Quality Improvement at District Scale (QUADS) project – Health facility Intervention

Implementation and process monitoring

Prepared by QUADS Team

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Introduction

About QUADS

Quality improvement refers to the scientific and systematic way of analyzing practice performance and efforts to improve performance. Quality improvement for maternal and newborn health at District scale (QUADS), aims to improve quality of performance at District level so as to enable the District team to work independently without depending on external facilitation. The project aims to improve quality of maternal and newborn health by ensuring that the services provided at facility level are of high quality and the health providers

The intervention started on 2015, by involving two District at first (Tandahimba and Newala) and later on 2017, another two Districts were added that is Masasi Town council and Masasi District Council. The intervention involves the Regional team as well.

We use a collaborative approach where by a quality improvement methodologies are used that is PDSA cycle and Fish bone analysis. Teams meet and learn and they share their experiences on QI. The training (learning session) is done quarterly after selecting change topic based on maternal and newborn indicators proposed by either the Regional or District team, based on the status of the data on that particular indicator. During the learning session the teams use fish bone analysis method to identify problems and develop change ideas which they will be working on. After that a monthly follow up visit is done by doing on site visit to see the progress of agreed change ideas.

QUADS coverage areas

QUADS intervention has been conducted in four districts that is Tandahimba, Newala, Masasi Town Council and Masasi District Council. The intervention covered 1/3 of a selected Division and involves the hospital, health center and dispensaries within the selected Division. For Tandahimba District, there was 9 intervention facilities within Namikupa Division which includes 1 hospital, 1 health center and 7 dispensaries. In Newala District, Newala Division have involved 1 hospital and 7 dispensaries.

In Masasi Town council, Masasi Division involves 1 hospital and 4 dispensaries. The Lulindi Division, in Masasi District council involves 1 health center and 6 dispensaries.

Quads team members

Regional level QUADS in collaboration with other stakeholders involves the Regional health management team which comprises of different people in the team like Regional Medical Officer, Regional Reproductive Child Health coordinator, Health management of information system focal personal and Regional Quality Improvement focal person.

District level, this includes team of Co-opted CHMT members. In it there is District Medical Officer, District nurse officer, District Quality Improvement focal person, district pharmacist, district laboratory technician, district reproductive and child health coordinator, district HMIS focal person and District health secretary. Other teams added people from different fields like the social welfare and nutrition focal persons.

Health facility level, at this levels we mostly work with the health care providers from RCH and Labor ward and the facility in charges. We work with health care providers from different cadres like the clinical officer, clinical assistants, enrolled nurses and medical attendants.

Roles of team members per each category

The major role of Regional team, is to work hand in hand with QUADS staff to strengthen Quality improvement activities at District and facility level. The team identify key issues on Maternal and newborn health and we discuss how to introduce them to the Districts. During learning sessions they facilitate on the change topic and they present data of the region.

At district level, the role of CHMT is to provide support to the lower facilities by ensuring that they work on the agreed change topics and they conduct follow up visits. Also the CHMT, develop their own change ideas on selected change topic and they work on them.

Trainings and follow ups

Trainings were conducted in a quarterly basis, one of the aim of the project was to capacitate QUADS mentors to conduct training and follow ups on their own. During the learning session, we allow mentors to facilitate by doing recap of previous change topics and facilitating new topic. Also during follow up visit, we provide a checklist which guide them to conduct the supervision and we ask them to provide a report after follow up visit.

Number of trainings done both for facility and CHMT level and facilitator

Date of training	**Change topic**	**Facilitator**
Jan, 2016	ANC 4+ visits	QUADS STAFF
April, 2016	PNC within 48hrs	QUADS STAFF
July,2017	Active management of 3rd stage of labor	QUADS STAFF
Dec, 2017	Infection prevention control and clean birth	QUADS STAFF
April, 2018	Neonatal Resuscitation	QUADS STAFF & REGIONAL FOCAL PERSON
August, 2018	Management of post-partum Hemorrhage	QUADS STAFF & MENTORS
Nov, 2018	Partograph use	QUADS MENTORS
April, 2019	Management of pre-eclampsia and eclampsia	QUADS STAFF
Nov, 2019	Management of PROM and PPROM	QUADS STAFF & REGIONAL FOCAL PERSON

Number of follow ups done and responsible person

Date of follow up	**Responsible person**
July, 2017	QUADS STAFF AND MENTORS
Nov, 2017	QUADS MENTOR
February, 2018	QUADS STAFF AND MENTORS
March, 2018	QUADS MENTORS
May, 2018	QUADS STAFF AND MENTORS

March, 2019	QUADS STAFF AND MENTORS
June, 2019	QUADS STAFF AND MENTORS

TOPICS COVERED

1. **4+ ANC visits and ANC < 12 weeks**

   Antenatal care visits, this refer to the visits which a pregnant woman attend before delivery. For better outcome for both maternal and newborn an effective visit should be complete so that a pregnant woman will be checked for all danger signs and she will be advised on her delivery plan.

   Guideline and the WHO recommends pregnant women to start antenatal clinic when she feels like she has conceived (below 12weeks gestation) and attend clinic to complete at least 4 visits or more. Within all this visiting period the pregnant woman should be provided with quality services like being checked for hemoglobin level, blood pressure, urine for protein, given supplements like FEFO, deworms etc. The health facilities should make sure that they have all essential equipments and supplies and they provider all essential services to pregnant women.

What are we trying to accomplish?

- Women to book antenatal clinic early so that to have early detection of any pregnancy complications.
- To have a sustainable retention mechanisms to the women visiting ANC for the entire period of their visit—this is mainly achieved by them seeing the advantage in terms of services) they receive in each visit.
- Pregnant women to finish all the antenatal visits as recommended (at least 4 visits).
- Pregnant women to receive the necessary services at each time of the visit.

We wanted to achieve the National target of reaching 70% for ANC <weeks and 90% for 4+ ANC visits. Therefore for each facility and District we had a separate baseline but with similar target.

How do we know that a change is an improvement? (Measures that will be used to monitor the impact)

- **Process**
  - Increase in percentages over time of the women who complete all the 4+ visits
  - Increase in the percentage of early booking (<12 weeks)
  - The provision of the necessary interventions to the clients by the facility.
    - Reflected in knowledge of the staff and availability of drugs and other medical supplies in the facilities.
    - Satisfaction of the clients on the service they receive (exit interviews)
- **Outcomes**
  - % of women completed 4X antenatal visits in the facilities.
  - % of women attended early bookings antenatal visit.

What changes can we make that will lead to an improvement?

- Improve ordering to make sure necessary supplies are available in the facilities.
- Health education at the facility level and in the community.

- On job training to the staff to make sure they know and they deliver a complete antenatal care package

2. **PNC WITHIN 48 HRS**

   Postnatal care refers to the services offered to a woman delivered and a newborn. This period is very crucial in ensuring a healthy mother and a baby. For women delivered at a facility is recommended to be admitted for at least 24 hours for observation and for those delivered at home, should attend at the facility not more than 48hrs. During this period, they receive services like for mothers checked for hemoglobin level, uterus if it has contracted, breast condition and are given supplements like FEFO and Vitamin A. For newborn they are checked for hemoglobin level, status of the umbilicus and if the newborn is breastfeeding well. Other services like counselling on danger signs and where to attend for other postnatal services is given within these 48hrs post-delivery.

   In order for a facility to provide those essential services, it is supposed to have all the essential equipments and supplies and also to have a well-trained health care providers.

What are trying to accomplish?

- To make sure that the 1st PNC (crucial one) provides both mother and newborn with ***quality, complete and comprehensive service.*** This will be accomplished by making sure all the women who gave birth whether in the facility or home, they attend the facility in thy will receive Postnatal care service.

How do we know that a change is an improvement? (Measures that will be used to monitor the impact of this improvement effort)

- Process
  - Increase in percentages over time of the women who receive the Essential PNC components.
  - Increase in the availability of materials/equipments to provide essential components.
  - Improvement in the filling and using of the PNC registers in the facilities.
- Outcomes
  - % of women and newborns received PNC services within 48hrs (**Numerator** number of women and newborns received PNC <48hrs, **Denominator** all women delivered in a month)
  - % of women and new born assed and detected to have complications after birth.

What changes can we make that will lead to an Improvement?

- Improve ordering to make sure necessary supplies are available in the facilities.
- On job training to the staff to make sure they know and they deliver a complete PNC package
- Initiation of the Essential components recording which enable the facility to track its performance over time on the services that a woman should receive.

3. ACTIVE MANAGEMENT OF 3rd STAGE OF LABOR AND MANAGEMENT OF POST - PARTUM HEMMORRHAGE

Bleeding is said to be 1st leading cause of maternal death worldwide. In Mtwara region as well, PPH is the leading cause of all maternal deaths. Different etiologies are being identified but the most common cause is uterine atony and trauma. These complications occur during delivery. Improper management of third stage of labor and not providing essential care like giving oxytocin within one minute after delivery all these leads to post-partum hemorrhage (PPH).

What are trying to accomplish?

- To make sure all women giving birth in the health facilities receive a proper management/intervention during the Third Stage of Labor. Also to make sure of the availability of the required necessary drugs and equipments to enable this, together the proper knowledge of staff (Health providers) on AMTSL.
- To make sure that PPH is reduced from facility to hospital level.
- To make sure that all women deliver at health facility and develop PPH are well managed well and can be prevented from complications and death.
- Also, for the health facilities to make sure that they have all essential equipments and supplies needed in PPH management.

How do we know that a change is an improvement? (Measures that will be used to monitor the impact of this improvement effort)?

- Process
    - Availability of the required medical equipments and supplies to care for women during and soon after delivery.
    - Number of on job trainings done at the facility
- Outcomes
    - % of women with PPH (**Numerator** number of women developed PPH, **Denominator** Total number of women delivered per month)

What changes can we make that will lead to an Improvement?

- Improving ordering, District people (CHMT) to do capacity building to the facility staff to make sure all the required medical supplies are available.
- On job training on the proper management of a women after delivery.

4. INFECTION PREVENTION CONTROL AND CLEAN BIRTH

Intrapartum period is very sensitive because both maternal and newborn health outcomes are assessed at the same time. It requires carefulness and cleanness so as to prevent infections from provider to the client and from the client to the provider. Neonatal sepsis is the 3rd cause of neonatal mortality worldwide and in Mtwara it is the 3rd cause of neonatal deaths as well. On the other hand puperial sepsis causes lots of complications and maternal deaths.

What are trying to accomplish?

- To make sure that the service provided during delivery at facility is of high quality by making sure that infection prevention and control is maintained in the labor room.
- To ensure that no women or new born end up with sepsis after delivery.

How do we know that a change is an improvement? (Measures that will be used to monitor the impact of this improvement effort)?

- **Process**
  - Facilities have all required materials for clean birth practice.
  - Have a checklist which will assess the performance of the staffs.
- **Outcomes**
  - % of new born with sepsis (7 days after birth).
  - % of women developed puerperal sepsis after hospital delivery.

What changes can we make that will lead to an Improvement?

- To make sure that all facilities has essential equipments and supplies used for IPC like clean water, liquid soaps, sterilizers, hand sanitizers, etc.
- Introduce infection prevention and control checklists to be used throughout labor and childbirth

5. NEONATAL RESCUCITATION AND PARTOGRAPH USE

Birth asphyxia is the number one cause of death in newborn. It is caused by poor monitoring of progress of labor and obstructed labor. Also improper birth practices might results to asphyxia. Birth asphyxia is preventive if labor is well monitored by proper filling and timely initiation of partograph. Standard guideline on partograph use, suggest that partograph should be opened when the woman is in true labor and has dilated 4 cm and for others who come to the facility in 3rd stage of labor partographs should be opened as well. Partograph should be filled completely by assessing fetal heart rate, cervical dilatation and status of the meconium.

Proper partograph filling results to a promising outcomes of the newborn if partograph will be interpreted and action taken immediately.

What are trying to accomplish?

- To make sure women going to labor are followed closely by chatting their Partograph so that the risks associated with giving birth are minimized by taking appropriate actions as early as they are detected by the partograph.
- All asphyxiated babies to be resuscitated by making sure that we have all essential equipments for resuscitation

How do we know that a change is an improvement? (Measures that will be used to monitor the impact of this improvement effort)?

To assess on Partograph use

- **Process**
  - Percent of facility staff trained on how to fill partograph (**Numerator** Number of trained staffs **Denominator** Total number of staffs in the facility)

- Percentage of health facilities with partograph forms (**Numerator** Number of health facilities with partograph forms to fill **Denominator** Total number of facilities offering delivery services)
- % women whom a partograph has been completed and correctly filled (**Numerator** Number of women whom a partograph has been completed **Denominator** Total number of women who delivered at the facility)
- The proportion of all women who gave birth in the health facility whose progress in labor was correctly monitored and documented with a partograph and a 4-h action line(**Numerator** Number of women who gave birth in the health facility whose progress in labor was correctly monitored and documented with a partograph and a 4-h action line **Denominator** Total number of women who deliver at the facility)

- **Outcomes**
  - % of women who ended up with complications (C/S due to obstructed labor/fetal distress).
  - % of babies who born with birth asphyxia (APGAR score below 7) for both CS and SVD.
  - % of women referred to high level facility after crossing action line.

To asses on Neonatal Resuscitation

- Process
  - % facilities with complete resuscitation kit with suction device, mask and bag (size 0 and 1). (**Numerator** Number of facilities with complete resuscitation kit **Denominator** Total facilities.)
  - % live-born newborns not breathing after additional stimulation who were resuscitated with bag and mask. (**Numerator** Number of live-born newborns not breathing after additional stimulation who were resuscitated with bag and mask **Denominator** Total number of deliveries).
  - % facilities with dedicated area in labor / childbirth area for resuscitation of newborns, which is adequately equipped. (**Numerator** Number of facilities with dedicated area in labor / childbirth area for resuscitation of newborns, which is adequately equipped **Denominator** Total facilities providing delivery services**)**
- Outcomes
  - % of newborns resuscitated and recovered from asphyxia.
  - % of newborns admitted in ICU from severe asphyxia

What changes can we make that will lead to an Improvement?

- On job training on how to evaluated newborns after delivery and resuscitation
- Improving ordering of resuscitation kits from MSD or outsourcing them in case of MSD stock out.
- To have displayed SOPs for neonatal resuscitation on respective areas.
- To make sure that partographs are available to all facilities.
- To have on job training on partograph filling.

- To have a proper record of all the patients who were attended in the facilities and their partograph were completely filled.

6. MANAGEMENT OF PRE-ECLAMPSIA AND ECLAMPSIA

High blood pressure during pregnancy becomes fatal for both pregnant woman and the unborn baby. Maternal mortality caused by eclampsia takes 2nd chance worldwide and in Mtwara region as well. In most cases delays in diagnosis and late initiation of treatments worsen the situation. Inadequate knowledge on diagnosis and management of Pre-eclampsia and eclampsia among healthcare providers causes the situation to be critical. Another challenge of inadequate equipments for measuring if the woman is having pre-eclampsia like albusticks, BP machines etc. and also drugs like methyldopa and nifedipine makes the management of pre-eclampsia and eclampsia not flawless.

What are trying to accomplish?

- Enable the health workers to be able to early diagnose pre-eclampsia/eclampsia and offer the appropriate management, including early referral when the case of out of their capability. Also to have the package of emergency medicines ready for managing pre-eclampsia/eclampsia

How do we know that a change is an improvement? (Measures that will be used to monitor the impact of this improvement effort)?

- Process
    - % of pregnant women diagnosed to have Pre-eclampsia and they were initiated with antihypertensive (**Numerator** Number of pregnant women diagnosed to have pre-eclampsia and initiated with antihypertensive **Denominator** Total number of pregnant women attended at ANC and Labor).
    - % of facilities with MgSO4 and antihypertensive available (**Numerator** Number of facilities with magnesium sulfate and antihypertensive available **Denominator** Total facilities offering delivery services**)**.
- Outcomes
    - % of women with pre-eclampsia and eclampsia treated with MgSO4 (**Numerator** Number of women with pre-eclampsia or eclampsia treated with Mag. Sulfate **Denominator** Total number of women with pre-eclampsia or eclampsia).

What changes can we make that will lead to an Improvement?

- To make sure that facilities has necessary drugs and equipments to diagnose and manage eclampsia.
- To do on job training monthly so that to capacitate healthcare providers on effective diagnosis and management of pre-eclampsia and eclampsia.

SUMMARY OF CHANGE IDEAS

CHANGE TOPIC	CHANGE IDEA	DESCRIPTION OF CHANGE IDEAS

ANC 4+ visits	-Increase number of women attending ANC by proper documentation on registers -Sensitization during hospital/clinic visits	- Tallying sheet /form should be attached/ put together with ANC (Antenatal Care) register, so that after attending a client they record. -Health workers provide health education at the facility not only during the Antenatal Clinic (ANC) but also during other visits like family planning (F.P) and at postnatal clinic (PNC).
PNC WITHIN 48HRS	-Improving ordering of essential equipment and supplies -On job training at facilities on proper ordering	-Health facility workers to fill the ordering forms correctly and make sure that they put the ordered item again and again even if there is stock from MSD. - Capacity building (on job training) among staff themselves at the facility, for those who are more aware with PNC issues should mentor others. -Health workers had prepared timetable for this. - During discussions they emphasis on timely feedback on any PNC query/challenge, and they remind themselves the importance of being responsible for what they do.
IPC	-Identifying required IPC equipment -Improve ordering of IPC equipment -Monthly review of available equipment -Adhering to SOP of IPC when providing services -On job training at facility	-Health workers to prepare a checklist which shows required equipment for IPC and should be displayed on notice board and in the QI file. - To improve ordering, all health providers in the facility to be involved and they have to remind each other to order IPC materials. -Facility has identified person to do a monthly plotting of run charts which shows percent of available IPC equipment. -Facility in charges to make sure that they find guideline and SOP on IPC and use them.

		-Health providers has a scheduled monthly discussion about IPC (challenges, strategies, best practices) and they should document what has been discussed.
NEONATAL RESCUCITATION	-Identifying required Neonatal resuscitation equipment -Monthly review of available resuscitation equipment -On job training at facility	-Health providers to identify all essential equipment for N. Resuscitation available, and for those which are not available they have to use money from basket fund to buy them. -Health providers to have a monthly review of partograph filling and use at the facility, they have to identify gaps and put action plan. Everything should be documented and kept in a file. - Health providers to have a monthly on job training within the facility (discussing/reminding each other on N. Resuscitation). They have to prepare timetable, lesson plan. For each training done must be documented and kept in a file.