ACE

A newsletter for Provincial Assessors of Confidential
Enquiries into Maternal Deaths

Editor
Fawcus S
Members of the NCCEMD

2017, issue 2

Dear Assessors,

Hope you all are invigorated for the 2018. The assessors are once again thanked for the effort that they make into assessing maternal deaths. The editor has introduced a section on ‘common problems associated with maternal death assessments’ We hope that assessors or all interested in Maternal health issues will respond to the editor or Dr Moran by sharing your thoughts on assessment of these cases .This may help us bring uniformity in assessments nationally.

Your comments on the ACE newsletter will also be appreciated, so that ACE can evolve into what you the assessor wants it to be.

Have a productive 2018

Professor Emeritus J Moodley for the NCCEMD

Foreword

The target is to reduce maternal mortality to below 70 deaths per 100 000 live births by 2030. It will be good to achieve this earlier than 2030 too. At present our institutional maternal mortality ratio is around 153/100000. With an estimated 20 per cent of maternal deaths occurring in communities it is clear that we are still very far from the 2030 target – even though we have evidence of institutional mortality declining. The major reason for this decline is that we are testing pregnant women for HIV and initiating them on ART. However, the three major causes of mortality continue to be present: non-pregnancy related infections (largely HIV); hypertension; and obstetric hemorrhage.

Earlier this year, on the basis of the World Health Organization (WHO) guidance, we expanded the number of antenatal visits to eight. This should provide ample opportunity to test for HIV and treat immediately as well as monitor blood pressure and initiate treatment. We need to monitor the extent to which these additional visits will improve maternal and neonatal outcomes.

The role of community health workers in providing community based healthcare is well recognised the world over. The National Health Council has approved a new policy on the ward based primary healthcare teams – composed of a team leader and a number of community health workers. These teams will be key to ensuring that women are on contraceptives and if they are planning families that they access antenatal care early. These teams will also be following up mother-baby pairs after delivery and support mothers to breastfeed. We are confident that this cadre will assist us to strengthen primary healthcare in our country.

The role of District Clinical Specialist Teams established since 2013 is key to improve quality of clinical care. We must ensure that DSCTs visit clinics, district hospitals and regional hospitals and that they are able to provide the necessary training (or facilitate training) and ensure that every health facility has the equipment that is needed. DCSTs should also assist in ensuring the EMS support to facilities is optimal.

As we approach the end of the year, may I take this opportunity to wish every health worker, every assessor and members of the NCCEMD a blessed Christmas and peaceful and health New Year. For those that are able to take leave during December and January may you have a well earned vacation!

Dr Yogan Pillay
Deputy Director-General: HIV, TB and MNCH&W
National Department of Health

CONTENTS

1. 'Real time' reporting of maternal deaths (Bob Pattinson)

2. Completing (maternal) death certificates (S.Fawcus)

3. Transfer of critically ill patients (S. Fawcus)

4. The role of CHWs in reducing and reporting maternal deaths (S. Madondo, E .Mokaba)

5. Common problems in maternal death assessments (Neil Moran)

1. 'Real time' reporting of maternal deaths

The national Department of Health has introduced a system of "real time" reporting of maternal deaths with the aim of ensuring that there is an immediate and local response (at the facility and in the district) to any death. This process is similar to the WHO programme of Maternal and Perinatal Death Surveillance and Response (MPDSR). This programme is not in conflict with the NCCEMD confidential enquiry, but strengthens the system.

The NCCEMD process states that when a death has occurred, there is a local immediate (within 72 hours) death review meeting of those involved and a formal maternal death review meeting where the Maternal Death Notification Form (MDNF) is filled in and then submitted to the provincial MCWH coordinators to send (with a copy of the file) to the assessors.

NB: ALL known maternal deaths must be reported wherever they occur (in the health facility, in transit, home, mortuary, etc.) and in all women whether they were booked or unbooked and /or never accessed a facility

The MPDSR is aimed at the local response to the death. Below are draft Standard Operating Procedures (SOPs) for this local response. Please go through the diagram and SOPs and give us feedback on your thoughts of the process. Please mail any comments to robert.pattinson@up.ac.za .

The only aspect that must be avoided in the process is that the maternal assessors must **NOT** assess any case in their district as they will most likely have been involved or heard about the maternal death in their district and the enquiry will not be confidential. Please also ensure that the MDNF is not put in the patients file; it must be kept separately and sent to the provincial MCWH coordinators for forwarding to the assessors.

Standard Operating Procedures for mortality reporting and review (Draft)

IMMEDIATE RESPONSE (within 24 hours)			
Records and registers	Record details of death in the patient file and nursing record	Doctor, nurse	within 2-12 hours
	Initiate death event form[1] and required information for Maternal Deaths, PPIP and CHIP for all deaths in target groups; including short and simple explanation of cause for the family	Doctor	
	Inform family of death immediately, if possible once DNF is completed so that it is ready to hand over to family member) to take to Home Affairs, provide short explanation to family (where feasible	Nurse/doctor	within 12 hours
	Complete Death Notification Form (DNF) (Form DHA 1663-A) is natural death	Doctor	within 12-24 hours
	Ensure cause of death as captured in DNF is noted in patient file and reviewed by clinical supervisor (senior doctor) where possible	Nurse, Doctor, Clinical supervisor	
	Record in-facility death in ward register[2] / midnight census	Nurse, ward	Daily

		clerk	
	Notify Ward Manager[3] of death during (or at latest at the end of the shift)	Nurse	
	Ensure that registers[2] and midnight census form is complete and consistent, report discrepancies to Ward Manager (as per Hospitals Section 1.1 of DHIMS SOP)	Data capturer	Daily
Reporting	Ensure that Nursing Services Manager, Senior Clinician and Senior manager is informed of death through duplicate of DNF and death event form • in regional and tertiary hospitals: Head of Clinical Department / unit and Clinical manager • in district hospitals: Clinical Manager and DCST, and the CEO	Nursing Services Manager	Immediately OR within 12 hours

1. Death event form = requires data for death review process (current forms will be reviewed, integrated and split into sections for different target groups and contributors following adoption of the SOP).
2. Ward register = Specific registers must cover numerator (deaths) and denominator (admissions and births) data required for each group but cover all wards.
3. Ward manager = Nursing head of ward

CLINICAL/INSTITUTIONAL RESPONSE (24 hours to 1 month)			
Review and report maternal deaths to NCCEMD* assessors	Immediate report to MCH coordinator; ensure patient file is complete If death as a result of a procedure (including an anaesthetic) classify as unnatural death, ensure form GW7/24 completed Review by staff involved and completion of Maternal Death Notification Form Form and file sent for capturing as anonymised data in MAMMAS by NCCEMD	Ward manager Maternity	within 72 hours
Immediate debrief - within 48 hours (neonatal and under-five deaths)	Ensure patient file is complete sent to death reviewer*	Nursing Services manager	
	Debrief staff involved in care of patient who died (and members of the family)	Senior Clinician	
	Establish facts of the death in order to decide if immediate response/action is required	Senior Clinician, NSM	
	Review death event form and patient file for accuracy and completeness (possible future reconciliation with DNF reports via Statistics SA)	Senior Clinician	
Preparation for M&M meeting	Complete additional sections in death event form for PPIP (neonatal deaths in nursery and maternal deaths) and CHIP (deaths of children 1-60 months and I) for presentation at M&M meeting	Doctor / reviewer	
Mortality review – (M&M meeting)	Present DHIS data on numbers of deaths ate neonatal deaths not in nursery	FIO / data capturer	within 1 week to 1 month
	Chair M&M meeting and ensure all deaths are reviewed and analysed, including identification of modifiable factors	Senior Clinician or CEO / Clinical manager	
	Identify action plan for addressing modifiable factors	Senior Clinician or CEO	
	Review progress in addressing factors identified in previous meetings and make recommendations		
	Ensure that minutes are compiled (anonymised patient data only)		

CLINICAL/INSTITUTIONAL RESPONSE (24 hours to 1 month)			
	Monthly report on all referred cases* culminating in death to cover name, referring institution, final diagnosis, final outcome for distribution to all referring institutions	Named clinician	
Review of actions in institution	Ensure that minutes are signed and sent to CEO and DCST	Senior Clinician or CEO	Within 1 week of meeting
	Review M&M meeting minutes, and respond on any outstanding issues	Clinical manager/ CEO and DCST	
Data management and reconciliation	Capture data on death electronically in PIPP/Child PIP including tally forms	Data capturer	
	Submit patient records for storage in place with controlled access	Data capturer	
	Compile monthly report on maternal, newborn and child deaths and investigate and resolve any discrepancies with tally forms	Facility Information Officer	Monthly
	Verify DHIS mortality data and ensure that data are correct	Senior Clinician and CEO	

*NCCEMD = National Committee for Confidential Enquiry in Maternal Deaths
*Death reviewer should be doctor, preferably not directly caring for patient at time of death
(**check with Frere re report and responsibility)

The discussion of all deaths that occurred in the District or among patients originating in that District but referred out during the previous month is one of the responsibilities of the Planning, Monitoring and Response Forum (PMRF) as outlined in the "Strengthening District Planning and Monitoring" document approved by NHC on 11th August 2016, where the participants and their roles are listed.

This forum must review consolidated information and additional detail on the clinical review and response process, focused on avoidable deaths and on planning and tracking of actions to prevent recurrence and thus stay below target limits for deaths.

SYSTEM-WIDE RESPONSE (1 – 3 months)			
Consolidated reporting	Compile monthly/quarterly consolidated reports for presentation at Planning, Monitoring and Response Forum covering • District-wide and comparative data and trends • all district-level facilities • all referral facilities in which patients died	DCST (in standardised format* and using reports from all facilities)	Monthly or quarterly
Action and tracking of progress	Documented response to consolidated report with recommendations	PMRF; Regional, Tertiary and Central referral hospitals where possible	
	Review of progress in implementing recommendations from previous meetings	District Manager	

*format for consolidated report attached in draft

Consolidated death report for system-wide response

Report compiled monthly by DCST
Discussion meeting may be

- monthly or quarterly
- Conducted at one or more of the following levels
    - district level but with regional data and presence if possible
    - “wedge” or catchment area level

Needs to be system-wide because:

- public benchmarking across hospitals – performance plus bottlenecks
- decision-making / authority to address (or communicate) “disablers”
- referral issues (hospitals plus EMS)
- social determinants / intersectoral

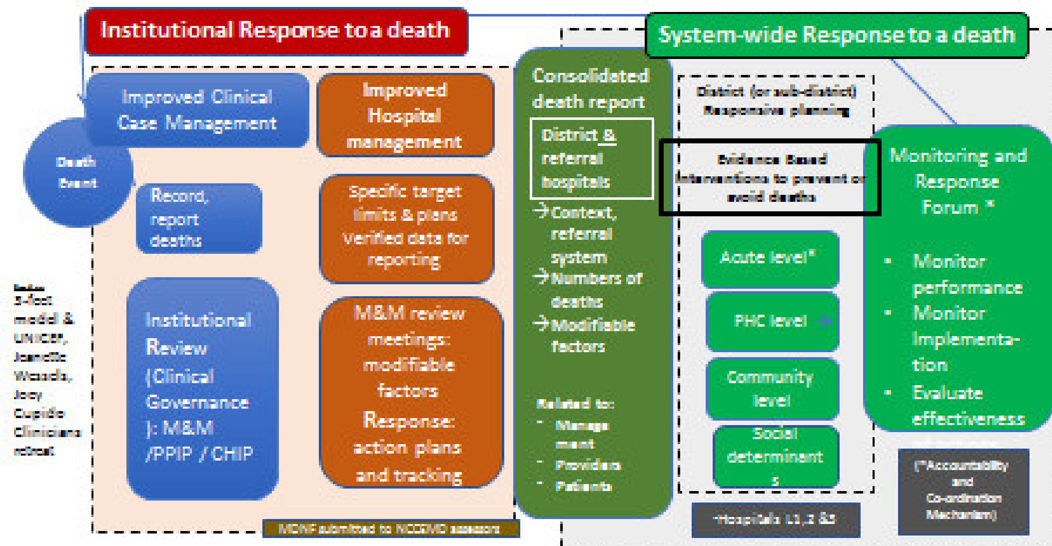
Key attributes:

- Reflect chain of care / referrals / continuity of care (4 levels in diagram) i.e. include data form referral hospitals (regional, tertiary / central if relevant)
- Capture outcomes of major concern (deaths); as well as contributory factors that can be impacted
- Reflect all three target groups for each facility (and aggregated to give rates) in relation to target limits
- Capture all facilities individually (i.e. aggregation not primary objective) with focus on trends in numerators
- Graphic presentation / report design in order to solicit / enable response by decision-makers
- Track efficiency (whether done) and effectiveness (did it work) of corrective actions at system level (NOTE: other actions are at facility level)

Content of report

1. Context (annual)– mapping of district and referral routes / catchment areas, individual facilities with volume / load, key outcomes / indicators, staffing and management situation in each / in hospitals
2. Data from all L1 and 2 hospitals, CHCs, clinics (grouped by sub-district) on:
    a. deaths numerator, (denominator?), of which transfer deaths
    b. modifiable factors by place of occurrence, grouped by management / administrative, clinical / provider-related, community / patient-related: and root cause analysis? (due to small numbers, this may require rolling cumulative reports to detect patterns as well as immediate analysis and response to avoid tragedies
3. Analysis / interpretation of data (graphics plus making sense of it)
4. Corrective actions:
    a. already underway at facility level (previous and current) or recommended by DCST (or is this under #2 Data
    b. recommendations by facility management and / or by DCST for corrective actions at system level and across referral chain
    c. proposals for impacting on up-stream factors
5. Previously recommended by DCST / previously agreed-to system-wide corrective actions: track implementation, assess effectiveness of actions (relate to trends in indicators).

24-hour death reporting and response to an avoidable death (or adverse event) at facility and systems levels, with linkage through consolidated report by DCSTs



NOTE: SOP distributed for testing covers this process

2. Completing (maternal) death certificates

The DHA 1663b form is the death certificate form required to be completed by a medical practitioner for all deaths. A recent analysis of maternal deaths identified by Stats SA from death certification shows major inadequacies in their completion. For example in some cases the cause of death is given as something which is not in itself a cause of death e.g., ‘preterm labour’. Also sometimes the box (Question 78) indicating whether the deceased was currently pregnant or had been pregnant in the last 42 days is not ticked; and the location of the death (home/facility) box (question 72) is not ticked. This means that information from death certificates on maternal deaths is not as helpful as it potentially could be. All health workers should familiarise themselves with the guidelines for completion of a death certificate. (P. Lehohla. Cause of death certification: A guide to completing the notice of death/ stillbirth, DHA 1663).

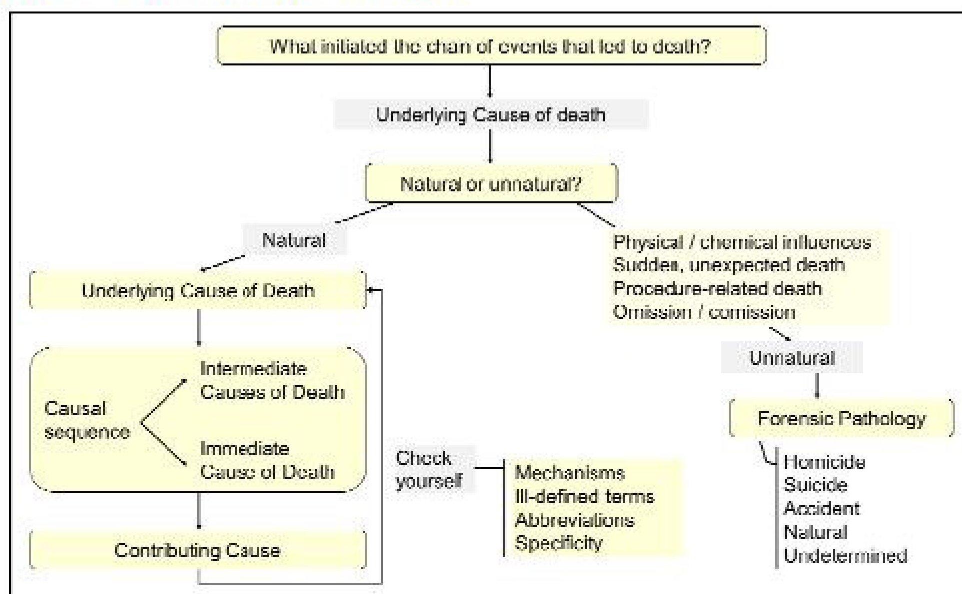
Below is an summary of the procedures for ascertain cause of death on page 8 of the above report:

1.6 *Summary of cause of death certification process*

When completing the DHA-1663 it is suggested that before pen is put to paper, the following thought process should be followed (see Figure 1). Firstly, decide what initiated the chain of events that led to death, i.e. the underlying cause of death. Usually the underlying cause of death determines whether the death was due to natural or unnatural causes. If the cause of death is unnatural i.e. due to physical or chemical influences on the body, sudden unexpected deaths, due to omission or commission, or procedure-related deaths, the case should immediately be referred to Forensic Pathology Services for a medico-legal post mortem so that the manner of death (homicide, suicide or accident or *natural in some cases*) can be determined.

For a natural cause, the next step is to consider the rest of the causal sequence – whether there were any complications or diseases following on the original problem. Lastly, contributing conditions should be included, if present. Before the sequence is written down, ascertain that all the completion rules have been followed: No abbreviations or mechanisms are used, and as much as possible detail is given. Remember, in the cause of death section of DHA-1663 (Section G1), the causes are listed with the immediate cause first (on line (a)); followed by intermediate causes in chronological/pathophysiological sequence below, and with the underlying cause listed on the lowermost line of Part 1 (see pages 22–24, and case scenarios 1–16).

Figure 2: Certification of cause of death process



If an unnatural event occurs during the course of a natural disease, the case should be regarded as an unnatural death. For example: During an epileptic convulsion, a patient fell into a fire and sustained third degree burn wounds to 60% of his body, and he subsequently died of adult respiratory distress syndrome. Although the event was "caused" by a natural disease (epilepsy), the case should still be referred to Forensic Pathology Service because of the unnatural event that played a role in the death.

3. Transfer of critically ill patients /emergency obstetric referrals

In order to utilise scarce resources effectively, the maternity care system is organised around levels of care: clinic/CHC, district hospital, regional hospital and tertiary hospitals. There are national and provincial criteria which specify what conditions should be managed at which level of care. Given that most pregnant and labouring women access care at primary care level which is closest to their home, referrals will always be necessary with an accompanying transport system. Those with risk factors require referral onward which may be non-urgent (e.g. to attend next high risk clinic at regional hospital) or urgent (e.g. eclampsia or postpartum haemorrhage). This urgent group is particularly problematic and the NCCEMD data shows that many women die in transit or shortly after arrival at the next level of care.

This is partly illustrated by the two sets of diagrams below which refer to 2014-2016 data.
Table 1 shows that, whereas 42 per cent births occur at district hospitals (DHs), only 26 per cent of maternal deaths occur at this level. Conversely regional (RH) and provincial tertiary hospitals (PTH) perform 34 per cent of deliveries but have 55 per cent of maternal deaths. This shows that women are being transferred after delivery to higher levels of care where they die.

This is also shown in the data for deaths in which a caesarean delivery (CD) was performed; the majority of CDs occurred at DHs but the majority of deaths occurred at Regional hospitals and Provincial tertiary hospitals (Table 2)

Table1: Live births and maternal deaths by level of care 2014-2016

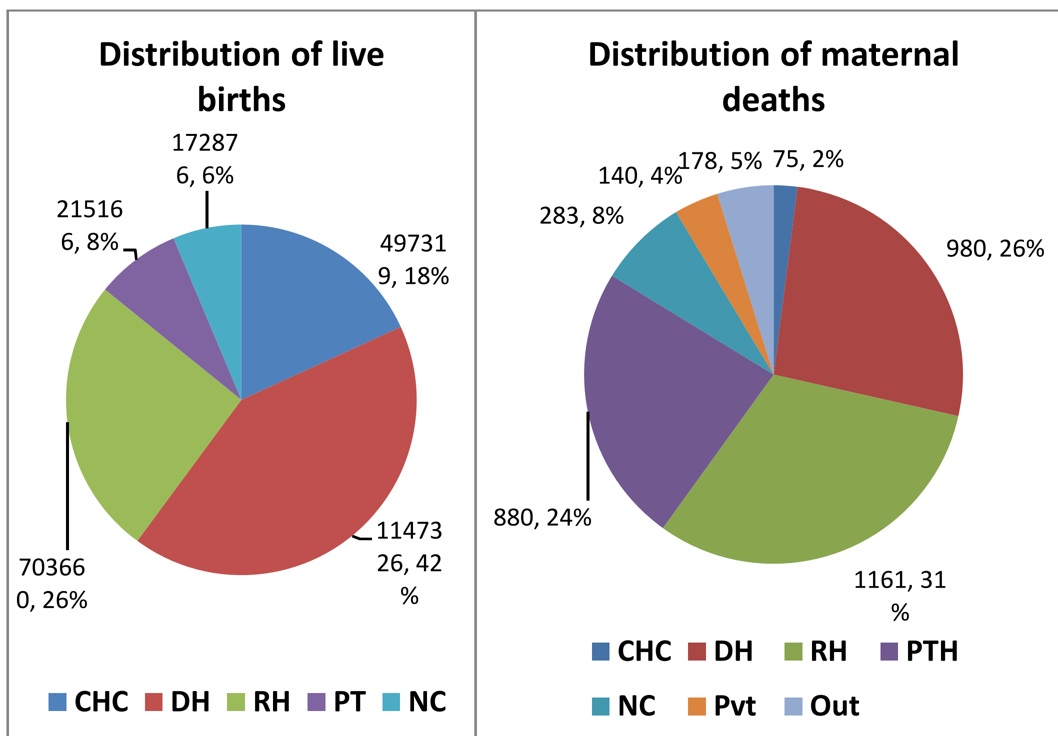
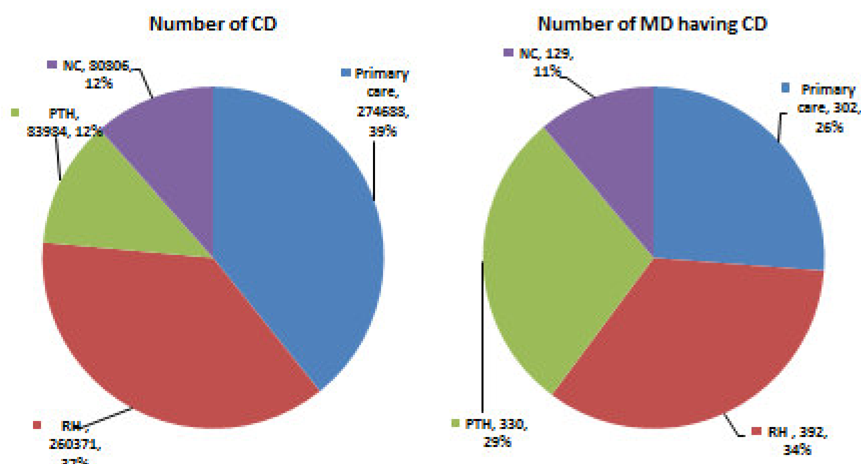


Table 2: Caesarean deliveries by level of care 2014-2016



In addition when avoidable factors were scrutinised for 2014 - 2016 deaths, the following referral and transport problems were identified:

- referral problems (delay in decision to refer and inter-facility transport problems)
  - from Community Health Centres - 32.5%
  - from District Hospitals - 55.2%
  - from Regional hospitals - 79.9%
- delay in inter-facility transport was thought to have contributed to the maternal deaths in:
  - 31% of ectopic pregnancies
  - 24% of obstetric haemorrhage
  - 19% of hypertensive disorders
  - 20% of anaesthetic related
  - 18% of acute collapse

Effective referral and transport systems for emergency obstetric cases

This requires:

- **knowing when and where to refer to**
  Agreed upon referral criteria between levels of care; and good problem recognition.
  Referral to correct level of care e.g., a patient with eclampsia or major placenta praevia at primary care can be referred directly to regional/tertiary level and does not need to go via the district hospital
- **communication to and advice from receiving hospital**
  Barriers such as inadequate telephonic communication, and overloaded RH and PTHs must be addressed. The receiving hospital must provide appropriate advice and arrange an alternative hospital to refer to if unable to take the patient. On call consultant at receiving facility to be directly available by phone.
- **reduce distance to travel when labour commences or requires referral**
  Maternity waiting areas and onsite birthing units are maternity care arrangements which assist women who live far from health facilities
- **stabilising before transfer**
  All treatment within the scope of the level of care must be done before referral e.g. Mag sulphate infusion for eclampsia; fluid resuscitation, uterotonics and balloon tamponade for PPH at clinic. The

NASG (non-pneumatic anti-shock garment), soon to be piloted in South Africa could assist with treating shock before and during transfer

- **availability of urgent timeous transport**
  EMS to provide transport within 30 minutes of call; if possible to have ambulances situated at DHs. Air ambulance where there are excessive distances
- **continuing care during transfer**
  EMS to provide paramedics for intubated patients; nurse or doctor to accompany the patient.
- **deaths in transit**
  To be reported with MDNF from referring facility and where possible body taken back there
  All such deaths to be audited by EMS
- **care on arrival at receiving facility**
  Experienced team available immediately to assess and to continue management with arrangements for theatre and/or ICU pre-planned. NB: avoid further delays

4. The role of Community Health Workers (CHWs) in reducing and reporting maternal deaths

(a) The role of CHWs in reducing maternal deaths

The sun was just breaking through the clouds on the horizon when a group of teenage girls made their way towards their homes. There was much laughter and chatting as the girls lowered their water containers, still calling out to each other. Nokuthula had been unusually quiet this morning. Over the last few days she had not been feeling well. Her family had attended a cousin's wedding in a neighbouring village on the weekend, and she had put her mild feelings of nausea down to having eaten something that did not agree with her. She was surprised that no-one else in her family seemed to be suffering any ill effects. With her end of year exams approaching, she hoped that she would soon feel better and not miss any school.

That afternoon, as Nokuthula and her friends returned from school, they saw a familiar figure walking between the village houses. They all called out a greeting to their community health worker. "Mrs M" was a middle aged lady, who was always seen carrying her little backpack. She had grown up in the village and knew all the village stories…and characters! Although she visited every household on a regular basis, she was never known to gossip to other villagers about what she knew about the different families. Everyone respected her and the work that she did. Many villagers were rather surprised when she started performing household surveys. There were lots of questions to be asked, including about water and sanitation. Some of the older men grew impatient and would wander outside when she was asking the questions. She explained that it was important to understand some of the challenges that the villagers faced, and that the lack of water and sanitation facilities could have an impact on your health. She even explained that the type of building that you lived in and whether you had windows in your house could impact your health. Some of the older men laughed at this idea and related stories of living in hostels in Johannesburg, and working long hours underground in the mines. But although they did not seem to take her too seriously, I did notice that many started smoking outside their houses, and not inside. So it seemed that some of Mrs M's points had been heard!

My thoughts were interrupted as I rounded the corner and saw that Mrs M was approaching my house. We walked together to the gate. She asked me how school was going and when we were going to start writing exams. Almost casually she asked me how I was feeling – it almost seemed that she sensed that I wasn't feeling well. I tried to ignore her question, but when she looked directly at me, I knew I couldn't lie to her. I explained about going to the wedding (which she knew about) and how I had been feeling slightly nauseous since. She listened and occasionally asked a question or nodded her head to encourage me to continue to talk. I felt very relaxed talking to her and trusted her advice. However, I was rather surprised by some of her questions! Anyway, she then explained that she wanted to test my urine, to see if I might be pregnant. Out of her black backpack came a little bottle. Soon she was holding the urine dip stick and waiting for the line to move. It seemed to take an eternity! I pretended to check my phone and appear disinterested, but my stomach was churning and I couldn't focus on any of the messages. After what seemed an eternity, I heard Mrs M gently calling my name. I looked up and knew immediately that I was pregnant. She nodded slightly towards the dip stick and I looked at the confirmation.

I was so grateful that I had been diagnosed as being pregnant at home, with my CHW. She gently explained why I was feeling nauseous, and why I needed to go to the clinic in the next few days. She also spoke to my

mother, before calling me to discuss with my parents. I was rather petrified what my parents were going to say to me, but my parents had obviously had some counselling from her, as they were very supportive towards me. I knew immediately that I wanted to keep this baby, although Mrs M explained many options. She wrote a little note for me to take to the clinic, and offered to accompany me the following afternoon. That further reassured me.

The clinic was not nearly as scary as I was expecting. Perhaps it was because the staff all knew my CHW. They were interested in my questions and seemed so glad that I had come early to the clinic. They said that I was an “early booker” – whatever that meant! I had bloods taken and was given a clinic book. My CHW was always in the background and it was reassuring knowing that she was around. Later we walked home together and she asked if I had any questions. I did have a few questions, mainly about some of the medical terms that I had heard at the clinic.

Over the next few weeks Mrs M regularly popped in to see me in the afternoons. She would cheerily inquire how I was doing and whether I had gone to get my blood results back. She also mentioned what I had heard at the clinic, about certain danger signs in pregnancy. After a week or two the nausea stopped and I felt back to normal. It was sometimes rather weird knowing that there was a little person growing inside me. One of the afternoons I thought that I felt something moving inside my abdomen, and asked Mrs M what it might be. She explained how the baby was moving and how important it was to feel those movements.

My school exams came and went. Thankfully I was feeling very well and did not miss any school. I attended clinic on my scheduled dates, but mainly asked Mrs M when I had any questions. My abdomen started growing and the villagers could clearly see that I was pregnant. I was worried what many of them might say, but it seemed that Mrs M had made sure that they were not going to cause me stress. Slowly I started to chat to some of the other pregnant women in the village. For some this was their second or third pregnancy and it was reassuring to hear that giving birth was not very scary. If I heard something I did not understand, then I would ask Mrs M when she visited.

The months flew past and Mrs M started to come almost two weekly to check on me. Then one Saturday morning I woke up with a very severe headache. I took some Panado tablets and thought the headache would improve. My family said that I should go to the clinic on Monday and that I should just rest over the weekend. While lying on the bed I suddenly noticed that my legs looked very swollen. I thought about all the things Mrs M had told me, and suddenly wondered whether I was experiencing some of the “danger signs in pregnancy”. By the Saturday evening I was not feeling very well – I had also developed some pains near my stomach. The next moment Mrs M appeared. I’m still not sure who called her. She asked me a few questions and then told my family that I needed to go straight to the hospital, as the clinic was closed. There was much discussion amongst my family members. Mrs M called the ambulance herself and we waited. We waited a few hours. I nodded on an off to sleep, feeling very uncomfortable. I was suddenly awakened to hear voices outside. Mrs M had decided that the ambulance was taking too long, and had organised with someone in the village with a car, to take me to the hospital. She climbed in next to my mother and we set off into the night.
I do not really remember much of what happened in the hospital. Upon arrival I was given a drip and an injection in my buttocks. I heard lots of discussions going on with my mother. The next moment a doctor came to me and explained that my blood pressure was very high and the baby was getting tired, so they needed to do an operation to get the baby out. I nodded and signed the paper in front of me, praying that my baby would be alright. I remember seeing bright lights before going to sleep. When I woke up, there a little baby in the cot next to me.

The nurses kept on saying how lucky I was that I had come to the hospital when I did. I stayed a few days in the ward, learning how to look after my baby. Mrs M came to visit me and brought a beautiful blanket for my little girl. The day after being discharged, Mrs M came to visit me, to check how my baby was feeding. She explained many things to me, and checked that my baby was sucking well. She also checked that I was taking my medicines. As we were talking, I suddenly felt tears in my eyes as I realised how special Mrs M was, and how she had saved my baby and also my life. I clumsily tried to express these sentiments to her, and she gave me a big hug. She seemed to understand and teased me how she had a few more grey hairs due to me! I was thankful that I had taken Mrs M’s advice about having the loop inserted while at the hospital. I hoped that my next pregnancy would not be quite as eventful!

Summary

The story reflects on characteristics of a Community health worker and their scope of work. Pregnancy testing in community assists in early booking and establishing early linkages to care during antenatal and first 1 000 days to improve survival of mother and baby pair. The positive factors are strong community

interest and support, good cooperation with and support from clinics and hospital, committed, enthusiastic and hardworking mentor mothers and support staff. In Easter Cape, Philani Zitulele Community health workers continue to play a role in reducing and preventing maternal deaths. It was established in 2012 and has 70 mentor mothers.

Seventeen Mentor Mothers have been working in the Coffee Bay area since April 2012 and a total of 209 pregnant women and 51 underweight children had been admitted to the programme by the end of July 2012. They also do a little less than 2 000 visits and weigh almost 2 000 children per month in this area. Reference (Resourceful Young Children | Test population-based models of provision | 23 January, 2013 - 10:08)

The Philani Mentor Mother Programme is addressing South Africa's high maternal and child morbidity and mortality and its underlying causes. Child malnutrition and the high HIV and TB prevalence in OR Tambo, Eastern Cape results in many challenges. The Mentor Mother Programme draws inspiration from two international child health models – the 'Positive Deviant Model' implemented in Vietnam by J. Sternin, and the 'Nurse Home Visiting Program' from the United States. Using mentors who are based within the community is therefore fundamental to the model.

The programme rests on five key pillars, these are:

1. a careful recruitment process
2. appropriate training
3. home-based, action-orientated health intervention
4. in-the-field supervision and support
5. monitoring and performance feedback

1. Recruitment

Philani will only work in a community if it has been invited to do so and if community structures help in the recruitment process. When selecting whom to train as mentors, Philani chooses 'positive deviants'. They are women who have, in one way or another, developed coping skills that have benefited their own and their children's health. The project recruits and trains these women in a range of skills and supports them to work within their community.

2. Training

The training unit within Philani runs an initial six-week training course for recruited Mentor Mother candidates alternating theory and practise and based on adult learning principles. Once the Mentor Mothers are employed, ongoing hands-on training takes place in the field.

3. Home-based, action-orientated health intervention

The programme helps the Mentor Mother to share her coping skills and knowledge with others. A Mentor Mother's task is not to take on and solve the problems of a family she visits, but rather to help the family find their own solutions by sharing her knowledge and skills.

4. Support and supervision

In both the rural and urban context the availability of supervision and support is a key ingredient to quality intervention, essential to maintain motivation and commitment. The current staff ratio in the programme is 10-12 mentor mothers to one assistant co-coordinator, who is usually a more experienced mentor mother who has come through the ranks, and shown leadership. We have learnt the importance of debriefing sessions and performance appraisals.

Each Mentor Mother has the regular support of coordinators in the field as opposed to visiting clinic for supervision. Time is set aside for debriefing on problem cases and feedback on performance.

5. Monitoring and performance feedback

Coordinators, together with Mentor Mothers, monitor outcomes. These include for example rehabilitation rates over time, exclusive breastfeeding rates, grants uptake and participation in the prevention of HIV transmission from mother to child. CHW are given targets per month for no new ANC clients, pregnant women recruited, post-natal follow up conducted, etc. as opposed to weekly in service at clinic**.**

(b) Role of CHWs in reporting a death

Community-based maternal death review (verbal autopsy) is a process that could be included in the training of CHW .The process is described below. It entails in-depth nonjudgmental investigation of the causes and the associated factors of maternal deaths that occur outside health facilities.

Interviews of family members who cared for the deceased are conducted. This requires a community informant to let local authorities know whenever there is a death of a reproductive-age female in the community.

The interviewer, who is usually not a health worker, should be sensitive when probing the circumstances leading to the death. In some cultures, the interview is done after the mourning period.

A team of physicians then examines the interview notes to determine the cause of death.

When a verbal autopsy is combined with the facility-based review of notes from previous visits, it gives a more complete picture of maternal deaths in a given local jurisdiction.

The template below can be used by CHW and translated to local language

Narrative from family member
Relationship to deceased: ____

Could you tell me about everything that happened during the last illness before (NAME OF DECEASED) death, starting from the beginning of her pregnancy, through her illness and about what happened during the final hours of the woman's death?
Prompt: Was there anything else?

INSTRUCTIONS TO INTERVIEWER –
ALLOW THE RESPONDENT TO TELL YOU ABOUT THE ILLNESS IN HIS OR HER OWN WORDS. DO NOT PROMPT EXCEPT FOR ASKING WHETHER THERE WAS ANYTHING ELSE AFTER THE RESPONDENT FINISHES. KEEP PROMPTING UNTIL THE RESPONDENT SAYS THERE WAS NOTHING ELSE.

Please describe what happened from the start of her pregnancy until she died.
____
Can you give me more details about the circumstances of her actual death?
____
What treatment did she get at the health facility or other places where she received treatment?
____
If no treatment was sought, why?
____
What do you think was the cause of her death?
____
What do you think could have changed the outcome and prevented the death of (NAME OF DECEASED)?
____
Are there any messages you would like to give those who are in charge of maternity services about how the care for pregnant women can be improved?
____
Thank you

Reference Maternal Death Audit as a Tool Reducing Maternal Mortality*
* This HNP Notes was prepared by Samuel Mills (HDNHE, World Bank). Peer review comments from Gwyneth Lewis (UK Department of Health), Lale Say (WHO), Mathai Matthews (WHO), and Peter Okwero (AFTHE, World Bank) are gratefully acknowledged. March 2011

6. Common problems encountered with maternal death assessments

This article refers to the 2014 (current) version of the maternal death assessors' control sheet. Experience with using this version of the document has demonstrated a number of areas where different assessors interpret what is required differently, leading to inconsistencies in assessments.

Listed below are some of these problem areas with a recommended approach for each. If all assessors follow the same approach, this will allow easier interpretation of the Saving Mothers' data.

Section: Demographics; item 20: Was she anaemic (Hb < 10g/dl) during pregnancy?

This question refers to the pregnant woman's condition before the emergency that led to her death. The last available antenatal Hb result before the emergency should be used to answer the question. Sometimes the emergency involves haemorrhage (e.g. miscarriage, ectopic pregnancy or obstetric haemorrhage related deaths). Inevitably the woman will become anaemic because of the bleeding. The purpose of the question is to find out whether there was a pre-existing (underlying) anaemia before the bleeding started.

Section: Cause of death: disease entity

One category only can be chosen, and, where relevant, one subcategory

- Suicide. Deaths due to suicide should be categorised under Medical and Surgical Disorders, subcategory: psychiatric. They must not be classified as coincidental deaths

- Herbal medication. Deaths due to adverse effects of herbal medication should be categorised under Adverse Drug Reactions, subcategory: herbal meds. They must not be classified as coincidental deaths

- Drug-induced liver toxicity. Deaths due to drug-induced liver toxicity should be categorised under Adverse Drug Reactions, not under Medical and Surgical Disorders

- Miscarriage. Miscarriage is common in patients who are critically ill with generalised or localised sepsis due to a non-pregnancy-related infection (NPRI) (e.g. pneumonia). In such cases, the death is sometimes inappropriately classified as being due to miscarriage: subcategory septic miscarriage, when in fact the miscarriage was not the disease entity that caused the death. The assessor must take care to look for evidence of sepsis originating in the uterus before classifying the death as a septic miscarriage.

- Miscarriage. One of the sub-categories is GTD (gestational trophoblastic disease). A death should only be included as a maternal death in this category if it occurs during a pregnancy or within 42 days of the termination of pregnancy, where the pregnancy was some type of molar pregnancy. Deaths due to choriocarcinoma are not maternal deaths unless they occur during a pregnancy or within 42 days of one.

Section: Avoidable factors: administrative problems

Lack of appropriately trained staff: i) doctors; ii) nurses. This should be reported when there is evidence that there was a lack of or inadequate numbers of appropriately trained staff on duty, and that this contributed to the death. This means for example, that there was no specialist on duty at a regional hospital, or that there was no midwife on duty to conduct a delivery, only staff nurses, or that there was no one at hospital level who could perform a vacuum extraction etc. It is not appropriate to report "lack of appropriately trained staff" as an avoidable factor just on the basis that there was substandard care, making an assumption that this was due to inadequate training. Where there is substandard care, this should be recorded in the section: Clinical management and emergency care problems

Section: Clinical management and emergency care problems:

Timing of death

For deaths due to miscarriage and deaths due ectopic pregnancies < 20 weeks, the timing of the death should routinely be recorded as “Early Pregnancy <20 weeks”, rather than “post-partum” or any other category.

Medical care

The items “delay in referring patient” and “managed at inappropriate level” are mutually exclusive. In other words they cannot both be ticked for the same case. Either the patient eventually reached the appropriate level of care (delay), or she never got there (managed at inappropriate level).

Section: Suggestions for prevention

This section is not for listing what went wrong (avoidable factors). It is for suggesting practical solutions to ensure the same problems do not recur