CICF and MiH evaluations. These were discussed in the analysis of intermediate ToC outcome results (section 7.1) and will further be triangulated with household survey findings at the impact level of the ToC evaluation.

7.2.2 Evidence of increased utilisation from the analysis of Demographic and Health Survey (DHS) and HMIS data

For the five-year period of 2010 to 2014, the Kenya DHS 2014 (KDHS 2014) reported a skilled birth attendance rate (SBA) for Kenya of 61.8%. A calculation of the SBA rate from DHIS2 data[45] for the two-year period from 2013 to 2014 arrives at an average national SBA rate of 52.1%. By 2018, the SBA rate for Kenya calculated from DHIS2 data had increased to 64.9.%, significantly higher than the surveyed KDHS 2014 rate.

The data presented in table 15 suggest that the proportional increase of SBA from 2013/14 to 2018 was substantially higher in Bungoma County than in the other agricultural MNH Programme counties (Kakamega and Homa Bay), Nairobi County, the average for the 10 Western Counties and the national average (excluding Nairobi). The two predominately pastoralist counties did equally well (Garissa) or even better (Turkana) than Bungoma County, however starting at lower coverage rates in 2013/14. The situation in these two counties is quite different from Bungoma County with much smaller populations and a large proportion of nomadic pastoralists.

[45] Data were calculated from two DHIS2 indicators: 'EAC deliveries by skilled birth attendants' and 'EAC deliveries expected'. Data for SBA and health facility deliveries

Table 15. Skilled birth attendance rates reported by KDHS 2014 and calculated from DHIS2 data; percentage change between 2013/14 and 2018

	KDHS 2014 2010-2014	DHIS2 2013-2014	DHIS2 2018	% change 2013/14 to 2018
Bungoma County	41.4%	46.2%	72.0%	**25.8%**
Garissa County	39.8%	33.4%	55.3%	**21.9%**
Homa Bay County	60.4%	49.0%	57.5%	**8.5%**
Kakamega County	48.6%	50.4%	64.7%	**14.3%**
Turkana County	22.8%	34.9%	65.1%	**30.2%**
Nairobi County	89.1%	81.4%	81.9%	**0.5%**
Western counties (10)	NA	52.7%	65.4%	**12.7%**
Kenya without Nairobi	NA	49.8%	63.2%	**13.4%**
Kenya	61.8%	52.1%	64.9%	**12.8%**

It is plausible that the routine health information data collected by the DHIS2 underestimate the SBA rate because of incomplete reporting, especially during the period 2013-2014 (see table 6) and because they do not yet capture all deliveries in private facilities, nor deliveries by community midwives or home deliveries attended by skilled providers. However, home deliveries account only for about 3% of deliveries attended by skilled personnel according to KDHS data and reporting has improved substantially since 2015. Furthermore, it is not clear to what extent the apparent increase in the rate between 2013-14 and 2018 was due to a real increase in SBA, or simply a function of more complete reporting. While reporting rates continue to affect data completeness over the period 2015-2018 and confirm a dip in 2017 because of industrial action, reporting rates were between 90% and 100% in the last three years under review (see table 6). Also, the HH survey in Bungoma County confirmed that for some MNH indicators, including deliveries in health facilities, a significant increase took place between 2015 and 2019, much in line with trends in DHIS2. On the assumption that any reporting artefacts equally affect all counties, comparison between counties remains useful.

According to the KDHS 2014, almost all births in health facilities during the five years preceding the survey (99%) were attended by skilled providers, as compared with just 3% of births delivered outside of health facilities. The rate of facility-based deliveries during the period covered by the KDHS survey is therefore similar to the SBA rate as illustrated in table 16.

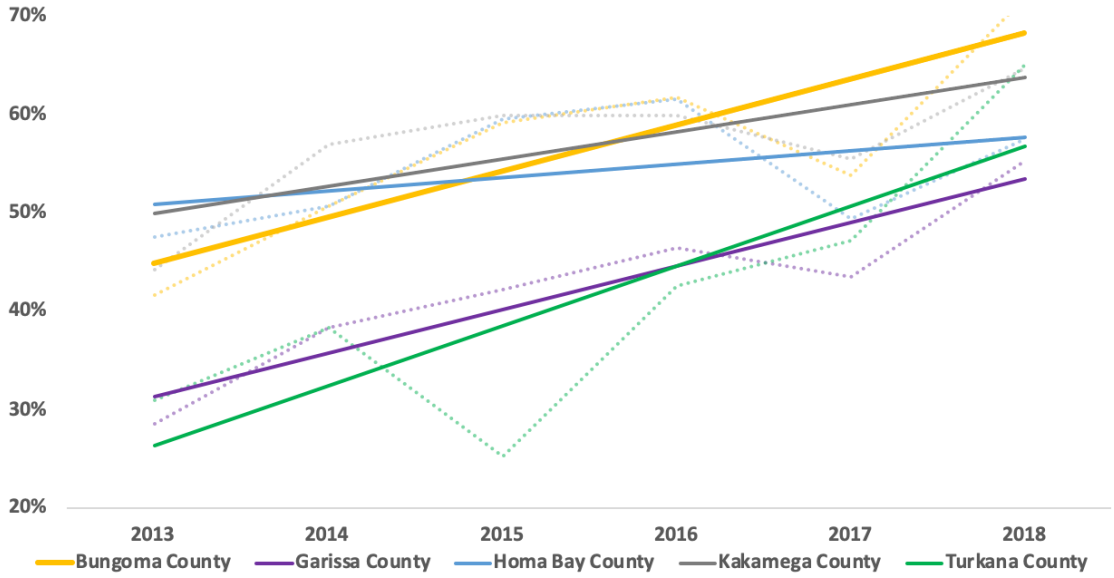
Table 16. Skilled birth attendance and facility-based delivery rates reported by the KDHS 2014 for selected counties and national average

	Skilled birth attendance	Facility-based deliveries
Bungoma County	41.4%	40.8%
Garissa County	39.8%	36.7%
Homa Bay County	60.4%	61.9%
Kakamega County	48.6%	47.0%
Siaya County	70.4%	69.6%
Tana River County	32.2%	31.6%
Turkana County	22.8%	23.1%
Nairobi County	89.1%	88.7%
Kenya	61.8%	61.2%

As the data in table 16 document, the SBA rate in Kenya is only slightly above the rate of facility-based deliveries, accounting for the approximately 3% of home deliveries that are attended by a skilled provider. As would be expected, the difference is larger in the less densely populated counties where there are geographic barriers of access to health facilities. Only two counties, Turkana and Homa Bay counties, have an SBA rate that is lower than the rate of deliveries in facilities, indicating that unqualified staff assisted in the delivery at a health facility. But these are rare instances, based on differences of less than ten deliveries over five years in each of the two counties.

The DHIS2 database of EAC indicators (data reported to the East African Community) lists identical numbers for SBA and facility deliveries. Home deliveries attended by skilled personnel are not captured by DHIS2 and the two coverage indicators 'delivery by skilled attendant coverage' and 'percentage of deliveries conducted by skilled health attendant in facilities' also report identical rates. MNH Programme support to Garissa, Homa Bay, Kakamega and Turkana was discontinued from 2017 onwards, while Bungoma County continued to receive support. In all counties increase of facility deliveries was greatest between 2013 and 2014 after introduction of the free maternal health care policy. Compared to 2014, all counties saw a continuous and significant increase of facility deliveries up to 2018. Among the agriculturalist counties, Bungoma County performed best with an overall increase of 40%, compared to 18% in Homa Bay and 17% in Kakamega. The percentage increase in the mainly pastoralist counties was however much larger, amounting to 49% in Garissa County and 94% in Turkana County. These two counties, however, started out with much lower levels of facility delivery coverage in 2014, so the rate of increase was comparable to Bungoma County. After restructuring of the MNH Programme in 2017 the proportional increase in SBA (between 2016 and 2018) was approximately the same in Bungoma and Garissa Counties (10 and 9 percentage points) while it slowed down in Kakamega County (5 percentage points) and became negative in Homa Bay County (minus 4 percentage points). Turkana County, however, registered a strong increase of 23 percentage points.

Figure 17. Trends in Skilled Birth Attendance in MNH Programme counties

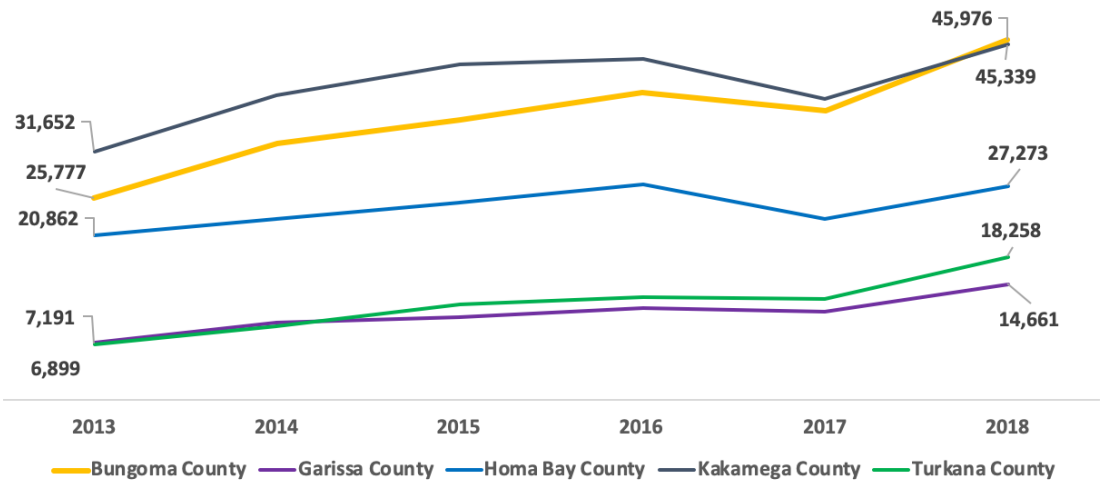


Proportion of deliveries attended by skilled providers in Bungoma, Garissa, Homa Bay, Kakamega and Turkana counties
Data source: DHIS2 indicator 'EAC skilled birth attendance rate' (accessed 16/08/2019)

The trends in SBA coverage rate have to be interpreted with caution because of increasing reporting rates to DHIS2 between 2013 and 2018, as well as the fact that the denominators of expected deliveries are estimated on the basis of the county populations that were last determined by census in 2009 and may be especially inaccurate in Turkana County which experienced a large influx of refugees from Somalia and South

Sudan which could have resulted in an over-estimation of the coverage rate. The total number of reported facility deliveries presented in Figure 18 helps contextualising the coverage rates.

Figure 18. Number of health facility deliveries in MNH Programme counties



Evolution of the numbers of health facility deliveries in Bungoma, Garissa, Homa Bay, Kakamega and Turkana counties 2013-18
Data source: DHIS2 Indicator 'EAC deliveries in health facilities'

As illustrated in Figure 18, the number of reported deliveries in health facilities increased by more than 20,000 in Bungoma County and only by less than 14,000 in Kakamega County. Turkana County had the second largest increase of more than 11,000 which could, in part, also be related to a population increase that outpaced the other counties, while in Garissa and Homa Bay counties the increase was moderate of between 6 and 7.5 thousand.

No direct contribution of the MNH Programme to an increased rate of deliveries in health facilities in all programme counties can be inferred from these data, but the continued higher performance in Bungoma County compared to the other two agriculturalist counties suggests that the MNH Programme contributed to an increase in health facility deliveries in Bungoma. No further analysis was done during the summative evaluation on programme counties that participated before 2017. We cannot therefore explain the positive trends in Garissa and Turkana counties. CICF programming continued in these counties after 2017 and several CICF projects focused on access and use of health facilities for delivery. UNICEF and other international partners also continued their support of MNH in Garissa and Turkana counties.

Bungoma County

Analysis of DHIS2 data from 2013 to 2018 confirm that utilisation of MNH services increased in Bungoma County over the period 2013 to 2018 and that Bungoma County performed better than the average of the 10 Western Counties and the average of Kenya (without Nairobi)[46]. The analysis is less univocal for the MNH Programme period 2015-2018, during which many MNH indicators improved, but some of them less pronounced than in the pre-programme period 2013-2014.

Deliveries in health facilities as a proportion of expected deliveries (based on population) increased by 30% in Bungoma County between 2013 and 2018, from 42% to 72%. This increase of 30 percentage points compares favourably with the average increase of 17 percentage points in the 10 Western Counties (from 49% to 66%) and of 16 percentage points in Kenya. As shown in Figure 19, the trend in Bungoma County was driven entirely by the increase in the six MANI-supported sub-counties while the overall linear trend in the

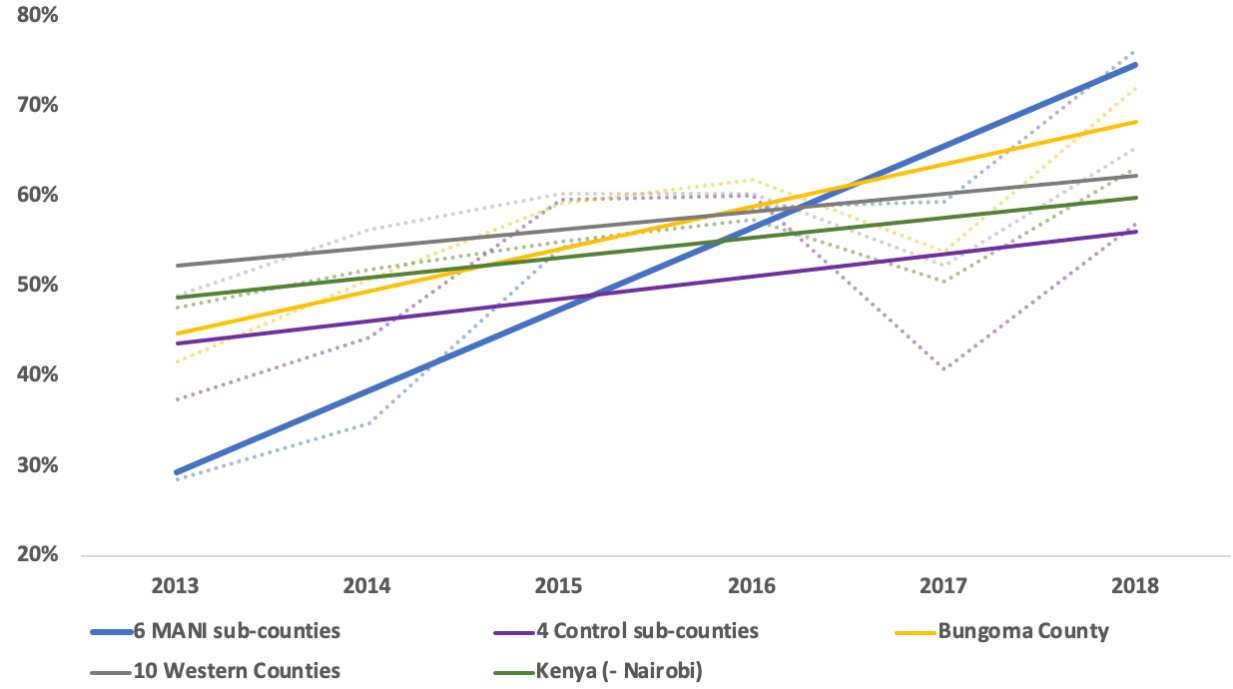
[46] Data for postnatal care within 48 hours (mother) have not been analysed as no data are available up to 2015 in DHIS2 and reporting is still considered unreliable.

remaining sub-counties was similar to the trends observed in Kenya and in the 10 Western Counties. In 2017, facility deliveries decreased significantly in Kenya due to the health worker strikes.

The MANI support can only have had an effect from 2015 to 2018 and the increases recorded in all areas between 2013 and 2015 followed national trends that were most likely attributable to the introduction of the free maternity care policy. In the MANI-supported sub-counties, and to a lesser extent in Bungoma County as a whole, this positive trend was maintained until 2018, while it flattened in all other areas. A significant contribution to the positive results in the MANI programme area was the fact that the impact of the 2017 health worker strikes which caused a massive decrease in facility deliveries in Kenya was largely mitigated by the MANI project through activities such as PBF and an intensified support of faith-based health facilities.

Total number of facility deliveries is likely to be underestimated as not all private facilities report to DHIS2. Deliveries by community midwives are also not included.

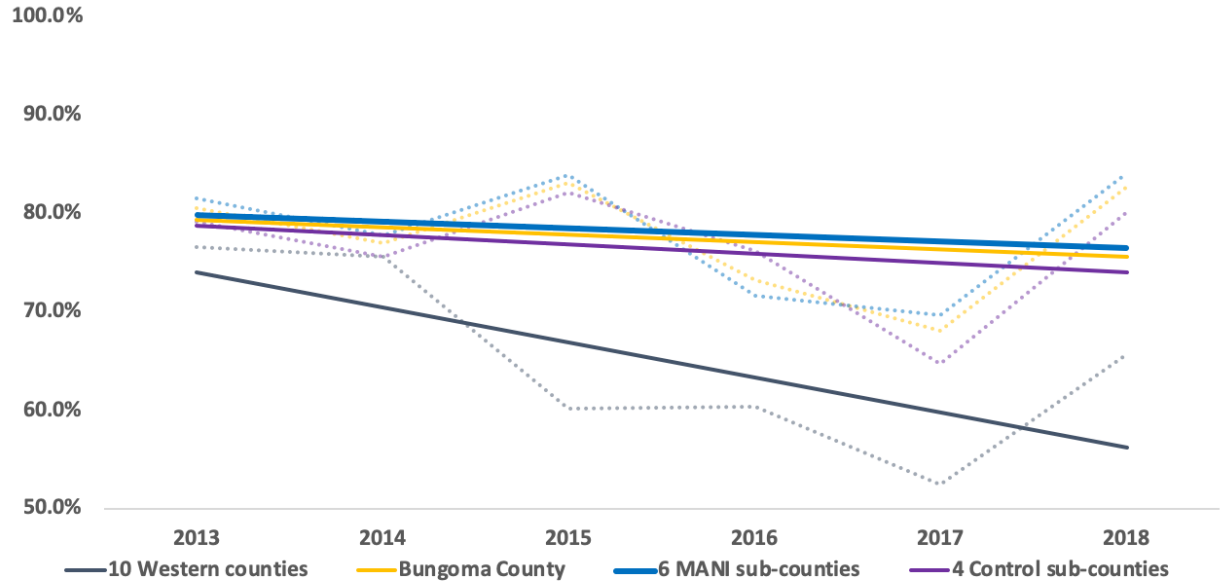
Figure 19. Trends in the rates of facility deliveries 2013 – 2018



Facility deliveries as a percentage of total estimated deliveries comparing Bungoma County, the programme and control sub-counties, the average of 10 Western counties and the average for Kenya 2013-2018.
Data source: DHIS2 indicator 'EAC deliveries in facilities' (accessed 16/08/2019)

Attendance of at least one ANC visit as a proportion of expected deliveries in Bungoma County was already high in 2013 at 81% and only improved slightly between 2013 and 2018 (83%). The six-year linear trend as presented in Figure 20 is negative but DHIS2 data from the first quarter of 2019 suggest that the trend has reversed in Bungoma County. The decreasing trend was primarily generated by the decrease in ANC consultations during the strike year of 2017. As for facility-based deliveries, this decrease was mitigated by interventions supported by MANI which were largely responsible for limiting the downward trend in ANC in the project-supported sub-counties and in Bungoma County as a whole especially when compared to the trend in the 10 Western Counties.

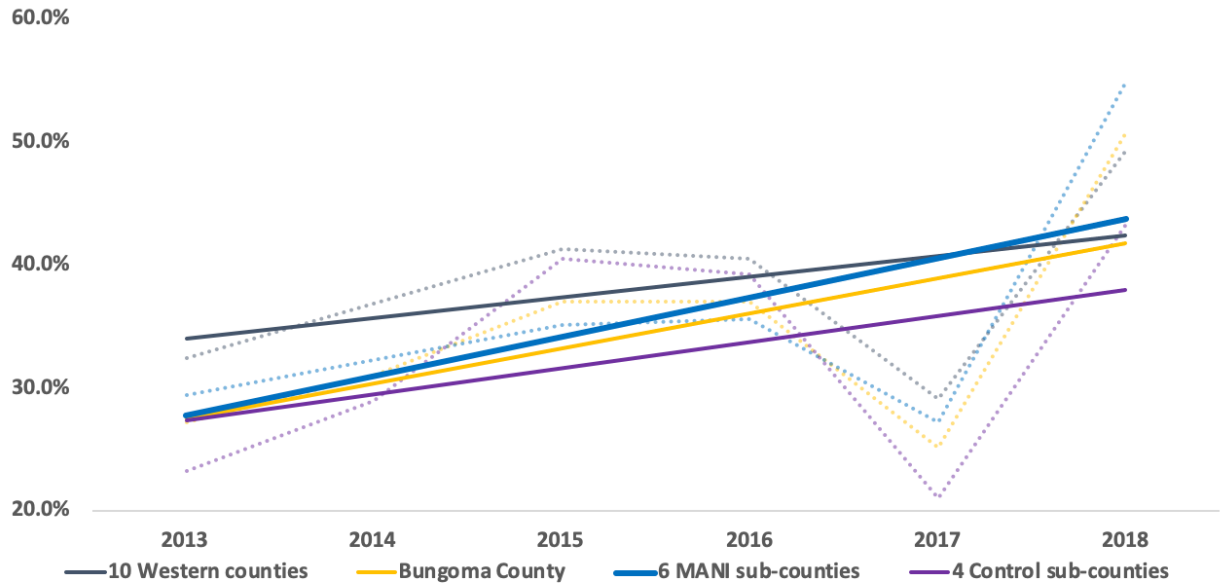
Figure 20. Trends in ANC1 coverage rates 2013 to 2018



ANC1 attendance as a percentage of total estimated pregnant women comparing Bungoma County, the programme and control sub-counties, and the average of 10 Western counties 2013-2018.
Data source: DHIS2 indicators 'ANC first visit' and 'EAC pregnancies expected' (accessed 16/08/2019)

In 2013, coverage of four or more ANC visit (ANC4) was significantly lower in Bungoma County compared to the average for the 10 Western Counties: 27% compared to 37% ANC4 coverage as a proportion of expected deliveries. By 2018, however, Bungoma County had closed the gap and recorded a 51% coverage compared to the 49% in the Western County average. As with previously quoted statistics, the trend analysis shows that the positive trend in Bungoma County was primarily driven by the increased coverage in the MANI-supported sub-counties. While increases prior to 2015 cannot be attributed to the MANI project, the major increase in ANC coverage in 2018 was a major determinant of the positive trend.

Figure 21. Trends in ANC4 coverage rates 2013 to 2018



ANC4+ attendance as a percentage of total estimated pregnant women comparing Bungoma County, the programme and control sub-counties, and the average of 10 Western counties 2013-2018.
Data source: DHIS2 indicators 'ANC fourth visit' and 'EAC pregnancies expected' (accessed 16/08/2019)

The household survey study in Bungoma County confirmed an increase in utilisation, perceived quality and satisfaction with MNH care between 2015 and 2018, however with equivocal or negative trends in postnatal care. The study also generated evidence of a contribution of the MNH Programme to perceived quality and increased satisfaction, however no evidence for an overall contribution to increased utilisation of MNH services except for facility deliveries.

The analysis of national and county trends in MNH service utilisation based on HMIS data, on the other hand, consistently show steeper trends of increase in Bungoma County and especially in the sub-counties supported by the MNH Programme. This suggests a contribution of the MNH Programme to increased MNH service utilisation that the household survey study may not have been able to detect because of insufficient power.

7.3 CHANGES AT THE IMPACT LEVEL

Reduced Maternal & Neonatal Mortality

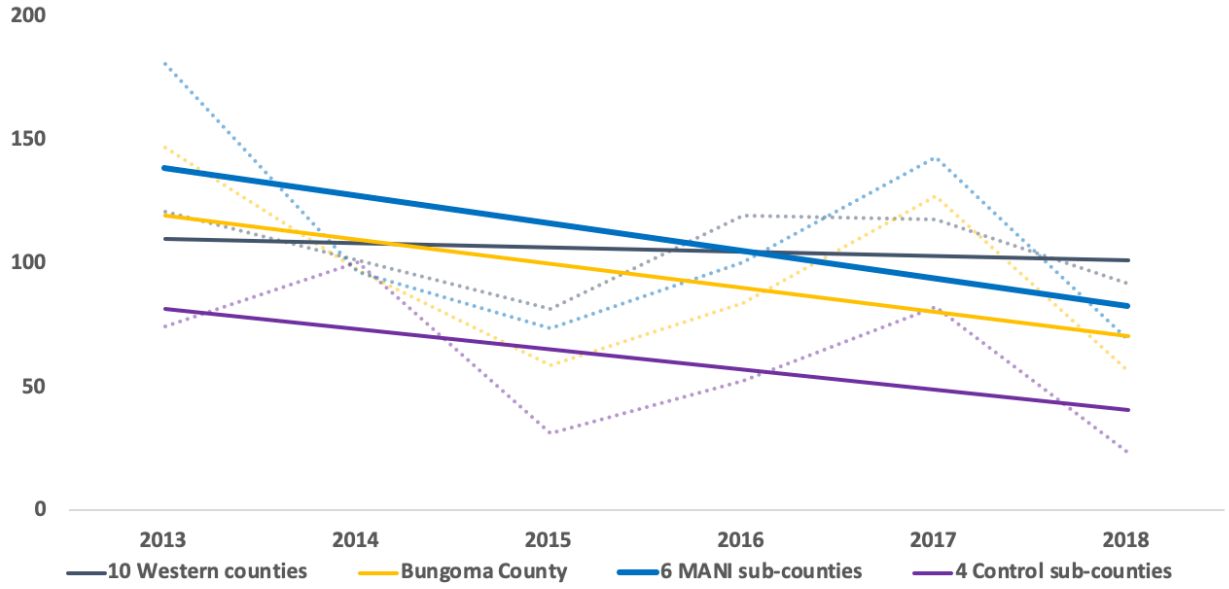
7.3.1 Maternal mortality

The KDHS 2014 estimated a maternal mortality ratio (MMR) of 362/100,000 for the period of 2008 to 2014. Maternal mortality ratios are calculated over periods of five to ten years, they are determined infrequently and require population surveys with large samples. In the intervening periods, estimates are made using epidemiological models. Published MMR estimates are therefore not useful for assessing the impact of the MNH Programme.

The facility maternal mortality rate (Facility MMR) is calculated by the number of maternal deaths per 100,000 deliveries in health facilities. Although it is always lower than the MMR because it does not include maternal deaths in the community, data are generally available in real time and the rate can be calculated from DHIS2 indicators. However, reporting of maternal deaths to DHIS2 improved over time and reporting by private health facilities is still incomplete which somewhat limits the validity of calculated trends.

Figure 22 shows the trend in Facility MMR in Bungoma County in comparison to the aggregate trend in 10 Western Counties of Kenya. It further disaggregates the trends in Bungoma County into the MNH Programme-supported and non-supported sub-counties.

Figure 22. Trends in Facility Maternal Mortality Rate 2013-2018

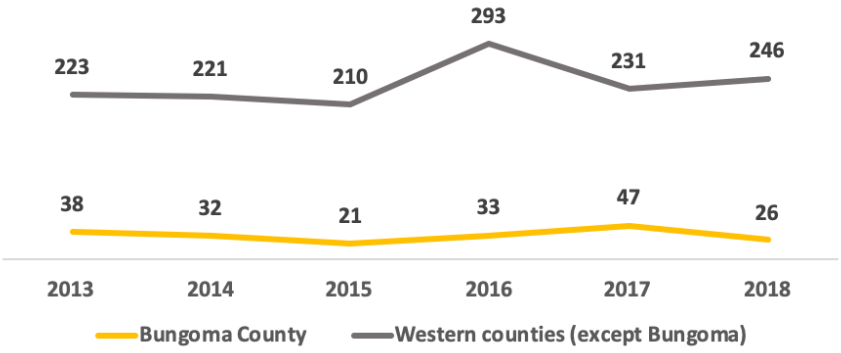


Maternal deaths in health facilities per 100,000 deliveries; comparing Bungoma County, programme and control sub-counties, and the average of 10 Western counties 2013-2018
Data source: DHIS2 indicators 'Total Maternal Deaths in facilities' and 'EAC Deliveries in facilities' (accessed 16/08/2019)

The large difference in the rates between supported and not-supported sub-counties is due to the fact that the two referral hospitals equipped to deal with complicated deliveries are located in the MNH-supported sub-counties. Bungoma County started at a higher rate of maternal mortality than its Western neighbours in 2013 but charted a trend of improvement that was interrupted during the strike year of 2017.

In 2017, attendance of health facilities for delivery fell because the availability of services was much reduced during prolonged periods, but women who experienced complications during home deliveries still had to access hospitals. The sharp rise in the mortality rate was therefore caused by a combination of a decreasing denominator of number of deliveries and an increase in maternal deaths in facilities because women arrived late after already experiencing complications at home or because staff trained in EmONC was not readily available. There is, however, also a third factor. Reporting to DHIS2 was also more irregular in 2017 but it was continued to be supported by the MNH Programme in Bungoma. This may explain why in 2017 the number of reported maternal deaths in health facilities in Bungoma was higher than in the preceding and following years, while in the remaining nine Western counties it was lower as shown in Figure 23. The figure also shows that a maternal death in a health facility is not a very frequent event, and calculated rates are therefore highly unstable.

Figure 23. Numbers of maternal deaths in health facilities 2013-2018



Numbers of maternal deaths reported in Bungoma County and in 9 Western counties excluding Bungoma 2013-2018
Data source: DHIS2 indicator 'Total Maternal Deaths in facilities' (accessed 16/08/2019)

The positive trend of reduction in the Facility MMR in Bungoma County was primarily generated between 2013 and 2015 and a contribution can therefore not be attributed to the MANI HSS project, although a contribution by MiH EmONC training in 2014 cannot be excluded. The DHIS2 data show that Bungoma County maintained its momentum as a leader in maternal mortality reduction in Western Kenya up to 2018 despite a setback in 2017. This does not allow an inference about a contribution of the MNH Programme, but the evidence presented for contributions to change at the outcome levels of the ToC increases the plausibility that the MNH Programme contributed to this impact result.

7.3.2 Neonatal mortality

The 2014 KDHS reported a neonatal mortality rate for the period of 2010 to 2014 of 2.2%, with the highest rate in Nairobi (3.9%) and the lowest in the Rift Valley (2.0%). The lower rates computed from the DHIS2 data (around 1.2% for Kenya) are plausible because births outside health facilities, and likely an even higher proportion of neonatal deaths that occurred outside health facilities, are not captured in the system. This information gap was expected to close with the efforts to strengthen the civil registration and vital statistics system in Kenya; but also because of the increasingly higher coverage of facility deliveries after 2013.

At the time of the formative evaluation there were no recognisable trends in neonatal mortality rates in the programme and control counties. In aggregate, the data suggested a steadily decreasing trend in neonatal deaths in the programme counties and in Kenya since 2014, while the rates in the control counties were increasing. As indicated in the formative evaluation report, this should not be over-interpreted. Neonatal mortality rates in Kenya have been decreasing steadily since 1999 as documented in three Demographic and Health Surveys, and any minor trends in the sub-set of facility births and deaths captured in the DHIS2 database are more likely related to changes in the utilisation of health facilities and to health facility reporting practices.

At the time of the summative evaluation we note that **neonatal deaths** are still poorly reported in DHIS2 and cannot be used for a meaningful analysis. In the household survey, more neonatal deaths were reported at baseline and more in control-sub-counties, but the differences were not statistically significant because the numbers of reported deaths were low. No conclusions can be drawn from these findings.

7.3.3 Stillbirths

The majority of stillbirths are preventable, evidenced by the regional variation across the world. The rates correlate with access to maternal healthcare. The every newborn action plan (ENAP) to end preventable deaths has a set stillbirth target of 12 per 1000 births or less by 2030[47].

Stillbirths are defined by WHO as babies who are born without sign of life at or after 28 week of gestation, but national definitions vary. In the USA, for instance, the birth of a baby without sign of life after 20 weeks of pregnancy is classified as a stillbirth. The stillbirth rate is the number of stillbirths over 1,000 total births. Stillbirths have multiple causes including genetic defects; unrecognised or untreated conditions during pregnancy such as infections, diabetes or hypertension; and intrapartum events such as haemorrhage, obstructed labour or a cord prolapse. Improved access, utilisation and quality of ANC and EmONC are therefore key in the reduction of stillbirth rates.

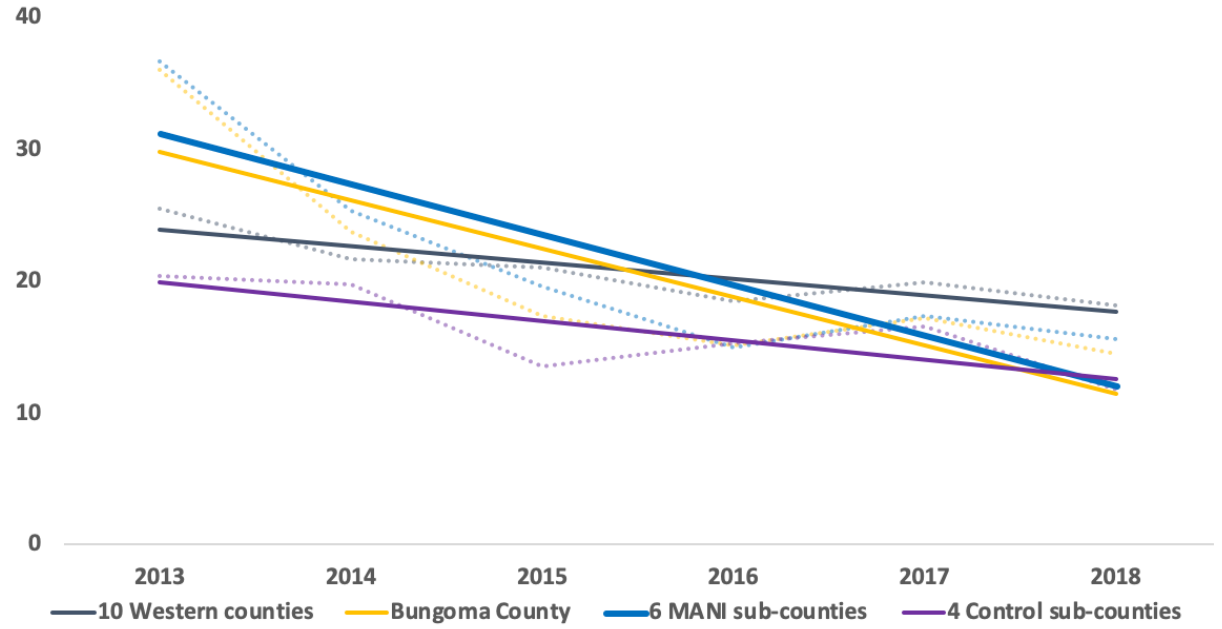
The DHIS2 database reports the number of stillbirths in health facilities in Kenya in two separate indicators. Until 2014, the indicator 'EAC Stillbirths' appears to have a more complete number of records but then declined and fell into disuse. Reporting under the indicator 'Total Still Births' appears more incomplete in 2013 but started to stabilise in 2014 and is the only active indicator since 2017. Trends in reported facility

[47] WHO: https://www.who.int/maternal_child_adolescent/epidemiology/stillbirth/en/

stillbirth rates are presented in Figure 24. The rates were calculated using the first indicator for 2013 and changing to the second after 2014. The denominators are the number of live births reported by DHIS2 plus the numbers of stillbirths from the above two indicator data.

The stillbirth rate in Bungoma County declined between 2013 and 2015 (from 36 to 17) and subsequently stabilised around this level until 2018. The average stillbirth rate in the 10 Western Counties barely varied around a rate around 20/1000 births.

Figure 24. Trends in facility Stillbirth rates 2013 to 2018



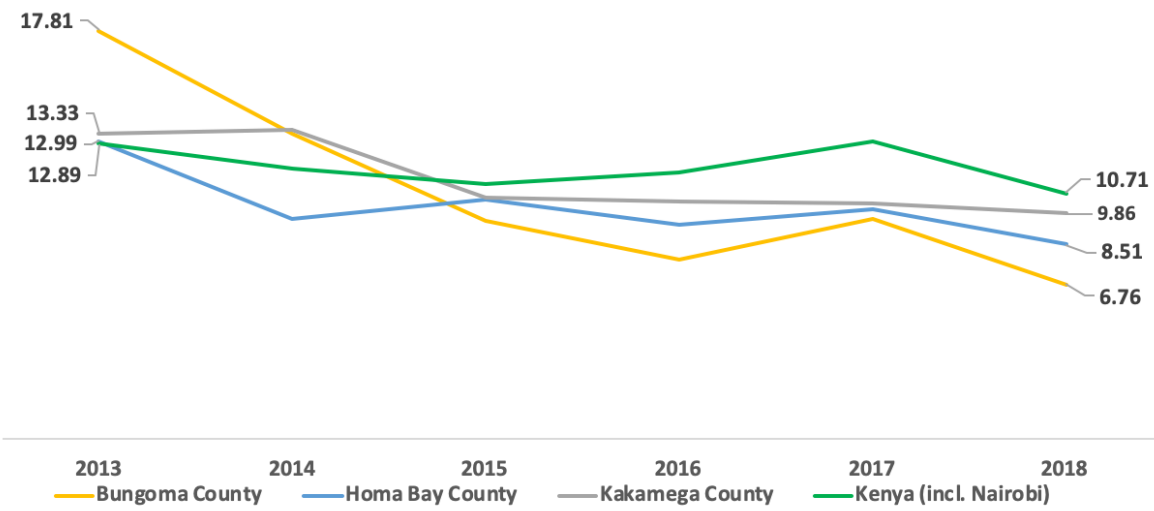
Stillbirths per 1,000 facility deliveries comparing Bungoma County, programme and control sub-counties, and the average of 10 Western counties 2013-2018
Data source: DHIS2 indicators 'EAC live births', 'EAC stillbirths (2013)' and 'Total stillbirths (2014-18)' (accessed 16/08/2019)

The convergence of the stillbirth rates in the six MANI-supported sub-counties and the remaining four sub-counties in Bungoma County illustrated in Figure 24 is interesting. The initially high rate in the six sub-counties may suggest that high intra-partum mortality in the tertiary facilities concentrated in the six MANI project sub-counties due to complications during delivery decreased with increasing quality and staff skills in providing CEmONC. Although this cannot be attributed to a contribution of the MANI project, a contribution of the EmONC training provided under the MiH programme cannot be excluded.

In order to better understand the trends in intrapartum deaths related to problems at delivery, the fresh stillbirth rate or the proportion of fresh versus macerated stillbirths could be used as proxy indicators. It is reasonable to assume that the majority of infant deaths due to complications during labour and delivery result in fresh stillbirths. The DHIS2 database, however, does not report on macerated stillbirths. For fresh stillbirths, only rates are presented under the indicator labelled 'Percentage of facility based fresh stillbirths – scorecard' which is calculated with the numerator of reported fresh stillbirths and a denominator of deliveries in facilities per 1,000. The indicator cannot be aggregated across counties or sub-counties without weighting for population size.

Figure 25 therefore only shows the reported fresh stillbirth rates of Bungoma, Kakamega and Homa Bay counties, as well as the rate for Kenya including Nairobi. The figure shows a major decline in fresh stillbirths in Bungoma County, with the main decrease registered between 2013 and 2015. After 2015, the rates stabilised in all three counties and in Kenya overall, but the 2015 gains in Bungoma County were further extended.

Figure 25. Facility fresh stillbirth rates 2013 to 2018



Fresh stillbirths per 1,000 facility deliveries in Bungoma, Homa Bay and Kakamega counties, and in Kenya 2013-2018
Data source: DHIS2 indicator 'Fresh stillbirth rate' (accessed 16/08/2019)

The trend analysis of total stillbirths in Figure 25 and the rates of fresh stillbirths in Figure 26 document major achievements in reducing stillbirths in Bungoma County and in the MANI-supported sub-counties. Most of these achievements predate the start of the MANI project but the consistently lower rates of stillbirths in Bungoma County and the widening gap from national rates and the rates in neighbouring counties in fresh stillbirths after 2015 suggest a contribution of the MNH Programme.

The positive trend of reduction in the facility MMR and facility stillbirth rates in Bungoma County was primarily generated between 2013 and 2015 and a contribution can therefore not be attributed to the MANI HSS project, although a contribution by MiH EmONC training in 2014 cannot be excluded. The DHIS2 data show that Bungoma County maintained its momentum as a leader in maternal mortality reduction in Western Kenya up to 2018 despite a setback in 2017. Taking into account the evidence presented for contributions to change at the outcome levels of the ToC increases the plausibility that the MNH Programme contributed to reducing facility MMR. DHIS2 also documents major achievements in reducing stillbirths in Bungoma County and in the MANI-supported sub-counties. The consistently lower rates of stillbirths in Bungoma County and the widening gap from national rates and the rates in neighbouring counties in fresh stillbirths after 2015 suggest a contribution of the MNH Programme. Poor reporting of neonatal deaths in DHIS2 does not allow for meaningful analysis on neonatal mortality.

8 MAIN FINDINGS OF CICF, MIH AND VFM

8.1 SUMMARY OF CICF FINDINGS

As indicated in section 4, we evaluated CICF as a grant-making instrument as well as a sample of 9/19 funded projects. The selected sample of CICF projects is presented in Volume II, Annex VII, table 3.

A separate set of evaluation questions was agreed for the CICF (distinct from the overall evaluation questions in the ToR). The methodology included KIIs, observations and document reviews. The sampling approach used for the evaluation of the CICF strengthened the evidence in support of the reported findings. Limitations of the methodology are explained in section 4.

The full CICF evaluation report is presented in Volume II, Annex VII.

8.1.1 Relevance

The relevance of the CICF fund was evaluated by seeking answers to three evaluation questions:

- Did the CICF fund innovation projects that had a high probability of generating 'breakthroughs in innovation' and promoting 'local solutions to local problems' in the delivery of MNH services?
- Did the CICF fund innovation and scaling projects that contributed to building local partnerships and strengthening community engagement?
- Did the CICF fund scaling projects based on strong evidence for effectiveness in reducing maternal and neonatal mortality in the Kenyan context?

With the three grants that addressed neonatal health, the CICF closed a gap in the MNH Programme that arose when the programme was restructured after 2016. Among the three grant-funded projects, only the human milk bank project can be considered to be innovative, although it is not likely to contribute to the programme goal of reducing neonatal mortality.

A large proportion of innovation grants were awarded to projects that piloted eHealth or mHealth solutions. The absence of underlying business concepts and plans for these interventions, as well as weak alignment with the national eHealth strategy and weak implementation and governance of this strategy by the MoH are causes why many of the innovations remained at the pilot stage and are unlikely to be scaled up.

A large proportion of CICF grants in the first funding round were awarded to international organisations that did, however, in most cases provide technical and capacity support to national implementing partners. This was recognised as a limitation by the CICF and corrected in subsequent rounds. Community engagement and participation was pursued by most of the sampled CICF-funded projects.

CICF scaling grants were awarded to project proposals for which there was strong evidence of effectiveness in the national context.

8.1.2 Effectiveness

Two evaluation questions explored the effectiveness of the CICF:

- Did the CICF-funded projects achieve their project-specific outcomes and performance targets?
- Did the CICF and the funded projects document and communicate the innovations and lessons learnt and translate the knowledge into policy and practice?

Grant performance was assessed by differentiating between grants implemented by social enterprises according to their business model, grants for projects that were most comparable to implementation research projects, and grants complementing the development programme portfolio of international NGOs.

All sampled projects achieved their objectives, although the research projects were constrained by the mismatch between the procedures and objectives of CICF and those of a research funding mechanism.

The grantees of all sampled projects actively communicated their activities and results with support of the CICF which had adopted a detailed communications plan that covered all stakeholders. The CICF generated a high level of media attention for the Fund and for some projects with the support of Internews, an international communications organisation contracted by Options. Several academic publications presenting evidence generated by CICF-funded projects were in preparation or had already been submitted to peer-reviewed journals at the time of the evaluation.

8.1.3 Efficiency

One evaluation question explored the efficiency of the CICF.

- Did technical and financial management of the CICF contribute to the results achieved by projects funded with innovation and scaling grants?

Additional dimensions of the efficiency of the CICF were evaluated in the VfM study (see Volume II, Annex VIII).

Technical management of the CICF by the Population Council and by Options was acknowledged by grantees to have contributed greatly to the successful completion of their projects. National grantees highlighted the capacity-support provided by the CICF technical management team through on-site engagement in the projects' activities and through training workshops.

The initial timeline of 21 months or less for CICF grants was insufficient for all interviewed grantees. Fund management was flexible in granting no-cost or costed extensions which was acknowledged by grantees. This was, however, not possible for third round grantees because of the end of the CICF programme in June 2019.

All interviewed grant recipients stated that the financial reporting requirements and controls established by KPMG were heavy. Interviewed national recipients generally stated that this helped build their organisations' capacity while international grantees frequently found them inappropriate and intrusive.

The human resource cost limit of 25 percent of the grant value was considered inappropriate by interviewed respondents and constrained the research activities of national grantees that did not have the ability to co-finance their project with income from other sources.

8.1.4 Sustainability

Two evaluation questions explored the sustainability of CICF-funded projects. While projects funded with scaling grants can be assessed in terms of the sustainability of the project results, those funded with innovation grants can only be assessed on the basis of the potential sustainability and scaling of the piloted innovation.

- Did CICF-funded scaling projects result in replication and/or adoption of proven interventions for MNH at county or national level?
- Was the potential for scalability and sustainability of projects funded with CICF innovation grants assessed and realised?

Two of the sampled interventions supported with scaling grants, KMC and uterine balloon tamponade (UBT) were already adopted nationally but the projects contributed to strengthened policy support and increased implementation. The third grant for expanding access to primary care in rural areas through public/private/community partnerships resulted in the replication of the model in Homa Bay. Further

replication will depend on the organisational growth of the grantee and the take-up of the model by similar private sector social enterprise organisations.

Three of the six sampled innovation grants generated potentially sustainable solutions although it is too early to assess this for the Round 3 grant on group ANC. The grant for neonatal care and human milk banking supported the establishment of services for premature infants that are likely to be sustained in the high and intermediate volume health facilities where they were established. The potential and rationale for scaling beyond this level of facilities is questionable.

8.1.5 Conclusions and recommendations

Main conclusions and recommendations are presented in sections 9 and 10 respectively. Detailed conclusions and recommendations can be found in the full CICF evaluation report (see Volume II, Annex VII)

8.2 SUMMARY OF MIH FINDINGS

As indicated in section 4, the scope of the evaluation included the evaluation of MiH programme effectiveness in terms of service improvement and changes in MNH outcomes; the evaluation of the relevance of the training; and the evaluation of curriculum relevance and trainee satisfaction.

The methodology included document review; key informant interviews at national level; visits to three counties and telephone interviews with an additional five counties; an online survey of MiH graduates since 2014 and trainers; analysis of selected DHIS2 MNH indicators; and analysis of monitoring data provided by LSTM.

The full MiH evaluation report is provided in Volume II, Annex VI.

8.2.1 Relevance

LSTM trained health staff (trainers and trainees) in 32 counties in EmONC, MPDSR, QI and data management. All courses were considered relevant and of high quality.

The rationale for mixing pre- and in-service training was appropriate, targeting both health workers already working as well as those training to be a nurse/midwife, clinical or medical officer. One advantage of targeting both pre- and in-service students with the same EmONC training and the same training material ensures consistency of topics taught, in the same manner, to all health staff that are or will be working in facilities. However, with hindsight, LSTM could have put more focus on institutionalisation of pre-service training in order to address the issue of ongoing need for in-service training in a more sustainable manner, and have commenced with this component at an earlier stage in the programme (i.e. the MiH programme started in Kenya in 2009, while pre-service training was only added in 2016).

Policy dialogue between LSTM and responsible structures at national and county level took place through a number of appropriate platforms, including the MoH Department of Family Health, Pre-service Taskforce, National MPDSR Committee, CEMD working group and DMS office at national level, and the County Executive Committee (CEC) Health, CHMT and RH coordinator at county level. No Memorandum of Understanding (MoU) was signed between the CEC/CHMT and LSTM specifying roles and responsibilities. Similarly there was no MoU between KMTCs and LSTM.

LSTM also collaborated with partners such as UNFPA and USAID for implementing indirect in-service EmONC training, extending the geographic scope and timely implementation of in-service training.

According to a number of key informants, LSTM could have fostered greater ownership by the MoH for in-service training by more openly sharing data and reports on MPDSR and by shared branding of the training materials.

Although LSTM worked with structures at central level and in counties (e.g. establishing pools of trainers at county level, equipping KMTC training labs), key informants noted that strengthening existing structures was not among the organisation's primary objectives. They perceived LSTM as a research organisation, focused on conducting quality trainings and collecting and analysing data with a view towards improving implementation and for research purposes. The excellent performance on a technical level was acknowledged (i.e. the high quality of EmONC training), but the impact of the work was constrained by insufficient attention to political, strategic or system levels.

8.2.2 Effectiveness

LSTM followed the MiH programme logistical framework which was implemented in a timely fashion and adjusted during the programme evaluation period to reflect more ambitious targets.

For the period 2014 to 2019, LSTM has either met or exceeded all MiH programme targets. In the 2016 Annual Review it was noted that targets had been exceeded for training provided by LSTM (direct training), but milestones for training conducted by other partners (indirect training) were off track. This was corrected, by the end of the programme. The target for indirect trainings was exceeded with health workers trained on EmONC through indirect trainings comprising 34% of the cumulative trained.

The e-survey confirmed that overall the training was much appreciated both by trainees and trainers with EmONC training (pre-service, in-service and ToT) scoring very high (excellent), while MPDSR and supportive supervision trainings rated mostly as 'good'. All agreed on the need for follow up of trainees after trainings to ensure putting newly-acquired knowledge and skills into practice. This was implemented by LSTM through quarterly joint supervisory visits (LSTM and county based staff) for one year after training.

Overall, key informants stated that the EmONC training had improved health workers' skills and confidence in performing procedures. This was confirmed by the e-survey, where overall confidence levels to carry out any of the nine signal functions in case of complications was very high in both in-service and pre-service groups, with a somewhat lower score for performing assisted vaginal delivery. More training was requested by e-survey respondents on breech delivery and neonatal resuscitation.

Similarly, the training on QI/MPDSR may have improved knowledge and skills of health workers (though this training was less highly appreciated than the EmONC training), but implementation of learned skills was said to differ widely from one county to another. MPDSR committees were not functional in all counties and follow-up post training was lacking.

Coordination with other partners funded by DFID as part of the MNH Programme was more limited. More exchange of information and lessons learnt between these DFID-funded partners on what works – and doesn't work – would have helped maximising synergies and making existing efforts more effective. More specifically, LSTM could have learned much from Bungoma County (with Options being present and focusing on health system strengthening), trying out different options for implementing training, supportive supervision and mentoring. To some extent, this was a missed opportunity and suggests a missing link in the LSTM approach, which focuses most on quality training without taking on board its effects (or lack thereof) on the health system.

8.2.3 Efficiency

We refer to section 8.3.3 and the MiH report (Volume II, Annex VI) for VfM findings related to the MiH programme.

Although the revised EmONC training was jointly developed and agreed with the MoH in 2012, LSTM continued to brand the EmONC training package with its own logo, and the MoH continued to implement

its own RMNCAH training package. While the EmONC training was adopted by other development partners, there is room for further harmonisation with the national training curriculum.

Supportive supervision of maternity staff in high-volume health facilities initiated by LSTM and implemented jointly with county based supervisors was limited to one year and not integrated in the standard SCHMT system of supportive supervision which reduced its efficiency and sustainability.

High turn-over and attrition of maternity staff throughout the country required regular re-training of new staff and reduced the cost-effectiveness of the investments made.

8.2.4 Sustainability

There has been some progress with integration of EmONC training into pre-service training. Fourteen KMTCs and two universities were targeted. Beyond the targeted institutions, replicating the achievements from the 14 to all other KMTCs would require further training and refresher training of lecturers, and equipment for the skills laboratories.

The focus on the 5-day EmONC intensive training was described as useful and effective – for students to get a recap at the end of their studies, and "leave with a bang"– but not sustainable, as this model was too staff and money intensive to be borne by KMCTs or Universities themselves. Appreciating this, LSTM encouraged the institutions to use their upgraded premises and trained staff and break up the training to 1-day programmes run over several weeks; this way it would be interwoven with the standard curriculum.

Until the pre-service curriculum is established (and even then), there is a need for ongoing in-service training because of high attrition rates, regular staff rotation, and need for refreshers. One way LSTM aimed for a sustainable exit of its in-service training is through the creation of pools of trainers at county and national levels. The pool of trainers is still depending on organisation and funding from partners or the county – mostly through the World Bank (WB)-THS funding – to conduct further trainings on EmONC. At the same time, a shift in training approach in Kenya is observed, away from classroom teaching and towards mentorship and on-the-job training. This is seen as an affordable, effective and less disruptive way of passing knowledge and skills to health workers. The approach was used by MANI in Bungoma, is currently used by US-funded partners, and is part of the activities included in the new LSTM 2019-2023 programme. Government together with its partners is currently developing a Mentorship Package whereby this type of training is favoured over and above classroom teaching. The effectiveness of this approach is still to be documented.

LSTM financially supported many of the MPDSR activities at national level, including the MPDSR Secretariat, MPDSR Committee meetings, and the processes around the development and the launch of the first CEMD report. Although MPDSR received much more significance over the past years, it is unclear to what extent these structures will continue without LSTM support.

The work towards establishing MPDSR Committees at county level as part of the MPDSR training follow-up yielded mixed results – depending on the county context, set priorities, other partner support, systems in place – and is a focus on the next phase of the programme (2019-2023) in selected counties.

LSTM did not support developing a financing strategy for continuing training through domestic resources. Reportedly, this will be a focus in the new phase of the LSTM programme.

8.2.5 CONCLUSIONS AND RECOMMENDATIONS

Main conclusions and recommendations are presented in sections 9 and 10 respectively. For detailed conclusions and recommendations we refer to the full MiH evaluation report in Volume II, Annex VI.

8.3 SUMMARY OF VALUE FOR MONEY FINDINGS

As indicated in section 4, expenditure and outputs/outcomes analysed included a) DFID MNH additional (incremental) resources to the existing domestic and other external resources; b) Bungoma County overall financial resources for health and more specifically for MNH; and c) Bungoma County and ("MANI" sub-counties) MNH outcomes as per DHIS2.

The information listed above enabled a cost-effectiveness analysis (CEA) for Bungoma County as a whole , based on the specific burden of disease (related to MNH), MNH coverage trends in the 6 sub-counties covered by the MANI project, and incremental MNH expenditure (MANI, LSTM and CICF scale-up projects in Bungoma).

The full VfM report is provided in Volume II, Annex VIII.

8.3.1 MANI Bungoma

The table below summarises the substantial support from DFID to MNH in Bungoma County, especially from 2015 to 2018 (between 51% to 65% of total annual MNH expenditure). (See the VfM report for detailed calculations and methods). It should be be noted that (a) the county budget is for all sub-counties, (b) the MANI HSS budget is for 6 sub-counties, (c) the CICF projects in Bungoma were implemented in all sub-counties, and (d) the MiH covered all sub-counties, but with a special focus on those supported by MANI. DFID support for MNH varied between GBP 2 and GBP 3.2 per capita per year.

Such important financial assistance for one county in a rather limited area (MNH) could drive substantial impact. Time for implementation was however short.

Table 17. Bungoma County and DFID annual MNH expenditure 2014 – 2018 (in GBP)

County Health Expenditure	GBP 2014	GBP 2015	GBP 2016	GBP 2017	GBP 2018
Total Health	12,394,705	12,313,604	15,817,314	18,306,700	19,376,322
MNH (12.1%)	1,499,759	1,489,946	1,913,895	2,215,111	2,344,535
DFID MNH Expenditure					
MANI HSS Bungoma (6SC)		2,112,619	3,026,492	3,026,492	1,790,286
MiH Bungoma	48,526	20,496	45,339		
CICF Bungoma			478,435	681,030	603,788
Total DFIF MNH Bungoma	**48,526**	**2,133,115**	**3,550,266**	**3,707,522**	**2,394,074**
Total DFID + County MNH	**1,548,285**	**3,623,061**	**5,464,161**	**5,922,633**	**4,738,609**
Share of DFID on total	**3%**	**59%**	**65%**	**63%**	**51%**

The table below[48] shows that the cost per Disability Adjusted Life Year (DALY) averted was GBP 328 for the whole period of intervention (2015-2018), ranging from GBP 114[49] in 2018 to GBP 741 in 2017 (all "highly cost-effective" if compared to the GDP per capita – GBP 1,286 in 2018-[50]).

[48] Population, expected deliveries, and coverage rates are from Kenya DHIS2 (accessed during July-August 2019). The DHIS 2 figures are for the 6 sub-counties supported by MANI in Bungoma. Population figures don't seem very consistent (100,000 inhabitants less in 2018 than in 2017 !), but it is the most robust source of data that we could find .

[49] The DFID MNH business case was based on a cost-effectiveness ratio (CER) of GBP 100 per DALY averted.

[50] But based on efficacy and attributability rates of 100% (see below)

Table 18. Cost-effectiveness analysis Bungoma County (2014-2018; in GBP)

BUNGOMA		2014 (baseline)		2015	2016	2017	2018	Total 2015/18
	Population	1,041,954		1,038,944	1,111,753	1,164,325	1,070,236	
	Expected deliveries	41,195		38,597	41,135	44,823	41,740	
Burden of disease (BoD) Baseline (what if expected deaths and DALYs remained at the 2014 level?) in the 6 MANI sub-counties	MMR (258/100,000)	258		258	258	258	258	
	NMR (19/1000)[51]	19.0		19.0	19.0	19.0	19.0	
	Expected maternal deaths	106		100	106	116	108	429
	Quotient maternal DALY/Death	61.34		61.34	61.34	61.34	61.34	
	Expected maternal DALYs	6,519		6,108	6,510	7,094	6,606	26,317
	Expected neonatal deaths	783		733	782	852	793	3,160
	Quotient neonatal DALY/Death	100.39		100.39	100.39	100.39	100.39	
	Expected neonatal DALYs	78,576		73,620	78,461	85,496	79,615	317,193
Actual data Bungoma County : Coverage increase (6 MANI SC)	**Delivery in health facility coverage rate**	**55.4%**		**59.6%**	**63.0%**	**60.8%**	**79.7%**	
	Coverage increase (on 2014 baseline)			**4.3%**	**7.6%**	**5.4%**	**24.4%**	
Impact of coverage increase (100% efficacy) (6 MANI SC)	Maternal deaths averted			4.25	8.12	6.25	26.23	45
	Neonatal deaths averted			31.3	59.8	46.0	193.1	330
	Total deaths averted			35.5	67.9	52.2	219.4	375
	Maternal DALYS averted			260	498	383	1,609	2,750
	Neonatal DALYs averted			3,139	6,001	4,618	19,389	33,147
	Total DALYs averted			3,399	6,499	5,001	20,998	35,897
Cost-effectiveness (GBP) (100% attributability to DFID additional funding)	**DFID MNH expenditure Budget (GBP) (MiH and CICF in Bungoma County and MANI in the 6 SC)**			**2,133,115**	**3,550,266**	**3,707,522**	**2,394,074**	**11,784,977**
	Total MNH expenditure (DFID + County)(GBP)			**3,623,061**	**5,464,161**	**5,922,633**	**4,738,609**	**19,748,464**
	DFID MNH expenditure/Total MNH expenditure			**59%**	**65%**	**63%**	**51%**	**60%**
	Cost per DALY averted (GBP)			**628**	**546**	**741**	**114**	**328**
	Cost per death averted			**60,065**	**52,290**	**70,965**	**10,914**	**31,425**

[51] NMR: Neonatal Mortality Rate

The tables 22 and 24 below show the sensitivity analyses for the efficacy rate (from 25% to 100%) and the attributability rate (from 25% to 100%), with a red-amber-green (RAG) rating system based on WHO thresholds and on the Kenya GDP per capita in 2018 being US$ 1,710 (current US$[52] = GBP 1,286 (2018): Green if the cost per DALY averted is less than the GDP per capita (highly cost-effective), amber if the cost per DALY averted is less than 3 times the GDP per capita (cost-effective), red if the cost per DALY averted is greater than 3 times the GDP per capita (not cost-effective).

The efficacy rate reflects the direct impact of HF deliveries compared to home deliveries: an efficacy rate of 100% would mean that facility-based deliveries result in 100% less morbidity/mortality than home deliveries, or that there are no maternal/neonatal death/DALY among additional deliveries in health facilities (which is very unlikely). An efficacy rate of 0% would mean that the increase in HF deliveries had no impact on maternal deaths/DALYs.

- **The attributability rate** reflects the percentage of the outcomes that can be attributed to the additional funding coming from the DFID MNH Programme. An attributability rate of 100% would mean that each additional death/DALY averted was due to the incremental funding coming from the programme (and not to any other intervention or domestic funding).

The simulation shows that cost-effectiveness (CE) ratios remain "highly effective" or "effective" except in the case where both rates are lower or equal to 25% (i.e. the additional DFID budget does not contribute to more than 25% of the increased coverage and outcomes (the rest being attributed to other causes), and the efficacy rate of HF deliveries is lower than 25% meaning that the benefits of HF deliveries compared to home deliveries are much lower than expected). It is reasonable to assume that both rates are in the region of 50% which would place the value for money assessment of the MNH Programme in Bungoma County in the region between cost effectiveness and highly cost effectiveness.

Table 19. Sensitivity analysis of the cost per DALY averted in Bungoma County

Efficacy	Attributability			
	25%	50%	75%	100%
25%	5,253	2,626	1,751	1,313
50%	2,626	1,313	875	657
75%	1,751	875	584	438
100%	1,313	657	438	328

Cost per DALY averted in GBP, 2015 - 2018

The Bungoma CE ratios are much better than those calculated for the formative evaluation VfM report.

This improvement may reflect (1) the importance attached to VfM (for all the "Es") from the different implementers and (2) the fact that the effects of some investments in HSS on health outcomes are likely lagged (e.g. infrastructure, green energy, PBF which may produce their full impact several months or years after the start of their implementation).

It should be noted however that the WHO thresholds commonly used to rate the cost-effectiveness ratios are rather "generous" in the sense that most maternal, new-born and child health (MNCH) projects/interventions (well implemented) are likely to be rated as at least cost-effective (if not highly cost-effective). Some recent studies question the WHO thresholds One study published in 2015 suggests "*that cost-effectiveness thresholds representing likely health opportunity costs tend to be below the lower bound suggested by WHO of 1x GDP per capita. Hence, many previous and existing recommendations about which*

[52] WB data, accessed July 2019

interventions are cost-effective that are based on the WHO threshold are likely to do more harm than good… This suggests that current interventions acceptable at a 1x GDP per capita threshold (or even below it) may be displacing more health than they generate".[53]

In comparison with the VfM analysis of the 3MDG Fund in Myanmar[54], the Bungoma CE ratios 2015-18 compare favourably with most of the 3MDGF 2015 CE ratios in the different Regions/Townships in Myanmar, especially if we consider that the 3MDGF expenditure included all international non-governmental organisations (INGOs) costs but did not include the overall management costs of the programme (UNOPS cost), while the analysis of the DFID MNH in Bungoma included all costs/expenditures. This is contrary to the result of the VfM analysis performed during the formative evaluation.

8.3.2 CICF

With a management cost of less than 40 percent which, according to an estimate provided by Options and KPMG, was used to about 50 percent for technical assistance and capacity building, management of the CICF programme can be considered as highly cost-efficient. This assessment still holds when the management costs incurred by the grantees are added. They were generally budgeted in the range of 15 percent of the grant value plus the cost of project personnel which, depending on the type of grant, can be allocated in differing proportions to management or activity costs.

Cost-efficiency in management is, however, not the same a cost-effectiveness. In order to assess the cost-effectiveness of the CICF programme, a single metric would be required for aggregating the results of all grants, from a digitalised supervision tool in Nairobi to motorcycle ambulances in Turkana. It would also have to include the lessons learnt from piloting innovative solutions that were found to be not feasible or practicable. Such a single metric does, of course, not exist.

As documented in the CICF programme evaluation report, the grants awarded by the programme generated many solutions for improved MNH, some of which such as KMC, UBT or human milk banking are well on their way of being fully integrated in national MNH policies and programmes. Others, such as improved newborn care in Bungoma County, public/private/community partnerships for primary care in remote areas of Homa Bay or solar-powered CEmONC facilities in Turkana have filled important gaps in MNH service coverage in these counties.

The question about cost-effectiveness can therefore only be answered by considering the counter-factual, i.e. the costs incurred by the support of these contributions to MNH in Kenya through a funding mechanism that differed from a challenge fund.

Challenge funds, according to a definition shared by a number of international agencies including DFID are *'competitive mechanisms to allocate financial support to innovative projects, to improve market outcomes with social returns that are higher/more assured than private benefits, but with the potential for commercial viability'*.[55] This definition applies only to a small proportion of grants issued under the CICF. Market outcomes with social returns could be, for instance, generated by KMET, the organisation in Kisumu that markets condom-based uterine balloon devices to the public and private sector, by Lexlink, a consulting company in Nairobi that is developing a digitalised supervision tool for MNH services which raised the interest of county health departments, and Afya Research Africa, a private sector health care provider

[53] Jessica Ochalek, James Lomas, Karl Claxton. *Cost Per DALY Averted Thresholds for Low- and Middle-Income Countries: Evidence from Cross-Country Data*. University of York. CHE Research Paper 122. December 2015.
[54] 3MDG Fund. VfM Analysis 2014 and 2015.
[55] Ompa C (2013). Understanding challenge funds. ODI Report

operating a network of rural health facilities in collaboration with communities and the public sector. Supporting the expansion of these initiatives can be clearly attributed to the challenge funding approach.

For most of the other grant-funded projects, there are clear counterfactual options. Supporting international NGOs to roll-out KMC in Kenya, to establish a human milk bank in a high-volume maternity hospital in Nairobi or to implement a number of supply- and demand-side interventions to improve maternity services in Turkana does not meet any criteria of challenge funding. Several of these grant-funded interventions were already integrated in the UNICEF-component of the initial MNH Programme or could have readily been integrated in the MANI project. In hindsight, it is impossible to determine whether this approach would have been as effective or as cost-effective as programming under CICF.

In the final analysis, the cost-effectiveness of a challenge fund depends on the emergence of at least one brilliant idea that takes the county, region or world in storm. But brilliant ideas are rare and something like the Grameen Bank or the M-Pesa system can only be invented once. The majority of grants issued by the CICF did not have the necessary profile to generate such brilliant ideas which may have been related to a reluctance in risk-taking by the Grant Selection Committee. The final assessment of the cost effectiveness of the CICF programme is therefore mixed: An efficiently managed portfolio of grants that generated a number of positive results and many lessons learnt, but rather moderate innovation outcomes.

8.3.3 MiH

The direct cost per in-service trainee was about GBP 500. This (direct) unit cost per trainee comprises mainly of accommodation and subsistence for trainers and trainees as well as trainers' fees. In terms of international comparisons, it compares favourably with cost of international short courses (e.g. on supply chain management in Rwanda).

As reported by LSTM, VfM was achieved by minimising input costs (economy) and maximising the efficiency and effectiveness of the project, through the following measures: quarterly spot-checks of cost items; regular programme management and financial internal control spot-check visits; continual review of UK-based staff and volunteer travel; use of volunteer UK faculty to deliver EmONC training courses in-country; phasing out the use of UK faculty and increasing use of in-country faculty as the programme progressed; and building the capacity of in-country teams.

The sum of the "Start-up and Office running cost" and "Management fee" represent 42% of the total programme expenditure, but varies from 15% (Q3 2014) to 70% (Q4 2017): that efficiency rate (and the variations between Quarters) can be considered as normal taking stock of the nature of the programme. However, the relatively high absolute (and relative) costs of the "start-up and office running costs" in the last six quarters of the programme, while main training activities had mostly closed, may require some further explanation by LSTM. One assumption is that human resource investment for pre-service training and operational research is partly or fully captured under this category.

9 CONCLUSIONS AND LESSONS

9.1 MAIN CONCLUSIONS

9.1.1 MANI HSS

The MANI Bungoma HSS project aimed at (i) strengthening health systems to manage and deliver maternal and newborn health services, and (ii) increasing demand for and uptake of maternal and newborn health services in Bungoma County[56]. It supported six of ten sub-counties in Bungoma County.

Strengthening the health system in Bungoma County

The health system in Bungoma County was substantially strengthened and at the end of the MANI project (2018) delivered better quality MNH services compared to the baseline. Overall, MANI achieved most if not all objectives of the support as outlined in the MNH Programme's logical framework in Bungoma County. The HFA confirmed the overall improvement of MNH services delivery in Bungoma County, while the HH survey confirmed the increased accessibility and satisfaction of mothers with the quality of ANC and delivery care but access and use of PNC did not change.

The project, taking into account the socio-economic and political economy context, developed its workstreams to align with the six WHO HS building blocks. It supported the CHMT in dealing with some of the challenges of devolution, by strengthening its governance and management capacity, strengthening procurement, addressing some HR issues (such as staff transfers), addressing data management issues and piloting innovative financing mechanisms. MANI worked with CHMT, SCHMTs and service providers to improve the MNH working environment (green energy, minor infrastructure rehabilitation, MNH equipment and commodities, etc.) and the quality of MNH services. It worked with communities, CHVs and Birth Companions to address the demand side. MANI piloted a voucher scheme to decrease the barriers of women's access to facility deliveries and a PBF scheme that provided motivation to health staff and possibilities to undertake minor renovations of facilities as well as procure additional medical supplies and commodities. It also facilitated the introduction of the Linda Mama scheme by supporting health facilities to register. During the public sector health workers' strikes in 2017, it supported mission health facilities in coping with the extra burden of delivery care. The way the CHMT, with MANI support, managed the crisis resulting from the 2017 health worker's strike suggests greater resilience of the Bungoma health system to cope with challenges.

The 'MANI approach' can be characterised as a comprehensive whole system's approach, addressing both the demand and supply side, flexible (e.g. adapting strategies to needs) and learning from experience. The project implemented a wide range of MNH and HSS related activities from community level up to county level, but not with the same intensity or coverage for all interventions. It worked closely with the County Executive Committee (CEC) and CHMT and supported the CHMT in developing donor coordination and in setting up a mechanism for this purpose. MANI managed to put MNH on the county policy agenda.

The OCA confirms that in several focal areas including governance, coordination, partnership, planning and budgeting, HMIS and service delivery capacity was strengthened with a score reaching more than 70% in December 2017. Capacity in commodity management was also sufficiently strengthened at county level but less so at sub-county level. Health system areas where the MANI project was less successful in building local capacity included management of infrastructure (not covered in the MANI project), human resources, health financing (especially at county level) and commodity management at sub-county level.

[56] As per contract between DFID and MSI.

Quality Improvement results confirm that capacity was built over the programme period in 7 hospitals. Hospital performance scores at baseline varied between 18% and 38% and increased to between 41% and 87% in 2018. Similar results are documented for another 30 health facilities where quality was regularly assessed. The HFA of the summative evaluation confirmed the increased capacity of health facilities to deliver MNH services.

MANI developed an 18-month Sustainable Exit and Transition Plan 2018, with a view to transitioning skills and activities gradually. Effective partnership with county and sub-county health officials and facilities, clear communication with MANI implementing partners, a systematic approach and timely planning ahead were critical factors in successful transition planning. However, not all in-charges of facilities were properly prepared for the transition; at the time of the summative evaluation, frequency of meetings on data quality review, MPDSR and MNH indicators went down; and some tools such as OCA and performance scorecards at facilities were not or less frequently updated. However, all-in-all the way MANI prepared its exit and documented lessons learnt is an example for other partners.

DFID MNH expenditure in Bungoma County was between GBP 2 per capita (in 2015) and GBP 3.2 per capita (in 2016) based on the population of the 6 sub-counties directly supported by MANI. This is more than what is spent in the MNH sub-sector of Bungoma from domestic resources (county budget and DPs on budget: GBP 0.9 to 1.4 per capita). The investment by DFID in MNH and HSS in Bungoma County was considerable and contributed to the successful outcomes in Bungoma.

No evidence could be documented on higher investment in MNH allocated from the county budget. It is not known whether the substantial increase of the health budget in Bungoma County (domestic and DPs on budget, so excluding the DFID MNH support) between 2014-2018 was a consequence of the DFID MNH intervention (by some sort of ripple effect); and (2) if the increase of the health budget was apportioned equally to the MNH sub-sector. Nonetheless, the DFID support remained significant (around 60% of total MNH expenditure between 2015 and 2018) despite the substantial increase of the Bungoma County domestic health budget.

Increased demand for and uptake of MNH services

Deliveries in health facilities as a proportion of expected deliveries (based on population estimates) increased by 30% in Bungoma County between 2013 and 2018, from 42% to 72%. This increase of 30 percentage points compared favourably with the average increase of 17 percentage points in the 10 Western Counties (from 49% to 66%) and of 16 percentage points in Kenya. The trend in Bungoma County was driven entirely by the increases in the six MANI-supported sub-counties (see Figure 20). The MANI support can only have had an effect from 2015 to 2018 and the increases recorded in all areas between 2013 and 2015 followed national trends that were most likely attributable to the introduction of the free maternity care policy. In the MANI-supported sub-counties, and to a lesser extent in Bungoma County as a whole, this positive trend was maintained until 2018, while it flattened in all other counties reviewed. A significant contribution to the positive results in the MANI programme area was the fact that the impact of the 2017 health worker strikes which caused a massive decrease in facility deliveries in Kenya was largely mitigated by the MANI project through activities such as PBF and an intensified support of faith-based health facilities.

In 2013, attendance of four or more ANC visits (ANC4) was significantly lower in Bungoma County compared to the average for the 10 Western Counties: 27% compared to 37% ANC4 coverage as a proportion of expected deliveries. By 2018, however, Bungoma County had closed the gap and recorded a 51% coverage compared to the 49% in the Western County average. As with previously quoted statistics, the trend analysis shows that the positive trend in Bungoma County was primarily driven by the increased coverage in the

MANI-supported sub-counties. While increases prior to 2015 cannot be attributed to the MANI project, the large increase in ANC coverage in 2018 was a major determinant of the positive trend.

The household survey study in Bungoma County confirmed an increase in utilisation, perceived quality and satisfaction with MNH care between 2015 and 2018, however with equivocal or negative trends in postnatal care. The study also generated evidence of a contribution of the MNH Programme to perceived quality and increased satisfaction, however no evidence for an overall contribution to increased utilisation of MNH services except for facility deliveries.

The analysis of national and county trends in MNH service utilisation based on HMIS data, on the other hand, consistently show steeper trends of increase in Bungoma County and especially in the sub-counties supported by the MNH Programme. This suggests a contribution of the MNH Programme to increased MNH service utilisation that the household survey study may not have been able to detect because of insufficient power.

9.1.2 CICF

The CICF aimed at generating innovative solutions or at supporting the scale-up of proven solutions to problems in maternal and neonatal health. The evaluation examined the extent to which the CICF succeeded in funding new solutions and/or the scaling of such solutions. It was not an evaluation of end-user outcomes but delivered a contribution to this objective of the overall MNH Programme evaluation.

The CICF awarded 18 grants to a range of organisations for the implementation of 19 projects. Selection criteria for grant funding are presented in Annex 5 of the CICF report (see Volume II, Annex VII). The grants did not always fit the optimal profile of organisations and projects that are suitable for challenge funding. Eight of the grants were awarded to international organisations which raises questions about the extent to which they met the objective of funding local solutions to local problems.

The CICF funded three grants for projects to improve the availability and quality of newborn care, thereby filling a gap in the DFID MNH Programme that opened when UNICEF left the programme in 2017.

Nine out of 14 CICF innovation grants were extended to organisations piloting eHealth or mHealth solutions for which prospects for scalability and sustainability were low for reasons that included, among others, weaknesses in the governance and implementation of the national eHealth policy. This weakness was identified over the course of the programme and policy support for the national eHealth policy was included in one CICF project. It is, however, unlikely that this was sufficient to overcome the constraints.

All CICF-funded projects were implemented in partnership with government and the majority also with local community-based partners. The majority of projects engaged and mobilised communities and end-users of MNH services.

Technical support to grantees and technical capacity building provided initially by the Population Council and since 2017 by Options was intensive and highly appreciated. The technical support team was described by all grantees as supportive, responsive and flexible.

Fund management and financial reporting and controls implemented by KPMG were considered heavy by most grantees. This was appreciated by some national grantees as a contribution to financial management capacity-building. Some international grantees, however, considered it excessive, annoying and interfering with their well-established systems for financial reporting, fiscal controls and internal auditing.

The CICF implemented a highly effective communication strategy and, with support of a contracted communications partner, generated a large media footprint for the Fund and for a number of funded projects.

CICF scaling grants supported sustainable interventions for maternal and neonatal health in Kenya and contributed to their sustainability. The potential for sustainability and scalability of the solutions funded with innovation grants varied from project to project.

With a management cost of less than 40 percent which was used to about 50 percent for technical assistance and capacity building, management of the CICF programme can be considered as highly cost-efficient. This assessment still holds when the management costs incurred by the grantees are added (around 15%).

In order to assess the cost-effectiveness of the CICF programme, a single metric would be required for aggregating the results of all grants, which does not exist. In the final analysis, the cost-effectiveness of a challenge fund depends on the emergence of at least one brilliant idea that takes the county, region or world in storm. But brilliant ideas are rare and something like the Grameen Bank or the M-Pesa system can only be invented once. The majority of grants issued by the CICF did not have the necessary profile to generate such brilliant ideas which may have been related to a reluctance in risk-taking by the Grant Selection Committee. The final assessment of the cost effectiveness of the CICF programme is therefore mixed: An efficiently managed portfolio of grants that generated a number of positive results and many lessons learnt, but rather moderate innovation outcomes.

9.1.3 MiH

The MiH programme in Kenya aimed at (i) increasing the availability and improving the quality of Skilled Birth Attendance and Essential (Emergency) Obstetric and Newborn Care through inventions such as in-service competency-based training in EmONC (as from 2014); and (ii) strengthening EmONC training capacity within pre-service training institutions nationally (as from 2016)[57]. The programme covered 32 counties (in addition to 15 counties covered in the first phase). A further realigned framework (and budget) for the last period of the programme, from September 2018 to March 2019, was introduced as the targets had largely been reached and/or were on track to be exceeded.

A large number of health workers received in-service competency-based training. Expanding to cover all 47 counties, a total of almost 11,000 health workers (about a third of all nurses and midwives practicing in Kenya) received in-service competency-based EmONC training by LSTM or by government/partners supported by LSTM. Additional trainings by LSTM took place on MPDSR/QI, data management, quality assurance and organisation/management in each of the 32 counties.

Pre-service training in 14 KMTCs and 2 Universities ensured that cohorts of nursing, clinical officer and medical students received competency-based training on EmONC. This took place either through a 5-day EmONC intensive training just before/after final exams, or through better equipped lecturers during their ongoing studies, in better-equipped skills laboratories. While appreciated as an essential and high-quality investment, there is still a long way to go to cover all 65 KMTCs training nurses and clinical officers and up to 20 universities training medical doctors.

There was some progress with integration of EmONC training into pre-service training. The pre-service training curricula for nurses was revised and is awaiting final approval from the Nursing Council. The curriculum for clinical and medical officers is still pending revision. Further support will be required to ensure effective integration of EmONC training in current curricula.

According to the e-survey respondents, students and health workers' confidence increased as a result of the training, and they felt confident in carrying out the EmONC signal functions. Skills areas that scored lower

[57] As per contract between DFID and LSTM.

included assisted vaginal delivery and Caesarean section; these areas will receive further attention in the new Extended EmONC training developed by LSTM.

There was some follow-up of graduates post-training. This was done through up to four supportive supervision visits in the first year post-training (reaching about 4 in every 10 trainees, according to the survey), and refresher courses in selected counties (upon request by the county). Mentoring/on the job training will be included as an activity in the next phase of the programme (2019-2023). Follow-up post training was emphasised as a key component to ensure knowledge and skills are correctly implemented and applied. However, lack of integration of the supportive supervision in the standard supervision package of SCHMTs risks reducing the potential longer-term impact of the training investment and reduces sustainability.

There is increased capacity to continue in-service EmONC trainings through the establishment of a pool of trainers, comprising staff from counties, KMTCs, Universities and the national MoH. A total of 291 Master Trainers and 94 Course Directors are capacitated to continue (indirect) training on EmONC in their respective counties, also demonstrating good collaboration between LSTM and partners/county governments. In a number of counties EmONC trainings are being continued, mostly funded through the WB THS-UC[58]. Building this decentralised capacity was a major achievement of the MiH programme, facilitating continuing training in EmONC throughout the country if maintained as a priority at national and county level.

The first CEMD report was well received, but recommendations still need to be implemented. LSTM's role in the development of the report was much appreciated, including training of national MPDSR assessors and media launch of the report itself (supported by Internews). An Action Plan was drafted and approved in December 2018 and needs to be followed up to ensure continued improvements in MPDSR, and more use of subsequent CEMD reports.

Overall, there was insufficient focus on working with and strengthening existing systems to foster ownership and sustainability. For instance, the supportive supervision system set up by LSTM uses a county-level approach via the RH coordinator, rather than strengthening the existing supervision systems of SCHMTs. At national level, examples include the branding of LSTM (rather than MoH) training material, use of LSTM (rather than government or open) software, and insufficiently or delayed sharing of data and reports. Furthermore, key partners seem not to have been consulted about activities included in the next phase of the LSTM programme 2019-2023.

The MiH programme start-up, office running cost and management fee represented 42% of the total expenditure for the whole duration of the programme, varying from 15% (Q3 2014) to 70% (Q4 2017): the efficiency rate (and the variations between Quarters) can be considered as normal considering the nature of the support programme. However, the relatively high absolute (and relative) costs of the "start-up and office running costs" in the last six quarters of the programme, while main training activities had mostly closed, may require some further explanation by LSTM. Once training targets were reached LSTM submitted a request to deliver more training from efficiency savings in April 2018, confirming efficient implementation. Direct cost per trainee (in-service) was around GBP 500, comparing favourably with international benchmarks.

Finally, it seems that Kenya, whether at national or county level, is not yet able (financially and institutionally) to take over the organisation and funding of EmONC in-service and pre-service training with domestic resources. The building of the capacity of in-country teams supported by LSTM through training, coaching and mentoring, resulting in even greater competence and reducing the need for UK-based staff to undertake

[58] Transforming Health System for Universal Care

international travel to address issues in-country was therefore not enough. After almost 10 years of implementation (in Kenya and in other countries), the MiH programme was not able to support the emergence of a sustainable training system in Kenya that could be implemented locally and financed with domestic resources. The need for developing a local financing strategy is therefore important, if not urgent. This could have been addressed earlier during implementation.

9.1.4 MNH Programme

The MNH Programme included the combined investments and results of MANI, CICF and MiH.

DFID contributed to establishing MNH as a main priority in the political agenda at national and county levels. The MNH Programme effectively influenced national and county MNH policies and guidelines, through contributions by all three implementing agencies. Some main results to which implementing partners contributed together with other partners include the RMNCAH investment framework, the Community Health strategy and guidelines, the inclusion of RMNCH score cards, Human Milk Banking and KMC in national policy, the national MPDSR guidelines, the CEMD, the EmONC guidelines and training packages. Bungoma HSS experiences and CICF project results were documented, published and shared in a variety of national and international fora.

The MNH Programme resulted in a number of structural changes and tools that will facilitate gains to be continued. These include at national level the MPDSR Secretariat and guidelines, the CEMD, the pre-service taskforce, the pools of trainers, the translation and sharing of lessons learnt from MANI HSS. At county level, MPDSR Committees were established with mixed results and county pools of trainers were created. In Bungoma County sustainable structural changes include strengthened health management and governance structures as well as county policies and guidelines that can be expected to also improve systems and processes in the sub-counties not supported by MANI.

Overall, policy dialogue and working with national level was a key element of the MNH Programme but was more formalised during the first phase of the programme (mainly through UNICEF) before restructuring. While important efforts were made by LSTM and MANI to continue the policy dialogue and share lessons learnt, there is still scope to share more of the health system strengthening lessons from Bungoma County with central MoH, using the evidence-based documentation developed by Options.

Even in the complex socio-political context of rapid devolution (with limited county capacity and health budgets), introduction of free maternal health services affecting demand, major human resource constraints, frequent changes in county leadership and insecurity in some regions, implementing partners managed to achieve or surpass project targets and implement the MNH Programme in a timely manner. Based on reported SBA in Bungoma County in 2014, the additional number of births with skilled provider attendance between 2015 to 2018 was 27,000 which can be in part attributed to a contribution by the MANI project, in part to the national introduction of free maternal health care, and in part to demographic growth. Additional contribution of the MNH Programme to SBA in other counties through CICF and MiH cannot be estimated. According to the MNH Programme MTR, the programme contributed in total, to an additional 62,705 births – 49,734 in the 5 UNICEF counties and 12,971 in Bungoma – were quoted as delivered by a skilled birth attendant as a direct result of the programme. The target of 77,000 was likely an over-estimate of expected effect. Some of the above constraints certainly influenced the overall impact of the programme investment. However, MANI, the CICF and the LSTM identified credible risks which evolved during programme implementation and responded to these with mitigating measures in a timely manner whenever possible.

The MNH Programme improved the understanding of the socio-cultural considerations that affect the uptake of maternal and newborn health care, before and after the restructuring of the programme.

Important barriers were addressed (e.g. financial barrier and lack of security at night through transport voucher; continuity of maternity services through green energy; reluctance to deliver in a facility by motivation and follow-up through CHVs and birth companions, by dialogue days and by strengthening respectful care) and new / innovative approaches were tested, launched and/or rolled out including birth cushions for alternate birthing position, KMC, mama packs, maternity waiting homes, group ANC and pregnancy clubs.

Commitment by government or partners to continue investing in MNH is mixed. In Bungoma County, some HSS interventions are continued by the CHMT making use of Linda Mama financing and with support from external resources such as the WB-THS-UC and other international partners. In-service training is likely to continue, at least in some counties with domestic, WB-THS-UC and other donor resources either through continued implementation of the 5-day EmONC training or through mentorship. Support for pre-service training will require additional funding that was not yet ensured at the time of the summative evaluation. LSTM intends to continue working with the pre-service task force in its follow-up programme. Several CICF grantees were able to raise additional funds from other international sources, and a number of CICF-initiated projects continue with funding from county health budgets.

Evaluating the cost efficiency and VfM of the combined MNH Programme is complex. The MiH component was implemented country-wide, the CICF component in six counties, and the health systems and service support component started in six counties but after restructuring in 2017 only continued in six sub-counties of Bungoma County. Our evaluation did not find any evidence of major efficiency issues among the three components of the DFID MNH Programme (MANI HSS Bungoma, CICF, LSTM/MiH). The restructuring of the programme may have generated efficiency issues, by breaking the funding balance between the original six targeted counties and by removing the national coordination of the programme, but answering that question is beyond the scope of the present summative evaluation. Having three efficient components does not mean that the overall approach was optimally efficient, e.g. some CICF projects could have been integrated in the MANI project in Bungoma (e.g. KMC, comprehensive newborn care). Inversely, some sub-components of the MANI project that had the characteristics of limited pilot activities, such as demand-side financing (DSF) and PBF might have fit better into the CICF portfolio of innovations to be tested.

The DFID support to Bungoma County (cumulating the 3 programme components) was cost-effective or highly cost-effective provided that efficacy and attributability were assumed to be higher than 25% which is very likely. It is reasonable to assume that both rates are in the range of 50% or above, considering also that the Bungoma County health budget from domestic sources and on-budget development partner (DP) contributions increased between 2014 and 2018. (see Table 19 page 66)

DHIS2 data analysis suggests that MANI support contributed significantly to increasing the deliveries in health facilities and to attendance of four or more ANC visits. A contribution to a reduction in maternal mortality rates in health facilities cannot be confirmed. Facility MMR improved in Bungoma County faster than on average in the 10 Western Counties, but most of the improvement predated the start of the MANI project. The trend analysis of total stillbirths and the rates of fresh stillbirths documents achievements in reducing stillbirths in Bungoma County and in the MANI-supported sub-counties. Most of these achievements predate the start of the MANI project but the consistently lower rates of stillbirths in Bungoma County and the widening gap from national rates and the rates in neighbouring counties in fresh stillbirths after 2015 suggest a contribution of the MANI project. A contribution to these positive trends by the EmONC training under the MiH programme which started in 2014 in Bungoma County cannot be excluded, but this is not confirmed by the DHIS2 analysis of the 2014 training county cohort nor by the analysis of the LSTM M&E data (see EQ 5.2). A synergistic effect of early training through MiH and follow-up health systems

strengthening by MANI can also not be excluded. No effect of the MNH Programme on caesarean section rates and on attendance of at least one ANC visit could be detected by analysis of DHIS2 data.

The HH survey study documents that based on the experiences and perceptions of end-users, the MNH services in the MANI project area improved significantly during the project period. A contribution of the project to the supply-side improvements can be inferred from the study result but not to the improvements on the demand-side. The study may have had insufficient power to detect such a contribution. The findings of the study also suggest that improving access and quality of postnatal care received insufficient attention by the MANI project.

Overall conclusion

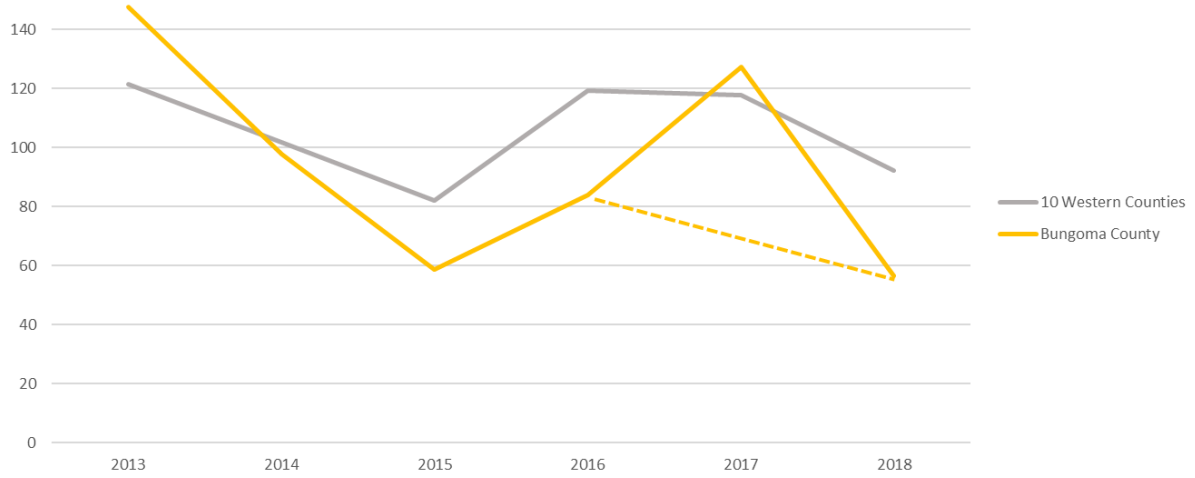
The analysis of DHIS2 data and the HH study documented a decreasing trend in maternal and neonatal mortality in Bungoma County but could not confirm a direct contribution of the MANI project to this result. Sufficient evidence for such a conclusion could not be found because of the short timeframe of the project and the relatively small population covered. However, evidence was found for a contribution of the project to proxy-indicators of improved MNH care, especially on the supply side.

The positive trend of reduction in the facility MMR and facility stillbirth rates in Bungoma County was primarily generated between 2013 and 2015 and a contribution can therefore not be attributed to the MANI HSS project, although a contribution by MiH EmONC training in 2014 cannot be excluded. The DHIS2 data show that Bungoma County maintained its momentum as a leader in maternal mortality reduction in Western Kenya up to 2018 despite a setback in 2017. Taking into account the evidence presented for contributions to change at the outcome levels of the ToC increases the plausibility that the MNH Programme contributed to reducing facility MMR. DHIS2 also documents achievements in reducing stillbirths in Bungoma County and in the MANI-supported sub-counties. The consistently lower rates of stillbirths in Bungoma County and the widening gap from national rates and the rates in neighbouring counties in fresh stillbirths after 2015 suggest a contribution of the MNH Programme. Poor reporting of neonatal deaths in DHIS2 does not allow for meaningful analysis on neonatal mortality.

As expected, no link could be found between training and some MNH indicators such as use of services, MMR and stillbirth rate. The actual impact of trained in-service staff on quality of care of MNH services is still unclear, although most interviewees confirmed that quality of care improved as a result of training (but not sufficiently) and survey respondents confirmed that they were confident in carrying out EmONC signal functions. This aligns with the M&E data collected by LSTM in a sample of health facilities during 12-month supervision visits. More facilities were able to carry out all EmONC signal functions and obstetric complications were better recognised, recorded and treated. Obstetric case fatality rates went down although an impact on maternal mortality and stillbirth rates could not be confirmed. At best, training contributed to the quality of antenatal, delivery and postnatal care for the mother, but did not improve quality of neonatal care. Timely PNC for mother and child in Bungoma County remained poor.

The facility maternal mortality rate which was similar in all ten Western counties including Bungoma County in 2014, was lower in Bungoma County during the four programme years (except in 2017) compared to the average Western county. Evolution of the facility MMR is illustrated in the figure below.

Figure 26. Facility Maternal Mortality Rate



Maternal deaths in health facilities per 100,000 deliveries in Bungoma County and 10 Western counties 2013-2018
Data source: DHIS2 indicators 'EAC Deliveries in facilities' and 'Total Maternal Deaths in facilities' (accessed 16/08/2019)

Comparing MMR performance in the ten Western Counties with Bungoma County and assuming that without MANI and CICF support performance in Bungoma County would be the same as the average Western County, we estimate that 33 cases of maternal deaths were avoided in Bungoma County between 2015 and 2018, of which 27 occurred in programme sub-counties. Without industrial action in 2017, these estimated numbers would potentially have been 49 for Bungoma County and 41 for the MANI project sub-counties.

9.2 MAIN LESSONS LEARNT

We refer to Annex 4 for a more elaborate list of lessons learnt and more details explaining the background for some of the lessons learnt listed below. We limited the key lessons below to the most important ones and directly linked to some of the main recommendations in section 10.

1. Improvement of maternal and newborn health by comprehensively strengthening health systems is effective. Comprehensiveness has both a horizontal and vertical dimension. It means addressing all factors that affect service delivery as well as all levels of system governance, management and implementation: The national and county level for policy, regulations and strategies; and the county, sub-county, facility and community level for implementation. In order to maximise its effectiveness, it should also include all types of health providers (public, faith-based and private).
2. Strengthening health systems sustainably requires time in order to be effective. Testing new solutions for the improvement of maternal and newborn health by piloting innovations is appropriate for a challenge fund. Health systems support needs to maintain a focus on continuity and sustainability, supporting proven solutions for which future financial and technical implementation capacity can be assured. The issue of domestic financing needs to be addressed when planning a cooperation programme and by progressively shifting fiscal responsibility from external to domestic financing during the cooperation period.
3. Mutual trust between national and international partners is important for assuring the effectiveness of technical cooperation for health systems strengthening. For an international support programme, this has two implications:
    a. Technical support at the operational level is best provided by one team of experts, rather than by individually contracted experts or partners responsible for distinct health systems building blocks or themes. It is most effective when integrated in, or working closely with, the responsible national institution with engagement at the political and managerial and

technical levels. In the context of county health systems in Kenya, these are the CEC, CHMT and CHMTs.

b. Withdrawing an external technical partner at the end of a project implementation period may reduce the confidence of local partners in continuing effective programmes and activities. This should be taken into account in any sustainability plan by including a commitment of funds or means to continue coaching or to provide virtual technical support after on-site technical support has ended.

4. MNH support programmes that are implemented at different levels by different partners are more effective if they work in synergy, for instance in supporting human resource capacity at national level and health systems at county level. This requires proactive thinking on how implementing partners can jointly achieve higher value for money through cooperation at the implementation level than each one could achieve by working in isolation.

5. System thinking requires a different approach from typical project thematic or vertical support. In order to effectively convert the output of more competent staff into the outcome of improved services, systems issues related to human resource management, the regulatory environment as well as to the conditions and contexts of service provision need to be addressed in parallel.

    a. Competency-based training in EmONC effectively builds the capacity of health workers who provide maternity services. In order to sustain the effect, regular supportive supervision and mentorship are required, delivered in a manner that is fully integrated in existing systems for service provision and supervision.

    b. Retention of trained health workers in the positions for which they were trained is an issue that has many dimensions. In Kenya, one of these is the current system of a single cadre of nurse/midwives which results in frequent loss of trained maternity staff by transfer to other hospital departments or services.

6. Cooperation programmes for MNH need to generate the evidence that the supported interventions provide the most effective, equitable and efficient solutions to improve maternal and neonatal health in the context where they are implemented. This applies to comprehensive health systems support and national training programmes as well as to pilot projects supported by innovation challenge funds. It requires sufficient financial and technical resources to accompany the projects with intervention research that goes beyond simply documenting outcomes.

7. Improving postnatal care of infants and early neonatal care are essential for the improvement of neonatal health outcomes. Delivery systems, equipment, infrastructure, provider skills and community education for the care of newborns tend to be neglected in maternal and neonatal health programmes and should receive more attention.

10 RECOMMENDATIONS

We refer to the evaluation reports on MiH and CICF (Volume II, Annexes VI and VII) for the detailed recommendations for each sub-component. Main or higher-level recommendations are included in the section below.

Recommendations are provided at two levels: a) Recommendations on the HSS approach to MNH programming that are addressed to DFID but relevant for all partners cooperating in the improvement of maternal and newborn health by strengthening health systems; and b) recommendations for follow-up or future considerations that are specific to the three components of the MNH Programme.

10.1 RECOMMENDATIONS FOR STRENGTHENING HEALTH SYSTEMS FOR IMPROVED MNH

1. Under its strategy for the improvement of maternal and neonatal health, DFID should continue to work with government and partners in the implementation of a comprehensive health systems approach that addresses all factors that affect service delivery as well as all levels of system governance, management and implementation: The national and county level for policy, regulations and strategies; and the county, sub-county, facility and community level for implementation. The strategy should also address the needs of all service providers in the public and private (faith-based, charitable or for-profit) sectors.
2. Under its strategy for the improvement of maternal and neonatal health, DFID should adopt a longer time horizon for its cooperation programmes and focus on supporting proven solutions until financial and technical implementation capacity is ensured.
    a. Responsibility for financing and management of cooperation programmes should be gradually transferred to domestic partners throughout the implementation period.
    b. Withdrawing technical partner support when a project has ended may reduce the confidence of local partners in continuing effective programmes and activities. This should be taken into account in sustainability planning by making provisions to continue coaching and/or virtual technical support after on-site technical support has ended.
3. When developing multi-partner programmes for MNH with a systems approach, DFID should ensure that:
    a. Projects within the same programme envelope collaborate to maximise synergies and do not work in isolation. This requires more than regular meeting and sharing experiences. It requires proactive thinking on how projects can jointly achieve higher value for money by coordinating their strategies and learning from each other.
    b. Technical support at the operational level for health system strengthening is provided by a team working closely with the responsible national institution at the political, managerial and technical levels rather than by individually contracted experts or partners responsible for distinct systems and service components.
4. DFID should provide sufficient technical and financial resources to support implementation research generating credible evidence that interventions for comprehensive health systems support as well as projects piloting innovations are effective, equitable and efficient in the context where they are implemented. This goes beyond simply documenting the project outcomes.

5. DFID should ensure that its programmes for MNH support all aspects of maternal and neonatal care, including antenatal, delivery, postnatal and early neonatal care.

10.2 SPECIFIC RECOMMENDATIONS

10.2.1 MANI

6. DFID should continue to work with Options to assess how best to apply the lessons learnt from MANI Bungoma (including the way technical support was provided in a comprehensive way) in the approach to support the four counties in the future collaboration programme; and how complementary health system strengthening support that is not foreseen in the current design can be provided if needed (this support may be county-specific).
7. DFID should work with Options to ensure that findings and lessons learnt from Bungoma County are widely shared (nationally and globally) and published, including with the WB THS-UC and MDTF and other relevant support programmes in Kenya.

10.2.2 CICF

8. Innovation challenge funds should remain an option for DFID MNH Programmes in Kenya and in other countries.
9. Future challenge-funding programmes by DFID should learn from the effective communications strategy and technical support to projects implemented by the CICF with a view on replicating the approach.
10. In calls for proposals to challenge funding, the profile of projects and types of applicants that are suitable for challenge funding should be clearly described and adhered to in the grant selection process. The exclusion of international organisations from the funding competition should be considered for national innovation funding. Timelines for funded projects, limits for specific budget categories and procedures for fiscal management and controls should be adapted to this profile.
11. While including the strength of evidence generation and knowledge translation in grant proposals as important criteria for grant selection, the proposal selection process should also be clear about the fact that an innovation challenge fund is not an instrument for funding research projects. The piloting or scaling of innovations can be followed with implementation research, but research funding requires different selection criteria and processes than challenge funding for innovation, as well as timelines and financing guidelines that are specifically adapted to research objectives.
12. Funding proposals for the piloting of information and communication technology applications in health should be carefully reviewed in the context of the state of the national digital infrastructure and of the national eHealth strategy.

10.2.3 MIH programme

13. LSTM should continue work through the Pre-Service Taskforce to ensure the inclusion of EmONC and MPDSR into the standard curricula of KMTCs and Universities training nurse-midwives, clinical officers and physicians. DIFID and LSTM should approach other partners to participate in equipping the training institutions with skills laboratories and provide support for equipment maintenance
14. LSTM should develop a clear strategy for a sustainable model of in-service training for EmONC in-service trainings, including the continuation of a pool of master trainers, mentors and training organisers post-extension phase, and a focus on co-funding of trainings. This should comprise

inclusion of the trainings in the annual county workplan and budget and ensuring funding from domestic sources (government) and/or co-funding (i.e. WB-THS).

15. LSTM should work with the MoH to develop a strategy for the training of health staff working in lower-volume facilities in order to improve referral and quality care at all levels and avoid unnecessary referrals to higher level. The mentorship strategy implemented by MANI in Bungoma County could serve as an example to develop a county strategy.
16. LSTM, the MoH and health partners should develop an approach to health worker training that combines effective training modalities, such as classroom teaching with mentorship and on-the-job training. Mentorship provided under this approach should be fully embedded in national systems and structures and build on the collective experience of partners working in this area.
17. In the future training programme, LSTM should integrate its post-training supervision into the existing supervision systems of CHMTs, SCHMTs and specialised hospitals.
18. LSTM should develop and implement a clear communication and dissemination strategy that includes greater transparency in sharing data and reports with the MoH and other relevant stakeholders in Kenya, as well as assuring that training tools developed by LSTM and data collected by LSTM are fully government-owned.
19. In order to address the issue of frequent transfers of nursing staff trained in EmONC to non-maternity services thereby increasing the constant need for in-service re-training, LSTM and DFID should engage the MoH and the KMTCs in exploring the potential of creating a separate cadre of nurses and midwives, so that midwives can be assigned more permanently to maternity services. In addition, CHMTs should be supported in adapting county staff transfer guidelines.

Annexes

Provided under separate cover:

11 ANNEXES

11.1 ANNEX 1. TERMS OF REFERENCE

REDUCING MATERNAL AND NEONATAL DEATH IN KENYA
Evaluation

Context

1.1 The Department for International Development (DFID) supports the Government of Kenya's (GOK) efforts to attain the country's development goals. DFID's investment in health is primarily targeted towards strengthening health systems, improving maternal and reproductive health, and preventing malaria and HIV.

1.2 The Government of Kenya through the Ministry of Health and 47 County Governments have the overall mandate and goal to enhance the reproductive health status of all Kenyans by increasing equitable access to reproductive health services; improving quality, efficiency and effectiveness of service delivery at all levels; and improving responsiveness to the clients' needs. Kenya's maternal mortality rate remains unacceptably high (at 488/100,000 live births nationally)[i], even as under-five mortality rates are decreasing. This situation, which is increasingly acknowledged in Kenya's national health and development policies, led DFID to develop a Business Case for aggressively reducing maternal and newborn mortality in the most vulnerable counties in Kenya over the period 2013-2020).

1.3 The new DFID programme has started during a period of change, including a move from a centralised to decentralised system of Government; health service delivery functions were moved in 2013 to the decentralised county Governments. Following the elections in 2013, the new national Government abolished user fees for maternity care.

1.4 The Maternal Health programme was originally £75.3 million over five-years (2013-2018) that aims to reduce maternal and neonatal mortality. After programme restructuring in 2017, the budget was reduced to £60.6m. The outcome will be increased access to and utilisation of quality maternal and newborn health services. The programme has been designed in close collaboration with national authorities and other development partners and is aligned with sector priorities. This programme will contribute to and deliver DFID Kenya's commitment to provide skilled birth attendance to an additional 77,000 women by end of 2018. It complements other ongoing or completed areas of DFID health sector support in Kenya including the Kenya Health Programme, which provides health policy and systems strengthening support at national level, malaria, family planning, reproductive health social marketing, and DFID Kenya's Adolescent Girls Initiative.

1.5 The impact of the programme is reduced maternal and neonatal mortality in Kenya. The original programme was expected to contribute to preventing 1,092 maternal and 3,836 neonatal deaths by 2018. The expected outcome is increased access to and utilisation of quality maternal and newborn health services (more details in Annex1).

The current programme, restructured in 2017,has four components:

- Component 1: Scale up of training for health workers in emergency obstetric and neonatal care (EmONC) in five of Kenya's eight provinces[59].

[59] Until recently Kenya has had eight provinces, sub-divided into districts. Following the March 2013 election, and in line with the new Kenyan Constitution, these have been replaced by 47 newly-created counties.

- Component 2: Health systems strengthening and demand-side financing targeting the poorest women in Bungoma County and implementation of an innovation challenge fund across 6 counties (Bungoma, Garissa, Homa Bay, Kakamega, Nairobi and Turkana).

- Component 3: Monitoring and independent review to monitor progress against the indicators and milestones in the logical framework and annual review at the end of each year of implementation, with a Project Completion Review at the end.

- Component 4: Evaluation- including an assessment of the efficiency, effectiveness, relevance, equity and impact of support provided by DFID.

The Theory of Change for the programme can be found in Annex 2.

1.6 The Theory of Change follows the concept of the 'three delays'ii, which has been widely used to identify the causes of maternal death and appropriate interventions. The first two delays – delay in deciding to seek care and delay in reaching appropriate care – relate directly to the issue of access to care, encompassing factors including community knowledge, demand, distance, transport and financial barriers. The third delay – delay in receiving care at health facilities – relates to health service factors, including quality of care. All three delays need to be addressed to reduce maternal and neonatal mortality. The Theory of Change assumes:

- Access to skilled birth attendance and management of obstetric complications is central to saving lives.
- Competency-based training will improve the knowledge and skills of health workers who provide routine and emergency maternal and newborn care, and training doctors, clinical officers and nurses together will promote team work and facilitate task sharing, reducing dependence on doctors and delays in receiving life-saving care.
- Trained staff will mainly stay in the same areas, as the national scale up of training will mean that their skills will be less marketable, and health workers may be less mobile when they are recruited and hired by counties.
- Increased health worker competencies will improve both the availability of skilled birth attendance, including emergency maternal and newborn care, and the quality of care.
- Improving the quality of care is expected to improve the outcomes of deliveries that are assisted by a skilled birth attendant, reducing maternal and neonatal deaths.
- Strengthened supervision, mentoring and follow-up to ensure that new knowledge and skills are put into practice, together with training and support for implementation of wider quality improvement interventions, including MDR, are also expected to improve quality of care and maternal and newborn health outcomes.
- Training needs to be complemented by wider health systems strengthening to improve the coverage and quality of maternal and newborn health services in Kenya, in order to achieve greater reductions in mortality. At a minimum, delivery of quality maternal health care depends on the availability of essential drugs, commodities and equipment and basic infrastructure.
- In the context of devolution, support will be required for newly-established county structures to manage and deliver services and, in particular, to assume devolved responsibility for health planning and budgeting, health financing, human resources for health and monitoring.
- Improved availability and quality of care can increase demand for maternal health services. However, supply-side interventions alone will not be sufficient to increase utilisation of services in Kenya, given current low rates of facility-based delivery and skilled birth attendance. Additional intervention is therefore required to increase awareness and demand, and to address barriers to access. The assumption is that support for key elements of the Community Strategy, including community education and mobilisation, Community Units and strengthening links between communities and facilities, including referral systems, together with a voucher scheme targeting the poorest women, will increase uptake of services.

- Innovative approaches to improving service coverage and quality and increasing demand for maternal health care services will be identified and there are non-state partners with the capacity and interest to apply for innovation funding.
- Demand-side financing and effective accountability structures will improve demand and the performance of health facilities and the quality of care, and thereby improve health outcomes.

Purpose

2.1 There is existing evidence to demonstrate that training, health systems strengthening and demand side financing result in improved maternal and newborn health outcomes. However, no single intervention will substantially reduce maternal and neonatal mortality, and it is universally accepted that this requires a functioning health system that provides a continuum of care. DFID's Framework for Results 2010 also recognises that strong health systems are needed to deliver sustainable improvements in maternal and newborn health. It is intended that evaluation through this programme will generate more evidence on the effectiveness of strengthening health systems towards reduction of maternal mortality. It is hoped that utilisation of the evaluation findings will help inform the effective management of maternal health programmes within the context of Kenya, taking account of other Government initiatives such as the free maternity pack and beyond zero campaigniii.

2.2 The main recipients of the outputs will be DFID Kenya, implementing partners, Government of Kenya, development partners, project beneficiaries, and members of the public both in Kenya and in the UK who are interested in the performance of DFID funded work and ways to strengthen health systems.

Objectives and scope

3.1 We wish to appoint a service provider to undertake evaluation work for the maternal and new-born health programme through an appropriate package of work designed to:

- Explore the effectiveness and impact of our maternal health training package
- Explore the effectiveness and impact of health systems strengthening
- Understand whether providing health systems strengthening alongside training brings additional benefits
- Understand the extent to which our maternal health programme was a relevant response to the needs in the contexts in which the programme was operating.

3.2 The evaluation will compare specific outcomes of the programme as follows:

(a) compare health facilities supported by Options in the respective sub-counties with health facilities not supported by Options in the same sub-counties; b) compare indicator performance in Bungoma county with the same average indicators for all other counties, excluding Nairobi, based on trend analysis / time series with support provided in Bungoma county with the average outcomes in all other Kenyan counties, excluding Nairobi; as well as outcomes in health facilities supported by the programme with health facilities not supported in the respective sub-counties in Bungoma.

3.3 3.3 There are some important sources that will be of value to the evaluation and due to these it is envisaged that the study may not require large scale quantitative data collection. During the previous programme phase a formative evaluation collected or documented baseline data, using multiple sources such as the nation-wide, county-disaggregated **Kenya Demographic and Health Survey (KDHS)** which took place in- 2014; county-based utilisation data prior to the start of the programme (taking into account how the free maternity service policy and devolution changed coverage) and during programme implementation; a Multiple Indicator Cluster Survey

(MICS) conducted in late 2013 in Bungoma; another round of MICS surveys that has taken place in 2016;.

3.4 Through the LSTM programme, a number of studies have been undertaken including the baseline measurement, and some are already being planned. These include:

I. Change in knowledge and skills study,
II. Knowledge and skills retention study (Ghana, Kenya, Malawi, Nigeria, Sierra Leone, Tanzania)
III. Change in signal functions availability
IV. Change in Case Fatality Rate(CFR) and Skilled Birth Rate(SBR)
V. Assessment of effect of Quality Improvement(QI) workshops (Kenya, Malawi, Sierra Leone and Zimbabwe)
VI. Development of a classification framework to improve the recording of stillbirths in (Kenya, Malawi, Sierra Leone and Zimbabwe)
VII. Maternal morbidity study (India, Kenya, Malawi, Nigeria and Pakistan)
VIII. Evaluation of intervention to improve data management and use in selected EmONC facilities (Kenya)

Evaluation Criteria

4.1 The specific questions of interest for the current evaluation are identified below, with the OECD-DAC evaluation criteria as the guiding framework. For each criterion there is an overarching question and then example sub-questions which will help address the broader question. While the broad questions are not expected to change significantly, the evaluators will have some ability to influence the sub-questions:

Table1: DAC Evaluation criteria

DAC evaluation criteria	**Questions**
Relevance	*Is DFID's maternal and newborn health programme an appropriate response to the Kenyan maternal and newborn health context (i.e. need, introduction of free maternity care policy, devolution, what Government and other DPs are doing?)* Eg: - Is the Health System Strengthening (HSS) work at county level focusing on the right health systems building blocks e.g. Human Resource(HR), Equipment etc. for each context? - Is the selection of Bungoma county for the HSS work appropriate? - Is the approach to training appropriate (mix of in service and pre service) for the context? - Does the training complement the HSS work in Bungoma county? - Is there appropriate policy dialogue and work with supporting structures at national and county level? - Is there appropriate coordination with work of other development partners/ implementers at national and county levels? - Were the approaches taken/ packages of care developed appropriate? - Does the programme demonstrate a sufficient understanding of the political economy context in which it is operating?
Effectiveness	*What works in what contexts?* E.g. - Are the various partners meeting their objectives? - Have health workers' skills improved as a result of training? - Have partners implemented project activities in a coherent, coordinated and timely fashion?

	- Have partners accounted for risk and mitigated any risks in a timely manner? - Is the theory of change holding in practice? What changes can be linked to the programme? What other factors are driving change? - How are community views towards hospital skilled delivery changing? - How satisfied are communities with the maternal health services available? - Has the programme helped to improve understanding of the socio-cultural considerations that affect the uptake of maternal and newborn health care amongst the target groups?
Efficiency	*How do the programme costs and benefits look?* Eg. - What is the annual cost of the programme? - Is the programme using appropriate inputs given desired outputs? - Is there evidence of duplication? - Assessment of vfm metrics for the programme – set as cost per additional skilled delivery, cost per health worker trained, costs per maternal or neonatal death averted - Is there evidence of how best to invest?
Sustainability	*What evidence is there to suggest that any gains will be sustained?* Eg. - Are policies changing to allow gains to be continued? - Are structures changing to allow gains to be continued? - Are there lessons about how greater gains have been achieved in some areas/ for some groups compared with others? - Is there appropriate thinking about exit strategies for county and national levels? - Has the programme been implemented in a manner which focused on affordability and on the sustainability of health impacts? Eg with sufficient collaboration with relevant national and local authorities and partners? - Are there mechanisms or commitment from government or local partners to continue to fund programme interventions? - Did the implementation modalities strengthen the delivery of health care or the organisational capacity of relevant national and local authorities or organisations responsible for maternal and newborn health? - What evidence is there for increased allocations to maternal and child health interventions at county level linked to this programme? - Is it reasonable to expect the programme to achieve sustainability/ level of ownership during the funding life of the programme given internal and external factors? (Politics, devolution etc.) - What could be done to improve the sustainability of the programme results or impacts?
Impact	*What has been the change in maternal and newborn health outcomes and can a clear contribution of the programme be found?* - To what extent have the interventions in this programme contributed to averting maternal and newborn deaths? - To what extent have improvements in health workers' knowledge and skills affected quality of care for pregnant women, mothers and newborns? - Is there evidence that health system strengthening in Bungoma county provided added value compared to other counties where only training was supported?

The evaluation should also explore effects on cross cutting issues such as gender, poverty, human rights, HIV/AIDS, environment, anti-corruption and capacity building.

Methodology

5.1 DFID defines an evaluation in line with the OECD/DAC guidance: 'The systematic and objective assessment of an on-going or completed project, programme or policy, its design, implementation and results in relation to specific evaluation criteria' (OECD/DAC). A range of different evaluation types are also recognised.

5.2 As identified above, this evaluation should explore to the extent possible, the impact of the programme. These may well draw on the existing quantitative data sources, plus attempts to map progress against the theory of change and use of techniques to try and understand the range of factors that might be contributing towards outcomes achieved, including dimensions of the maternal health programme. The evaluation questions also point to a need to explore the way in which the programme has been implemented, the extent to which it represents value for money and so strands of work are likely to focus on processes and look at vfm.

5.3 The methodology has been mutually agreed between DFID and the Ministry of Health during the previous programme phase. Data and information collected in the previous programme phase for Bungoma, CICF and the training implemented by LSTM) will be used as baseline and inform the specific evaluation methodology to be used in the current evaluation. The evaluator will be responsible for determining their approach to answering the key questions. Expected datasets will comprised both qualitative and quantitative data. At inception, the evaluator will review the methodologies used in the previous programme phase and adjust, as necessary, the methodology taking into account lessons learned during the previous phase, changed context and changed programme activities.

5.4 In setting out the proposed approach, it should be clear whether the evaluation will comprise of one or more studies and if there is more than one study proposed, which questions will be addressed in which study. Information should also be provided on where data to address each question are expected to come from, how any sampling needed will be undertaken, where data will be quantitative or qualitative in nature and at what time points data collection will take place. It is envisaged that for some questions data will need to be gathered regularly while for others a baseline and end line position may be sufficient.

5.5 The evaluation should be conducted in accordance with OECD DAC quality guidelines, and DFID's ethics principles for evaluation and research. Quality assurance to ensure a high standard of design and reporting is expected within the Evaluation team, but will also be available at certain stages through DFID's external quality assurance service (SEQAS) which provides comments on evaluation terms of reference, design papers and reports. DFID country teams are required to use this service and DFID will facilitate its use.

Outputs

6.1 A final evaluation report (in a publishable format if requested) will be produced at the end of the programme. The exact format of reporting (main report and annexes; detailed technical reports by evaluation component) is likely to depend on the way the evaluation is conceived and undertaken and the evaluator should make proposals for specific reports at inception.

6.2 The main mid-term evaluation report of the previous programme phase, including the data collected through different evaluation components, will serve as baseline to compare final programme impact and deliverables. The final evaluation report will cover all elements including impact questions, with a combination of quantitative and qualitative analysis.

6.3 A short Inception phase is anticipated and this would produce a brief inception report setting out:

- Proposed strategy for gathering the data necessary to answer the questions listed above within the available time; reviewing the evaluation methodologies used in the previous programme phase and propose adjustments to the methodology, as required.
- Management processes by which the team will deliver the evaluations effectively for the three programme components (health system strengthening, training and CICF)
- Confirm the evaluation design and budget for all elements of work envisaged to ensure that all evaluation questions are addressed and proposed timeline for all evaluation activities
- Outputs for the remainder of the contract – to be agreed as the basis for on-going contract management.
- The inception report should identify early any challenges and difficulties the evaluator anticipates in answering the evaluation questions.

6.4 This report will make clear any information and/or support required from DFIDK and programme partners.

Governance mechanisms

7.1 After its award, the Evaluation contract will be managed by a broader group comprised of MSI, the evaluation service provider, DFID and the Government to enable effective management of the evaluation. Procedures for effective joint working will be developed and documented during the inception phase and agreed with the identified supplier.

Timeframe

8.1 This contract will be issued for 2 years, commencing in January 2018 and ending in December 2019.

Requirements

9.1 We are looking for a service provider who is capable of:

- Scoping out a full evaluation plan
- Designing all elements of the evaluation
- Analysing existing data to produce a baseline for some questions
- Conducting and analysing additional fieldwork – both qualitative and quantitative
- Designing appropriate samples, questionnaires and topic guides
- Producing baseline and final consolidated evaluation findings addressing the key questions raised; targeting reports and presentations for audiences
- Undertaking process and impact evaluation
- Taking a theory or case based approach where appropriate

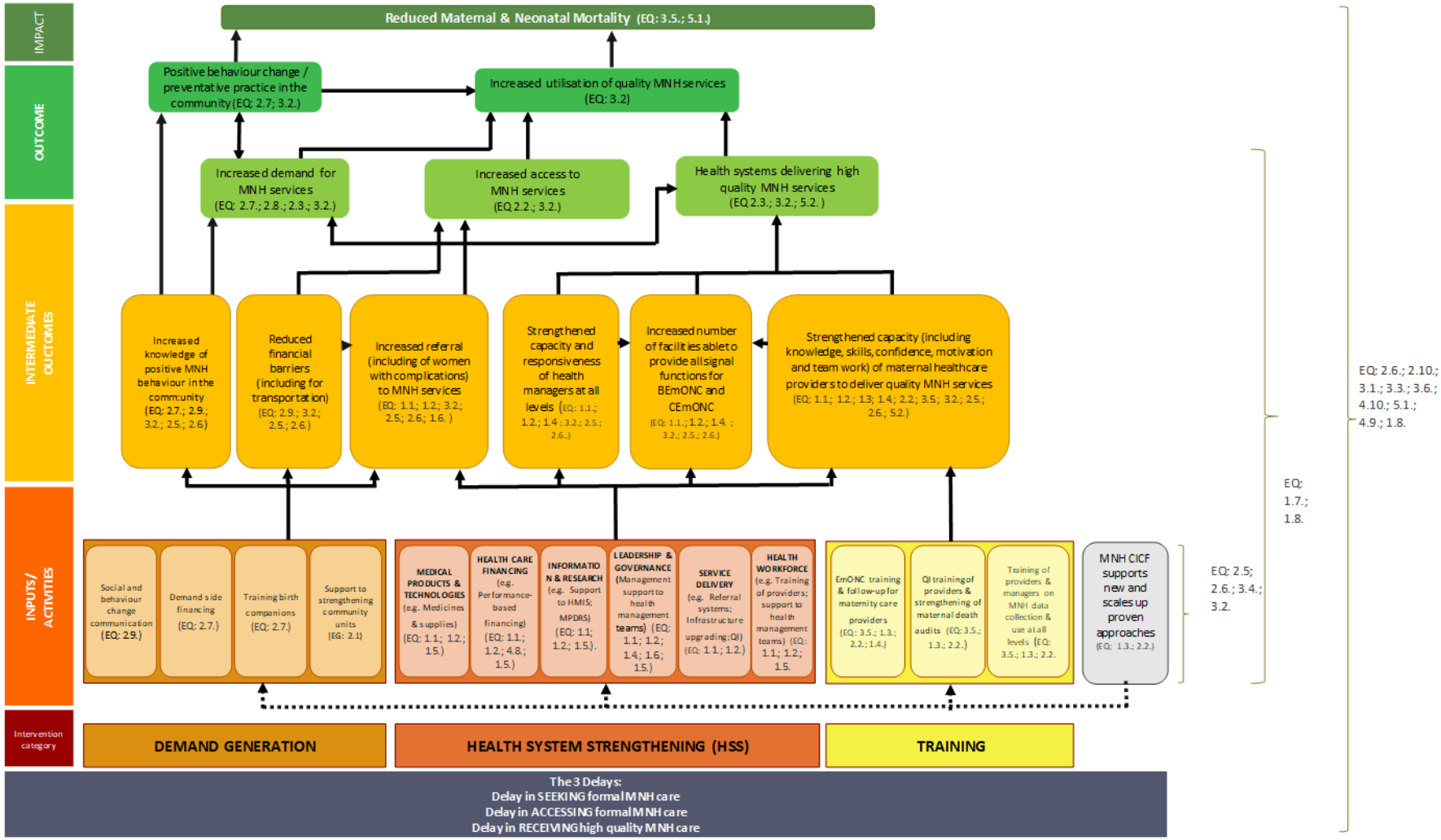
Duty of care will be as per DFID contract arrangement.

Budget

10.1 A budget of £300,000 is available to cover the full range of activities outlined in the ToR.

.

11.2 ANNEX 2. MNH PROGRAMME THEORY OF CHANGE



11.3 ANNEX 3. METHODOLOGY

11.3.1 Methodological approach to the evaluation of MANI programme in Bungoma County

11.3.1.1 CDO Mapping

The first evaluation component, **'CDO mapping'** captures the context in which the programme is implemented (C), how programme activities and health services are being **delivered** (D), and what **outcomes** have been achieved (O).

This exercise was designed to generate detailed snapshots of the way the programme was implemented over time and how this mapped against the generic ToC that is presented in Annex 2. CDO mapping included Bungoma County as well as four selected sub-counties: two programme sub-counties (Sirisa, Tongaren) covered in the facility & services study and household survey; and two non-programme sub-counties (Bumula, Kimilili) covered in the household survey. Selection of programme and non-programme sub-counties was done during the inception visit together with the CHMT and MANI staff. CDO mapping in 2018 compared findings with data collected during previous rounds (2016 and 2017 during the previous phase) and responds to a number of the evaluation questions (EQs; see Volume II, Annex II) and the ToC Annex 2).

The need to understand how context affected the way the programme has been implemented is important. A description of the context includes data on demographics and socio-economic context, other initiatives/donors present in the counties and sub-counties that directly or indirectly work on improving MNH, level of implementation of free maternal care and the Mama Linda programme, state of devolution of management of health services, presence of public, faith-based and private sector facilities, training inputs, CICF projects and other contextual factors including the prolonged health worker strikes in 2017.

The need to capture in a systematic way how the programme was delivered is, of course, fundamental to testing the validity of the ToC and underlies many of the core evaluation questions. For the delivery aspect of the CDO mapping, the focus will be on capturing delivery of programme- and non-programme-specific health services, and the way the four programme activity/input categories – namely, work in demand generation, work in health system strengthening (HSS), the training component and the CICF – have been delivered in the different programme (and where applicable in non-programme) sub-counties.

In terms of outcome, the CDO mapping exercise focused on the main outcome areas identified in the ToC. Again, we focused on generating an understanding of the way progress has been made against these three outcomes in the Bungoma county and sub-counties over time.

11.3.1.2 Health facility & services assessment

The second evaluation component, the 'facility & services assessment' included a comprehensive study of nine MANI supported health facilities in the six programme sub-counties. The main purpose of this work was to better understand what change had happened and why change happened within the programme facilities. The facility & services assessment will respond to some of the EQs and the ToC as indicated in Annex 2 and Volume II, Annex II).

The focus of analysis was to review the CDO analysis that captured what had happened in specific sub-counties and unpacking the evidence base around why these things happened. This required analysis of the way contextual variations influenced the way the programme was delivered and the degree to which key assumptions of the ToC were valid or not. This comparative analysis has as a primary objective to generate lessons about the effectiveness, efficiency and sustainability of specific programme inputs and activities. The study followed changes in the key health systems inputs, the utilisation of maternal and neonatal health services, the availability and quality of these services, and in maternal and neonatal health outcomes in

selected facilities in the six programme sub-counties. Facility based data of 2018 were compared with baseline data of 2015.

Data sources for this component included KIIs, FGDs, health facility assessments, DHIS2 data and data quality audits. They were complemented by client information captured through the household survey.

11.3.1.3 Focus group discussions

In the context of the facility assessment of nine MANI-supported health facilities, we conducted 16 FGDs, two in the service area of eight facilities[60].The purpose of these discussions was to (a) ascertain the extent of community participation in the planning, governance and monitoring of services provided by the facilities, and (b) the extent to which Community Units (CUs) and the participating Community Health Volunteers (CHVs) and Birth Companions are implicated in the maternity care provided by the facilities.

The participants of the focus groups were:

a) Group 1: Influential community representatives and gate keepers (male and female) [61] sampled from a list provided by the CUs. This included beneficiary mothers, the Boda Boda riders who were taking the women to the hospital during the intervention, and community focal people like the chiefs or assistant chiefs. Sampling was purposive to assemble a group of 10 to 12 participants representing different types of leaders and communities. We did not aim for a gender-equitable mix but assured that women participated in the same proportion as represented on the provided list.

b) Group 2: CHVs and Birth Companions that were active in the service area of the health facility. They were sampled from a list provided by the health facility or CU. About an equal number of CHVs and Birth Companions was sampled.

The FGDs were covered by the ethics committee approval of the MANI Programme which was valid until 19/04/2019.[62]

The consent form and the FGD thematic guides are presented in Volume II, Annex V.

11.3.1.4 Household survey

The objective of the household survey was to measure the effectiveness of the comprehensive demand- and supply-side support to maternal and neonatal health services provided by the MANI project over four years to health facilities and surrounding communities in Bungoma County. Data collected in the survey were used for two types of analysis:

a) A **before/after analysis**, comparing the survey results with the results of the baseline survey conducted in 2015 by the Population Council on behalf of the MANI project in the same communities of Bungoma county.

b) A **cohort analysis** comparing service access, utilisation, outcome and satisfaction among women who recently gave birth in Bungoma County in communities with MANI support and communities without MANI support.

The before/after analysis analyses if and to what extent maternity care (demand- and supply-side) in MANI programme areas improved after four years of focused health systems support at community and facility level. The cohort analysis provides information about the extent to which observed changes can be

[60]Bungoma County Hospital was excluded as this is primarily a referral hospital.
[61] Includes village elders, chiefs, ward representatives, women group leaders, leaders of community organisations
[62] KNH-UON ERC Ref.: KNH/ERC/R/101 dated 18/05/2018

attributed to MANI interventions against secular trends in MNH service provision in Bungoma County. See Volume II, Annex III for a more detailed explanation of the survey methodology and questionnaire.

11.3.1.5 DHIS 2 data analysis

Analysis of DHIS2 data on key MNH indicators for the period from 2013 to 2018 allows for a comparative analysis of MNH indicator trends between Bungoma County, ten Western counties and the rest of the country (excluding Nairobi County); and a comparison of trends in key MNH indicators for the period from 2013 to 2018 between six Bungoma programme sub-counties and four Bungoma non-programme counties.

Trend analysis of DHIS2 data required a quality assessment of the national database and subsequent cleaning of some of the data for analysis.

Data quality assessment was also part of the health facility & services assessment. At facility level data quality were assessed in order to confirm the quality of the data submitted by the facility to the national level (DHIS2).

11.3.1.6 Value for Money Analysis

Beyond the cost-effectiveness analysis of the three projects/implementers (MANI Bungoma, MANI-CICF and MiH/LSTM) in Bungoma county, the VfM analysis also addresses some efficiency[63] issues separately for each of the three MNH Programme components (MiH, MANI HSS, and CICF). We refer to section 4.4 for the methodology used for each component.

11.3.2 Methodological approach to THE evaluation of CICF

There were two distinct evaluation axes for CICF:

a) The evaluation of the **relevance**, **effectiveness** and **efficiency** (including value for money) of **CICF as an instrument** to foster local innovation aimed at reducing maternal and neonatal mortality, and to promote the adoption at scale of those innovations that have proven their effectiveness. For a time-limited grant-making mechanism, **sustainability** was not a relevant evaluation parameter, while it was too early to assess its **impact**.

b) An evaluation of the **projects funded with CICF grants** according to their potential for developing or scaling innovations as well as the results of implementing, monitoring and documenting the innovative solution or, in the case of scaling projects, the results of increasing the acceptance and replication of a proven intervention. This included a specific efficiency and equity analysis of the nine CICF grants.

For either of these axes, the logic of outcome indicators of the MNH Programme Theory of Change only apply indirectly. A funding mechanism that has the objective of fostering innovation cannot base its grant-making decisions on the proven effectiveness of proposed interventions. If the objective is to identify and test new solutions, the failure to achieve project goals has to be accepted as a valid result from which important lessons can be drawn. Funding only proven interventions to fill known service gaps would not require the elaborate process of proposal calls and grant selection of CICF. Some of the funded projects have performance targets that directly contribute to a measurable increase in use, access or quality of maternal health care, but not all of them do. For instance, the project to establish a human breast milk bank in Nairobi may, in the long run, contribute to a decrease in neonatal mortality.

There was therefore a need to develop a distinct evaluation framework for the CICF with a set of evaluation questions that do not fit well into the framework of evaluation questions of the terms of reference (Annex

[63] Overall administrative/management/overhead cost on total cost

1). This issue was discussed in a meeting with CICF and DFID Kenya during the inception mission. We have therefore developed a sub-set of evaluation questions and indicators that are specific to the CICF evaluation. (Table 2 in Volume II, Annex VII)

To answer these questions, evaluated CICF as a grant-making instrument as well as a sample of 9/19 funded projects. The projects were selected by purposive sampling, applying the following parameters:

a) Include all four projects implemented in Bungoma County

b) Include at least two projects funded with scaling grants

c) Include at least one project implemented in an urban environment and one in a pastoral environment

d) Include at least one project for each of the six thematic areas of innovation identified by the CICF (Physical Access, financial access, health information, quality of care, commodities and technology, demand and utilisation)

The selected sample of CICF projects is presented in Volume II, Annex VII.

11.3.3 Methodological approach to the evaluation of MIH training programme

A document review of existing M&E documentation of the MiH programme was conducted, including but not limited to the DFID Annual Reviews, Quarterly Progress Reports, Logframes, training material, the first Confidential Enquiry into Maternal Death (CEMD) report and related documents, training databases, expenditure reports, and research published in peer-reviewed journals. Apart from the DFID Annual Reviews, to the best of our knowledge there have been no independent evaluations of MiH programmes in any of the other countries where the programme has been implemented.

This review was complemented **by key informant interviews** with national stakeholders from the Ministry of Health (RMNH Unit, MPDSR secretariat), Kenya Medical Training College (HQ), Nursing Council of Kenya, Kenya Midwives Association, LSTM, and other partners involved with MNH and training (i.e. UNFPA, USAID, JHPIEGO). A semi-structured interview guide was used to gather views on the relevance, effectiveness and impact of the MiH programme and on implementation of the recommendations of the formative evaluation (May 2017).

In addition, **eight of the 32 counties** where MiH programme was rolled out during Phase II (2014-2019) were purposely sampled based on presence of a Kenya Medical Training College (KMTC; in 14 of the 32 counties); targeted activities deployed by LSTM[64]; number of participants trained (in-service, pre-service, as trainers/supervisors); timing of supportive supervisions that have taken place; counties targeted for the next phase proposal (2019-2023); and logistical parameters (availability of CHMT, distance from Nairobi for counties to visit in person).

Three counties were visited in person (Nakuru, Uasin Gishu and Kilifi) and in-depth interviews were conducted with the County Executive Committee Member, members of the CHMT, KMTC and Egerton University in Nakuru. In the other five counties (Machakos, Kwale and Kericho, Mandera and Marsabit), phone interviews were conducted with the County Director of Health or the RH Coordinator, and with the Principal of the KMTC (if supported by LSTM).

[64] Specifically: Strategy developed to identify & train newly recruited health workers (Uasin Gishu & Vihiga); Build capacity for mentorship approach via mentors based in the main CEmONC facilities in the county (Uasin Gishu & Vihiga); Actively support MPDSR Uasin Gishu);

An **online survey** was sent out via SurveyMonkey by LSTM to all MiH graduates (for whom an email address was available) since 2014. For this, LSTM used the programme's trainee database in order to increase the response rate and address the issue of data protection and confidentiality. Questions in the survey aimed to capture information on respondents' workplace and MPDSR practices; types of MNH trainings since 2014 (by LSTM, by others), perceived usefulness of these trainings, confidence in carrying out EmONC interventions, and outstanding training needs. Of the 7,222 participants to an LSTM training the survey was sent to, 5,030 effectively received the survey (the other bounced). A total of 737 responses (15%) were received, of which 654 were complete; 78 from pre-service graduates, 435 from in-service graduates and 141 from trainers/supervisors.

In **Bungoma County,** more in-**depth data collection** on the MiH programme was carried out in conjunction with the wider mapping of the context, delivery and outcome (CDO) of all MNH activities (initiated by MANI, LSTM, CICF, MoH and/or other partners) at county and sub-county level, as well as at facility level through the health facility & service assessment. Senior staff at Bungoma County, the four selected sub-counties (Sirisa, Tongaren, Bumula and Kimilili) and the nine selected facilities, were asked their views about the relevance, effectiveness and sustainability of the MiH programme. Special emphasis was placed on distinguishing between the MiH training programme and other training initiatives (i.e from MANI, MoH, CICF, other partners).

Data collection in Bungoma also comprised interviews with MiH graduates that took place at the nine selected health facilities in the six programme sub-counties in Bungoma. Here, questions focused on trainings received and their usefulness, level of confidence in EmONC, and outstanding training needs.

Lastly and in conjunction with other programme evaluation components**, selected DHIS2 MNH indicators** will be assessed for possible (credible) correlation with intensity of training conducted in different counties.

11.3.4 Methodological approach FOR the VfM analysis

Both MANI and LSTM have their own chain of results and related indicators as well as their own VfM approach and metrics that are used for periodic VfM reviews and assessments. The VfM analysis included in the MNH evaluation did not repeat those approaches and metrics but focused on efficiency and effectiveness 'largo sensu' to address evaluation questions pertaining to efficiency and cost.

The VFM analysis did a detailed analyses of expenditure and outputs/outcomes in Bungoma county, including:

- Bungoma county overall financial resources for health and more specifically for MNH, per year (2014-2018). That information mainly comes from (a) secondary sources (e.g. the Kenya Gazette (Senate Bills), the County Allocation of Revenue Bills, annual National and County Budget analysis from MoH, NHIF/Linda Mama financial reports, and CHMT and SCHMT annual reports) and (b) from Bungoma county financial statements 2015/16 till 2017/18 provided by the county Government.
- DFID MNH additional (incremental) resources to the existing domestic and other external resources, per implementer (MANI Bungoma, MANI CICF, CICF projects, MiH/LSTM), and per year (from 2014 to 2018).
- Bungoma County and sub-counties MNH outcomes. We use the same baseline values of Maternal Mortality Ratio and Neonatal Mortality Rate as used for the VfM section of the Formative Evaluation Report but adapted to 2014. Coverage rates (2014-2018) of deliveries in health facilities in Bungoma County and sub-counties come from DHIS2.

The information listed above allowed for a cost-effectiveness analysis for Bungoma County as a whole, based on the specific burden of disease (related to MNH), MNH coverage trends, and incremental MNH

expenditure (MANI, LSTM and CICF projects in Bungoma). Cost-effectiveness was evaluated according to WHO standards whereby an intervention is considered highly cost effective if the estimated cost per DALY averted is less than the annual per-capita GDP and considered cost-effective if the cost is less than three times the annual per-capita GDP.

A sensitivity analysis was applied both to the efficacy rate[65] and to the attributability to DFID funding, with a RAG rating system based on WHO thresholds and on the Kenya GDP per capita 2018 (expressed in current US$ and converted into GBP).

Beyond the cost-effectiveness analysis that pertains to the three projects/implementers (MANI Bungoma, MANI-CICF and MiH/LSTM) in a single county (Bungoma), the VfM analysis also addressed some efficiency[66] issues separately for each of the 3 components (MiH, MANI HSS, and CICF). We refer to the VfM report for more details.

11.3.5 Overall Programme Evaluation

The overall programme analysis examined the programme from both an internal and external perspective, and aimed to explore the dimensions of relevance, effectiveness, efficiency and sustainability of the overall programme, and responds to the EQs and the ToC. It considered operational issues with regards to how the programme is being implemented, as well as situating the programme within its operational and political context – including its relationship with government, partners, and the country and global environments.

The analysis includes all programme inputs at the central level (e.g. health system strengthening or training activities carried out at central / national level) not covered in the other evaluation components. It triangulates and summarises findings from the evaluation of the three programme components, the MANI HSS programme, the CICF and the LSTM training programme. The overall programme analysis was carried out as part of the summative evaluation.

[65] An efficacy rate of 100% would mean that there is no maternal/neonatal death/DALY anymore among additional deliveries in health facility since the DFID support, which is very unlikely. We use efficacy rates varying from 25% to 100%.

[66] Overall administrative/management/overhead cost on total cost

11.4 ANNEX 4. LESSONS LEARNT

11.4.1 MANI HSS

Bungoma County was selected in the context of selecting six counties with three different socio-economic profiles: agricultural, pastoralist and urban. If the purpose was to select a county representing an agricultural socio-economic context, the choice of Bungoma County was defendable. If Bungoma would have been selected as the sole programme county at the start of the programme, a county facing greater socio-economic and MNH challenges would have been a better choice in terms of potential lessons learning for other counties.

The MANI project developed its workstreams to align with the six WHO HS building blocks. Some building blocks, such as human resource development and a health financing strategy (beyond piloting PBF and the transport voucher scheme), are difficult for an outside partner to comprehensively and effectively address (especially in a relative short time window of 4 years), although they have a major influence on the overall impact of the HSS and training investments. Effective health system strengthening requires efforts both at national (e.g. addressing national financing strategies such as Linda Mama or UHC; or changing the single nurse-midwife cadre) and county level (e.g. adjusting county regulations for effective use of Linda Mama funds; or adjusting county staff transfer policies) and a longer time window. Prioritisation of key interventions by the CEC and CHMT and adapting county regulations related to the use of public funds are essential for MNH services to be sustained.

The PBF scheme was not fully inclusive. For example, it excluded private providers and did not include all relevant not-for-profit providers. During the health workers' strike, MANI extended the PBF scheme to include more faith-based providers in order to successfully address part of the MNH service gaps in public health facilities. This most likely contributed to avoiding some maternal and neonatal deaths.

SCHMTs lost some of their authority and responsibility post-devolution, when governance of health services shifted from central to county level, leaving SCHMTs somewhat frustrated and under-used. An earlier and more focused approach to strengthening the SCHMTs by MANI could potentially have led to more effectively sustained gains.

The limited focus on postnatal care and newborn health was a missed opportunity. In Bungoma, the CICF funded two grants for projects to improve the availability and quality of newborn care, thereby filling a gap in the DFID MNH Programme.

An equity analysis of end-user benefits in the summative evaluation was only possible as part of the household survey in Bungoma County. The largely rural population covered by the MANI project was, however, relatively homogenous and although they could be stratified into wealth quintiles separating the poorest from the least poor, a differential effect of the project on increasing access, utilisation, perceived quality and satisfaction with maternity services was not documented by the survey findings. While the voucher programme did not exclusively benefit the poor and there were some spill-over benefits to the non-poor, the exit interviews reported by MANI confirm that the poor disproportionately benefited in terms of both receipt of and use of vouchers, thus contributing to the goal of increased equity of access. These findings, however, could not be confirmed by the household survey, as only part of the women surveyed had access to the voucher because the programme ended eight to ten months before the survey.

The 2019 household survey confirmed that the proportion of women who delivered in health facilities increased from 74% to 95% between 2015 and 2018. At baseline, education levels were strongly correlated with facility-based deliveries. In 2015, only 62 percent of women with the lowest educational achievement delivered in health facilities compared to 100 percent of those with the highest. In 2019, this difference had

almost disappeared. This increase in equity in service coverage for facility delivery largely accounts for the overall increase in coverage. The most likely factor that contributed to this change is the change in national policy related to free maternity care as well as the identification and motivation of pregnant women by the CHV and birth companions, the transport voucher and respectful care. The MNH Programme (as well as the Linda Mama resources as from 2018) also contributed to the continuous increase in the access of health facilities for maternity services.

While the MNH Programme piloted and tested a number of important interventions that have the potential to help sustain health impacts, sustainability in Bungoma County will to a large extent depend on external resources (e.g. WB THS-UC). The Linda Mama scheme and the future UHC system are expected to contribute resources for sustainability, but it is not yet clear to what extent they will depend on international financial support.

The short duration of the HSS support in Bungoma County reduced the chances of sustainability and raises some ethical question about generating expectations without guaranteeing continuity. Nevertheless, MANI invested a lot of effort in ensuring sustainability and continuity of interventions. Basically, Linda Mama and THS-UC will be the main (project-independent) factors ensuring that health impacts may continue and MANI rightly supported management and facility staff in ensuring access to those resources. But the fact that a trusted technical partner left the county will definitely reduce sustainability.

The strong evidence that the MANI project in Bungoma County was effective, cost-effective and generated value for money requires, however, a more contextualised analysis. The evaluation confirmed that a large investment in a project that comprehensively supported health systems with large financial investments and intensive on-site technical and policy assistance can effectively and verifiably improve maternal and neonatal health. But women in Bungoma County die in childbirth every week, they did so before the start of the MANI project and they continue to do so after the project closed. An analysis of the effectiveness and cost-effectiveness of the DFID investment in MNH in Bungoma County can therefore not be restricted to the short period from 2015 to 2018. It also has to consider the sustained changes that were initiated with MANI support.

The sustainability analysis confirmed that many of the systems and processes introduced in the county with MANI support continue and are likely to continue having an effect on improved maternal and neonatal health. But many did not, because of the reduced fiscal space for MNH programming in Bungoma County after the end of the project[67], and in some cases because they were not sufficiently appropriated to continue without the technical support by the MANI project team.

New financing sources for MNH opened for the county after the end of the MANI project, for instance through Linda Mama and through the World-Bank managed THS-UHC programme. But it was already evident at the time of the evaluation mission that effective low-cost activities such as reimbursing boda-boda transport to health facilities for delivery, telephone follow-up for missed ANC appointments and performance-based stipends for CHVs and birth companions only continued in some health facilities, presumably on initiative of engaged health staff who, as is common practice, will soon rotate to other assignments in other facilities. Key activities like the monthly or quarterly meetings of health facility managers to review and discuss MNH outcome data, which contributed greatly to catapulting Bungoma County to the head of the national MPDSR table, already ceased. Performance-based financing, which

[67] Between 2015 and 2018, the DFID MNH Programme covered between 51% and 65% of MNH expenditures in Bungoma County (See Table 17)

contributed to a major extent to improved productivity and quality of MNH care, was discontinued and may or may not be revived with revenue generated by facilities from the Linda Mama scheme.

The important lesson learnt by the MANI project is that comprehensive HSS delivered with on-site technical support is effective and cost effective. There may be a more painful lesson in store, namely that three years of this type of support is not sufficient to generate sustained gains in maternal and neonatal health. It is too early to come to such a conclusion. For now, we have to rely on hope rather than evidence that such a conclusion will not be reached.

11.4.2 MANI CICF

The short funding periods of less than 21 months were a major constraint for all CICF-funded projects, only partially mitigated by the flexibility of the CICF in granting no-cost and costed extensions. The second most commonly mentioned constraint was the limitation of human resource costs to 25 percent of the grant budget.

CICF-funded projects generally achieved their objectives of delivering proof of concept (or absence of a proof of concept) for the piloted innovation, or for building policy support and increasing implementation for interventions of proven efficacy. Individual assessments, however, differed between grants implemented by social enterprises according to their business model, grants for implementation research projects, and grants complementing the development programme portfolio of international NGOs. Two grants implemented by national social enterprises (although one of them was administered by a US-based academic institution) had the best fit with the challenge funding model and generated promising results in terms of scaling up innovation.

Although evidence generation was a necessary and important objective of the CICF, the evaluation found that innovation challenge funding was not an appropriate instrument for funding research projects. Neither the grant selection and performance monitoring criteria nor the time limits and financing rules (e.g. the 25% human resource budget limits) of the CICF grants were adapted to the needs of research organisations.

11.4.3 MiH

Lack of integration of the supportive supervision in the standard SCHMT supervision systems risks reducing the potential longer-term impact of the training investment and reduces sustainability. Effective supportive supervision requires continuity and is best integrated in the local supervisory systems.

The evaluation by LSTM on the impact of training[68] confirmed that there was a significant increase in recognised and recorded obstetric complications (from 4% to 8% of total deliveries) with a decrease from 4.1% to 3.4% in the obstetric case fatality rate. However maternal deaths increased from 61 to 98 and stillbirth rates remained unchanged. It is unclear how much the drop in obstetric case fatality rate reflects the higher number of complications recorded or better quality care. The impact of training (beyond better recognition and recording of complications) could therefore not be established and has to be analysed in the context of all system changes. The same evaluation of impact of training by LSTM suggests increased capacity of health facilities carrying out all essential EmONC signal functions at six months (increasing from 64% to 78%) reducing again at 12 months (to 67%). The reduction may reflect changes in staff or in the working environment, but, to our knowledge, was not explained. This is another example pointing to the lack of system analysis by LSTM. The Bungoma County project set-up with inputs from MiH, CICF and MANI could have been a setting for operational research by LSTM on system consequences and impact of training,

[68] Data submitted by LSTM were analysed by the evaluation team.

but this opportunity was missed. Future LSTM programmes should document system changes and interpret findings in the broader system context.

Although LSTM managed to train all MNH staff in high-volume health facilities throughout Kenya, there is a continuing need for in-service training in EmONC because of high staff turn-over, attrition of health workers, the national policy of a single nurse-midwife cadre, the need for regular refresher courses, and ensuring coverage at all levels countrywide. Addressing this issue would require changing the national policy of a single nursing cadre (this discussion is currently ongoing), county-specific human resource policies and guidelines related to staff appointments, staff transfer and staff motivation. The lesson is that investments in training of health staff should be complemented by efforts to affect the necessary policy and/or system changes in order to be fully effective.

The national approach to training currently focuses on mentorship and on-the-job training as an effective, efficient and less intrusive way of training and capacity building, and a national mentorship package is in process of being developed. This requires further analysis and documentation in order to assess its efficiency.

Overall, training needs to be integrated and accompanied by other health system inputs in order to have a real impact on improving maternal and newborn health. Training efforts and implementation of skills were hampered by insufficient staff, lack of proper equipment, medicines and supplies, absence of blood for transfusion, referral modalities and insufficient funding. The extent of the health system gaps varies by county and within counties.

11.4.4 MNH Programme

Investing in comprehensive health system strengthening including (or in addition to) intensive competency based EmONC training improves MNH outcomes, likely contributes to reducing maternal mortality and potentially could reduce neonatal mortality. Based on conservative estimates of efficacy and attributability it is a cost-effective investment, providing value for money. But in order to sustain gains, longer-term investments are required and domestic financing strategies need to be developed and implemented. In addition, systems need to be well integrated (e.g. supportive supervision), CHMT and SCHMTs need to be (made) responsible, strategies need to be inclusive (e.g. addressing both public and private providers; PBF needs to cover all facilities; vouchers need to be accessible to all women who need them), and fundamental system constraints such as staff availability need to be addressed.

Overall, policy dialogue and working with the MoH at national level was a key element of the MNH Programme but was more formalised during the first phase of the programme (mainly through UNICEF) before restructuring. While important efforts were made by LSTM and MANI to continue the policy dialogue and share lessons learnt, there is still scope to share more of the health system strengthening lessons from Bungoma with central MoH, using the evidence-based documentation developed by Options. Reducing the support at central level post-restructuring could have contributed to a less effective MNH policy dialogue. However, the communication support provided to the MoH and to each of the implementing agencies through Internews as well as the CEMD report contributed to keeping MNH on the policy table.

While there is no doubt that in-service training by LSTM was complementary to the other HSS workstreams as supported by MANI in Bungoma and some CICF projects, the main question is whether the way in-service training was implemented was sufficiently integrated at county and sub-county level. This requires close collaboration and implementation through county-based KMTCs and embedding supportive supervision and mentoring in the day-to-day management by SCHMTs. This was not achieved at a sufficient level during the MNH Programme and limits the potential impact of the training investment.

In Bungoma however, MANI addressed this by strengthening supportive supervision through the regular institutional channels (eg. using CHMT and SCHMTs) and by introducing EmONC mentorship by higher-level facilities for lower-level facilities. Doing so, MANI addressed a gap in the approach to training by LSTM and documented how health systems strengthening requires a comprehensive and integrated approach, which may not have been sufficiently addressed in other counties. It is a missed opportunity that LSTM did not learn more from implementing trainings in Bungoma County with a view of better understanding the intended and unintended consequences of the MiH in-service and pre-service training on the health system.

More exchange of information and lessons learnt between implementing partners on what works – and does not work – would have helped maximise synergies and make existing efforts more effective.

Sharing and using the lessons learnt from the support to HSS in Bungoma County could help other counties to achieve and sustain quality MNH services. Unfortunately, the new HSS programme will have a more limited scope in terms of content, while expanding its geographic area of implementation to four counties. TA provided with WB THS-UC funding is limited to four specific areas and also covers a sub-set of counties (as does the MDTF). In order to achieve sustainable quality MNH services throughout Kenya, more effort and investment will be required. Sharing the lessons learnt from Bungoma with all 47 counties may help achieving this. But key sector issues such as human resources and health financing will require solutions that only government can ensure.

An important issue threatening sustainability of training is the human resource issue of a single nurse-midwife cadre that needs to be dealt with at a higher policy level. This is difficult to address by an outside technical partner. But the fact that LSTM continues to support training provides an opportunity for achieving sustainable change.

End Notes

[i] [i] National Council for Population and Development, 2009. Kenya Demographic and Health Survey 2008-2009. Calverton, Maryland: Macro International Inc (can be accessed from *www.knbs.or.ke/index.php...**kenya-demographic-and-health-survey**.)*

[ii] Thaddeus S and Maine D, 1994. Too far to walk: maternal mortality in context. Soc Sci Med 38: 1091-1110.

[iii] Details available on *beyondzero.or.ke/*