What is a Maternal Mortality?

- Death of a woman:
  - During pregnancy or within 42 days of TOP
  - Regardless of the site or duration of pregnancy
  - From any cause related to, or aggravated by, the pregnancy or its management
  - But not from accidental or incidental causes.
- Causes of maternal mortality may be direct or indirect.

Direct Causes

- Related to obstetric complications during pregnancy, labour or the post-partum period (and interventions or any after effects of these events).

- Major causes:
  - Haemorrhage
  - Sepsis
  - Hypertensive disorders
  - Complications of abortion
  - Obstructed labour.

Indirect Causes

- Occur from either previously existing conditions or from conditions arising in pregnancy which are not related to direct obstetric causes but may be aggravated by the physiological effects of pregnancy.

- Leading causes:
  - Malaria,
  - HIV/AIDS, and
  - Anaemia.

Maternal Morbidity

- Any symptom or condition resulting from or made worse by pregnancy.

- Severe maternal morbidity (Near Miss):

  Any pregnant or recently delivered woman (within six weeks of TOP), in whom immediate survival is threatened and who survives by chance or because of the hospital care that she receives.

- For every woman who dies, another 20 are afflicted with serious infections or injuries.

Why the Concern?

- It is a physiological process.
- Productive years
- Most MDs (80%, and morbidity) are avoidable
- Worldwide, every day in 2017, there were 810 preventable MDs.
- Often leading cause of adult female death
  - Kenya, the leading causes of inpatient morbidity and mortality in females > 5 years of age.
- Great disparity (the 'greatest health divide in the world')
  - Lifetime risk of MD is 300X higher in developing countries
- Infant health and survival affected (58% of stillbirths and newborn deaths)
- Safe motherhood is a human right

BACKGROUND

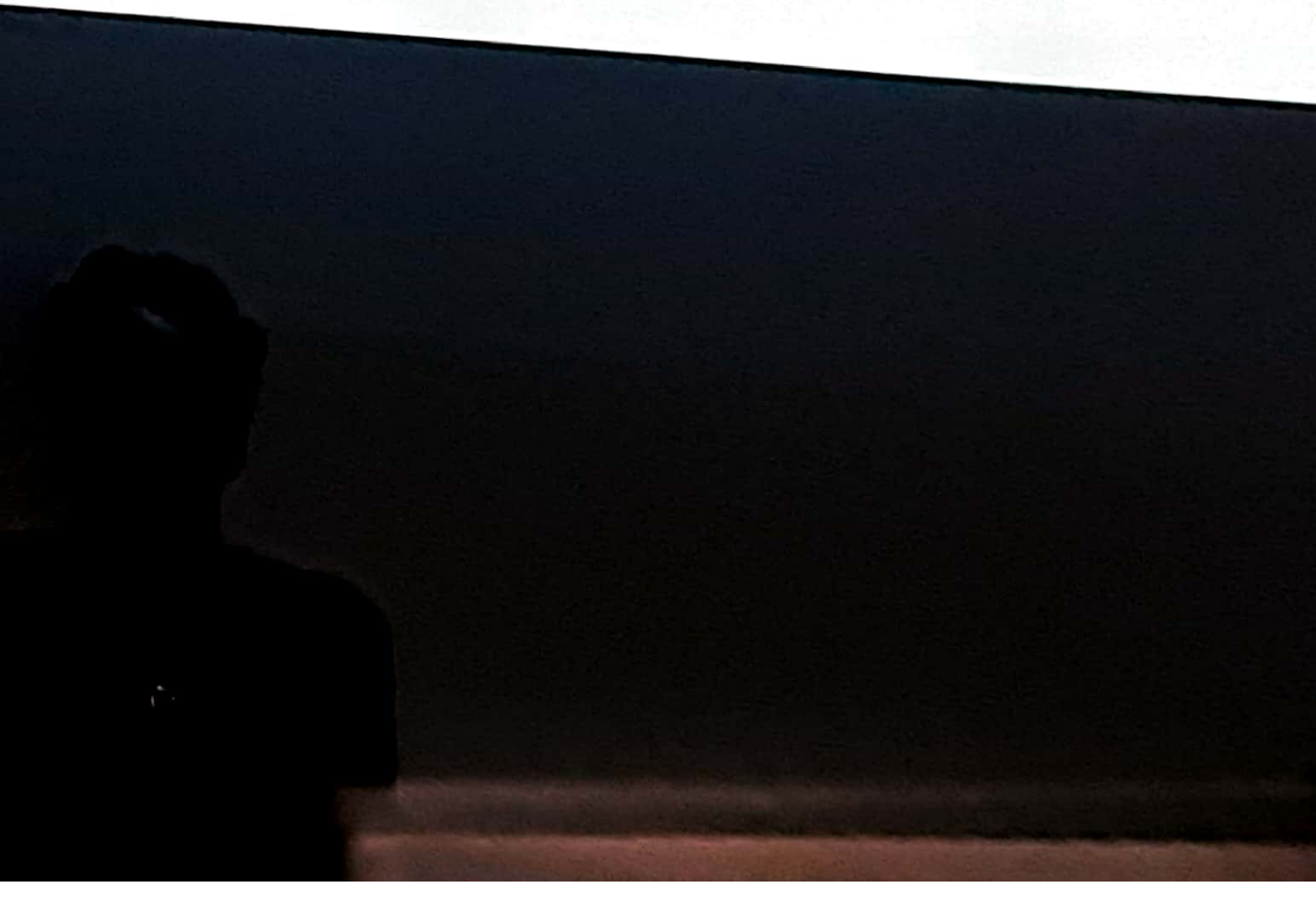
- Global MDs – 303,000 annually
- MDs occur mainly in low and lower middle-income countries (94%).
- Between 2000 and 2017, MMR dropped by about 38% worldwide.
- Timing – Pregnancy, childbirth and first week post delivery.
- The 2014 KDHS - MMR 362 (Nairobi 212 and Mandera 3,795)
- Young adolescence (10-14) face a higher risk of complications and death as a result of pregnancy than other women.
- Skilled care before, during and after childbirth can save the lives of women and newborns.

A BRIEF HISTORY

- League of Nations Health Section - Noted concerns about MM in 1930
- WHO - Attention to the health of mothers and children is an explicit element of the WHO Constitution.
- PHC (Alma Ata 1978)- Countries made an explicit commitment to develop comprehensive health strategies (including MCH care).
- In 1985, WHO - half a million MDs annually, 99% in developing countries.
- In February 1987 - Safe Motherhood Conference in Nairobi.
  - The conference declared that '...something can, should—indeed must—be done, starting with the commitment of heads of states and governments'.
  - The Conference was the effective starting point Safe Motherhood Initiative (SMI).

History ctd

- MM not being addressed as independently important
  - World Summit for Children in New York in 1989
  - A by-product of child survival?; 'Where is the M in MCH?'
- This did not go unnoticed, among women's health advocates.
- Mid-1990s
  - International Conference on Population and Development (ICPD) in Cairo in 1994, The Fourth World Conference for Women (FWCW) in Beijing in 1995, and The Social Summit in Copenhagen in 1995
  - For Kenya, the ICPD recommendations were translated into the National Reproductive Health Strategy (NRHS 1997 – 2010).
- Technical consultation in Colombo, Sri Lanka, in October 1997
- The consensus on the need to reduce MM expressed at the international conferences of the 1990s laid the foundation for its inclusion in the MDGs and later SDGs.



The Safe Motherhood Initiative I

- 1987 - International Safe Motherhood Conference (Nairobi, Kenya)
  - Safe motherhood initiative launched
  - Vision: All women go safety through pregnancy and childbirth, and that their infants are born alive and healthy.
  - Goal: 50% reduction in 1990 levels of MM by 2000 (and 75% reduction by 2015)
- Health risks identified (Targeted for policy and program action):
  - Poor nutrition
  - Illiteracy
  - Lack of income and employment opportunities
  - Inadequate health and family planning services, and
  - Low SES

The Safe Motherhood Initiative II

- 1987-1997 - Safe Motherhood Initiative
  - Involved:
    - Enhanced Advocacy for Safe Motherhood
    - Determine the Magnitude of the problem
    - Institution of Effective interventions
    - Identify Constraints to implementation
    - Address barriers to access

- The key to reducing maternal mortality was the community
  - Risk- assessment
  - Antenatal care by TBAs

Safe Motherhood Technical Consultation

- 1997, Colombo, Sri Lanka
- Every pregnancy faces risk
- No data to show that training TBAs lower maternal mortality
- Key to lowering maternal mortality: Health infrastructure
  - Clean, safe delivery with skilled attendance for all women

THE KENYA MATERNAL AND NEWBORN HEALTH MODEL I

1. Preconception care and family planning
   - Timing, number and spacing.
   - Universal access to FP can reduce MM by 25-40% and improve child survival

2. Antenatal care -Prevention, early detection and treatment of complications

3. Essential obstetric care
   - Care for complications available to all women in need.
   - Includes clean and safe delivery

4. Essential newborn care
   - Prevent complications that may arise after birth.

5. Postpartum care - Healthy mother and baby

6. Post-abortion care - Clinical treatment, counselling and contraceptives.

THE KENYA MATERNAL AND NEWBORN HEALTH MODEL II

Skilled attendants and enabling environment to provide quality care

- Skilled attendant - people with midwifery skills
- Training and deployment of an adequate number of skilled health workers.
- Two key interventions that reduce MM:
  - Skilled attendance at delivery and
  - Availability of Emergency Obstetric Care.
- Enabling environment
  - Appropriate infrastructure
  - Effective referral system
  - Adequate supplies, equipment, and drugs,
  - Good management and supportive supervision

THE KENYA MATERNAL AND NEWBORN HEALTH MODEL II

- Supportive and functional health system
  - Policies, Essential supplies of medicines and equipment, Infrastructure, Referral system, M & E, Supervision and training of staff and Records
- Community action, partnerships, male involvement
  - Male involvement addresses the 1st and 2nd delay; they have the resources and are decision makers
- Equity for all/human rights

Emergency Obstetric Care I

A set of minimal health care elements, which should be availed to all women during pregnancy and delivery.

- Basic Emergency Obstetric Care (BEmOC):

  I. IV antibiotics

  II. Magnesium sulphate

  III. Parental oxytocics

  IV. Manual removal of the placenta

  V. Removal of retained products

  VI. Assisted vaginal delivery

  VII. Newborn resuscitation

Emergency Obstetric Care II

Comprehensive Emergency Obstetric Care (CEmOC)

- All BEmOC signal functions
- Performing surgery (C/S), including provision of emergency obstetric anaesthesia.
- Blood transfusion.

The Three Delays

- Delay in the decision to seek care
  - Socio-cultural barriers
  - Failure to recognize danger sign or to perceive severity of illness
  - Cost considerations
  - Previous poor experience of health care

- Delay in arrival at a health facility
  - Distance to a facility
  - Poor roads
  - Availability of and cost of transportation
  - Geography
  - Acts of God
  - Acts of war

- Delay in the provision of adequate care
  - Shortage of staff, supplies and basic equipment
  - Inadequately trained and poorly motivated medical staff
  - User fees
  - Inefficient referral systems

Efficient Referral Systems

- Continuous access to a telephone and/or vehicle to transfer urgent cases
- Detailed referral letters
- Effective communication between HCPs.
- Strengthening of the referral system through:
  - Active supportive supervision
  - Regular feedback on cases,
  - CMEs and formal in-service update sessions.
- Consultations between different levels.
- The referring unit should be aware of the capacity of the referral point to manage the client being referred.

MATERNAL MORTALITY IN KENYA

- Direct Maternal Deaths
  - Obstetric haemorrhage - 39.7%
  - Hypertensive disorders - 15.3% (78.4% - Eclampsia)
  - Sepsis - 9.7%

- Indirect Maternal Death (non-obstetric complications – 19.8%)
  - HIV – 22.9%
  - Anaemia – 14.6%
  - Protozoal diseases – 10.4%
  - Diseases of the circulatory system – 10.4%

MATERNAL MORTALITY IN KENYA

- Timing
  - Postpartum – 4 in 10; Intrapartum – 2 in 10.

- Antenatal Care
  - MDs - 47.3% received ANC
  - Rh (76.9%); Hb (62%); VDRL (62%);HIV not recorded in 45.2%; Urinalysis (22.3%)

- Place of delivery
  - Hospital 88.8%

- 50% of MDs were referrals from other health facilities

Contributory and Associated Factors I

Identified in 89.3% of the MDs

- Health worker related factors (75.4%)
  - Delay in starting treatment
  - Inadequate clinical skills
  - Inadequate monitoring
  - Incomplete initial assessment

- Quality of care
  - 73.3% of deaths occurred 'out of office hours'
  - Substandard care was -1 in 10 (haemorrhage 91% - suboptimal care)

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- Quality of care
  - 73.3% of deaths occurred 'out of office hours'
  - Substandard care was -1 in 10 (haemorrhage 91% - suboptimal care)
- Poor record keeping/documentation.
- Community factors
  - Delay in decision making and reporting to health facilities

Contributory and Associated Factors II

- Administrative factors
  - Lack of equipment for obstetric surgery
  - Absence of trained staff on duty
  - Poor communication between healthcare facilities
  - Lack of blood for transfusion

- Gaps in health facilities
  - Incorrect management after making correct diagnosis
  - No/infrequent monitoring
  - Prolonged abnormal observation without action
  - Problems with recognition/diagnosis
  - Delay in referring patients
  - Management of conditions at inappropriate level
  - Incomplete initial assessment

Bridging the Gap

- In the USA in 1900 – MMR 700 per 100,000 live births; 100 years later - <10

- Reasons
  - Technology and drugs to prevent and manage obstetric complications
  - Political will (awareness of the problem and commitment to act)

- Safe motherhood needs a health system
  - Human resources - Trained, deployed and paid
  - Drugs, equipment and supplies
  - A supportive policy, regulatory and legal environment
  - Effective referral system

- Developing world – the missing link is healthcare readiness