

Morocco, November 25

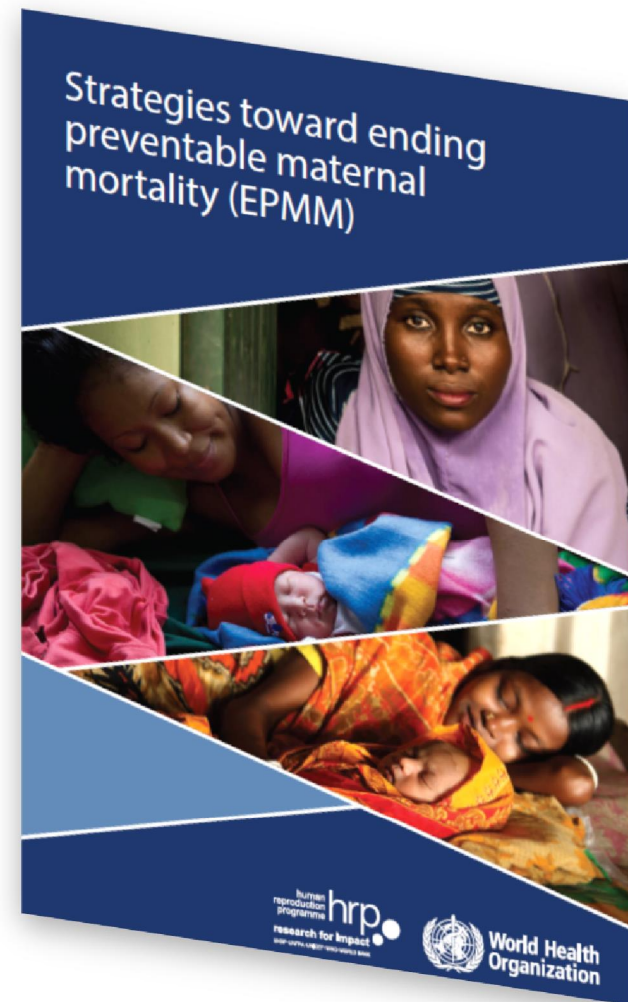
Going Beyond Mortality: The Maternal Morbidity Measurement Project

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Strategies toward ending preventable maternal mortality (EPMM)

- ✓ **Proposed global target:**
 - . *MMR of < 70 maternal deaths per 100,000 live births by 2030*
- ✓ Includes strategic objective of addressing **all causes of maternal mortality**, reproductive and maternal morbidities, and related disabilities



Sustainable Development Goals



Given that more women are surviving: what about morbidity?

- . How defined?
- . How assessed?
- . How measured?



What do we know about *morbidity*?

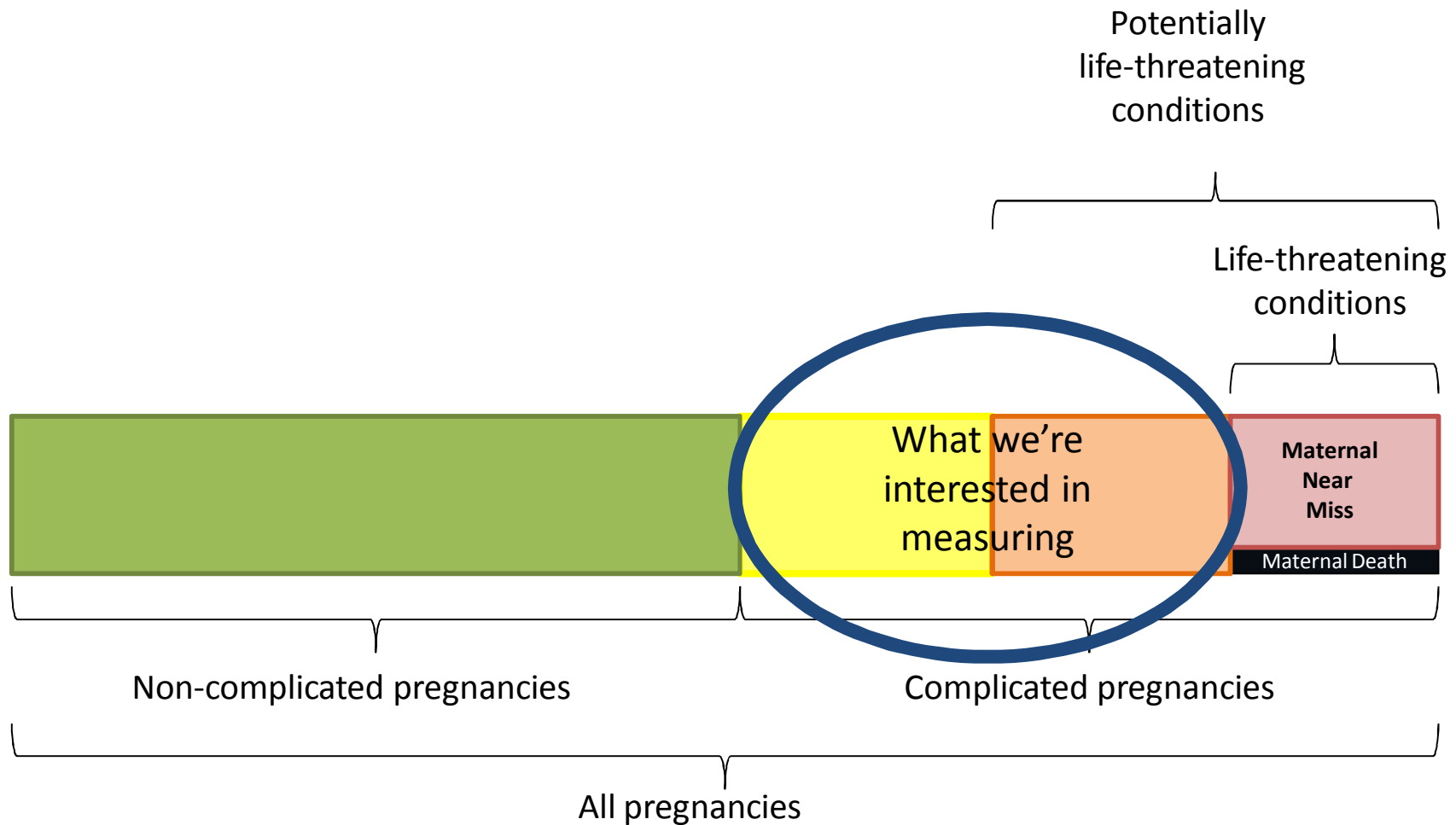
- “ for each maternal death, 20? 30? women suffer from morbidity
- “ calculations not based on standards, not well documented, not based on transparent methodologies
- “ major reasons for limited understanding of extent of maternal morbidity
 - . lack of a common definition and identification criteria for maternal morbidity
 - . lack of standardized assessment tools
 - . lack of common indicators to measure morbidity

The WHO Maternal Morbidity Project

- “ 4-year project (2012-2015) which aims to:
 1. construct and achieve scientific consensus on definition and criteria
 2. develop an assessment tool
 - . with regional specification
 - . adaptable for community settings
 3. to develop indicatorsfor **less-severe cases** along the continuum of maternal ill health

- “ led by the Maternal Morbidity Working Group (MMWG) Members from all WHO regions, with expertise in maternal and women's health, epidemiology, education science and public health

The Spectrum of Maternal Morbidity: From non-complicated pregnancies to maternal deaths



Defining maternal morbidity

“Any health condition attributed to and/or complicating pregnancy and childbirth that has a negative impact on the woman’s wellbeing and/or functioning”

Achieved consensus during stakeholder meeting, 3-4 October 2014, Istanbul, Turkey

This new definition will be incorporated in the 11th revision of the International Statistical Classification of Diseases and related health problems (ICD)

Systematic reviews of existing literature

- “ Conduct systematic reviews on range and types maternal morbidities
 - . Mental health: Perinatal Psychosis
 - . NCDs: Chronic hypertension/cardiac diseases
 - . Health functioning: Disabilities
 - . Maternal morbidities in humanitarian settings
 - . Qualitative studies: How women experience maternal morbidities

Comprehensive list of maternal morbidities

58 symptoms

29 signs

44 investigations and

35 management

strategies organized by

ICD-MM domains

Table 1: MATERNAL MORBIDITY AND FUNCTIONAL DISABILITY MATRIX				
	Symptom	Sign	Investigations	Management
DIRECT MATERNAL MORBIDITY				
Delivery/Termination				
Ectopic Pregnancy Unsafe Induced Septic abortion Retained Products of Conception Gestational Trophoblastic Disease Obstructed Labour	abdominal/pelvic pain vaginal bleeding fever labour > 12 hours	changes in heart rate changes in blood pressure fever abnormal pelvic exam products of conception on pelvic exam	beta hcg pelvic/transvaginal ultrasound	methotrexate surgery antibiotics chemotherapy
Hypertensive Disorders of Pregnancy				
Hypertensive Disorders(Chronic hypertension,Gestational hypertension, Pre-eclampsia, HELLP, Eclampsia)	headache visual disturbance chest pain nausea and vomiting abdominal pain seizures	changes in blood pressure (hypertension) abnormal cardiac exam abnormal fundoscopy exam abnormal respiratory exam abnormal abdominal exam	uric acid creatinine urine analysis complete blood count blood smear liver enzymes CT scan chest X ray urine protein to creatinine ratio	antihypertensives magnesium sulphate diuretics antenatal corticosteroids blood transfusion
Obstetric Haemorrhage				
Accreta/Increta/Percreta Placenta (Morbidly adherent placenta) Placenta Praevia Placental Abruption Postpartum Haemorrhage	abdominal pain back pain vaginal bleeding uterine contractions	changes in heart rate changes in blood pressure abnormal abdominal exam	complete blood count coagulation studies pelvic/transvaginal ultrasound	blood transfusion fluids uterotonics anti-shock garments surgical management
Pregnancy related Infection				
Mastitis/Breast Abscess Chorioamnionitis Puerperal Sepsis UTI/Pyelonephritis Tetanus	fever diaphoresis breast redness/tenderness/mass vaginal discharge abnormal urination lock jaw stiff neck rigidity muscle spasms	fever changes in blood pressure (hypotension, hypertension) changes in heart rate (tachycardia) breast redness, firmness and pain abnormal abdominal exam (abdominal/uterine/ suprapubic tenderness)	blood cultures urine analysis and culture complete blood count breast ultrasound	fluids antibiotics benzodiazepines magnesium sulphate
Other Obstetric Complications				
Thrombotic Deep Vein Thrombosis Thrombophlebitis Septic Ovarian/Pelvic Vein Thrombophlebitis	unilateral leg swelling calf tenderness fever abdominal pain nausea and vomiting pruritus	fever changes in heart rate changes in respiration decreased oxygen saturation abnormal volume exam abnormal cardiac exam abnormal respiratory exam abnormal abdominal exam abnormal fundoscopy exam abnormal thyroid exam tremor unilateral leg swelling calf tenderness oedema/anasarca evidence of self-harm	complete blood count blood smear liver enzymes uric acid creatinine urine analysis urine protein to creatinine ratio chest X ray CT scan electrolytes echocardiogram thyroid studies fasting blood glucose, HbA1c, oral glucose tolerance test pelvic/transvaginal ultrasound doppler ultrasound of legs	antibiotics anticoagulation antiemetics antihypertensives diuretics insulin thyroid medications fluids
Gastrointestinal Nausea and Vomiting of Pregnancy Cholestasis of Pregnancy	changes in breathing oedema/anasarca decreased exercise tolerance/fatigue headache visual disturbance chest pain abnormal urination polydipsia			
Cardiovascular Peripartum Cardiomyopathy Mirror Syndrome	visual disturbance chest pain abnormal urination polydipsia			
Endocrine Diabetes Mellitus (Gestational Diabetes) Postpartum Thyroiditis	tremor palpitations anxiety/irritability changes in weight suicidal ideation			

Develop a measurement tool

- “ Woman’s History
- “ Experiences of signs/symptoms of morbidity
 - . Use standardized scales where possible:
 - “ WHO Disability Assessment Schedule 2.0 – 12 item version
 - “ Standardized scale for depression (GAD-7) and anxiety (PHQ-9)
 - “ Violence
 - “ Drug use/abuse
- “ Physical Exam
- “ Laboratory tests

Pilot the measurement tool

- “ Pilot testing in three country settings (500 women per site)
 - . Jamaica: 9 facilities in 3 other parishes
 - . Kenya: 3 facilities in Kisumu county
 - . Malawi: 1 facility in Blantyre
- “ 250 women seeking ANC care (~28 weeks)
- “ 250 women seeking post-partum care (~ 6 weeks post delivery)

Next Steps

- “ Compare most common morbidities across ANC and PPC questionnaires, as well as sites
- “ Compare standardized scale results to other data collection efforts
- “ Streamline tool for further testing, scale up, other settings
- “ Feedback to facilities, governments
- “ Monitoring of morbidities (prevalence)

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