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Maternal Health

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Outline

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- Focus on maternal mortality in this lecture
- Definition of terms / measurement
- Burden of maternal mortality
- Continuum of care for maternal health

Next session

- Barriers to care:
  - Film: Sierra Leone
  - Case Study: Afghanistan

What is a maternal death?

Maternal death:

'death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes'

- Most deaths happen around the time of birth or shortly after
- Can be direct (i.e. caused by the pregnancy) or indirect (an existing or separate condition exacerbated by the pregnancy)

How are maternal deaths measured?

- **Maternal mortality ratio MMR is the number of maternal deaths per 100,000 live births**

$$\frac{\text{Number of deaths}}{\text{Number of live births}} \times 100{,}000$$

- **Maternal mortality rate (MMRate) which is the number of maternal deaths per 100,000 women of reproductive age**
- **Lifetime risk of maternal death. The estimated risk of a woman dying from pregnancy or childbirth during her lifetime based on maternal mortality and fertility rate of the country**

How do we measure it?

- Most developing countries do not have reliable birth and death registration. Many deaths occur at home so facility-based estimates are inaccurate
- Estimates can be taken from standard large scale surveys (e.g. DHS). May use sisterhood survey methodology
- In some developing countries there are no direct estimates of DHS data – estimates are modelled

Based on how the data are collected, think of reasons why MMR may be an underestimate in some countries?

Reasons for under-reporting

•Pregnancy not included when registering indirect maternal deaths

•Survey respondent lost touch with sister, didn't know she was pregnant at time of death

The global burden of maternal mortality

- Most recent estimates (2023) show that each year 287 000 women die from causes related to pregnancy and childbirth
- 223 deaths per 100,000
- Stagnation in progress
- Approximately 95% are in low or low-middle income countries
- Around 70% occur in Sub-Saharan Africa, and around 16% in Southern Asia
- Affects whole families and communities

The greatest inequity?

Norway– MMR 2 per 100,000

Lifetime risk 1 in 43,000

Chad: 1063 / 100,000

Lifetime risk 1 in 15

Inequities within countries

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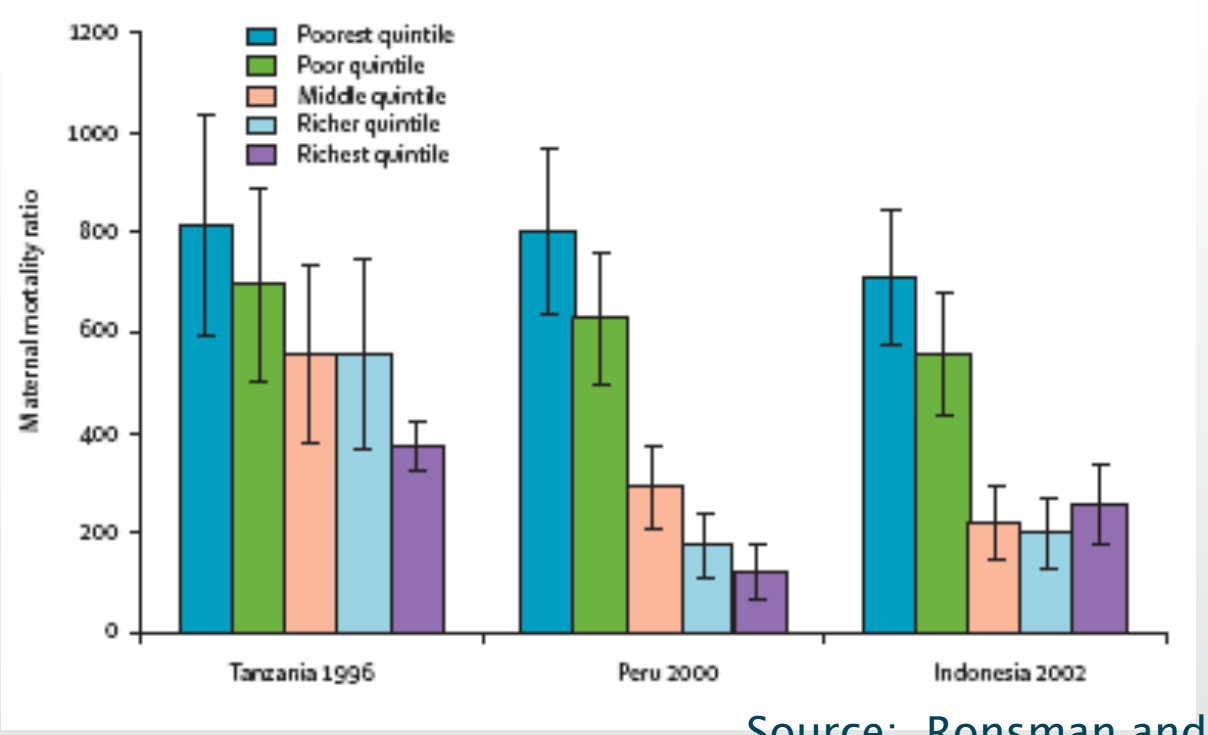
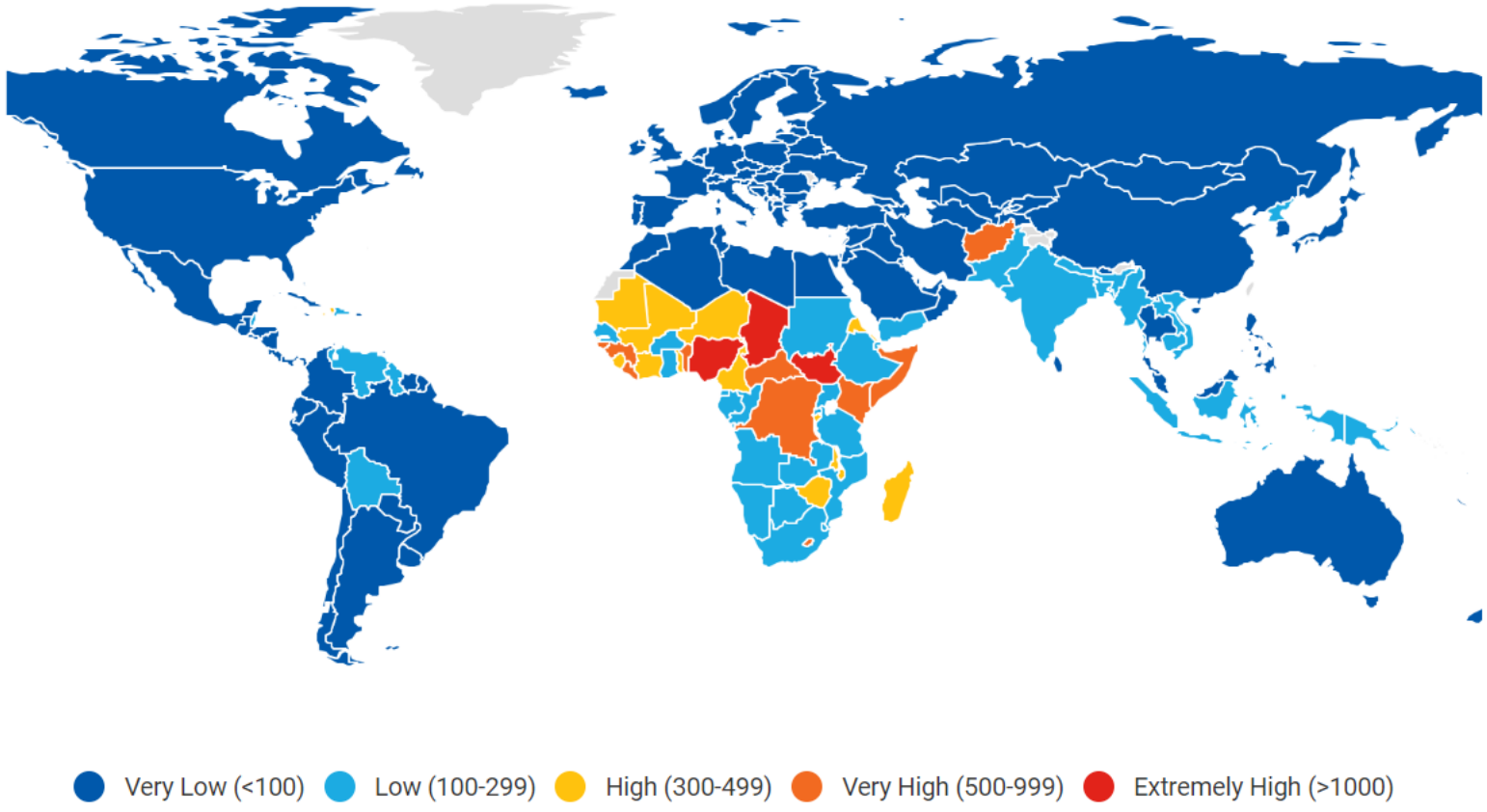
Inequity also exist within countries. For instance in Peru the poorest women are 6 times more likely to die from maternal causes than the wealthiest

Women in rural areas are generally more at risk than urban mothers



Source: Ronsman and Graham 2006

Maternal Mortality Ratio, (maternal deaths per 100,000 live births)



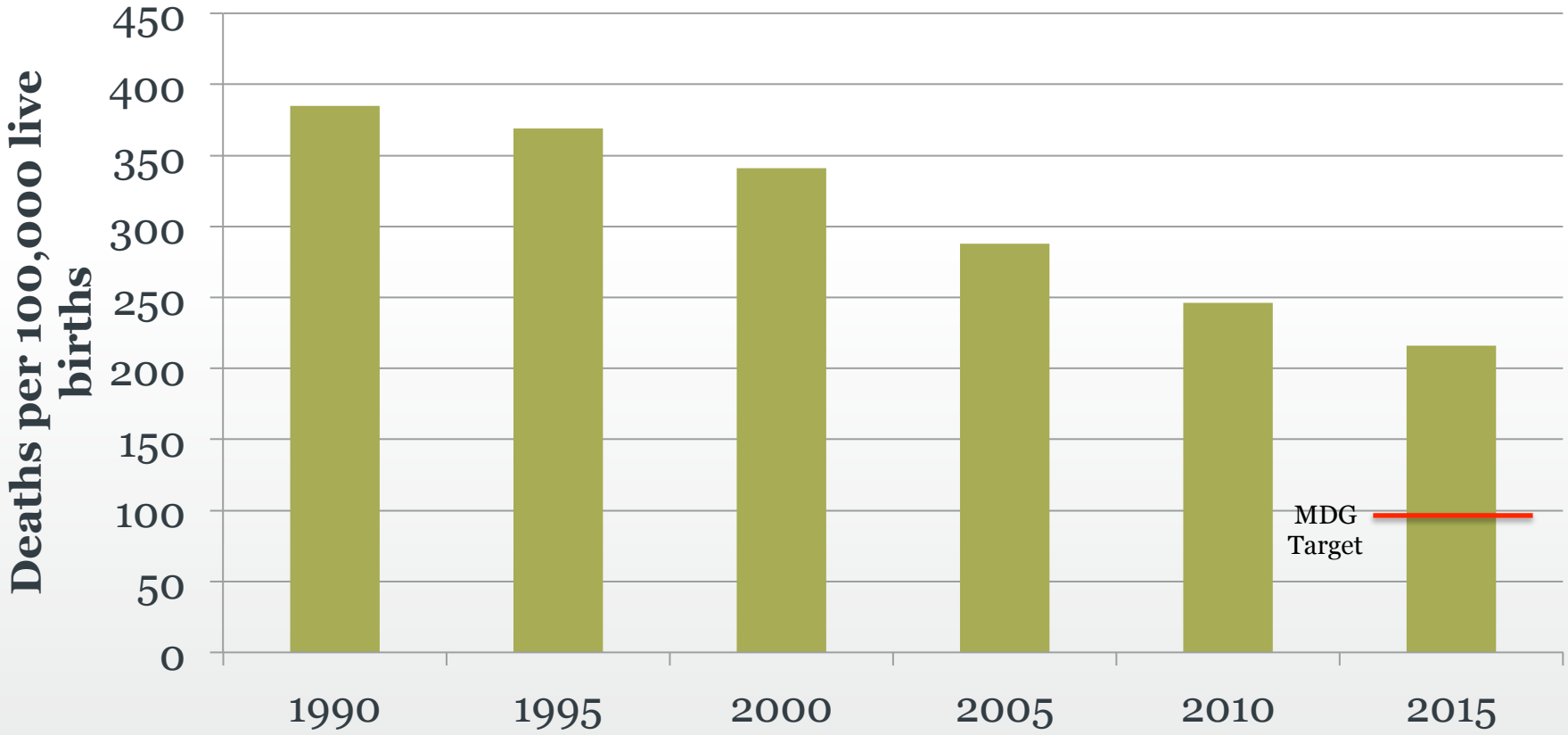
Source: WHO, UNICEF, UNFPA and The World Bank. 2023 Trends in maternal Mortality: 1990 to 2020

Reducing maternal mortality
MDG 5 – improve maternal health

Target 5.A. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio

Target 5.B. Achieve, by 2015, universal access to reproductive health

Progress to MDGs for maternal mortality ratio



The Sustainable Development Goals: the inclusion of maternal health

Targets

- By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births

- By 2030, ensure universal access to sexual and reproductive healthcare services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes

Why are women dying?

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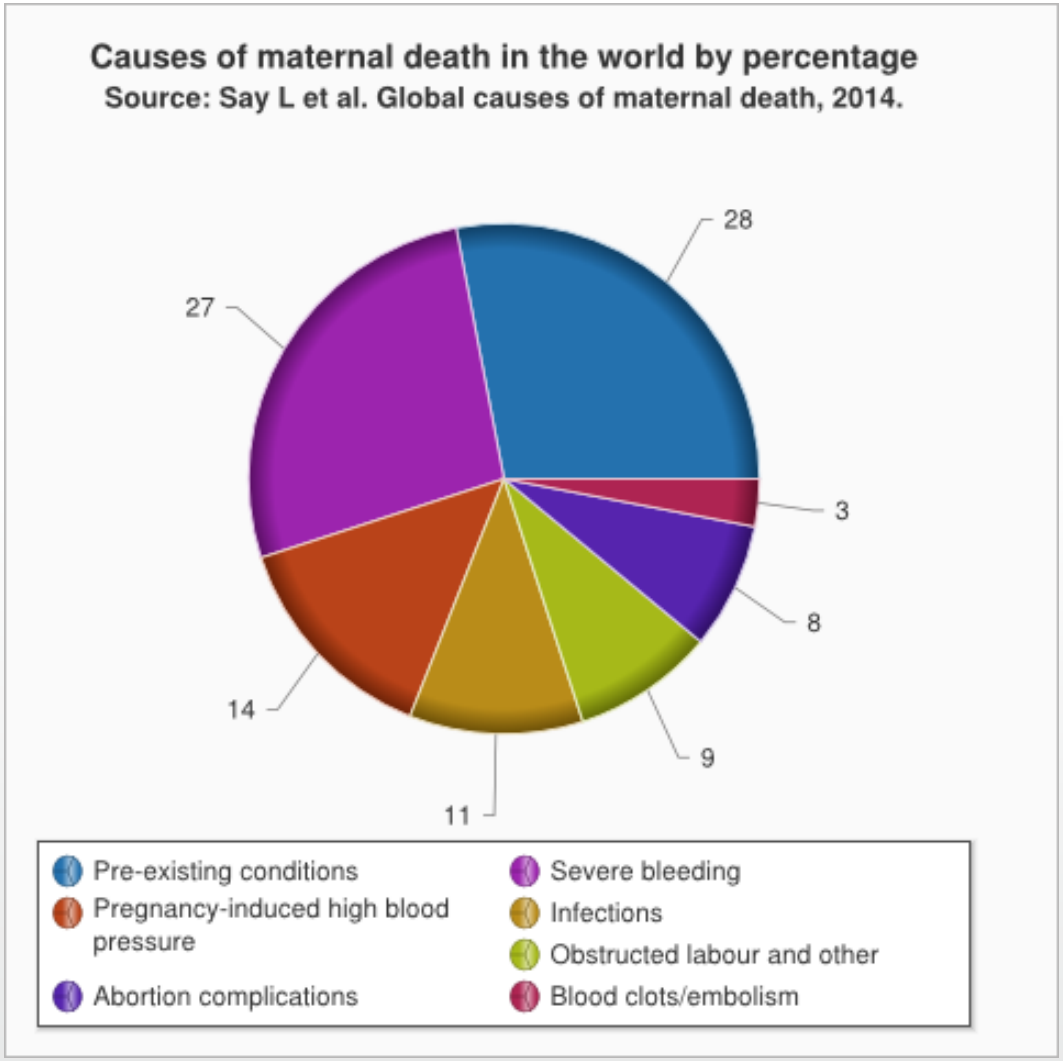

Source: Say et al. 2014

Risk factors for maternal deaths

- Maternal age (very young or older)
- Parity
- Birth spacing (some evidence very long or short intervals have adverse impacts e.g. Conde-Agudelo 2000)
- Maternal mortality lowest at 20-24 years for second & third births
  - **BUT – these are not strong enough risk factors to use for planning – Every pregnancy faces risk**

Continuum of care for maternal health: Antenatal care

- **Even in low income countries most women receive at least some ANC (82% in sub-Saharan Africa receive 1, but only about half receive 4 visits)**
- **Provides a package of interventions for mothers and their babies e.g. health education, tetanus toxoid, nutritional advice and supplementation, promoting newborn care and breastfeeding etc.**
- **It can detect some risk factors and danger signs. However, antenatal care cannot detect all women who will experience life-threatening complications**
- **As coverage so high, is valuable in promoting use of other services, particularly care at delivery**
- Source of ANC stats: WHO World Health Statistics 2016

Continuum of care for maternal health: Skilled care at delivery

- **What is a skilled attendant?**
  - *A skilled attendant is an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal uncomplicated pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns*
- **84% of women globally delivered with a skilled attendant, but only 68% in low income countries**

Source of skilled attendant stats: Unicef 2019

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Continuum of care for maternal health: Emergency obstetric care

- **Around 15% of all births will require emergency obstetric care**
- **This level of care is where access is weakest**
- **Serious complications require fast referral and treatment at a hospital e.g. haemorrhage, obstructed labour**
- **Haemorrhage can kill in less than 2 hours – most women need EMoC within 6-12 hours to save life**
- **They require a hospital with a functioning operating theatre, blood transfusion facilities etc.**

Continuum of care for maternal health: Postnatal care

- More than 60% of maternal deaths occur in the postpartum period. Of these, 45% occur within one day of delivery and more than 80% within two weeks
- Many women don't have access to any post-partum care

Data on postnatal care from WHO World Health Statistics 2016

Family planning: part of the continuum

Reduces maternal and neonatal mortality through

- Reducing unsafe abortion
- Reducing overall number of pregnancies
- Reducing high risk pregnancies (young or older mothers, short birth intervals)

Three delays

- **Delay in making a decision to seek appropriate care**
- **Delay in reaching appropriate care**
- **Delay in receiving care**

(Thaddeus & Maine 1994)

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