

MNH PROGRAMME SUMMATIVE EVALUATION

Volume II

Annex III: **Health Facility &
Services Assessment**

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ABBREVIATIONS

| | |
|--------|--|
| ANC | Antenatal Care |
| BEmONC | Basic Emergency Obstetric & Neonatal Care |
| CDO | Context – Delivery - Outcome |
| CEmONC | Comprehensive Emergency Obstetric & Neonatal Care |
| CHMT | County Health Management Team |
| CHV | Community Health Volunteer |
| CICF | County Innovation Challenge Fund |
| CO | Clinical Officer |
| COPE | Client oriented provider efficient services |
| CS | Caesarean Section |
| CSO | Civil Society Organisation |
| CU | Community Unit |
| DALY | Disability Adjusted Life Year |
| DHIS2 | On-line health management information system used in Kenya |
| DP | Development Partner |
| EmONC | Emergency Obstetric & Neonatal Care |
| FBO | Faith Based Organisation |
| FGD | Focus Group Discussion |
| HC | Health centre |
| HF | Health facility |
| HMIS | Health Management Information System |
| HRH | Human Resources for Health |
| HSS | Health System Strengthening |
| ICT | Information and Communication Technology |
| KDHS | Kenya Demographic and Health Survey |
| KEMSA | Kenya Medical Supply Authority |
| KES | Kenyan Shilling |
| KII | Key Informant Interview |
| KMC | Kangaroo Mother Care |
| KMTC | Kenya Medical Training College |
| KQMH | Kenya Quality Model for Health |
| LSTM | Liverpool School of Tropical Medicine |
| M&E | Monitoring and Evaluation |
| MANI | Maternal and Newborn Initiative |
| MDG | Millennium Development Goal |
| M&E | Monitoring and Evaluation |
| MICS | Multiple Indicator Cluster Survey |
| MiH | Making it Happen |
| MM | Maternal Mortality |
| MMR | Maternal Mortality Ratio |

| | |
|--------|--|
| MNCH | Maternal, Newborn and Child Health |
| MNH | Maternal and Newborn Health |
| MoH | Ministry of Health |
| MPDSR | Maternal and Perinatal Death Surveillance and Response |
| NMR | Neonatal Mortality Rate |
| PBF | Performance Based Financing |
| PNC | Postnatal Care |
| QI | Quality Improvement |
| RDQA | Review Data Quality Audit |
| RMNCH | Reproductive, Maternal, Neonatal and Child Health |
| RMNCAH | Reproductive, Maternal, Newborn, Child and Adolescent Health |
| SBA | Skilled Birth Attendance |
| SBCC | Social Behavioural Change Communication |
| SBMR | Standard based management and recognition |
| SBR | Still Birth Rate |
| SCI | Save the Children |
| SCHMT | Sub-County Health Management Team |
| TA | Technical Assistance |
| TBA | Traditional Birth Attendant |
| ToC | Theory of Change |
| ToT | Trainer of Trainers |
| TWG | Technical working group |
| UBT | Uterine Balloon Tamponade |
| U5MR | Under Five Mortality Rate |
| UHC | Universal Health Coverage |
| VfM | Value for Money |
| WHO | World Health Organization |

1 METHODOLOGY

The health facility and services assessments collected both quantitative and qualitative data and covered the following areas (including aspects of all health system building blocks): basic infrastructure; facility management; support supervision; MNH services; referrals; infection prevention; quality improvement; MPDSR; MNH human resources and training; medicines and supplies; equipment; supply chain management; health information management; user fees / financial resources.

As per programme theory of change (ToC), improvements at the level of health facilities is an intermediate outcome. The norms for the service offer and the quality of services for EmONC are standardised by national policy. The assessment allows a determination of the extent to which gaps in achieving these standards were closed with MNH Programme support since the baseline study conducted by MANI/Population Council in 2015.

During the inception mission, and after discussion with the MANI team and the Bungoma Council Health Management team (CHMT), we revised the approach to data collection at facility level. Our initial proposal was to sample five health facilities in each of two MANI-supported sub-counties and compare them to five matched facilities in each of two non-supported sub-counties. Identifying such a sample proved impossible, especially when matching was attempted. In addition, the CHMT requested that facilities in all six MANI-supported sub-counties be included in the assessment. Furthermore, comparing EmONC services at facility level in MANI-supported and non-supported sub-counties would not be informative because there was no baseline information for the facilities in the four non-supported sub-counties, and close matching of facilities was not possible. The comparison was instead achieved at the outcome level through the household survey of women accessing maternity services in MANI-supported and matched non-supported health facilities. The survey collected information from end-users about the availability, access, utilisation, quality and outcome of obstetric services received in these facilities (see separate report).

This change in the methodology decreased the number of facility assessments from a planned 20 to nine and allowed us to considerably expand the scope of data collection in each facility. This covers nine of the 21 health facilities comprehensively supported by MANI, or 41%.

Table 1. Health facilities assessed in Bungoma county at end-line

| Health facility | Type | Level | Sub-county | Ownership |
|--|----------|--------|-------------|-----------|
| Chwele Sub district hospital* | Hosp | BEmONC | Kabuchai | Gov |
| Kimalewa Health Centre* | HC | BEmONC | Kabuchai | Gov |
| Bungoma County Referral Hospital* | Ref Hosp | CEmONC | Kanduyi | Gov |
| Kibabii Health Centre* | HC | BEmONC | Kanduyi | FBO |
| Sirisia Hospital* | Hosp | BEmONC | Sirisia | Gov |
| Makutano Dispensary | Disp | BEmONC | Tongaren | Gov |
| Mihuu Dispensary | Disp | BEmONC | Webuye East | Gov |
| Webuye Hospital | Hosp | CEmONC | Webuye West | Gov |
| Lugulu Friends Mission Hospital | Hosp | CEMoNC | Webuye West | FBO |

(*) Indicates the 5 health facilities for which baseline information existed and for which base and end-line performance was compared

The Health Facility & Services Assessment tool used is much more comprehensive and detailed than the Rapid Health Facility Tool used during the formative evaluation (33 pages versus 4 pages; see annex 1 for the survey tool). Data collected allowed a comparison with the comprehensive set of data collected at

baseline and permits a detailed evidence-based documentation of the achievements of the MNH Programme.

Facilities were assessed by the implementing agency Options / Population Council in August 2015, at the start of the MANI programme implementation. Re-assessment was done by the evaluation team in November 2018, three and a half year after the start of the programme, before its closure in December 2018.

The evaluation team consisted of two international and two national senior health experts. The assessment was a combination of physical check of the facilities, equipment and logistics/commodities, review of facility records, data quality assessment (see Annex 2), observation of services provided and key informant interviews with facility staff. Community perceptions were collected through focus group discussions in the catchment area of the facilities (see separate annex to the summative evaluation) and the household survey (see separate report).

Findings are presented per health system block as follows:

Under each heading we document

- a)** whether changes occurred in 5 health facilities between the baseline (August 2015) and the end of the project (November 2018) (Bungoma referral hospital [BRH], Sirisia hospital, Kibabii HC, Chwele hospital and Kimalewa HC); and
- b)** what the performance was in the 9 health facilities (the above 5 facilities plus Lugulu Friends hospital, Webuye hospital, Makutano Dispensary and Mihuu Dispensary) at the end of the MANI project (as per November 2018).

Of the nine facilities, two are faith-based (Kibabii HC and Lugulu Friends Mission hospital) whereas the others are all public facilities. All facilities apart from Mihuu dispensary operate 24/7 hours.

2 BASIC INFRASTRUCTURE

2.1 SERVICE CAPACITY

As indicated in the table below, service capacity for MNH both for out- and inpatients increased compared to the baseline. Bed capacity for deliveries in the 5 sampled facilities increased by 30%, pre- and post-delivery beds by 22%, compared to an overall increase of bed capacity of 12%. Important changes concern the increased availability of newborn care units (as a result of MANI CICF support) and blood storage facilities in the hospitals (as a result of MANI HSS support). This confirms the greater emphasis on MNH care, the increased bed capacity to cope with higher demand for MNH services as a result of free MNH care, and improved quality by offering blood transfusion and newborn care.

Table 2. Change in service capacity between 2015 and 2018

| | Change in 5 HF 2015-2018 | Comments |
|---|--------------------------|---|
| Overall bed capacity | +12% | Mainly in Bungoma RH and Chwele hospital |
| Pre/post-delivery beds | + 22% | Pre-delivery beds decreased by 21%, except in Chwele hospital where it increased by 20%. Postnatal beds increased overall by 45%, only in the 3 hospitals |
| Delivery beds | +30% | Mainly in the 3 hospitals; status quo in both HC |
| ANC, FP, PNC consultation rooms | - 7% | No change in ANC; 1 additional room in FP; two less PNC consultation rooms, but consultations were done in the post-natal wards |
| Functional delivery rooms | | No change |
| Functional newborn units | From 1 to 3 | All 3 hospitals had a functional newborn unit, up from one unit at baseline |
| Functional operating theatre | | No change in operating theatres. Only Bungoma RH has an operating theatre |
| Functional blood bank / storage with 24/7 powered refrigerator and blood stored at time of visit | From (1) 2 to 3 | All 3 hospitals store blood compared to 2 hospitals at baseline. At baseline only 1 hospital had blood stored at the time of the visit |
| Functional laboratory | | No change |

The changes reflected above were confirmed by the current situation in the larger sample of 9 health facilities (HF).

All 9 HF had a functional delivery room and a functional laboratory. All 5 hospitals had a functional new-born unit, although some were more operational than others as confirmed by site visits (Bungoma RH and Webuye hospital had very busy and well-functioning newborn units). Three hospitals had a functional operating theatre (except Chwele and Sirisia hospitals). All hospitals had a functional blood storage and had blood stored at the time of the visit¹.

¹ Blood transfusion, supported by MANI, now includes 5 public Hospitals transfusing are BRH, Webuye, Sirisia, Chwele and Naitiri; 2 faith-based hospitals Lugulu and St. Damiano; and 4 Private hospitals in Bungoma county.

Only three hospitals with a functional operating theatre (excluding any private for-profit hospital), capable of performing CS, for a population of about 1,1 million (6 sub-counties) is substantially below WHO minimum requirements. A standard district hospital for a population of 100 to 200,000 people would require an operating theatre for essential surgery such as CS.

2.2 CUSTOMER ORIENTATION

The situation regarding customer information and guidance did not substantially change over the 4 years. This was confirmed in the larger sample of 9 facilities. In 2018 a customer care desk was available in 7 of 9 HF (all 5 hospitals; one HC and one dispensary). All HF had a system to manage patient complaints and 8 HF had a suggestion box for collecting views (except one dispensary). Feedback provided by customers was used in 7/9 HF. 7 HF had a service charter visible to clients. 5/9 HF had clear signage for ANC, PNC, FP, immunisation and 7 HF had clear sign post and signage indicating location of the facility.

Table 3. Change in customer orientation between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|---|------------------------------|---------------------------|--|
| Customer care desk | From 5 to 4/5 | 7/9 | Except Kibabii HC and Makutano dispensary |
| Service charter visible to clients | From 4 to 5/5 | 7/9 | Except Kimalewa and Makutano |
| Clear signage for ANC, PNC, FP, immunisation, delivery | From 2 to 3/5 | 5/9 | Except Bungoma RH, Kimalewa HC, Makutano, Mihuu dispensary |
| Signpost indicating localisation | From 5 to 4/5 | 8/9 | Except Mihuu dispensary |
| System to manage patient complaints | 5 HF – no change | 9/9 | |
| Suggestion box | From 4 to 5 HF | 8/9 | |
| Use of customer feedback | From 3.5 to 4.5 ² | 7/9 | Used in 5 HF (4 always, 1 sometimes), compared to 1HF always, 2 mostly and 2 sometimes at baseline |

2.3 MAIN SUPPLIES

While all health facilities were already connected to the grid at the start of the programme, continuous supply of electricity, including in the maternity and postnatal ward, was assured through solar systems in 4/5 HF. This was entirely a result of the DFID investment. All 5 HF had now a back-up power system in place, which was not the case at the start. Water supply also improved, albeit to a lesser extent. Three HF had piped water, up from 2 at the start; and three HF had two sources of water.

At the end line all 9 HF were connected to the grid and had a back-up power system. 6 HF had solar power; 3 hospitals had a generator. The maternity ward in 7/9 HF, and postnatal ward in 8 HF has 24/7 electricity (except Sirisia hospital and Mihuu dispensary). All three main hospitals with an operating theatre had 24/7

² Weighted average. Always = 1; mostly = 0.75; sometimes = 0.5; never = 0.

electricity supply to the theatre. Water supply was assured by piped water (4 HF), boreholes (4 HF), or rainwater tank (Kibabii HC). Only 3 HF had additional water sources including boreholes, water browsers or rainwater harvesting.

Table 4. Change in availability of main supplies between 2015 and 2018

| | Change in 5HF 2015-2018 | Situation in 9HF in 2018 | Comments |
|--|----------------------------|--------------------------------|--|
| Main power source | 5/5 | 9/9 | All HF were connected to the grid, no change |
| Solar power | From 0 to 4/5 | 6/9 | 6 HF now had solar energy (none at baseline) |
| Back-up power system | From 1 to 5 | 9/9 | Solar or generator |
| Maternity and PN ward with 24/7 electricity | From 1 to 4/5 | 8/9 | Except Sirisia hospital |
| Operating theatre with 24/7 electricity | - | 3/3 | All three hospitals with an operating theatre had 24/7 electricity |
| Piped water | From 2 to 3/5 | 4/9 | |
| At least two water sources | From 0 to 3/5 | 3/9 | Alternative sources were borehole or rainwater tank |

2.4 GENERAL CONDITION OF INFRASTRUCTURE & MAINTENANCE

General conditions of wards had improved, rooms were kept clean (no change), access to toilets and especially bathrooms (with hot water) in the maternity improved, privacy in maternity was optimized by the availability of curtains and screens in most HF. All HF had wheelchairs and stretchers; private space for FP consult, ANC and PNC was available in most facilities and a private room for KMC in all HF. Shaded waiting areas with seats were available at all HF.

This greatly **improved conditions in the 5 HF was confirmed by the same situation in most of the 9 HF in November 2018**. This was to a great extent the result of MANI investments made in the respective maternities / labour wards.

Table 5. Change in general conditions of maternity and labour wards between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|--|---|---|--|
| General condition of labour ward / delivery room | From 5 HF in fair condition to 2 HF in good and 3HF in fair condition | 6 HF in good and 3 HF in fair condition | No data on OPD and PNC wards |
| Cleanliness of MNH rooms / wards | Clean. No change | Clean & no damage in 9 HF | Satisfactory, no change compared to baseline |
| Functional & easily accessible toilet in maternity : toilet in labour ward: | From 3 to 4/5 HF From 5 – 5 HF | In 8/9HF | Except Chwele hospital |

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|--|--------------------------------------|---------------------------|---|
| Functional & easily accessible bathroom in maternity : Bathroom in labour ward: | From 2 to 3/5 HF From 2 to 5/5 HF | In 8/9HF | Except Chwele hospital |
| Curtains in maternity : Curtains in labour ward: | From 0 to 5/5 HF From 4 to 5/5 HF | 9HF | |
| Screens for privacy in maternity: Screens in labour ward: | From 0 to 4/5 HF From 3 to 4/5 HF | 7/9 HF | Except Sirisia hospital & Mihuu dispensary |
| Shaded waiting areas with seats | - / 5 HF | 9 HF | No data for baseline |
| Wheelchair and/or stretcher | - / 5 HF | 9HF | No data for baseline |
| Private space for FP consult | - / 3 HF | 6/9 HF | No data for baseline |
| Privacy for ANC-PNC examination at maternity | - / 4 HF | 7-8/9 HF | No data for baseline |
| Private room for KMC at maternity | - / 5 HF | 6/9 HF | No data for baseline. Except Kibabii HC, Makutano disp & Mihuu disp |

3 REFERRAL SYSTEM

Functional ambulances were available at all 5 HF, both at base and end line, 24/7 (this does not mean that the ambulance was stationed at the HF but that the HF has access to an ambulance service when needed). Funds (hospital budget / Linda Mama) for emergency transport were available at the 3 hospitals, both at base (hospital budget) and end line (Linda Mama & hospital budget). In addition, some external sources of funding for transport were available at 3/5 HF (e.g. from 'aspirant politicians', Red Cross) compared to 2/5 HF at baseline. Basically, ambulance services were available and had not changed much over the programme period, apart from the availability of Linda Mama resources at all facilities to cover costs when needed. According to Options, availability of a reliable system of ambulance services remains however an issue.

Reportedly, no patients were turned away by the HF during labour at base and end line. All 5 HF refer some maternity cases to the next level HF, compared to 0/5 HF reported at baseline (which is surprising). Reasons for referral included lack of blood / platelets for transfusion; complications requiring CS; and poor progression of labour. Referral slips were available in 5/5 HF compared to 3/5 HF at baseline; and were always used in 4/5 HF and mostly in 1 HF; this compares favourably to the baseline when 2 HF never used referral slips. Calling the HF where the patient is being referred to was standard practice, both at base and end line. Receiving a call from the referring HF happens less frequent: now in most (2) or some (2) or no (1) cases; compared to never in 3/5 cases and mostly in 2/5 cases at baseline. Receiving feedback from higher level happens more rarely: most of the time in 2/5 HF both at base and end line. Feedback was provided by the HF most of the time (3/5 HF) or sometimes (2); compared to never (2), sometimes (1), mostly (1) and always (1) at baseline. Referrals from CHV occur at all 5 HF compared to 4/5 HF at baseline (excluding BRH). Feedback was provided to the CHV in 5/5 HF compared to 2 HF at baseline.

All in all, referrals happened more correctly at the end line, using referral slips, calling the next level facility, (not always) receiving feedback and providing feedback. This was confirmed by the analysis of the 9 HF (see table below).

Table 6. Change in referral systems between 2015 and 2018

| | 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 | |
| Availability of referral slips Use of referral slips | From 3 to 5 HF From 2 to 4-5 HF | 8/9 HF 7-8/9 HF | Not available in one dispensary Always (6), mostly (1), sometimes (1) |
| 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 | 2/5 HF | 5.5/9 HF ³ | No change |
| Providing feedback to the HF that referred | From 2.25 to 3.25 / 5 HF | 6.5/9 HF | |
| Receiving referrals from CHV | From 4 to 5/5 HF | 9HF | |
| Providing feedback to the CHV | From 2 to 5/5 HF | 9HF | |

4 FACILITY MANAGEMENT, QUALITY IMPROVEMENT, MPDSR, SUPERVISION

A **health facility management board** (HFMB) or committee was elected in 3/5 HF (and just expired in 2 more HF) (compared to 5 HF at baseline); gazetted in 3/5 HF (4 HF at baseline; but private HF were not gazetted); and trained as per national guidelines in 3 HF (4 HF at baseline). HFMB met during last quarter on average 1 time (come belowpared to 1,5 time at baseline; if expired HFMB are excluded frequency was 1,75); and during last year on average 3 times (compared to 2 times at baseline).

Only one HFMB had an annual work plan (AWP), compared to 4/5 before; none had a Quality Improvement Management Plan (4/5 before); none had a budget (2 before); minutes were not filed (2 before), but last minutes were available in 4/5 HF, compared to 3 at baseline. However, resolutions were poorly implemented: 2/5 only compared to 4/5 at baseline.

Quality Improvement teams (QIT) were in place in 4/5 HF, of which 2 had clear TOR as per KQMMH guidelines (compared to only 1/5 HF at baseline, Bungoma Referral Hospital). In 2 HF the MNH department worked with a work improvement team (no change). While at baseline only BRH used KQMMH 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 used health reforms, leadership and governance courses. HF staff participated in CME training and

³ Weighted average. Always = 1; mostly = 0.75; sometimes = 0.5; never = 0.

in QI learning sessions in 3/5 HF (compared to 1 HF at baseline). QIT met twice in the last quarter, compared to no meetings at baseline. However, a quality improvement plan was only available at 1 HF (0 at baseline) and HF did not document best practices yet.

Table 7. Change in health facility management between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|--|--|------------------------------|---|
| Health Facility Management Board (HFMB) elected / gazetted / trained | From 5 to 3 HF From 4 to 3 HF From 4 to 3 HF | 6/9 HF 3/9 HF 6/9 HF | |
| HFMB met last quarter / last year | From 1.5 to 1.75 time From 2 to 3 times | 1.70 times 3 times | Mihuu dispensary FMB met 12 times in the last year. |
| HFMB with an AWP A QIMP A budget | From 4 to 1 HF From 4 to 0 HF From 2 to 0 HF | 5/9 HF 4/9 HF 4/9 HF | |
| HFMB minutes filed / last minutes available / resolutions implemented | From 2 to 4 HF From 3 to 4 HF From 4 to 2 HF | 8 HF 8 HF 6 HF | |
| Quality Improvement team (QIT) in place / with clear TOR | From 1 to 4/5 HF From 1 to 2 HF | 8/9 HF 6/9 HF | Except Kimalewa HC |
| QIT use KQMMH guidelines / COPE / SBMR / safe care | From 1 to 2/5 HF From 1 to 3 HF From 1 to 3 HF From 1 to 2 HF | 4 HF 4 HF 6 HF 5 HF | |
| QIT use health reforms, leadership courses | From 1 to 4/5 HF | 7 HF | |
| QIT met last quarter | From 0 to 4/5 HF | 8/9 HF | 8 HF met twice in the last quarter |
| HF has a quality improvement plan in place | From 0 to 1 HF | 5/9 HF | |
| HF staff participated in CME training in the last 6 months | From 1 to 3/5 HF | 7/9 HF | |
| HF staff participated in QI learning in the last 12 months | From 1 to 3/5 HF | 7/9 HF | |
| HF documents best practices | 0 HF – no change | 1 HF | Lugulu Mission Hospital |
| MNH department with Work Improvement Team | 2 HF no change | | |

While the Health Facility Management Boards became less active compared to the baseline, the quality improvement teams became much more prominent and active. This situation was confirmed by the analysis of the 9 HF for the QIT (and even better when compared to the sample of 5 HF). However, facility management Boards were somewhat more active in the sample of 9 HF (albeit in less than half of the facilities).

The increased focus on Quality Improvement Teams was a result from the MANI 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 above data.

MPDSR Committees were in place in all 5 HF (4/5 at baseline) with a similar composition at base and end line. 3 MPDSR Committees had a workplan for the current quarter (1/5 at baseline), of which only 1 had a budget (zero at baseline). MPDSR committees met 3 or 4 times in last quarter (compared to 0-1 at baseline), or on average 14 times in the last year. Minutes of last MPDSR meeting were available in 5/5 HF (4/5 at baseline) and evidence of actions implemented was present in 4/5 HF (compared to 3/5 at baseline).

Table 8. Change in MPDSR performance and supportive supervision between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|--|-----------------------------------|---------------------------|--|
| MPDSR Committee in place | From 4 to 5 HF | 9 HF | |
| MPDSR work plan for current quarter | From 1 to 3 HF | 6/9 HF | |
| Work plan with budget | From 0 to 1 HF | 3/9 HF | |
| MPDSR Committee meetings last quarter / last year | From 0-1 to 3-4 From 0-1 to 14 | 3-4 13 | Range of meetings: 12 to 17 last year |
| Minutes of last meeting available | From 4 to 5 HF | 9 HF | |
| Actions implemented | From 3 to 4 HF | 8 HF | |
| Maternal death review last year | From 0 of 1 MD to 2 of 2 MD | 4 of 4 MD | All reviews completed and actions taken |
| Perinatal death review last year | From 1 of 4 PD to 4 of 5 PD | 8 or 9 PD | 8 of 9 PD reviewed and for 7 actions were completed |
| Verbal autopsy received | From 0 to 3/5 HF | 5 HF | All verbal autopsies were reviewed by the MPDSR committee and for 4 actions were taken (one unknown) |
| MPDSR report uploaded in DHIS | From 1 to 3 HF | 7/9 HF | Not known for Kimalewa HC; and not done by Kibabii HC |
| MNH supportive supervision received in last quarter | From 3 to 5 HF | 9/9 HF | With checklists used, and feedback provided, and action points implemented |

Two of three hospitals had maternal deaths last year, with notifications completed, maternal death reviews conducted, and action points implemented (1 hospital had maternal deaths at baseline, with no notification completed; no death review; no action points).

All 5 HF had at least one perinatal death in the last year (4/5 HF at baseline), of which 4 HF had completed the notification form, conducted the death review, and completed the action points (compared to 1 of 4 perinatal deaths at baseline with a notification form, the audit conducted, and no action point completed).

3 HF received verbal autopsies from CUs and 2 were reviewed by the MPDSR committee and actions taken. At baseline no HF received a verbal autopsy.

3 HF had the MPDSR report uploaded in DHIS (compared to only 1 HF at baseline). And all 5 HF received MNH supportive supervision in the last quarter, done by the SCHMT & MANI, with checklists used, and feedback provided, and action points implemented (compared to 3/5 at baseline with checklist & feedback; no information on who supervised nor on actions taken).

The above situation on MPDSR and supportive supervision improved much compared to baseline and the overall good performance was confirmed by the analysis of the 9 health facilities, with active MPDSR committees in place in all facilities, having reviewed and implemented actions for all maternal deaths and most perinatal deaths. For at least 7 of 9 HF the MPDSR report was uploaded in DHIS. Finally, supportive supervision by the SCHMT and MANI was standard practice at the end of the MNH programme.

The improved performance on MPDSR was to a large extent the result of the MANI programme.

5 INFECTION CONTROL IN DELIVERY ROOM AND OPERATING THEATRE

Cleanliness improved substantially in the maternity ward or labour room from an overall score of 33% (13/40) at baseline to 68% (27/40) at the end of the programme, and equally in the single operating theatre of Bungoma Referral Hospital from 33% (3/9) to 78% (7/9). **Equipment, logistics and supplies for infection control** had in general substantially improved in the maternity or labour room with an availability score of 74% (48/65) compared to 52% (34/65) at baseline. The situation in the single operating theatre remained stable with a score of 77% (10/13), both in 2015 and 2018. Equipment, logistics and supplies for waste disposal in general substantially improved in the maternity and labour room. Total availability score increased from 33% (26/80) to 78% (62/80). The situation in the single operating theatre equally improved from 50% (4/8) to 88% (7/8).

Table 9. Change in infection control in maternity between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|---|--------------------------|------------------------|--|
| Cleanliness in maternity and labour room | From score of 33% to 68% | Score of 74% | The score is mainly reflecting conditions as observed by the evaluator |
| Operating theatre | From 33% to 78% | 89% | |
| Infection control in maternity and labour room | From score 52% to 74% | Score of 80% | The score is mainly reflecting availability of equipment, logistics and supplies |
| Operating theatre | 77% - 77% | Score of 77% | |
| Waste disposal in maternity and labour room | From score 33% to 78% | Score of 83% | The score is mainly reflecting availability of equipment, logistics and supplies |
| Operating theatre | From 50% to 88% | 92% | |

Cleanliness, infection control and waste disposal both in the maternity ward, labour room and operating theatre had markedly improved over the last three years. This was confirmed by the sample of 9 health facilities with an overall score of 74% (52/70), 80% (94/117) and 83 % (58/70) for respectively cleanliness, infection control and waste disposal in maternity or labour ward; and 89% (24/27), 77% (30/39) and 92% (22/24) in the three operating theatres of the sample.

MANI invested much in infection control and waste management under its 'green energy' programme.

6 HUMAN RESOURCES

6.1 AVAILABILITY OF HUMAN RESOURCES

Excluding individual private practices, the Bungoma health system counted 16 specialised medical officers of which 10 were based in BRH and 3 respectively in Lugulu and Webuye hospitals. Only in BRH and Lugulu mission hospitals a specialist was appointed at maternity. No change was documented since 2015. Medical officers (MO) were only based in hospitals. They totalled 36 of which 10 in BRH, 20 in Webuye, 4 in Lugulu and 1 in Sirisia hospital and 1 in Chwele. Only in BRH there was a MO appointed at MCH, while 6 MOs were posted at maternity (of which 4 in BRH, 1 in Webuye and 1 in Lugulu). Clinical officers were posted at all health facilities, including health centres and dispensaries (one or two COs). They were quite numerous at hospital level with 37 in BRH, 21 in Webuye, 11 in Lugulu, 8 in Sirisia, and 5 in Chwele hospital. Based on the 5 health facilities sampled, the number of COs increased substantially with 37% but not in all health facilities.

Table 10. Change in availability of human resources between 2015 and 2018

| | Change in 5 HF 2015-2018 | Comments |
|-----------------------------------|-----------------------------|-----------------------------------|
| Medical specialist | +250% | Increase from 4 to 10 specialists |
| Medical officer | -42% | Decrease from 19 to 11 MO |
| Clinical Officer | +37% | Increase from 27 to 37 CO |
| Registered nurse-midwife | +48% | Increase from 84 to 125 |
| Enrolled nurse-midwife | -43% | Decrease from 115 to 59 |
| Anaesthetist | No change | 7 anaesthetists |
| Theatre nurse | No change | 6 theatre nurses |
| Lab technician | +67% | Increase from 27 to 42 |
| Pharm technician | +27% | Increase from 15 to 19 |
| Health Information Officer | +22% | Increase from 9 to 11 |

Registered nurse-midwives were much available in all HF, at 89 in BRH; 128 in Webuye; 57 in Lugulu; 18 in Sirisia and 12 in Chwele hospital. Three or four nurses were posted at health centres and dispensaries. In the 5 HF sampled, the number increased by 48%. Numbers of registered nurses posted at MCH and maternity in the 9 HF increased respectively from 8 to 10, and from 6 to 17.

Enrolled nurse midwives were less available in all HF (57 in BRH; 25 in Webuye; 2 in Chwele; zero in Sirisia, 3 in Lugulu and zero to 2 in the health centres / dispensaries); and decreased by 43% in the 5 health facilities sampled.

Anaesthetists and theatre nurses were logically only available at hospitals with a functional operating theatre. They were however few in numbers. BRH had one anaesthetist and 2 theatre nurses; Webuye had respectively 4 and 2; Lugulu had 2 of each cadre. The situation was overall the same as in 2015.

On the other hand, lab technicians were available in all HF and the number increased by 67% since 2015. A similar trend was observed for pharm technicians based at all hospitals, with an overall increase of 27%. Health Information Officers were based in all facilities, except dispensaries. The total number increased by 22% in the 5 health facilities sampled.

The overall increase in staff numbers and specifically of important staff for maternity / MNCH services such as clinical officers, registered nurse-midwives and lab technicians is remarkable. The increase of 41 registered nurse-midwives was however more than neutralised by the decrease of 56 enrolled nurse-midwives. And a

similar observation relates to the increase in numbers of COs (10), partly off-set by the decrease in number of medical officers (8). Availability of theatre staff such as anaesthetists and theatre nurses was below minimum standards and possibly reflects both the scarcity of such specialised staff as well as the lesser attention provided to surgical services in the MiH programme. **The above data confirm the peculiar situation of HRH. While the MNH programme (including the MiH programme) will have contributed to the increased focus on MNH services, it had limited or no direct impact on increased numbers of staff.**

6.2 STAFF TRAINING

Total number of HF where MCH/maternity staff was trained in the last 12 months before the assessment both at base and end line remained largely the same over the programme period, with more emphasis on number of maternity staff trained (increase from 89 at baseline to 103 staff trained at end line) than on MCH staff (decrease from 100 to 87 staff trained). Focal areas in which more staff was trained recently compared to baseline include patient right charter, MPDSR, routine delivery, management of labour, use of partograph, active management of third stage labour, targeted post-partum care for the mother, pre-eclampsia, newborn resuscitation, syphilis screening. Areas where less than 50% of HF received training in the last 12 months include STI symptomatic management, dry blood spot collection, comprehensive ANC (FANC), newborn feeding / breast feeding, contraceptive technology updates, screening for cancer. Three out of 5 HF received training in KMC.

It should be noted that most LSTM EMONC training took place in 2014-2015, just before the start of the MANI project in Bungoma. The above data confirm that training continued with similar levels of effort during the period 2015-2018.

In the 9 health facilities, total number of MCH/maternity staff trained in the last 12 months equals 133/248 for MCH and 138/248 for maternity staff, putting equal emphasis on both departments but, as to be expected, with a different set of trainings (more focus on delivery & perinatal & new-born for maternity; more on general diseases for MCH staff). 6/8 facilities received training on MPDRS in the last 12 months. Only 4/8 MCH departments and 5/8 maternities received training on KMC in the last year.

7 MNH AND EMONC SERVICES

Availability of 27 essential MNH services at the MCH/FP department or at the maternity unit improved in all HF. Total overall score of MNH services provided increased from 83% (112/135) to 90% (122/135).

Table 11. Change in provision of essential MNH and EmONC services between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|--|-----------------------------|---------------------------|----------|
| Essential MNH services | From 83% to 90% | 98% | |
| Essential BEMONC and CEMONC functions | From 77% to 97% | 94% | |

Availability of essential MNH services was comprehensive in all or almost all HF (mostly 9/9; 8/9 for immunisation & growth monitoring). All HF now provided the whole set of services except Elisa test (no longer done), sterilization, abortion services and CD4 count services carried out only at hospital level.

Total overall score in 2018 for the 9 health facilities was 98% (226/231).

Most HF confirmed to have the necessary supplies, medicines and skilled staff to do all essential BEMONC or CEMONC functions. The only exception was Sirisia hospital and for a few services Kimalewa HC. Surprisingly Mihuu dispensary provides a full set of BEMONC functions, more comprehensively than Sirisia hospital and Kimalewa HC. Total score for the 9 health facilities was 94% (109/116). Total score for the 5 sampled health facilities improved from 77% (48/62) at baseline to 97% (60/62).

8 MEDICINES, EQUIPMENT AND SUPPLIES

Stocks of 10 **test kits** at the 9 health facilities in 2018 were almost at 100% with a score of 97% (87/90). Stock-outs in the last 3 months of a test kit occurred 7 times (on a total of 90 possible occasions). Stock of test kits improved over the period 2015-18 with a score of 96% (48/50) compared to 82% (41/50) at baseline. Stock-outs in the last 3 months decreased from 8 to 5 test kits.

Table 12. Change in availability of medicines, equipment and supplies between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|---|-----------------------------|------------------------------|----------|
| Stock of test kits | From 82% to 96% | 97% | |
| Stock-out of test kits | From 16% to 10% | 8% | |
| Stock of non-pharmaceutical supplies | From 59% to 77% | 86% | |
| Stock-out of non-pharmaceutical supplies | From 36% to 7% | 17% | |
| Stock of vaccines | From 93% to 98% | 95% | |
| Stock-out of vaccines | From 16% to 7% | 4% | |
| Stock of family planning commodities | From 88% to 79% | 77% | |
| Stock-out of family planning commodities | 27% - no change | 13% | |
| Stock of pharmaceuticals | From 64% to 76% | 80% | |
| Stock-out of pharmaceuticals | From 31% to 26% | 24% | |
| | | | |

Stocks of 14 **non-pharmaceutical supplies** improved considerably from an overall score of 59% (41/70) to 77% (54/70). Lowest performance included polyglycolic acid, safety boxes and crepe bandage (available in 2 or 3/5 HF). Stock outs in the last 3 months decreased from 25 to 15 occasions. This improved situation was confirmed by the larger sample of 9 health facilities. Stocks of non-pharmaceutical supplies scored 86% (108/126) in 2018. Lowest performance included the same 3 items. Stock-outs in the last 3 months occurred 21 times on 126 possible occasions. Compared to test kits availability of non-pharmaceutical supplies was lower and stock outs more frequent.

Stock for 9 **vaccines** was highly satisfactory in 2018 with an overall score of 95% (77/81) in the 9 health facilities. The only vaccine not available or expired in all HF at the time of the visit was hepatitis B. Stock-outs in the last 3 months occurred only 3 times. Immunisation stocks remained satisfactory over the period 2015-18 with an overall score increasing from 93% (39/42) to 98% (41/42). Stock-outs in the last 3 months occurred 3 times compared to 6 times at baseline.

Family planning commodities (eleven items for hospitals; 8 items for HC / dispensary) were partly in stock at 7 of 9 HF in November 2018 (2 HC do not provide contraception, Kibabii & Kimalewa). Total score was 77% (55/71). Female condoms were only available in two facilities (1 hospital and 1HC). Out of stock in the last 3 months occurred 9 times on 71 possible occasions. Over the period 2015-2018 the total score decreased somewhat from 88% (29/33) to 79% (26/33). Out of stock in the last 3 months occurred 9 times both at base and end line and thus remained unchanged.

Stocks of **pharmaceuticals** were not continuously available. In November 2018 the total score on 36 items checked in 9 HF was 80% (258/324). Stock-outs remained an issue with 78 occasions during the last 3 months (on a total of 324 possible occasions). Almost all medicines (34 of 36) faced at least one stock out. BRH faced stock-outs for 24 of 36 medicines in the last 3 months, compared to 9 at Webuye, Chwele and Sirisia, and 2 at Lugulu hospital. Stockouts varied very much between HCs, with 18 at Makutano, 3 at Kibabii, 1 at Mihuu and zero at Kimalewa HC. Pharmaceuticals that were most out of stock (available in less than 50% of the HF at the time of the visit) include epinephrine injection, ethanol 70%, ergometrine injection, mifepristone & misoprostol, and chlorhexidine.

Stocks of pharmaceuticals improved over the programme period. A total of 32 pharmaceuticals were checked and compared with the baseline. The total score improved from 64% (102/160) to 76% (122/160). Stock-outs however remained an issue with a slight decrease from 50 to 42 occasions during the last 3 months. Almost all medicines faced a stock out with 29 of 32 medicines at baseline and 28 at end line.

Improved availability of pharmaceuticals and non-pharmaceuticals was to a considerable extent the result of the MANI programme that invested in optimising procurement channels and using PBF resources for supplying pharmaceuticals and non-pharmaceuticals directly to health facilities. This improved situation was likely to have reversed after the end of the MANI support, although HF could continue using Linda Mama resources. Family planning commodities, test kits and vaccines were not the primary target of the MANI support, but the improved procurement may also have affected availability of those commodities.

Essential and functional maternity equipment and supplies (15 items checked, November 2018) were much available in the maternity and in the MCH department of all 9 HF. On a total possible score of 135 in maternity or in MCH, if all 9 HF would have had at least one piece of the required equipment in place, the score was 123, or 91% . Bed pans were the item that was most often missing (4 of 9 HF).

Availability much improved over the programme period in the maternity of all 5 HF from 47% to 93% (96 vs 34 functional pieces of equipment) as well as in the MCH-FP department from 43% to 65% (58 versus 32 pieces of equipment).

Table 13. Change in availability of MNH equipment and supplies between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|---|--------------------------|------------------------|--|
| Maternal equipment and supplies overall | | 91% | At least one item available in maternity or in MCH |
| - In maternity | From 47% to 93% | | |
| - In MCH department | From 43% to 65% | | |
| Neonatal resuscitation equipment overall | | 79% | At least one item available in maternity or in MCH |

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|---|---|------------------------------------|----------|
| <ul style="list-style-type: none"> - In maternity - In MCH department | <p>From 37% to 67%</p> <p>From 17% to 32%</p> | | |
| Blood transfusion services | From no blood bank to functional blood bank | All 5 hospitals had blood in stock | |

Neonatal resuscitation equipment (25 items checked in hospitals, 20 in HC/dispensary) was not fully available in the maternity and the MCH-FP department at the end of the MANI programme. On a total possible score of 205, if all 9 HF would have had at least one piece of the required equipment in place, the score was 162 or 79%. Mainly missing were exchange airways (available in 6/9 HF), transfusion sets (2/5), endotracheal tubes (3/5), laryngoscope and blades (5/9).

However, availability improved over the programme period, from 37% to 67% in the maternity of all 5 HF (74 vs 41 functional pieces of equipment on a maximum of 110) as well as from 17% to 32% in the MCH-FP department (35 versus 19 pieces of equipment). If all 5 HF would have had at least one piece of the required equipment in place (whether in maternity of MCH), the score improved from 47% to 76%.

The above data suggest that the programme focused more on maternal health than on neonatal health. Also, priority was given to maternity over MCH departments. It should however be noted that the list of equipment checked reflects what is ‘needed to have’ in a maternity, and more of a ‘nice to have’ in an MCH department.

The 5 hospitals had fully screened blood in stock in November 2018. At baseline no blood bank was in place and no blood was stored at any of the hospitals. This was a major contribution by the MANI programme.

9 SUPPLY CHAIN MANAGEMENT

Sources used for supply of pharmaceuticals and non-pharmaceuticals changed quite drastically over the period 2015 to 2018. At end line, the main suppliers for non-pharmaceutical commodities were private wholesalers or private pharmacies for 5/9 HF, KEMSA for Chwele hospital, MEDS/KEMSA for Lugulu, MEDS for Makutano and NGOs for Mihuu dispensary. This changed drastically, as at baseline the main supplier for non-pharmaceutical products was the county warehouse for BRH, and KEMSA for the other 2 hospitals and for Kimalewa HC.

In 2018, the main supplier for pharmaceutical commodities was KEMSA (7/9 HF). Three of 9 HF had MEDS as a second supplier; MEDS & donations & GSK for Lugulu; and private wholesalers for Kibabii. This also changed as at baseline the main supplier for pharmaceutical products was the county warehouse for BRH and Kimalewa HC, KEMSA for the other 2 hospitals, while Kibabii HC used MEDS as supplier.

Adequate and leak-free storage space was available in 6/9 HF (except in Chwele hospital, Kimalewa HC and Makutano dispensary). Stores were clean in 8 of 9 HF and temperature and humidity was controlled in 4 HF. All the above criteria were better at baseline with 4/5 HF having adequate storage space; 5/5 stores were leak free, clean and had temperature and humidity control. No EMMS were placed directly on the floor, and

damaged, deteriorated or expired items were promptly separated from the usable stock in 8 HF (similar as at baseline). All HF used the FEFO approach and had a functional EPI refrigerator (4/5 HF at baseline).

Four hospitals had a Medicines and Therapeutics Committee as per the Kenya National Pharmaceutical Policy guidelines, compared to 3 hospitals before (Sirisia no longer had one).

While the MANI programme invested in optimising supply channels and day-to-day management of products in the stores, it did not invest in infrastructure and conditions for storage. **Overall, storage conditions were worse than at baseline.**

10 HEALTH MANAGEMENT INFORMATION SYSTEM

Six out of 9 HF still required to photocopy or print some HMIS tools in the last year before the assessment, because of shortage of supply of tools. This however somewhat improved as at baseline all 5 HF still required photocopying. Three HF did run out of some HMIS tools in the last year (13 occasions, of which 8 times at Webuye; 4 times in Chwele hospital and one item at Makutano HC). This compares favourably with the situation in 2015 when all 5 HF did run out of tools.

All 9 HF received feedback on HMIS data quality in the last quarter, compared to 60% (3/5) at baseline. And staff do review the HMIS data at the facility at least once in a quarter in all 9 HF, compared to 4/5 HF in 2015.

All 9 HF used HMIS data for management of medicines & supplies; drug forecasting; facility target setting; annual work planning; and informing stakeholders (mostly 80% of the HF at baseline). More than 75% of the HF used HMIS data for monitoring service quality, management of equipment and supplies, and management of human resources (compared to 60% at baseline). About half of the HF used the data for decisions on funds allocation, on locations for outreach, increasing service coverage or identifying unreached populations (about 40% at baseline).

Seven of 9 HF (78%) had submitted all 7 HMIS tools timely, except Webuye that submitted 3 of 7 tools too late, and Kimalewa HC that submitted 4 tools too late. This was better than at baseline when 60% of the HF submitted all tools timely. 8 of 9 HF submitted complete HMIS summary sheets (MOH 711), compared to only 20% (1/5 HF) at baseline. A few gaps were noted in the Kimalewa submission.

In 2018 all 5 hospitals submitted electronically (2 hospital also submitted paper-based); the 4 HCs/dispensaries submitted paper-based. At baseline only BRH submitted HMIS data electronically. Only 1 HF had the HMIS SOP & guidelines available at the facility (compared to 2 HF at baseline).

The main request for support to improve HMIS performance related to need for further coaching and mentoring, training. At baseline, more investment was requested (infra, equipment, computers, skilled staff). Only one HF (Webuye hospital) requested more IT equipment in 2018.

All 9 HF received feedback on HMIS data quality at least four times in the last year, compared to 3/5 HF (60%) at the start. On-site HMIS mentorship on MNH was received last year in 5/8 HF (63%), compared to 40% (2/5 HF) at baseline. 7 of 8 HF conducted RDQA in the last year compared to 2 of 5 HF at baseline (40%). All HF attended data review meetings at the SC level in the last year, which was the same at baseline.

Most, if not all, HMIS related indicators improved during the MNH programme implementation. MANI contributed to this positive result.

11 PAYMENTS

Only a few health facilities raised charges for selected MNH services in 2015 and/or prior to the start of Linda Mama. No HF was still charging in November 2018. Charges raised earlier are summarised in the table below.

All 9 HF had a waiver system in place both at base and end line.

Table 14. Fees raised by health facilities in 2015

| Service | Fee raised prior to Linda Mama (KES) | Facility |
|---------------------------|--------------------------------------|----------------------------------|
| Postnatal care | 50 | Chwele hospital |
| | 100 | Kibabii HC |
| ANC profile | 150 | Bungoma Referral Hospital |
| | 190 | Kibabii HC |
| Delivery | 800-1200 | Kibabii HC |
| | 10,000 | Lugulu hospital |
| Assisted vaginal delivery | 1500 | Kibabii HC |
| Caesarean section | 35,000 | Lugulu hospital |
| MVA | 1500 | Kibabii HC |
| | 1000 | Bungoma RH; Chwele hospital |
| | 500 | Sirisia hospital; Kimalewa HC |
| D & C | 1500 | Kibabii HC |
| Syphilis test | 150 | Kibabii HC |
| | 100-150 | All 5 HF at baseline in 2015 |
| Other STI test | 50-150 | All 5 HF at baseline in 2015 |
| | 150 | Kibabii HC up to Linda Mama |
| | 200-600 | Chwele hospital up to Linda Mama |
| HIV test / VIA / VILI | 0 | Never charged |
| | 200 KES | Except Kibabii HC at baseline |

No data were provided on revenue in cash from patients; and no consistent data were provided on other revenues in cash or kind. MANI and the county were often cited as sources of revenues, with MANI including through PBF (e.g. supply of medicines in kind and bonus to HRH).

12 IEC MATERIALS

Posters and visual aids related to MNH (8 items, including PMTCT, ANC, PNC, danger signs, immunisation, breastfeeding, cervical cancer) were not available in all 9 HF; the score at baseline of 63% (25/40) was slightly higher than the 58% at end line.

Information booklets or pamphlets on MNH (five items, same topics as above, excluding cervical cancer) were freely available in all 9 HF. Total score was 98% (44/45). This was not checked at baseline.

Table 15. Change in availability of IEC materials between 2015 and 2018

| | Change in 5 HF 2015-2018 | Situation in 9 HF 2018 | Comments |
|---|-----------------------------|---------------------------|---------------------|
| MNH posters / visual aids | From 63% to 58% | 63% | |
| MNH booklets / pamphlets | | 98% | No data at baseline |
| Protocols for delivery of MNH services | From 37% to 58% | 58% | |

Standard / formal protocols for delivering MNH services were not comprehensively available in all HF. On a total score of 162, performance was 94 or 58%. Missing protocols (in more than 50% of the facilities) include national BEMOC/CEMOC guidelines; postnatal care guidelines, national guidelines for quality obstetric and perinatal care (2012), Kenya quality assurance model for health standards and checklists; national essential medicines list, job aids / worksheets on the care of the sick new-born. This is quite surprising given the focus on maternal and neonatal health both by the MANI programme and the government. The score at the start of the programme was however even lower at 37%.

ANNEX 1. HEALTH FACILITY AND SERVICES ASSESSEMENT TOOL

| Section | Component | Preferred respondent | Location for data collection | Comments |
|-------------------|---|--|------------------------------|----------|
| | Facility background | Facility in charge | | |
| Section 1 | Basic infrastructure | Facility in charge | | |
| Section 2 | Referral & admittance | Facility in charge/ Maternity in charge | | |
| Section 3 | Facility mgmt., QI, MPDSR, supervision | Facility in charge | | |
| Section 4 | Infection prevention | Facility in charge | | |
| Section 5 | Human resources MNH | Facility in charge | | |
| Section 6 | MNH services | Facility in charge/ Maternity in charge | | |
| Section 7 | Drugs, equipment, supplies | Verification | | |
| Section 8 | Supply chain mgmt. | Facility in charge/ pharmacist | | |
| Section 9 | HMIS | HRIO/ facility in charge | | |
| Section 10 | Payment fees revenue | Facility in charge/ accountant | | |
| Section 11 | IEC | MCH in charge | | |

For locations, note that the following are referred to:

- MCH/FP (outpatient department, OPD)
- Antenatal ward (no active labour yet) = Maternity ward
- Labour room (when in active labour)
- Delivery room
- Operating theatre
- Post-natal ward = Maternity ward

FACILITY QUESTIONNAIRE

Facility survey to determine facility readiness to provide maternal and newborn health services in Bungoma County

| | | | |
|--|----------------------------------|----------------------|--------|
| Sub County: | | | |
| Facility name: | | GPS S/N | E: |
| | Type | code | |
| Facility type | County Hospital | 01 | [][] |
| | Sub-county hospital | 02 | |
| | Health centre | 03 | |
| | Dispensary | 04 | |
| | Clinic (private/faith based) | 05 | |
| | Nursing home | 06 | |
| | Other specify | 88 | |
| Managing agency | Government | 01 | [][] |
| | NGO | 02 | |
| | Private | 03 | |
| | Faith-based/mission/church | 04 | |
| | Other specify | 88 | |
| Official opening Hours | Monday to Friday 08.00 - 17.00 | 01 | [][] |
| | Monday to Saturday 08.00 – 17.00 | 02 | |
| | Monday to Sunday 08.00-17.00 | 03 | |
| | 24 hours seven days a week | 04 | |
| | Other specify | 88 | |
| Assessment outcomes | Completed | 01 | [][] |
| | Partially completed | 02 | |
| | Refused | 03 | |
| | Other specify | 88 | |
| INTERVIEW DATE (DAY, MONTH, YEAR E.G. 02/06/15) | | [][]/[][]/[][] | |
| Interviewer's name | | [][]/[][]/[][] | |
| Interviewer's name | | [][]/[][]/[][] | |
| INSTRUCTIONS TO DATA COLLECTOR | | | |
| <p>This assessment should be completed by observing the infrastructure of the facilities that are available and through discussions with the in charge of facility or heads of departments such as MCH, Maternity and Outpatient department, in patient, pharmacy or health records on the day of the visit. IN ALL CASES, you should verify that items exist and are functional by actually observing them yourself. If you are not able to observe then code accordingly. For each item, circle the response or describe as appropriate</p> | | | |

| SECTION 1: BASIC INFRASTRUCTURE | | | | |
|--|---|----------------|--------------|--|
| Preferred Respondent: Facility in charge | | | | |
| NO. | Question | Value | | |
| V100 | Actual respondent | | | |
| V101a | What is the catchment population of this facility (that is how many people is this facility supposed to serve)? | | | |
| V101b | Is there a map of health facility catchment area? <i>Health map of the health area available and on wall in F showing villages / districts, main roads, natural barriers, special points and distances</i> | Yes =1 | NO =2 | |
| V102a | Bed capacity of health facility | | | |
| V102b | Number of pre-delivery beds | | | |
| V102c | Number of functional delivery couches/ beds | | | |
| V102d | Number of functional postnatal beds | | | |
| V102e | Number of antenatal consultation rooms | | | |
| V102f | Number of family planning consultation rooms | | | |
| V102g | Number of postnatal consultation rooms | | | |
| V102h | Does the facility have any of the following: Circle 1 or 2 | Yes=1 | No=2 | |
| | Functional delivery room | 1 | 2 | |
| | Functional newborn unit | 1 | 2 | |
| | Functional operating theatre | 1 | 2 | |
| | Functional blood bank/ storage | 1 | 2 | |
| | A functional refrigerator for storing blood that is powered 24/7 | 1 | 2 | |
| | Blood currently stored in the facility | 1 | 2 | |
| | Functional Laboratory | 1 | 2 | |
| | Ante natal ward | 1 | 2 | |
| | Postnatal ward | 1 | 2 | |
| | Customer care desk /reception desk | 1 | 2 | |
| V102i | What is the source of power for this facility? (Circle all that apply) | Options | SKIP | |
| | | Electricity | 1 | |
| | | Solar power | 2 | |
| | | Generator | 3 | |
| | | LPG/Gas | 4 | |

| | | | | | |
|-------|--|----------------------------|----------------|----------------|-----|
| | | None | 5 | >>V102I | |
| | | Other specify | 88 | | |
| V102j | Does this facility have back up power system? | Yes | 1 | | |
| | | No | 0 | >>V102I | |
| V102k | If yes what is the source of the back up power sytem? | Solar power | 1 | | |
| | | Generator | 2 | | |
| | | Gas/LPG | 3 | | |
| | | Kerosine | 4 | | |
| | | Other specify | 88 | | |
| V102l | Does the maternity ward have electricity 24/7 (with the combination of power sources available?) | 1 | 2 | | |
| V102m | Does the delivery room have electricity 24/7 (with the combination of power sources available?) | 1 | 2 | | |
| V102n | If there is an operating theatre served with electricity 24/7 (with the Combination of power sources available?) | 1 | 2 | | |
| V102o | Does the postnatal ward have electricity 24/7 (with the combination of power sources available?) | 1 | 2 | | |
| V102p | What is the MAIN source of water used in the facility? | Piped water | 1 | | |
| | | Rain water harvesting | 2 | | |
| | | Bore holes | 3 | | |
| | | Water bowsers | 4 | | |
| | | Spring | 5 | | |
| | | Surface water- river, dams | 6 | | |
| | | Others specify | 88 | | |
| V102q | Does the facility have a service charter mounted in locations that are visible to clients | Yes=1 | No=2 | | |
| | | 1 | 2 | | |
| V102r | Does the facility have clear signage for ANC, FP, Immunization, delivery PNC directions service areas | 1 | 2 | | |
| V102s | Does the facility have Sign posts and Signage present indicating location of facility | 1 | 2 | | |
| V103a | Is the physical structures of the following departments in a | Labour wards | Delivery rooms | Postnatal ward | OPD |

| | | | | | | |
|--------------|--|-----------------------|-------------------------|---|---------------------|---|
| | dilapidated, fair, good, or very good condition? | Very good condition | | | | |
| | For V103a use 4= very good; 3 good; 2=fair; 1=dilapidated | Good condition | | | | |
| | | Fair condition | | | | |
| | | Dilapidated condition | | | | |
| V103b | Assess general condition of the following departments Enter 1=yes, No=2 | | | | | |
| | Floor swept no obvious dirt | | | | | |
| | Counters tables, chairs wiped clean no obvious dirt | | | | | |
| | Walls reasonably clean | | | | | |
| | Doors have no damage or has minor damage | | | | | |
| | Roof has no damage or minor damage | | | | | |
| | In all cases below Enumerator to observe: Yes=1, No=2 | | Maternity ward | | Labour room | |
| V105a | Is there an easily accessible and functional toilet for women in the ...? | | 1 | 2 | 1 | 2 |
| V105b | Is there an easily accessible and functional bathroom for women in the ...? | | 1 | 2 | 1 | 2 |
| V105c | Are there curtains in the? | | 1 | 2 | 1 | 2 |
| V105d | Are there screens for privacy in the ... ? | | 1 | 2 | 1 | 2 |
| | | | Maternity (ward) | | MCH-FP (OPD) | |
| V106a | Is there a waiting area shaded and with seats? | | 1 | 2 | 1 | 2 |
| V106b | Is there a wheel chair and/or stretcher? | | 1 | 2 | 1 | 2 |
| V106c | Is there a private space for FP examination? | | 1 | 2 | 1 | 2 |
| V106d | Is there privacy for ANC /PNC examination? | | 1 | 2 | 1 | 2 |
| V106e | Is there a private space / room for Kangaroo Mother Care (KMC) | | 1 | 2 | 1 | 2 |

| SECTION II: REFERRAL AND ADMITTANCE | | | |
|--|---|-------------------------------|---------------|
| Preferred respondent: Facility in charge/maternity in charge | | | |
| V200 | Actual respondent | | |
| V201a | In the last month were there any occasions where a client was turned away during labor, who tried to be admitted? | Yes = 1 | No = 2 |
| V201b | If yes what reasons made you turn away the clients? | Bed capacity | 1 |
| | | Lack of water | 2 |
| | | Security reasons | 3 |
| | | Staff burn out | 4 |
| | | Not dilated enough | 5 |
| | | Other reasons –specify | 88 |
| V202a | In the last month was any maternity case referred to another facility for treatment? | Yes=1 | No=2 |
| V202b | If yes, what was the reason for the referral? | Closing times of the facility | 1 |
| | | Previous C/S section | 2 |
| | | Complications | 3 |
| | | Poor progression of labor | 4 |
| | | Lack of supply /commodities | 5 |
| | | Lack of skilled staff | 6 |
| | | Other reasons specify | 88 |
| V203a | Are referral slips available? (<i>Check for slips!</i>) | Yes=1 | No=2 |
| V204a | When referring out to another (higher level facility) how often are referral slips used? | Always | 1 |
| | | Most of the time | 2 |
| | | Some of the time | 3 |
| | | Never | 4 |
| V204b | When referring out how often do you phone the facility the client is being referred to inform them? | Always | 1 |
| | | Most of the time | 2 |
| | | Some of the time | 3 |
| | | Never | 4 |
| V204c | If phone calls are never made what are the reasons | No telephone system in place | 1 |
| | | No airtime to make calls | 2 |
| | | No such systems in place | 3 |

| | | | |
|--------|--|-----------------------------------|-------------|
| | | Other forms of communication used | 4 |
| | | No reasons | 5 |
| | | Other (please specify) | 88 |
| V205a | When you receive referrals from other facilities or CHVs how often do you usually receive a phone call from the facility to inform you a client has been referred to you | Always | 1 |
| | | Most of the time | 2 |
| | | Some of the time | 3 |
| | | Never | 4 |
| V205b | After the referral has been made how often do you receive feedback (from higher level facility) on the services the client received? | Always | 1 |
| | | Most of the time | 2 |
| | | Some of the time | 3 |
| | | Never | 4 |
| V205c | After the referral has been made how often do you provide feedback on the services the client received to the lower level facility? | Always | 1 |
| | | Most of the time | 2 |
| | | Some of the time | 3 |
| | | Never | 4 |
| V206a | Does this facility have a functional ambulance/ emergency transportation system? | Yes, functional | 1 |
| | | Yes, but not functional | 2 |
| | | None | 3 |
| V206b | If the emergency system is functional, is it available 24/7? | Available 24/7 | 1 |
| | | Not available 24/7 | 2 |
| V206c | Are there any funds available for emergency transportation? | Yes=1 | No=2 |
| | | 1 | 2 |
| V206c2 | What is the source of funding for emergency transportation? | | |
| V206d | Is there any other organization (e.g. Red Cross, Rotary) that provides an ambulance/ emergency transportation? | 1 | 2 |
| V207a | Does the facility receive referral from the CHV/ Community units? | 1 | 2 |
| V207b | If yes, does the facility give feedback to the CHV/units that referred the client? | 1 | 2 |
| V207c | Does the facility have any recording tools to track referrals from community to facility and back again? (Check for tools!) | 1 | 2 |
| V207d | The last time a referral was received by CHV / CU/TBA, was feedback given to the CHV? (Ask for evidence of the feedback) | 1 | 2 |
| V211 | Last date when a caesarean section was performed | .. /.. /.... | |

| Section 3: FACILITY MANAGEMENT, QUALITY IMPROVEMENT, MPDSRs and SUPPORT SUPERVISION | | | | |
|---|--|--|-------|------|
| Preferred respondent: Facility in charge | | | | |
| Health facility management structures | | | | |
| V300 | Actual respondent | | | |
| V301a | Does the facility have a health facility management committee/hospital management board that is | Category | Yes=1 | No-2 |
| | | Elected | 1 | 2 |
| | | Gazetted | 1 | 2 |
| | | Elected and trained but not gazetted | 1 | 2 |
| | Trained/oriented using the recommended national guidelines | 1 | 2 | |
| V301b | If none is existing please explain the reason: | | | |
| V301d | Number of times a health facility management committee/hospital management board met in the <u>last quarter</u> (Write in #) | | | |
| V301e | Number of times a health facility management committee/hospital management board met in the <u>last year</u> (Write in #) | | | |
| V301f | Does the health facility management committee/HMB: <i>(Observe whether the minutes an work plans are available)</i> | Have an annual work plan | 1 | 2 |
| | | Have a Quarterly Implementation plan (QIP) | 1 | 2 |
| | | Have a budget for current quartely activities | 1 | 2 |
| | | Have a file for filling all the minutes of the meeting | 1 | 2 |
| | | Are there any minutes for the last meeting | 1 | 2 |
| | | Mechanisms in place for implementation of resolutions passed | 1 | 2 |
| Quality Improvement | | | | |
| V303a | Is there a Quality Improvement team (QIT) in place? | | 1 | 2 |
| V303b | Is there a QIT with clear terms of reference as per Kenya Quality Model for Health guidelines? | | 1 | 2 |
| V303c | If yes, who are the members of the Quality improvement team (QIT) (Offices represented) | i. | | |
| | | ii. | | |
| | | iii. | | |
| | | iv. | | |
| | | v. | | |

| | | | | |
|---------------------|---|--|----------------|---------------|
| | | vi. | | |
| V304a | | Kenya Quality Model for health | 1 | 2 |
| | | Client oriented provider efficient services (COPE) | 1 | 2 |
| | Is there anyone /QIT team oriented using any of the following guidelines? | Standard based management and recognition (SBMR) | 1 | 2 |
| | | Safe care | 1 | 2 |
| | | Health reforms, leadership and governance Courses | 1 | 2 |
| V304b | Number of times QIT met in the last quarter | | | |
| V304c | Number of times QIT met in the last year | | | |
| V305a | Does the facility have a quality improvement plan in place (<i>check!</i>) | | 1 | 2 |
| V305b | Have staff participated in a quality improvement training (CME) in the last six months? | | 1 | 2 |
| V305c | Have staff participated in a QI learning session in the last year? | | 1 | 2 |
| V305d | Has the facility managed to document best practices by the QIT? (<i>check!</i>) | | 1 | 2 |
| V305e | Does the MNH department in the facility have Work Improvement Teams? (maternity and MCH-FP) | | 1 | 2 |
| V305f | If yes who are the members of the work improvement team (WIT) | i. | | |
| | | ii. | | |
| | | iii. | | |
| | | iv. | | |
| | | v. | | |
| | | vi. | | |
| | | vii. | | |
| | | viii. | | |
| | | ix. | | |
| V305g | Does the facility have a system for managing patient/customer complaints and feedback? | YES = 1 | NO = 2 | |
| V305h | Does the facility have a suggestion box for collecting views and feedback (<i>check!</i>) | YES = 1 | NO = 2 | |
| V305i | If yes how often does the facility use the feedback provided to improve service delivery | Always | 1 | |
| | | Most of the time | 2 | |
| | | Some of the time | 3 | |
| | | Never | 4 | |
| MPDSR system | | | | |
| V306a | Does the facility | | Yes = 1 | NO = 2 |
| | Have a maternal and perinatal death review surveillance and Response (MPDSR) committee established? | | 1 | 2 |

| | | | |
|--------------|---|------|---|
| V306b | Does the MPDSR have a work plan for the current quarter? | 1 | 2 |
| V306c | Have a budget for planned activities for the current quarter? | 1 | 2 |
| V306d | Who are the members of the MPDSR? | i. | |
| | | ii. | |
| | | iii. | |
| | | iv. | |
| | | v. | |
| | | vi. | |
| | | vii. | |

ANNEX 2. DATA QUALITY AUDIT

The purpose of the data quality audits was to establish a baseline for the quality of maternal health data submitted monthly to the national on-line unified reporting system (DHIS2). For each facility, we obtained the reports for six events or service statistic hospitals reported by the nine health facilities to the DHIS2 system for the month of September 2018. All reports were submitted on time according to the DHIS. Data collectors then reviewed the relevant patient registers in these facilities and compared the counts with those found in the DHIS database. The results were aggregated for facilities and presented in Table 16.

Table 16. Comparison of facility register and DHIS data for September 2018

| | Register | DHIS2 | Difference % |
|---------------------------|----------|-------|--------------|
| Normal deliveries | 1254 | 1264 | 0,8% |
| Caesarean sections | 202 | 208 | 2,9% |
| Live births | 1455 | 1477 | 1,5% |
| Fresh stillbirths | 12 | 19 | 36,8% |
| Neonatal deaths | 30 | 28 | -7,1% |
| Maternal deaths | 0 | 0 | - |

The highest discrepancies between the DHIS data submitted and the registers occurred in Bungoma referral, Chwele and Webuye hospital.

In Bungoma, the DHIS data submitted were actually lower than those reported in the registers; it was mentioned that sometimes patients were not entered in the register because it is too busy, so the number in the register may also be an underrepresentation of the actual situation. Indeed, the DHIS reported 372 normal deliveries, vs. 399 in the register; 94 Caesarean sections vs. 106 in the register; and 466 live births vs. 496 in the register. In addition, only 6 fresh still births were reported, compared to 11 in the register (explanation given was ‘miscounting’). The difference in neonatal deaths (17 vs. 15 in DHIS) was explained by the fact that deaths under 28 weeks were not officially reported into the DHIS (this was corrected for in Table 16).

In Chwele, the registers showed no neonatal deaths in the maternity register and three deaths in the newborn care unit register, while the DHIS reported five neonatal deaths for the month of September 2018. The discrepancy was explained by the fact that neonatal deaths were initially filed as fresh still births (less controversial); the MPDSR committee reviews all macerated and fresh still births and maternal and neonatal deaths and reclassified two fresh still births as neonatal deaths before submitting to the DHIS.

Large discrepancies in the registers in Webuye hospital – 232 normal deliveries in the registers vs. 250 reported in the DHIS; 38 Caesarean sections vs. 45 reported in DHIS – were attributed to counting mistakes and the high workload of staff which makes filing in the system more difficult. It should also be noted there is an incentive to overreport in the DHIS, as facilities get reimbursed through Linda Mama based on the number of deliveries and Caesarean sections they perform.

In Lugulu Mission Hospital and the health centers and dispensaries there were no or very minor discrepancies between numbers found in the registers vs. reported into the DHIS; for the smaller facilities this obviously was also related to the relatively low frequency of events.