OUT-PATIENTS DEPARTMENT
AIG

Strengthening Health Systems: the Role of Maternal Health Indicators

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AMDD
Averting Maternal Death and Disability

Columbia University
MAILMAN SCHOOL
OF PUBLIC HEALTH

WHO World Health report 2008 describe current health systems as providing

- **Inverse car**
- **Impoverishing car**
- **Fragmented and Fragmentin**
- **Unsaf**
- **Misdirecte**

Health services

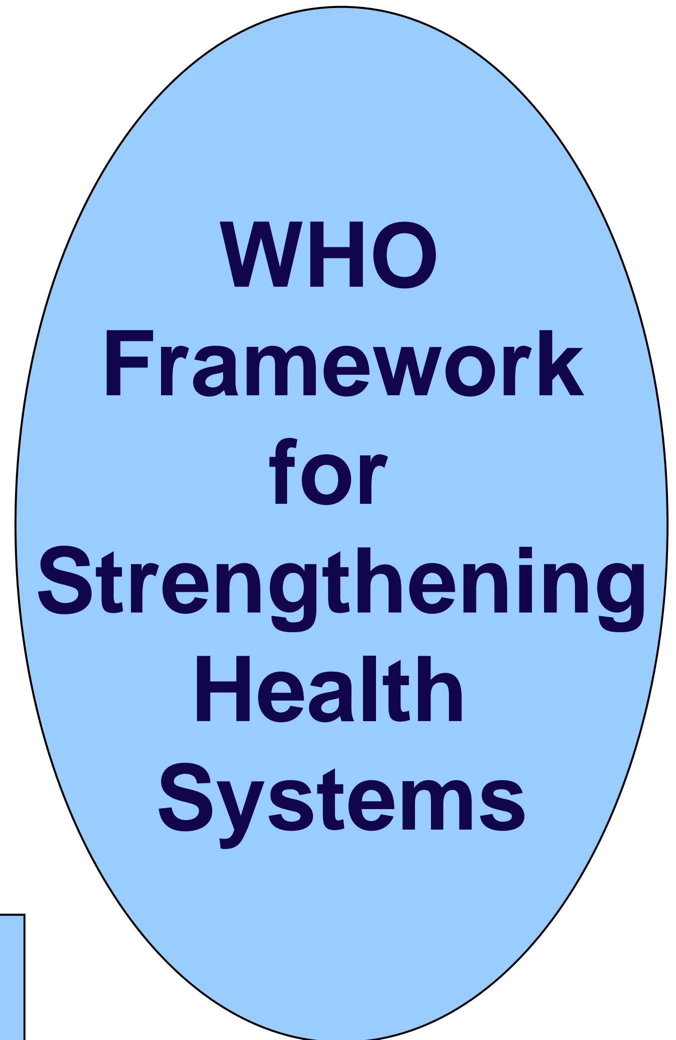
Workforce

Information for decision making

Essential drug supply and logistics

Financing and resource allocation

Leadership and governance



Source: WHO. (2000).

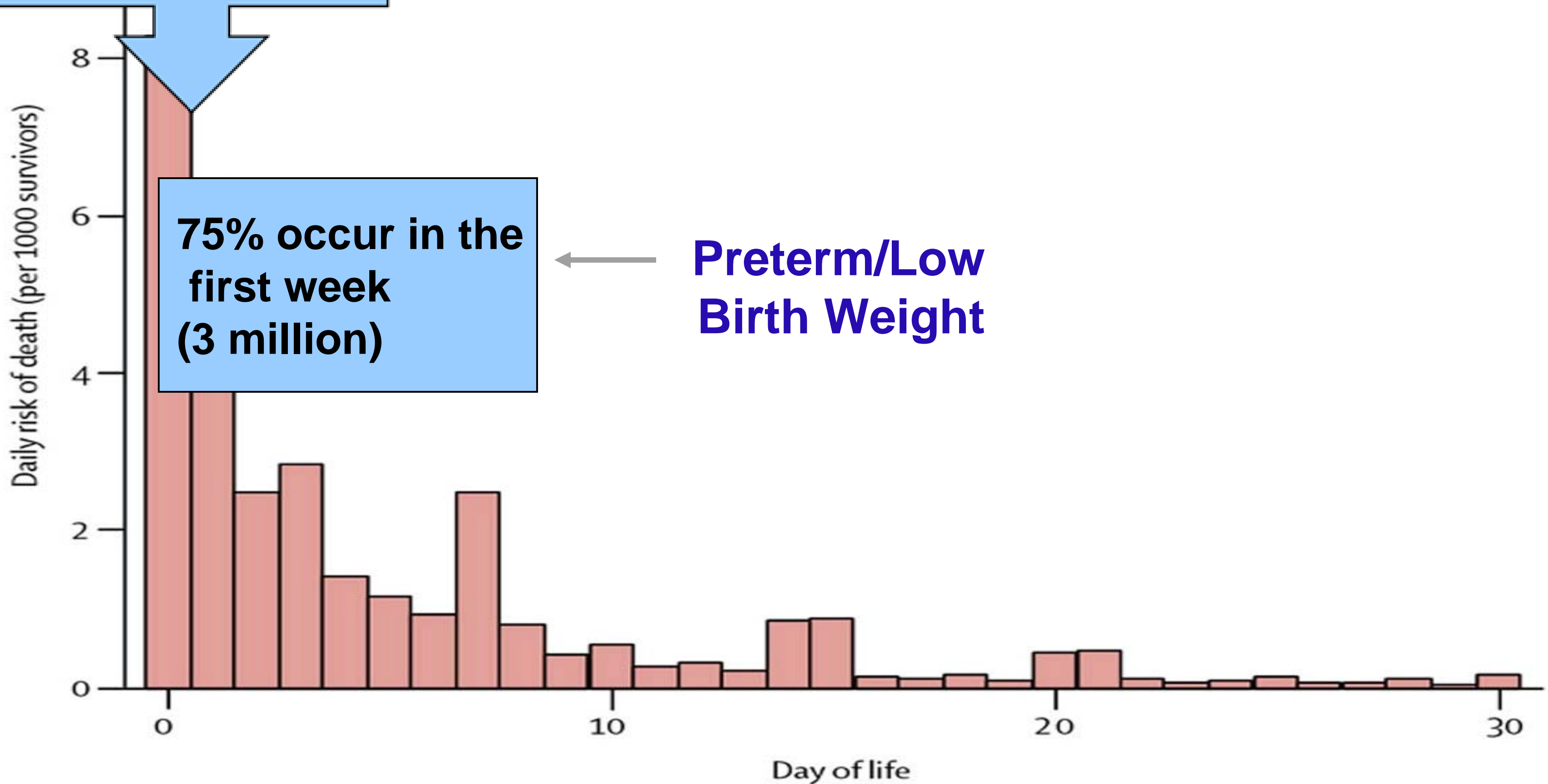
- **Approximately 15% of pregnant women develop complications**
- **Most maternal deaths are caused by direct obstetric complications <u>that can be treated</u>**
- **Many direct obstetric complications cannot be predicted or prevented**

We know when maternal deaths occur

Time Between the Beginning of a Complication and Death

Complication	Hours	Days
Hemorrhage		
Postpartum	2	
Antepartum	12	
Ruptured uterus		1
Eclampsia		2
Obstructed labor		3
Infection		6

We know when neonates die



Source: Lawn JE et al. (2005).

We recognize the Maternal and Newborn Care Continuum

	Pre-pregnancy	Pregnancy	Delivery	Postpartum, post natal
Facility	Family planning	...cused ...atal care	Skilled attendance at birth ...gency ...ric	Postpartum/post natal care for Mother and Baby, and IMNCI
	PMTCT			
Community	Family planning	Health education during pregnancy birth planning	Skilled attendance at birth	Postpartum/Post natal care for mother and baby, Identifying/referring newborn illness

Consensus for Maternal, Newborn and Child Health - requires

- Political **leadership and community engagement and mobilization**
- **Effective health systems that deliver a package of high quality interventions**
- Removing **barriers to access, with services for services women and children being free at the point of use**
- Skilled and motivated **health worker**s
- **Accountability** at all levels

Endorsed by G8, 2009

Consensus for Maternal, Newborn and Child Health will:

- Save lives of 1 million women from pregnancy and childbirth complications
- Save Lives of 4.5million newborns
- Prevent 1.5million stillbirths
- Significant decrease in total number of unwanted pregnancies an half of the unsafe abortions
- Significant decrease in current unmet need for FP services

Endorsed by G8, 2009

Can the EmOC Indicators assess health systems strengthening?

Availability

- Are there enough facilities providing EmOC?
- Are they well distributed?

Utilization

- Are enough women using these facilities?
- Are women with obstetric complications using these facilities?
- Are sufficient critical services being provided?

Quality of Care

- Is the quality of the services adequate?

What services needed in addition to EmOC?

How and when are the EmOC indicators measured?

- Nationally, integrated into HMIS
- Project monitoring
- Needs assessments for EmONC – facility-based surveys of hospitals and health centers

Availability

EmOC Indicators

Availability: Are there enough facilities providing EmOC?

Indicator (1)	Minimum acceptable level
Number of EmOC facilities: — Basic — Comprehensive	**For every 500,000 population** — 5 EmOC facilities where at least 1 is Comprehensive

EmOC Signal functions

1. Parenteral antibiotics
2. Uterotonic drugs
3. Parenteral anticonvulsants
4. Manual removal of placenta
5. Removal of retained products
6. Assisted vaginal delivery
7. Neonatal resuscitation
8. Cesarean delivery
9. Blood transfusion

Basic EmOC

Comprehensive EmOC

Sofala, Mozambique Amount of EmOC

No. facilities

	2000	2002	2003	2004	2005	Rec # for Pop (2005)
Non-EmOC	18	17	10	7	6	
Basic	0	1	9	12	13	13
Comp	4	5	4	4	4	3

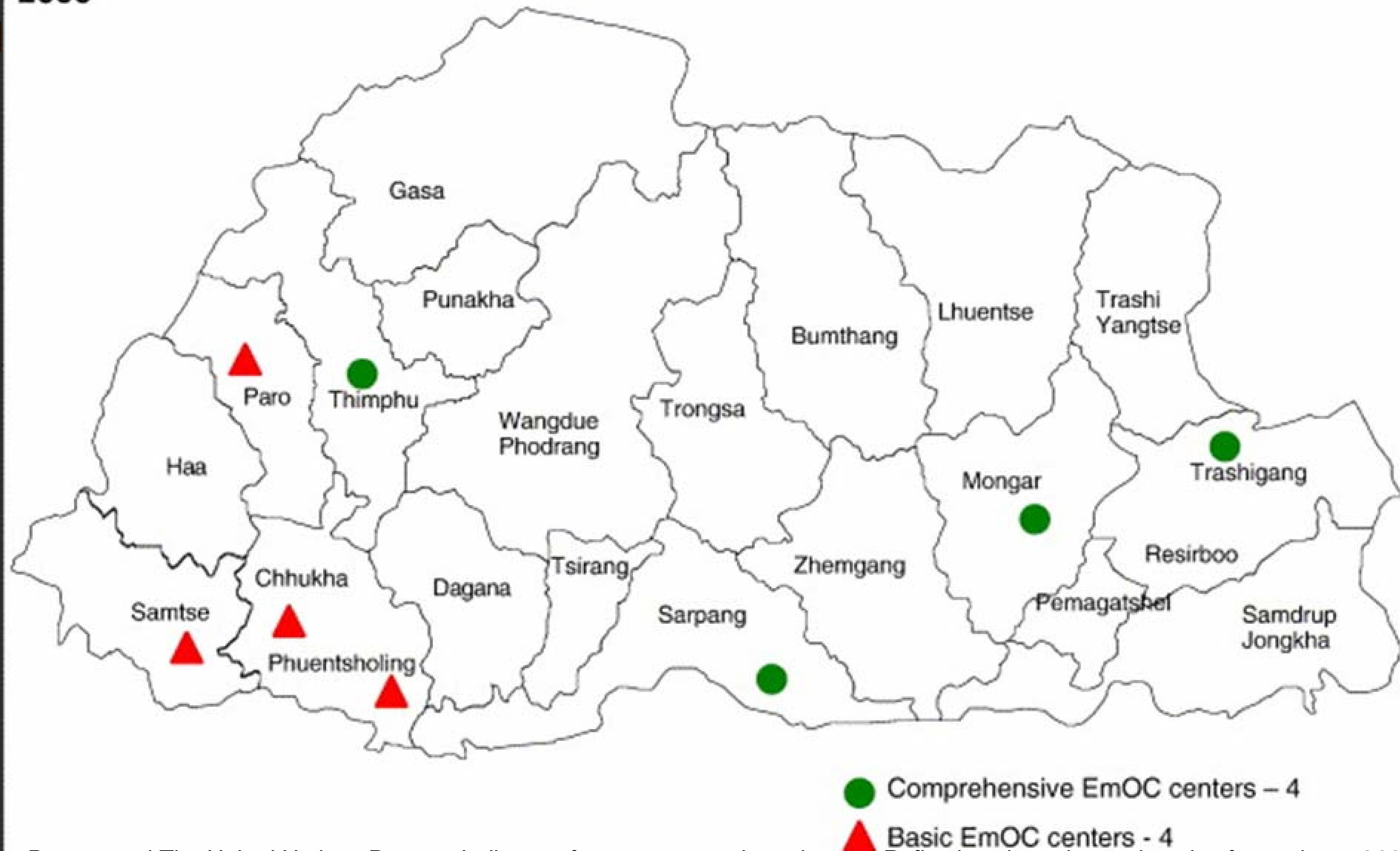
Santos et al. Improving emergency obstetric care in Mozambique: The story of Sofala. IJGO, 2006: 190-201.

EmOC Indicators

Availability: Are facilities well distributed?

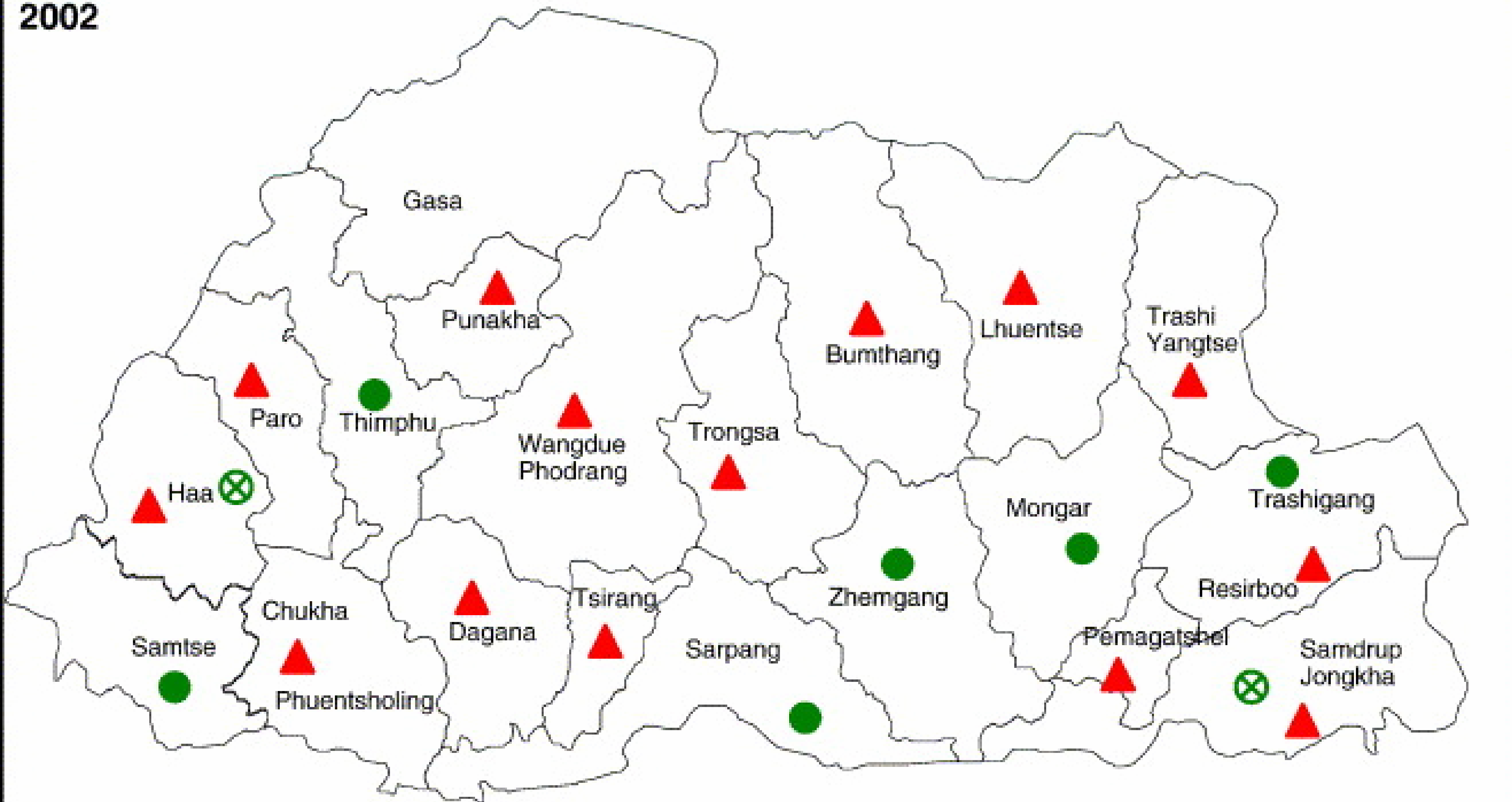
Indicator (2)	Minimum acceptable level
Geographic distribution	Minimum level is met in sub-national areas

Bhutan: Functioning EmOC Facilities March 2000

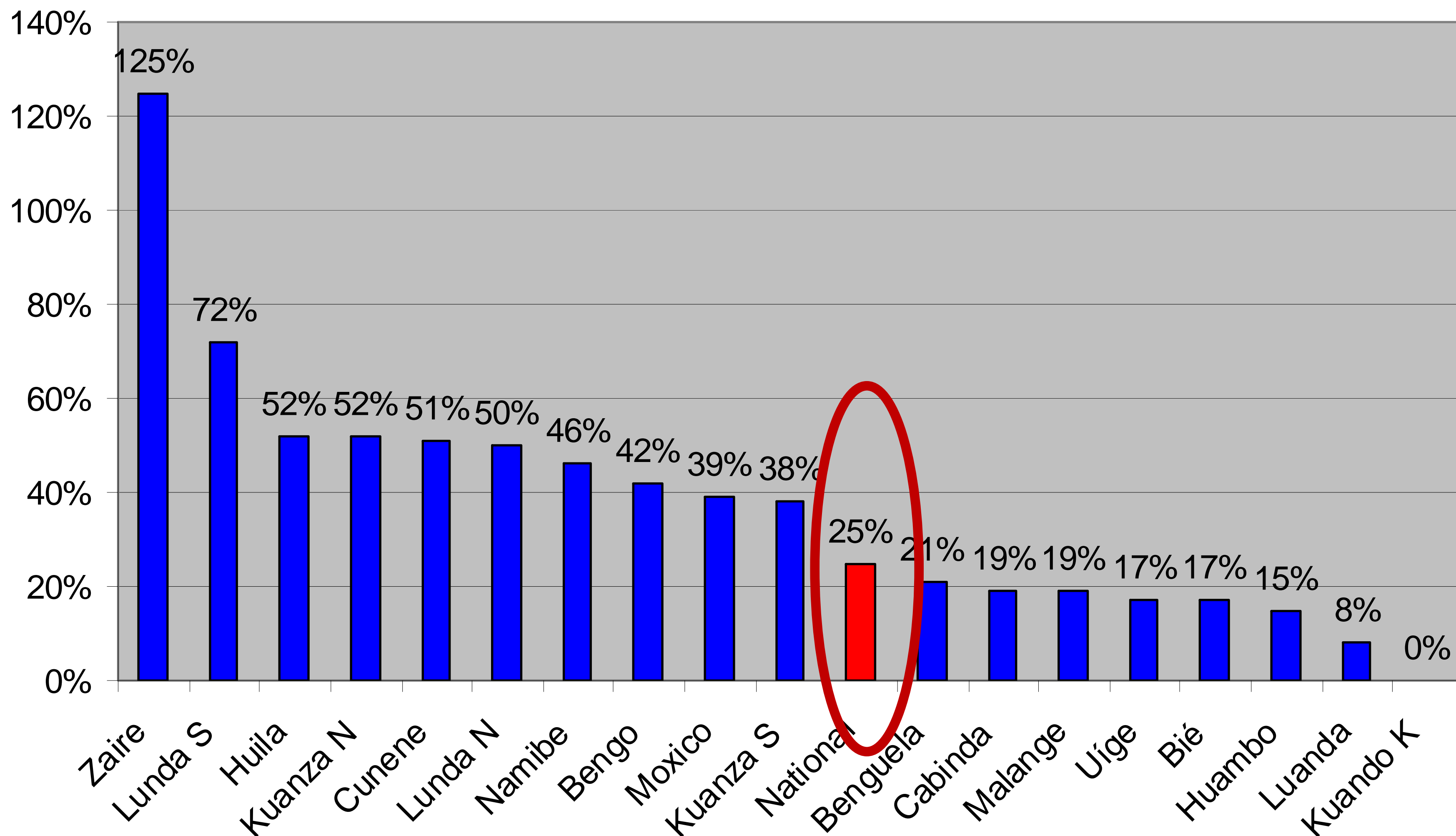


Paxton et al The United Nations Process Indicators for emergency obstetric care: Reflections based on a decade of experience 2006

Bhutan: Functioning EmOC Facilities September 2002



Fulfillment of Recommended Minimum Number of EmOC Facilities, Angola 2007



MoH – Angola Needs Assessment report

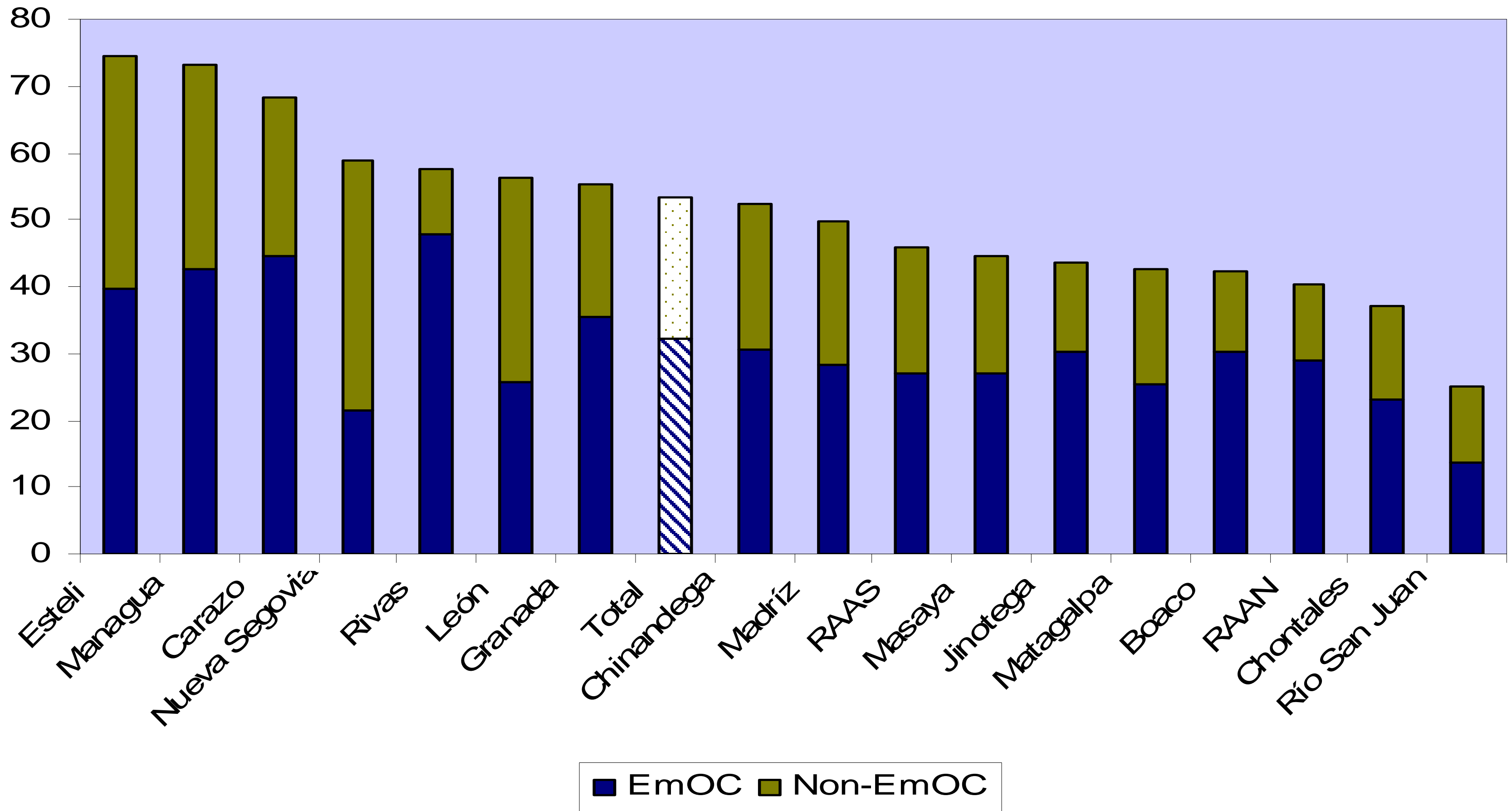
Utilization

EmOC Indicators

Utilization: Are women using these facilities?

Indicator (3)	Minimum acceptable level
Percentage of births in facilities	Countries should set their own acceptable level

Proportion of births in EmOC facilities and all facilities, Nicaragua, 2006



EmOC Indicators

Utilization: Are women with obstetric complications using these facilities?

Indicator (4)	Minimum acceptable level
Met need for EmOC % of women with complications treated in facilities (15% of all births expected to have complications)	At least 100% of women with obstetric complications treated in facilities

Experience from the field:
Sofala, Mozambique

Met need for EmOC

Year	Met need for EmOC
2000	~11%
2002	~18%
2003	~24%
2004	~30%
2005	~33%

Santos et al. Improving emergency obstetric care in Mozambique: The story of Sofala. IJGO, 2006: 190-201.

Met Need for EmOC in EmOC facilities and all facilities Angola

60%
50%
40%
30%
20%
10%
0%

Kwanza Sul
Luanda
Moxico
National
Huila
Kuando Kubango
Cabinda
Namibe
Zaire
Lunda Sul
Huambo
Kwanza Norte
Uíge
Bengo
Malanje
Bié
Benguela
Cunene
Lunda Norte

MoH – Angola Needs Assessment report

EmONC Indicators

Utilization

Are sufficient critical services being provided?

Indicator (5)	Acceptable levels
Cesarean section rate	Not less than 5% and not more than 15%, as a proportion of all births in the population

$$\text{Calculation} = \frac{\text{Caesarean sections performed in EmOC Facilities}}{\text{total expected live births in area}}$$

Population-based C/S rate by region

Region	C/S rate
Harari	9.9%
Addis Ababa	7.1%
Dire Dawa	2.6%
National	0.6%
Tigray	0.7%
Gambela	0.7%
Benishangul-Gumuz	0.7%
SNNP	0.4%
Oromiya	0.4%
Amhara	0.2%
Somali	0.1%
Affar	0.0%

EmONC Baseline Assessment, MOH, 2009

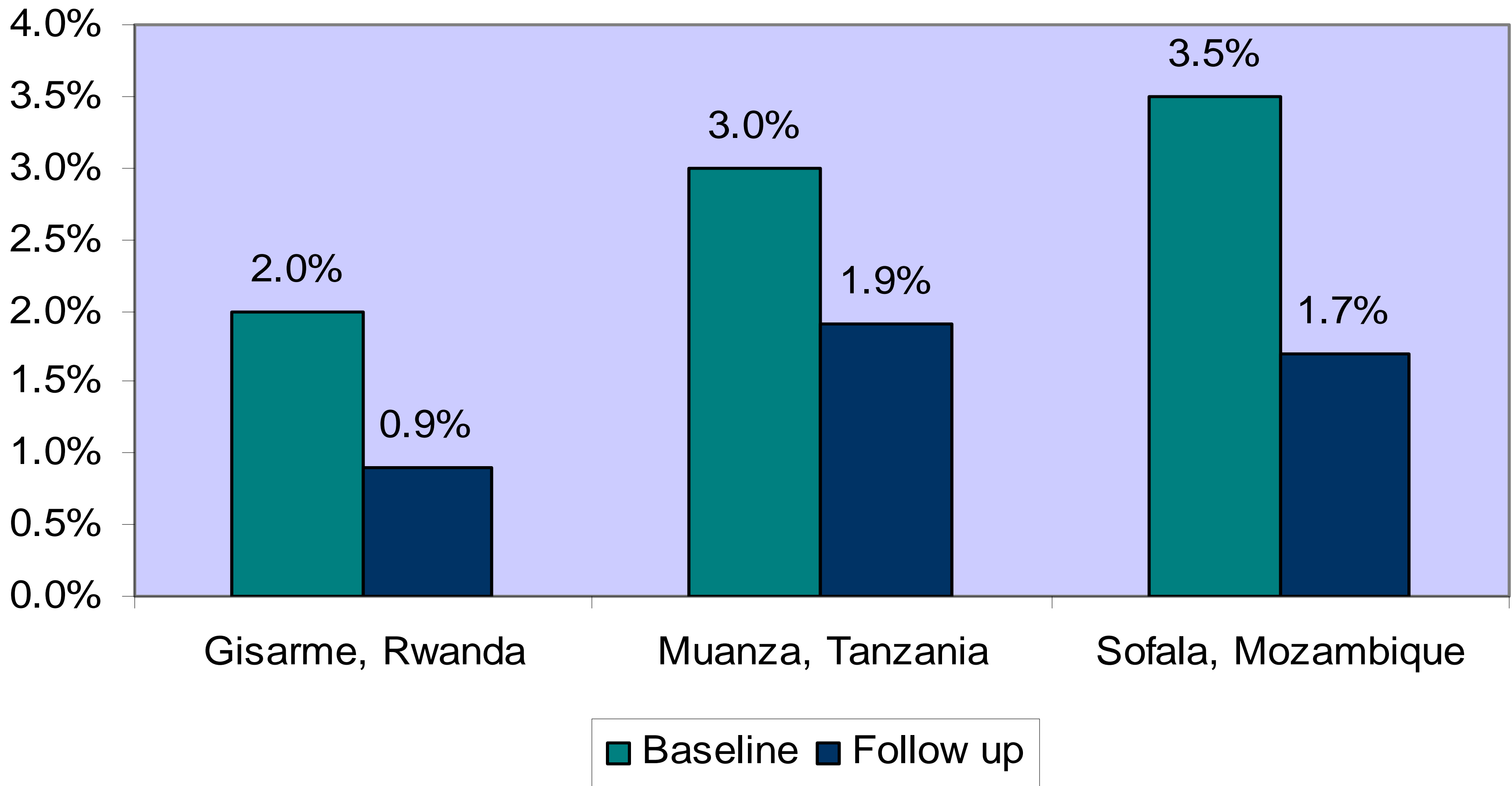
Quality of Care

EmOC Indicators

Quality of care: Is the quality of the services adequate?

Indicator (6)	Acceptable level
Direct obstetric case fatality rate (DOCFR)	Less than 1%

Direct Obstetric Case Fatality Rates



EmOC Indicators

Quality of care: Is the quality of the services adequate?

Indicator (7)	**Acceptable level**
Intrapartum and very early neonatal death rate	To be determined

Intrapartum & very early neonatal death rate

Country	Intrapartum + very early neonatal deaths	Women who delivered	Intrapartum & very early neonatal death rate
Cusco, Peru 2004	164	19,191	0.85%
S E Asian country 2008*	625	83,708	0.75%

*283 intrapartum stillbirths excluded due to unspecified BWT

EmOC Indicators

What services are needed in addition to EmOC?

Indicator (8)	Acceptable level
Proportion of maternal deaths due to indirect causes	No set acceptable level

Proportion of maternal deaths due to direct and indirect causes, Angola 2007

Causes of maternal deaths

Direct obstetric causes of maternal deaths

Source: MOH, UNICEF, UNFPA, WHO. (2007). ***Preliminary Results.***

Assessing Outcomes

- Near Miss – Severe Acute Maternal Morbidity
- Fresh Stillbirths
- Maternal Death Reviews and Audits
- Confidential Enquiries

How have the indicator data been used?

- Policy
    - Human Resource Policies
    - Clinical Management & Training Policies

- Programming
    - National strategy and planning
    - Improving the availability, accessibility, utilization and quality of EmONC

- Monitoring & evaluation
    - EmOC Indicators integrated into HMIS in > 7 countries
    - Several countries have done more than 1 needs assessment
    - Results useful for monitoring MDG 5

How can the EmOC Indicators measure the WHO Health System Strengthening building blocks?

Building block	Question
Health services	Are enough facilities providing EmONC services?
Workforce	Do facilities have adequate numbers of health workers with the right mix of life-saving skills?
Information for decision making	Does HMIS capture key information for monitoring utilization of EmONC?
Essential drug supply and logistics	Are essential drugs in stock and equipment functional?
Financing and resource allocation	Is the distribution of resources across facilities equitable?
Leadership and governance	Are policies, protocols, and good practices being implemented?

Slide source: P Bailey