Maternal Mortality: What To Measure?

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Maternal Health Symposium

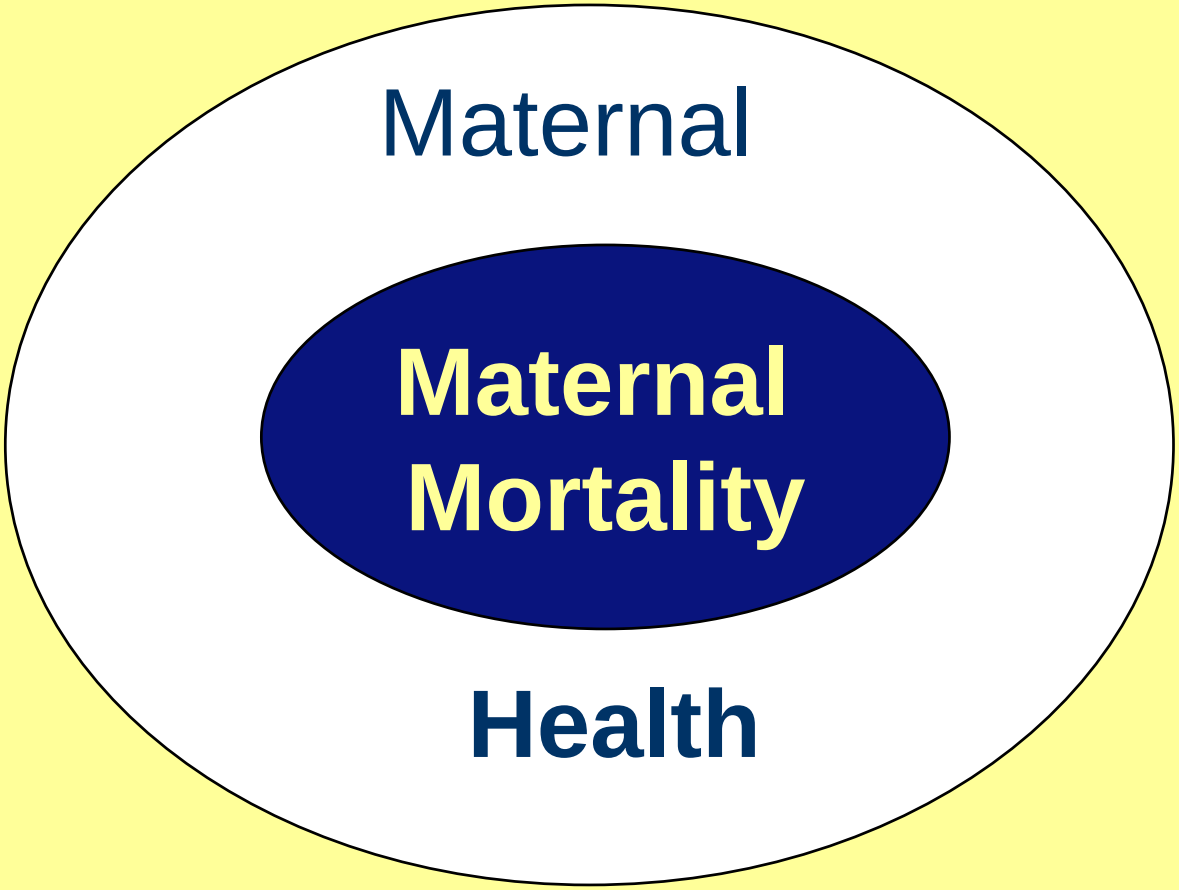
Tokyo, June 2003

MDG Goal: Improve maternal health

Target: Reduce the MM Ratio by 3/4 by 2015

Indicators:

- Maternal mortality ratio
- Proportion of births attended by skilled health personnel


Maternal
Maternal Mortality
Health

Measuring Progress

Impact Indicators

(MM Ratios and Rates)

or

Process Indicators

???

Impact Indicators: Practical Limitations

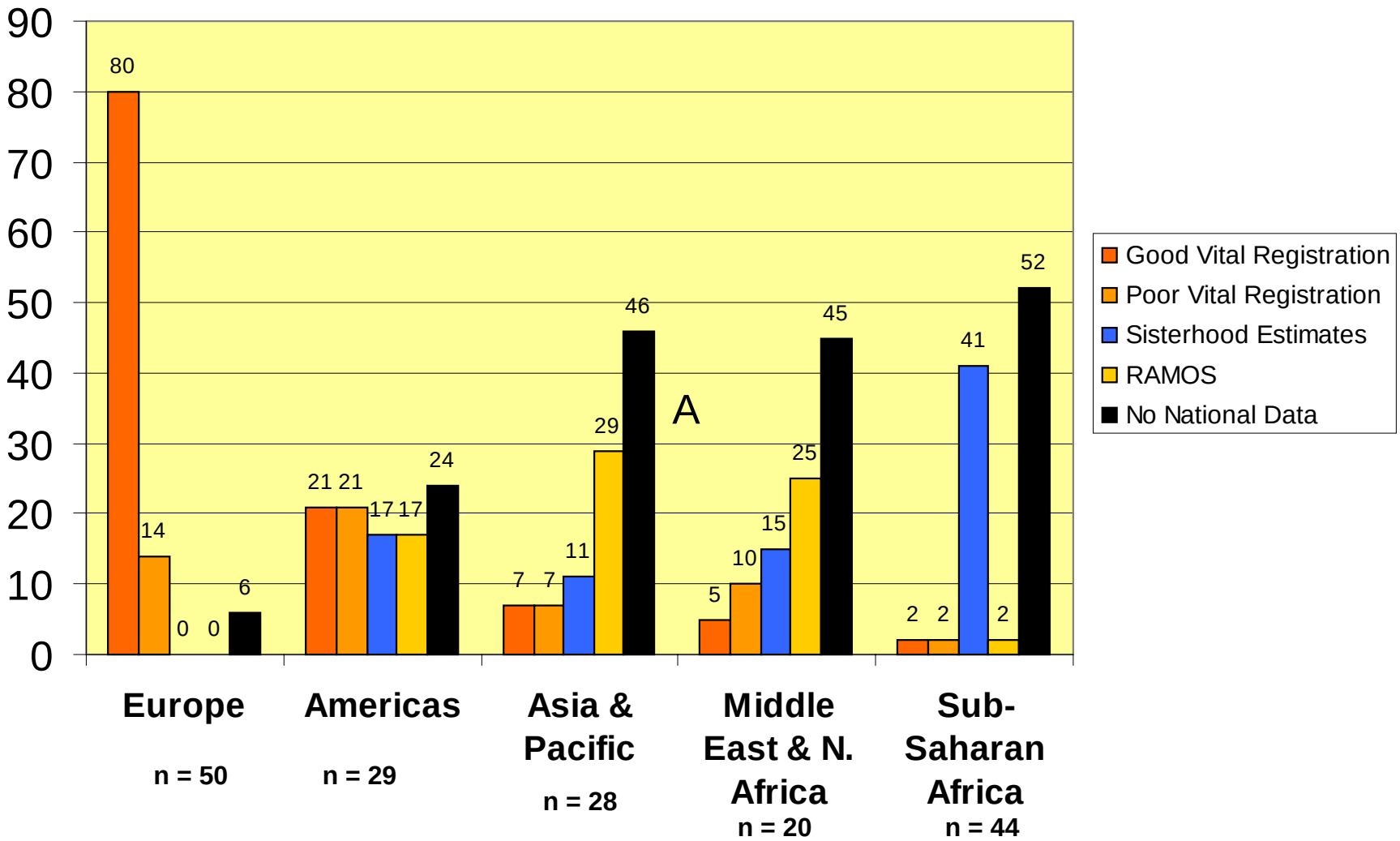
vital registration:

- lack of data
- misclassification

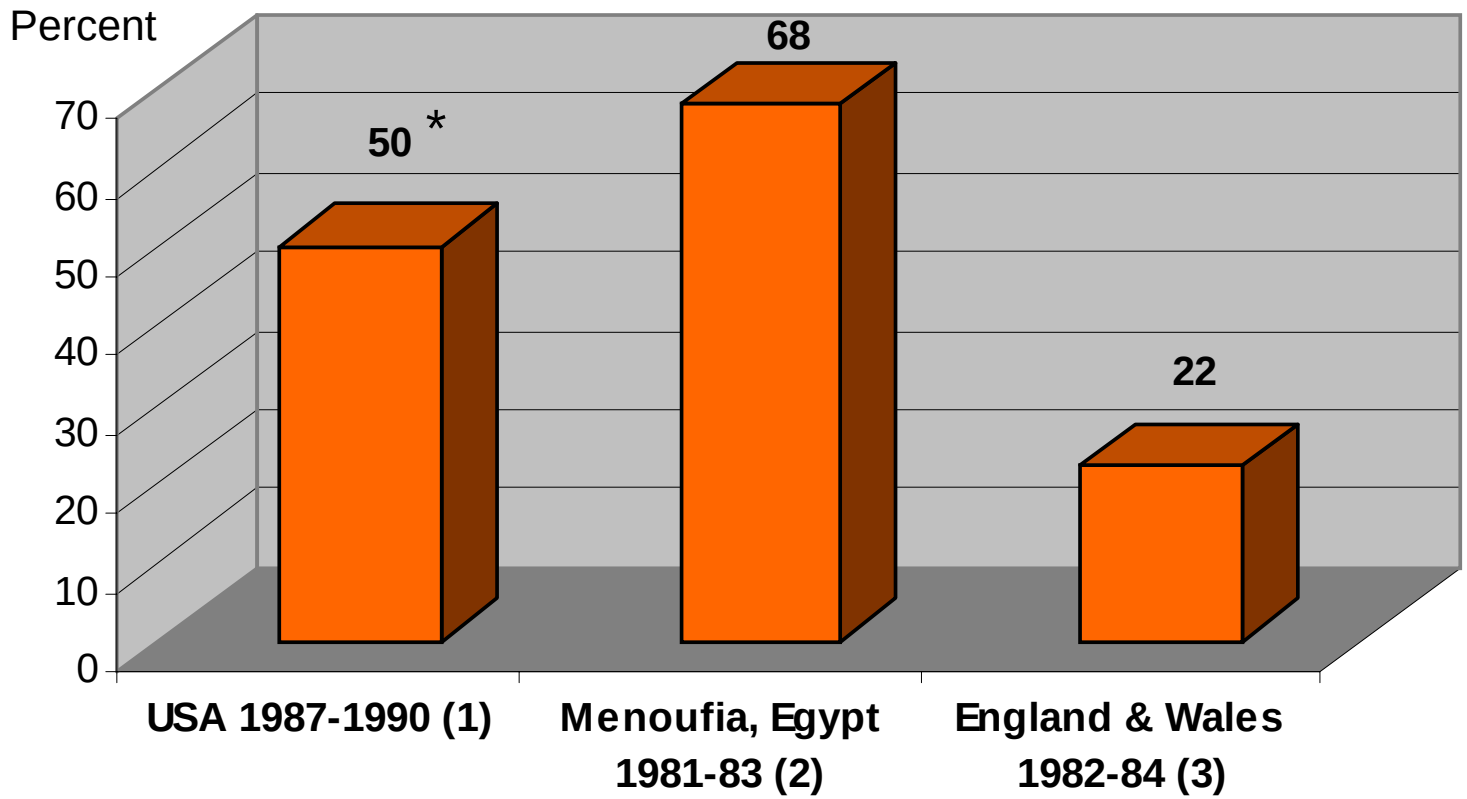
survey: sample size

- cost
- confidence intervals

Data Sources (% countries)
1995 UN MMR Estimates



% of Maternal Deaths Missing from Official Records



* Pregnancy-related deaths (direct + indirect obstetric

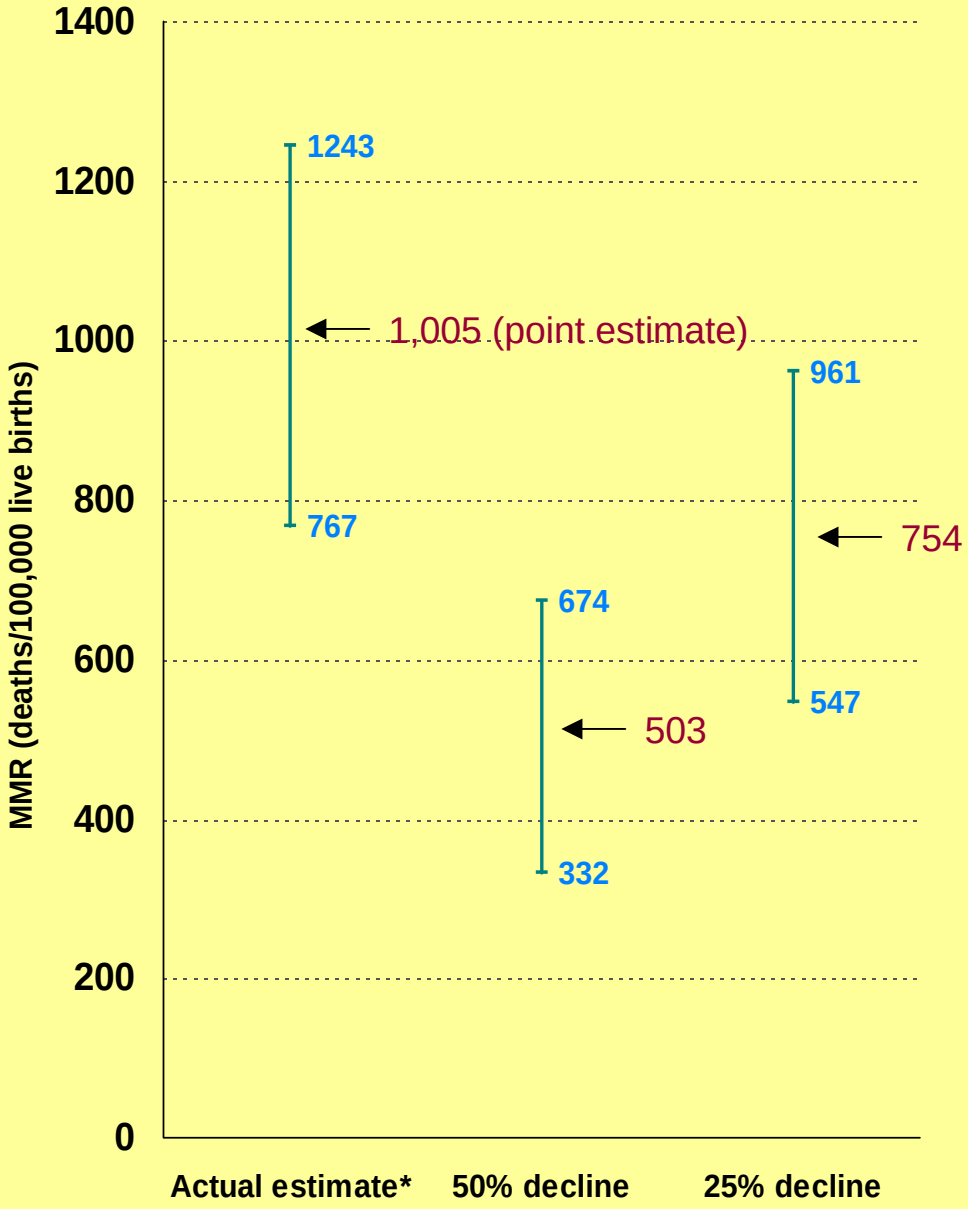
Sources: (1) = Berg et al 1996, (2) = Grubb et al, (3) = Turnball et al 1989

Comparison of Maternal Mortality Survey Methods

Study	People	No. Deaths	MM* Ratio	Years Covered
Conventional Survey: Ethiopia	**9,315**	**45**	457	**2**
Sisterhood Survey: Gambia	**2,163**	**91**	1105	**20****

Maternal deaths per 100,000 live births Sources: Kwast et al, 1985; Graham, Bass and Snow, 1988; Boerma and Mati, 1989.

** Midpoint in study period = 10 years in past



Maternal mortality ratios using the sisterhood method:

95% confidence intervals and point estimates

*Data from the Gambia (Graham et al., 1989)

Impact Indicators:

Limitations in Interpretation:

- The “gold standard” ?
- Tracking changes
- Relevance to action

Process Indicators

The crucial point

is the

Strength of causal chain

The UN Process Indicators

UNICEF / WHO / UNFPA, 1997

Measure the availability and utilization of emergency obstetric care (EmOC)

Signal Functions of Basic EmOC

1-3. parenteral antibiotics,

oxytocic drugs

anitconvulsants

4. manual removal of placenta

5. removal of retained products (e.g. MVA)

6. assisted vaginal delivery

Signal Functions of Comprehensive EmOC

Basic EmOC (signal functions 1-6)

plus

7. blood transfusion

8. surgery (e.g. C-section)

UN Process Indicators

Geographical coverage

- Are there enough functioning EmOC?
- Are they well distributed?

For every **500,000 population**, there should be:

At least **4 Basic** EmOC facilities.

At least **1 Comprehensive** EmOC facility.

UN Process Indicators (cont.)

Utilization of services:

- Are enough women using these facilities?

  At least **15%** of pregnant women deliver in and EmOC facility

- Are women with complicationos using these facilities?

  Met Need: 100% of women estimated to develop complications should receive EmOC

UN Process Indicators (cont.)

- Are enough critical services being provided?

Cesarean sections should be at least 5%
(and not more than 15%) Of all births in the population (not just in the facility)

UN Process Indicators (cont.)

- Is the quality of the services adequate?

Case-fatality rate should be less than 1%

(deaths in facility among women treated for obstetric complications)

Benefits of Process Indicators

Less expensive:

- don’t require population surveys;
- use facility records

More valid :

- permit rechecking of data
- permit cross-checking

Benefits of Process Indicators

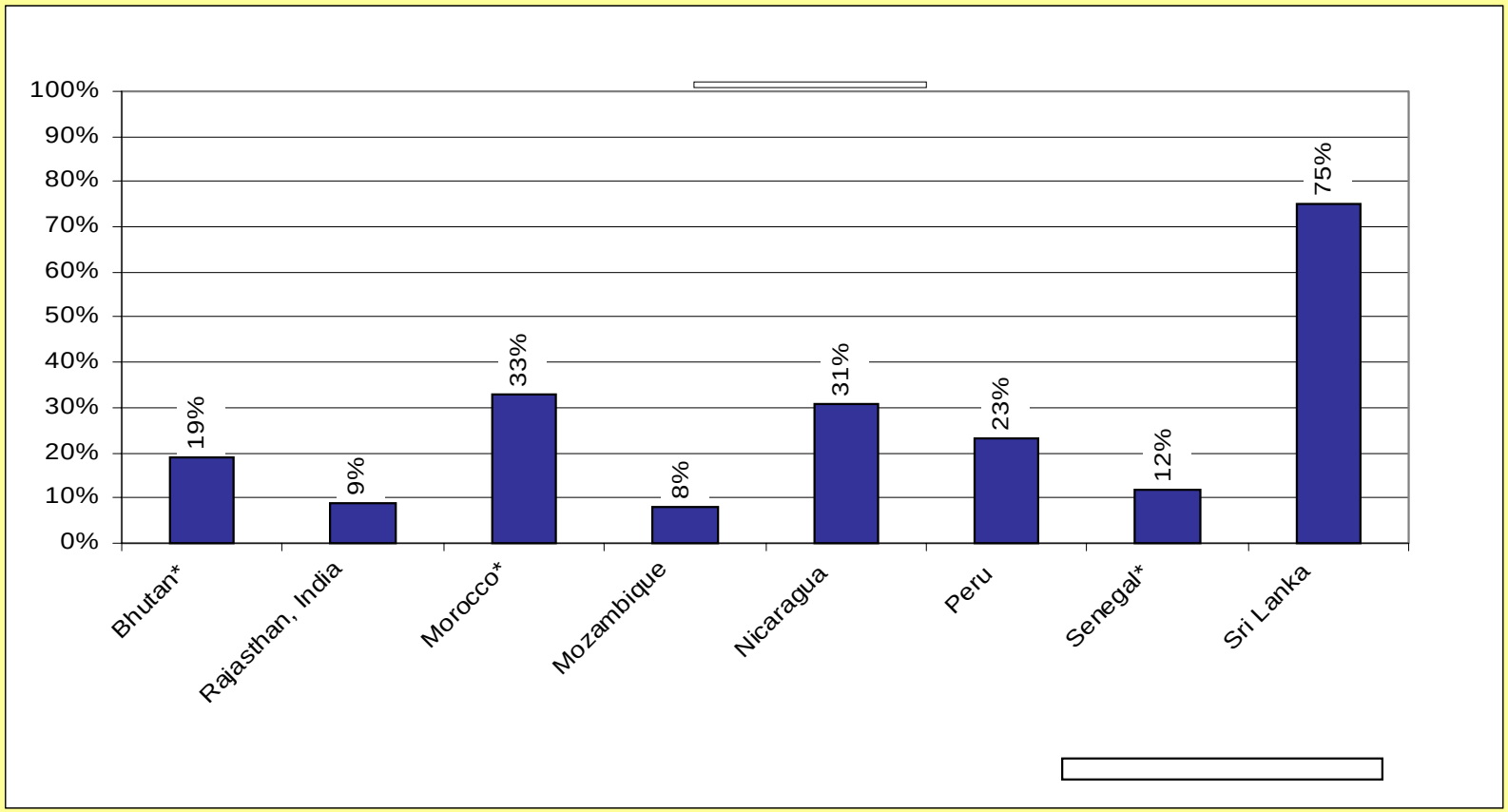
Promote action:

- emphasize functioning
- emphasize coverage

More useful:

- can change quickly
- illuminate needs, progress

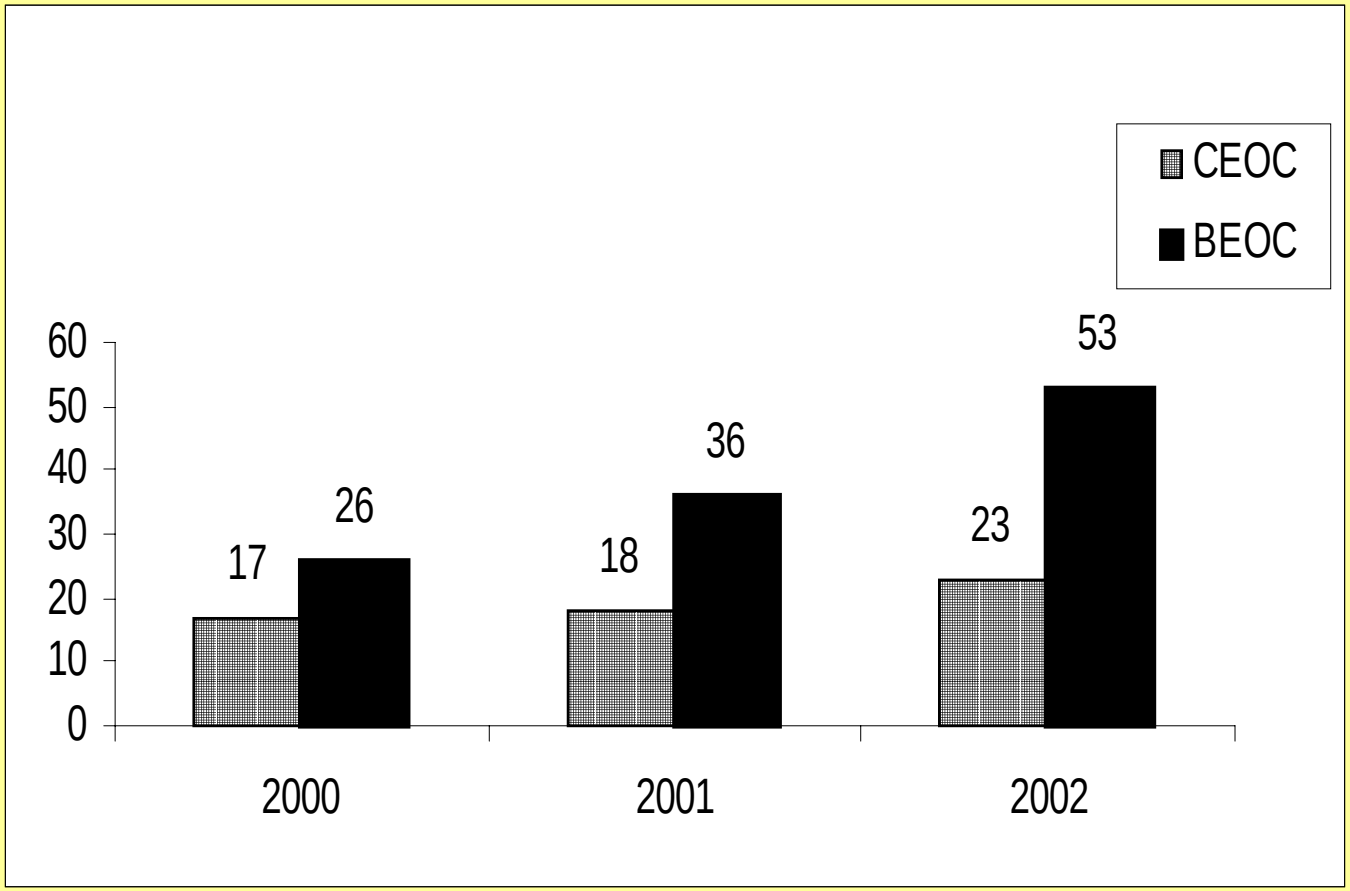
Met Need for EmOC: 1999-2000



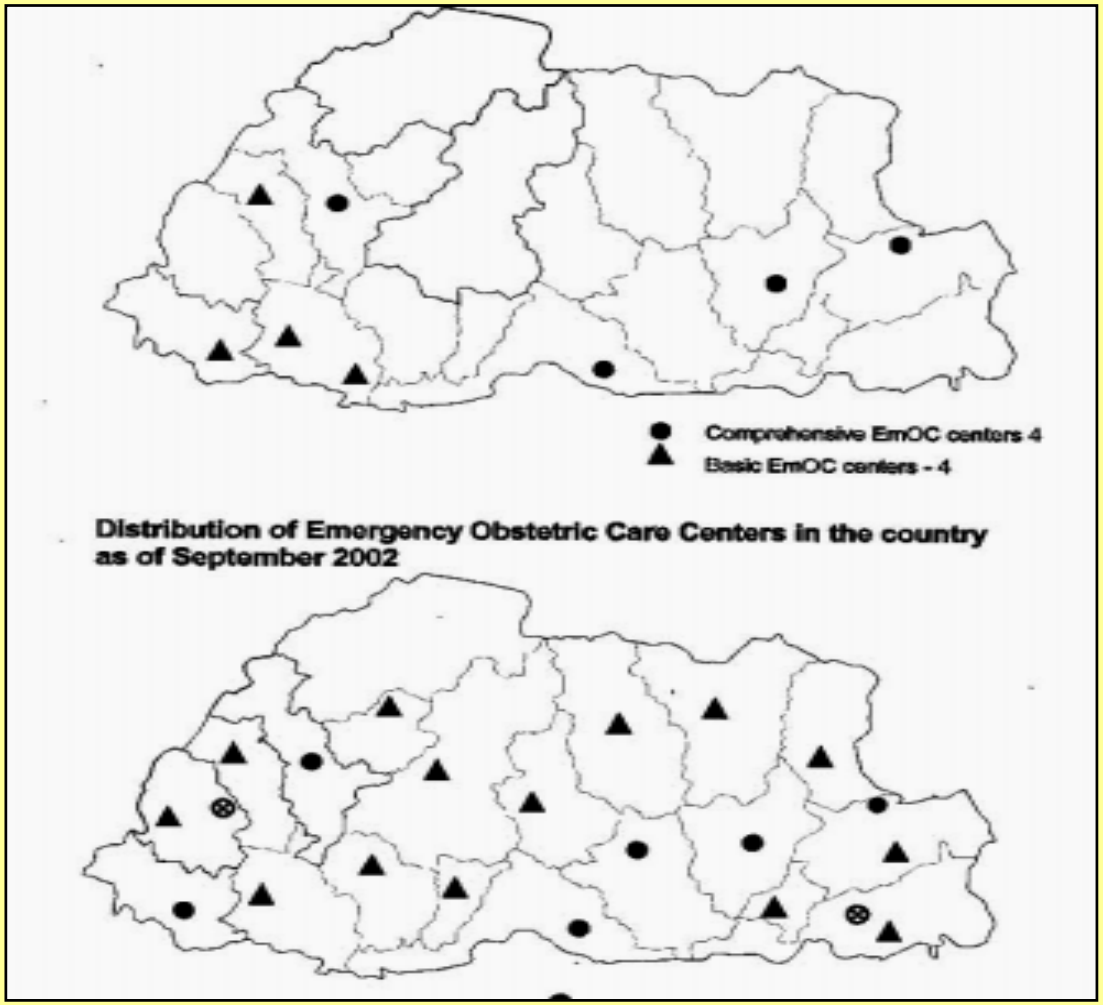
Baseline Data: UN Process Indicators (* = national)

Country/ Area	Comp. EmOC	Basic EmOC	Met Need	Cesar. Sect.
Senegal *	√	6%	12%	1.1%
Rajasthan	31%	37%	9%	1.2%
Bhutan *	√	80%	19%	1.3%
Peru	√	0%	23%	4.7%

Rajasthan, India (UNFPA Project): Availability of EmOC Facilities



EmOC Facilities in Bhutan 3/00, 9/02



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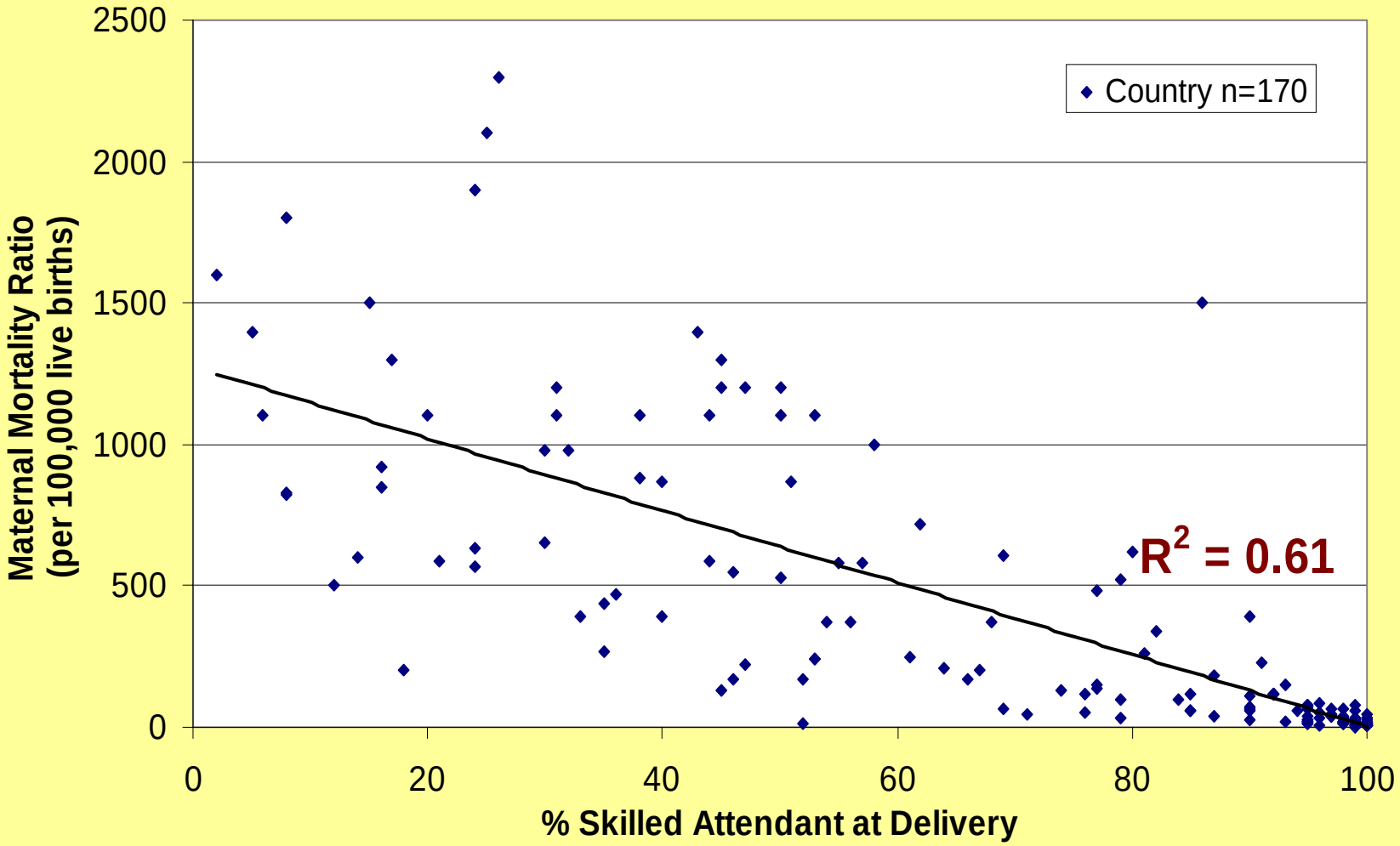
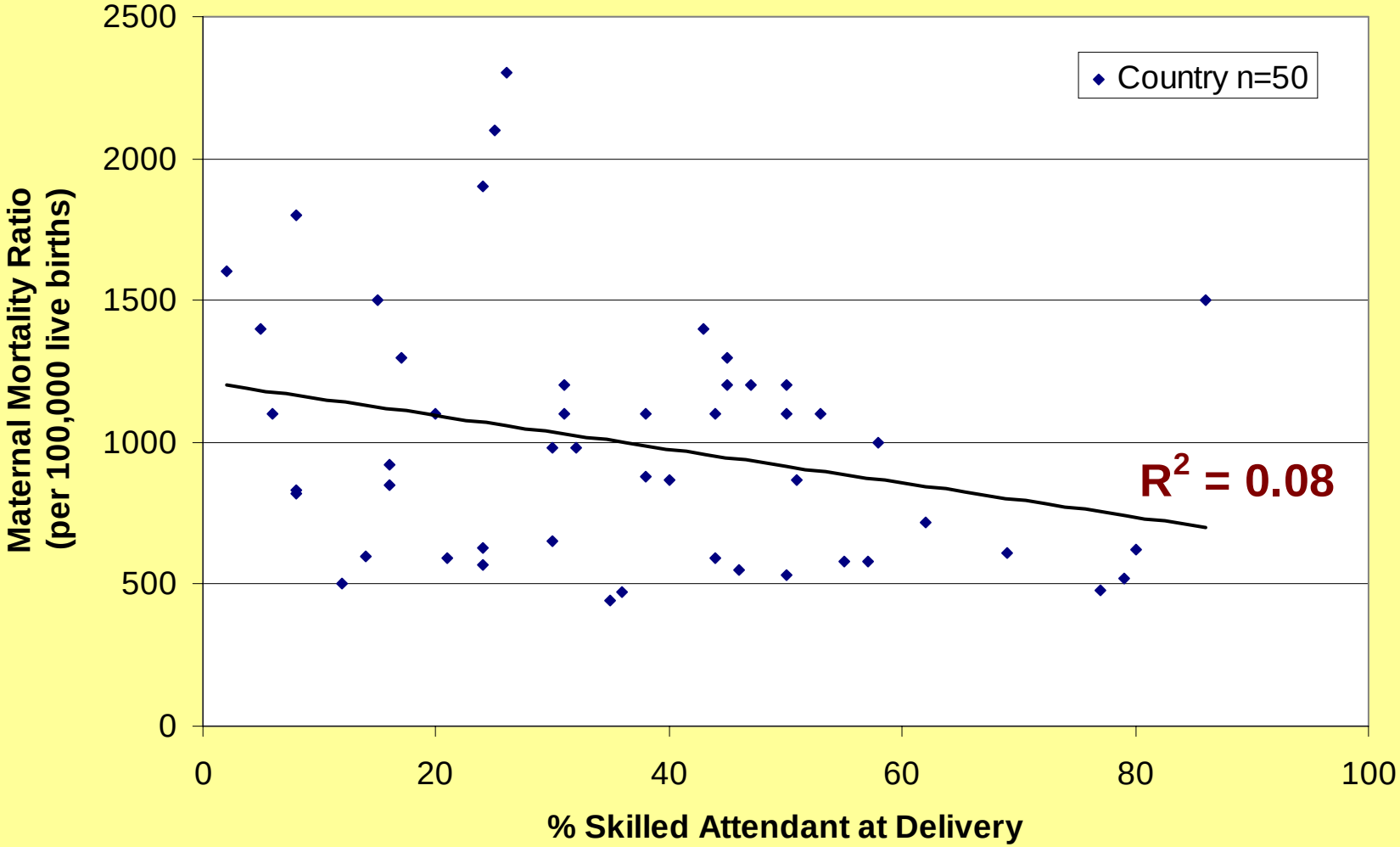
Skilled Attendant at Delivery and MMR, all countries



Source: Safe Motherhood Initiative website and *Maternal Mortality in 1995: Estimates developed by WHO, UNICEF, UNFPA* (2001)

Skilled Attendant at Delivery and MMR, Countries with MMR>400



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Matching Indicators with Goals

Goal: “Skilled Care”

MDG Indicator:
Skilled Attendants

UN Process Indicator #1
Coverage of EmOC

Normal | First Aid | Basic EmOC | Comprehensive EmOC

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