Maternal Death Audit as a Tool for Reducing Maternal Mortality;

UNRWA Experiences-
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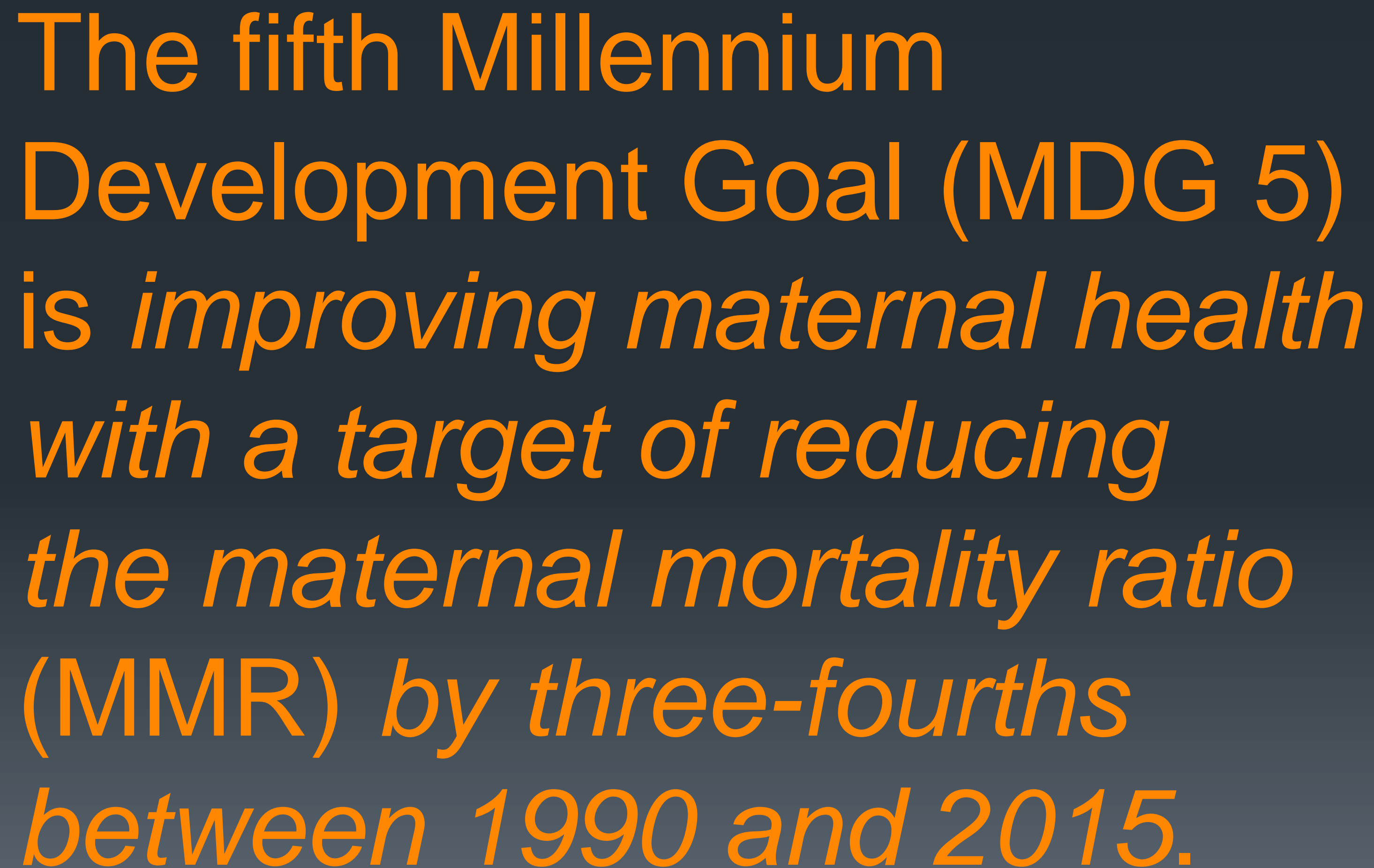
UNRWA has for over 60 years provided comprehensive primary health care to 5 million Palestine refugees in five fields of operation: Gaza, Jordan, Lebanon, Syria and the West Bank. Despite the contextual challenges of chronic instability and poverty, the agency maintains high standards of antenatal care supported with subsidy of delivery in local hospitals, with comprehensive follow up of all registered pregnant women.

Related UNRWA Policies :

- Provide full Package of Services including Pre-Conception Care;
- The Status/Outcome of every Pregnancy Should be Known in a timely manner;
- Active Surveillance of Death of Woman in Reproductive Age 15-49;
- Undertake immediately Confidential Enquiry of Maternal Death;


The fifth Millennium Development Goal (MDG 5) is *improving maternal health with a target of reducing the maternal mortality ratio* (MMR) *by three-fourths between 1990 and 2015.*

"To make people count we first need to be able to count people"

is not a matter of statistics

It's more than just figures or numbers

Numbers represent

- individuals
- families
- whole communities

Without information, there can be no action!

Even in countries with adequate civil registration systems, special studies have revealed that about 50 percent of maternal deaths go unreported due to misclassifications.

It is often at variance with the information on the death certificate, if available!!!

Maternal Death Audit:

A maternal death audit is an in-depth systematic review of maternal deaths to delineate their underlying health social and other contributory factors, and

the lessons learned from such an audit are used in making recommendations to prevent similar future deaths.

TO SAVE MOTHERS' LIVES

How?

- **Better management of complications**
  - By individual professionals and teams
  - By systems (local, regional, national)
- **Prevention of complications**
  - Identify risk factors
  - Identify early warning signs

Five Approaches for Reviewing Maternal Deaths and Ill Health

- **Facility-based maternal death review:** -**review entails auditing maternal deaths that occur in health facilities**
- **Community-based maternal death review (verbal autopsy):** -**involves interviewing family members about maternal deaths that occur outside health facilities**
- **Confidential enquiries into maternal deaths;-** **enquiry into maternal deaths is made by a national committee and in a confidential manner**
- **Survey of severe morbidity (near misses);** This survey is an in-depth investigation of the factors that led to the near miss, what worked well in the treatment of the life-threatening complications, and the lessons learned.
- **Clinical audit; -** **systematic review or audit of the obstetric care provided against established protocols or criteria aimed at improving the quality of care**

A combination of the two approaches were adop… UNRWA

Confidential Enquiry

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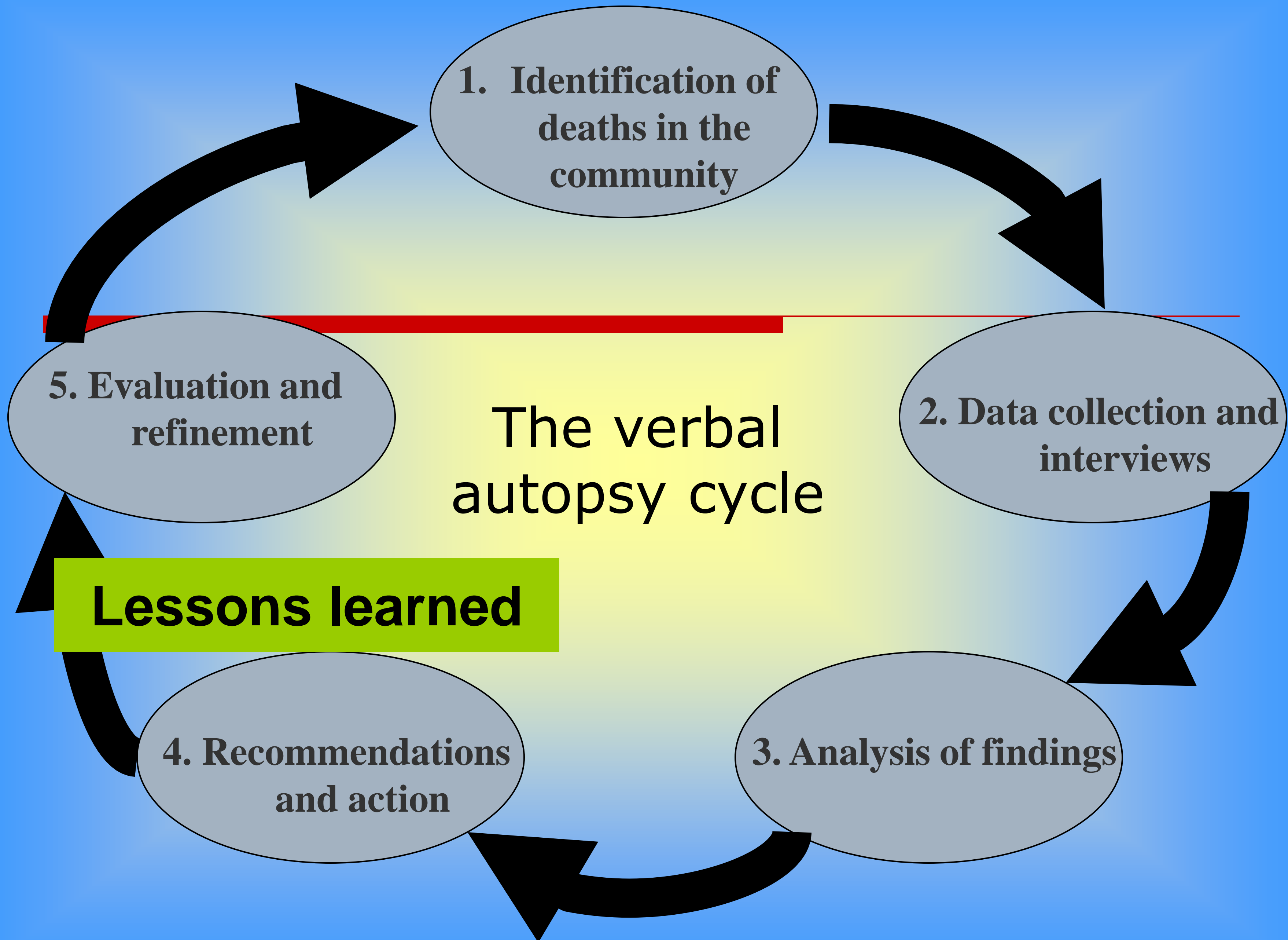
Confidential Enquiry:

- Cover all deaths associated with pregnancy;
- To get facts (at first hand if possible) and comments of experienced obstetricians;
- Its scope extends to the control of the determinants of Maternal Morbidity and Mortality; not only medical;
- Identify weaknesses in the system;
- Identify Performance Challenges;
- Identify issues related to access to health;
- Identify needs for Awareness on warning signs, need for care ;
- Advocacy Tool ;

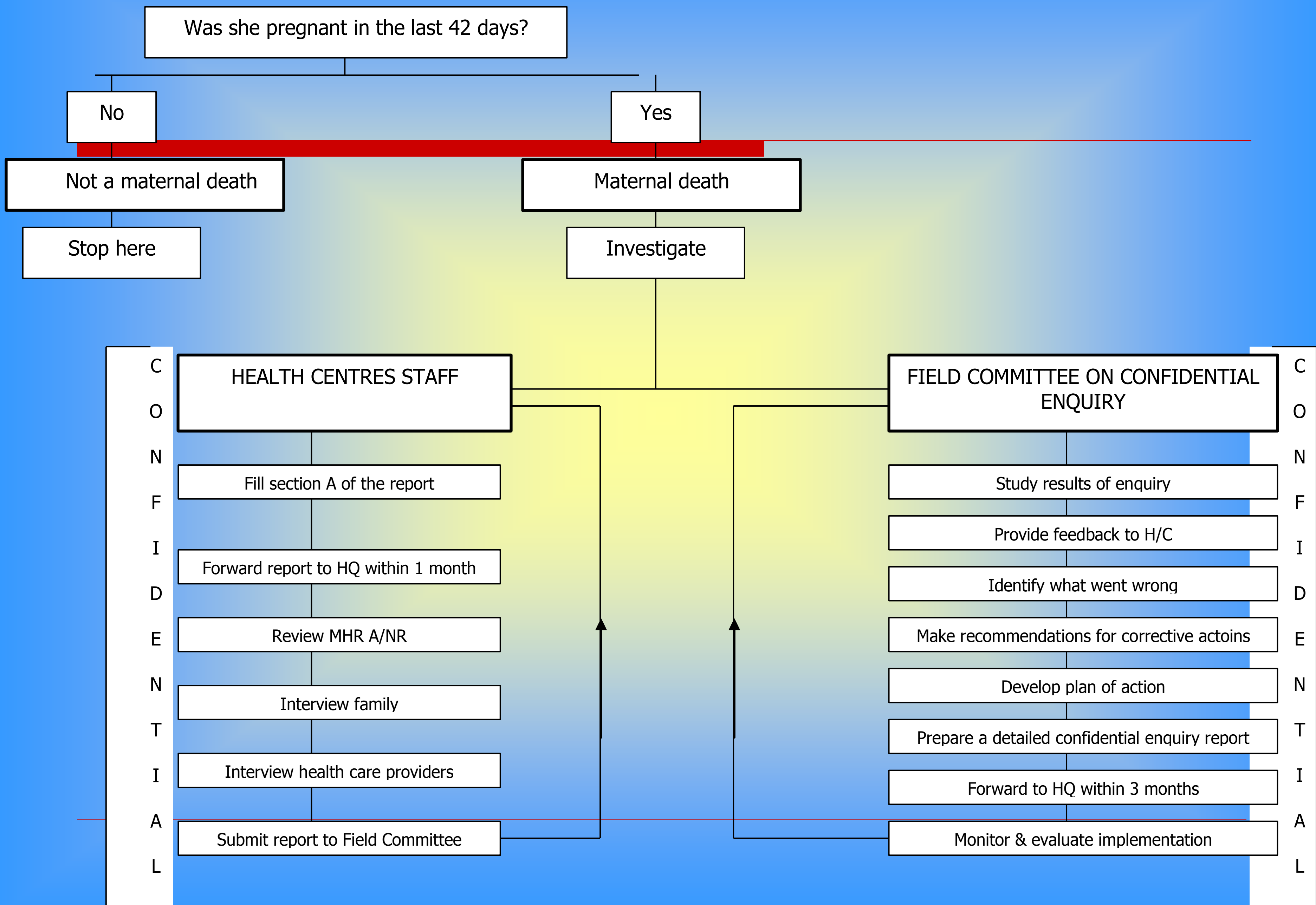

1. Identification of deaths in the community
2. Data collection and interviews
3. Analysis of findings
4. Recommendations and action
5. Evaluation and refinement
The verbal autopsy cycle
Lessons learned

Committee of Maternal Death

- **A committee of Maternal Death Enquiry established**
  - To coordinate the enquiry.
  - Define the causes of death
  - Provide guidelines and other corrective measures to prevent the occurrence of such deaths.

- FFHO, FNO, Ob. Gyn.
- The committee may consult other specialists as appropriate.

Surveillance of maternal mortality through confidential enquiry



Maternal Mortality Enquiry Form:

- **Section A:** General Identification Data filled by HC staff
- **Section B:** Narrative Description of the course of events leading to death ascertained through interviews with parents, husband, relatives, friends, medical personnel.
- **Section C:** Obstetric and Medical Information.
- **Section D:** Cause of Death, conclusions and recommendations of the Field Committee.

Information collected in the enquiry

- ***Personal***. Age, race/ethnicity, socioeconomic, education.
- ***Residency***. (camp, urban, rural)
- **Antenatal care.**
- **Place of delivery**
- Place, Date and time of her death.
- ***Gravidity and Parity***
- ***Pregnancy outcome****.* Undelivered, spontaneous or induced abortion, ectopic or molar pregnancy, live birth, stillbirth, multiple pregnancy.

Information collected in the enquiry

- Gestational Age. At delivery or at time of her death, if undelivered.
- Antenatal care . Weeks of pregnancy, time of 1st registration, where, how often and by whom this was provided; barriers to AN
- Type and place of delivery and birth attendant.
- Time of death in relation to gestation or delivery.
- Postnatal care
- Reported cause of death.
- Cause of death as determined in the enquiry
- Predisposing (underlying) cause(s) of death

Qualitative analysis

The purpose of qualitative analysis is to look at the factors which may have led to a specific woman's death in more detail.

For example, if a woman died of haemorrhage, was it because:

- she had not sought care, that care was unavailable or too expensive for her,
- the distance to a health facility was too great, that no senior staff were available,
- the care she received was inadequate
- or that no blood transfusion facilities were available?

In other words, describe and follow up the course of her individual pregnancy within the community or health care system.

The qualitative analysis should include:

- seeking a history of her feelings about pregnancy and the need for health care.
- A description of the treatment she received, ideally from a written report obtained in confidence from the health staff who cared for her.
- describing the availability of any resources she may have required, including trained attendants, AN or PN care, facilities for operative delivery....
- One useful way to develop a systematic approach to analyzing the problems that might lead women to die:
  - to consider the barriers women face when in need of health care. services are non-existent, or inaccessible for distance, cost or sociocultural barriers
  - they were unaware of the need for care,
  - unaware of the warning signs in pregnancy
  - Are women dying because the care they receive is inadequate or wrong?

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Where to Focus?????

Traditionally, maternal death investigation have concentrated on issues at the third level.

looking at more than just clinical factors reinforces the fact that the purpose of the survey is not to solely focus on the clinical aspects of care, but to find ways to reduce such deaths by actions at all levels of the health care system including interventions at the community level.

proportion of pregnant women lost to follow up

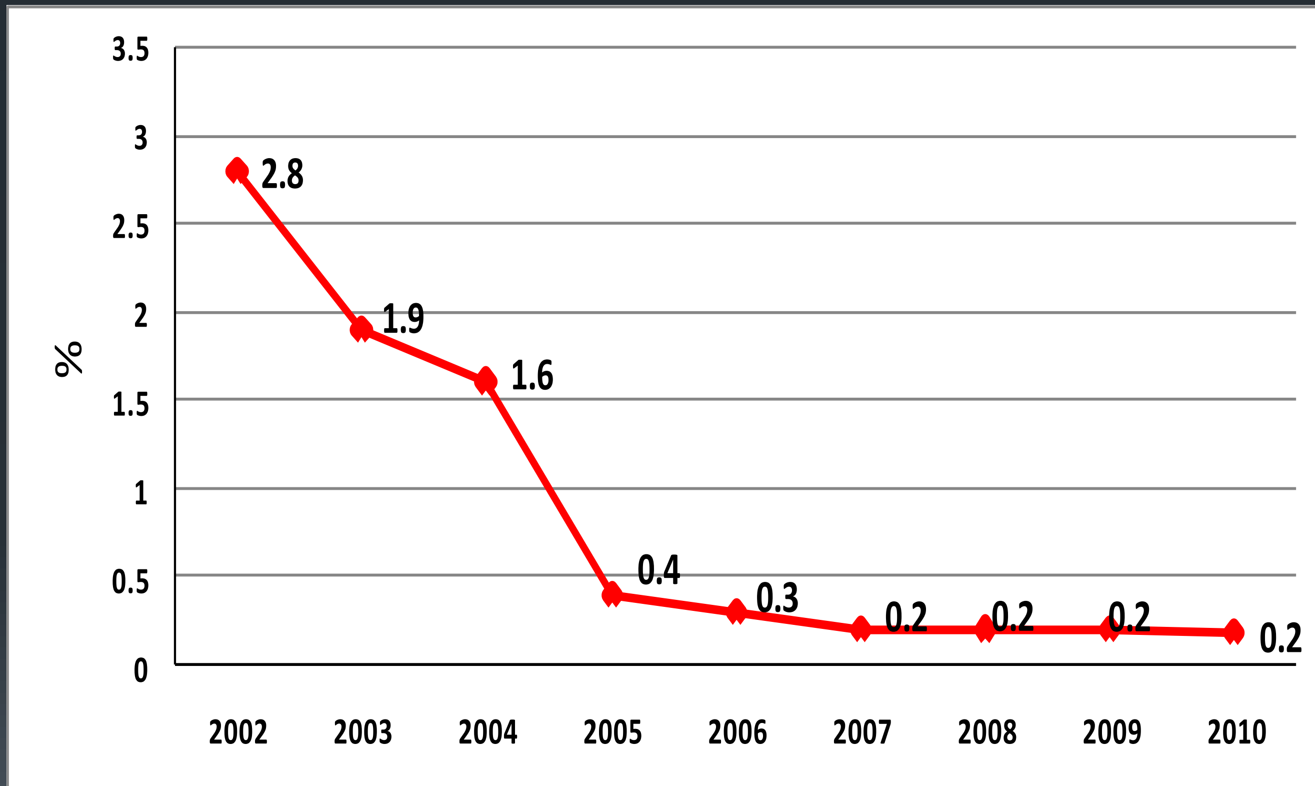


Table 1. Maternal mortality ratio by Field (2000-2010)

UNRWA Field	No. of newly registered pregnant *	No. of maternal mortality	Maternal mortality ratio
Jordan	304,983	63	19.2
Lebanon	53,397	17	34.0
Syria	99,325	33	33.6
Gaza	383,238	85	24.4
West Bank	137,503	32	25.5
Total	**978,446**	**230**	**24.2**

Figure 2, Trend of UNRWA – Maternal mortality ratio

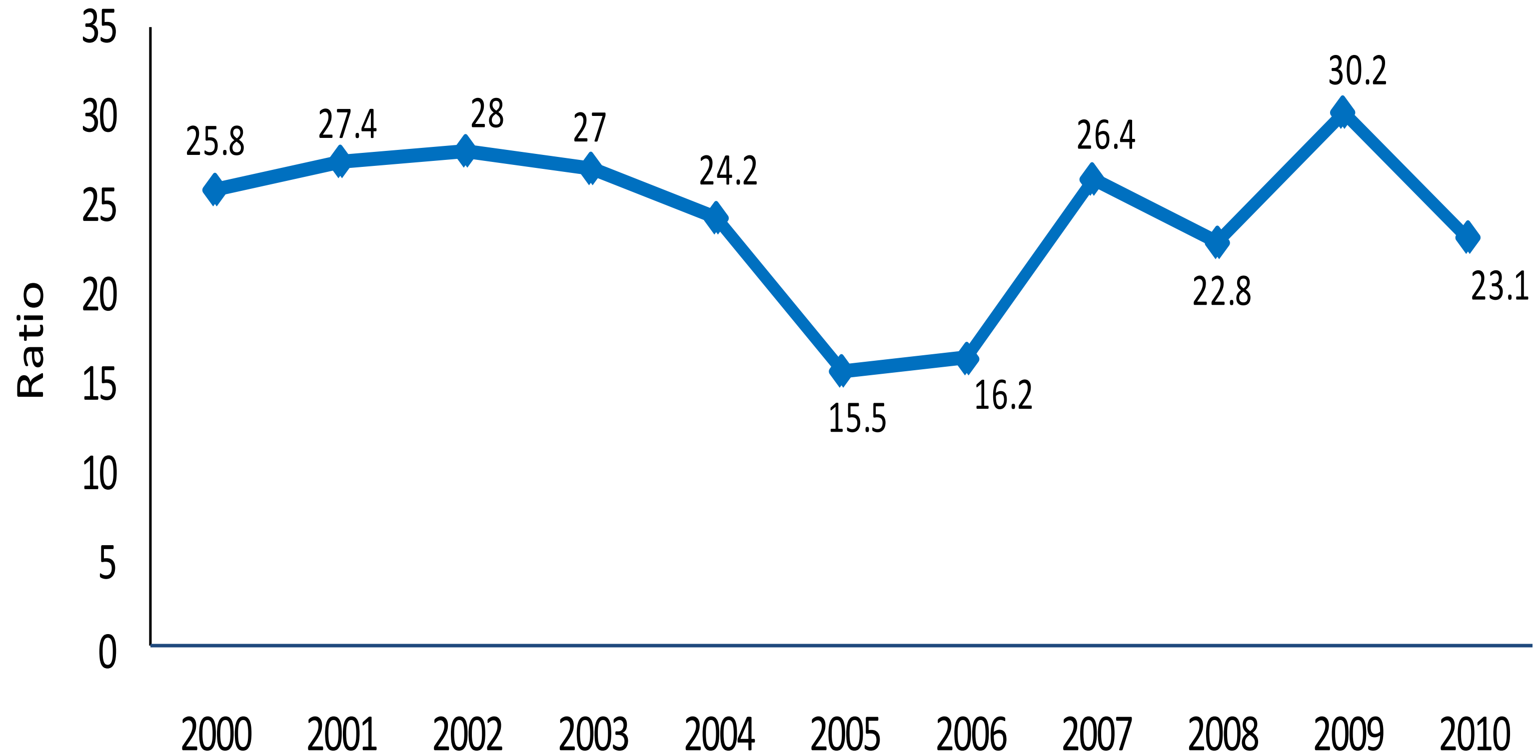
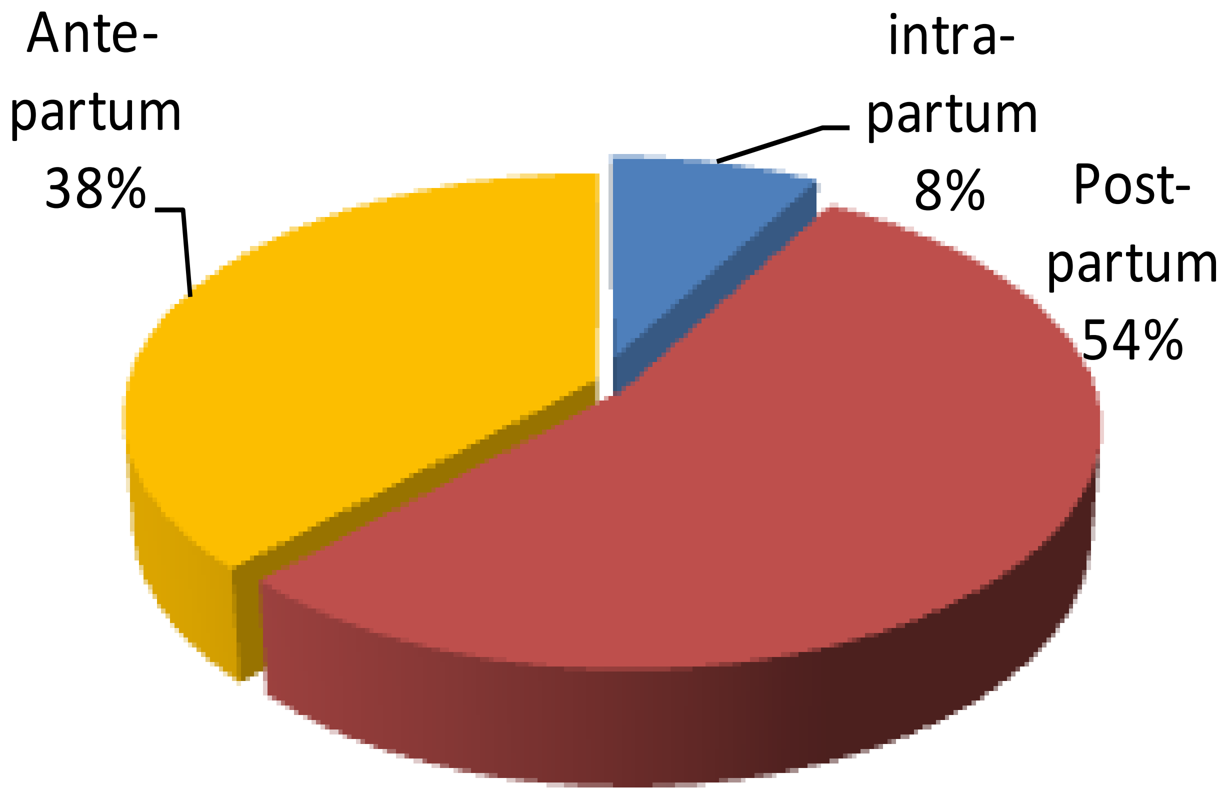


Table 2. Causes of maternal deaths

Causes of death	Number	Percentage
Pulmonary embolism	94	41.0
Hypertensive disease/ Toxemia	28	12.2
Heart disease	27	11.8
Hemorrhage	24	10.5
Infection & Sepsis	17	7.4
Others	40	17.0
Total	230	100

Figure 5. Maternal deaths by time of death



Women deliver in hospitals but they die at home

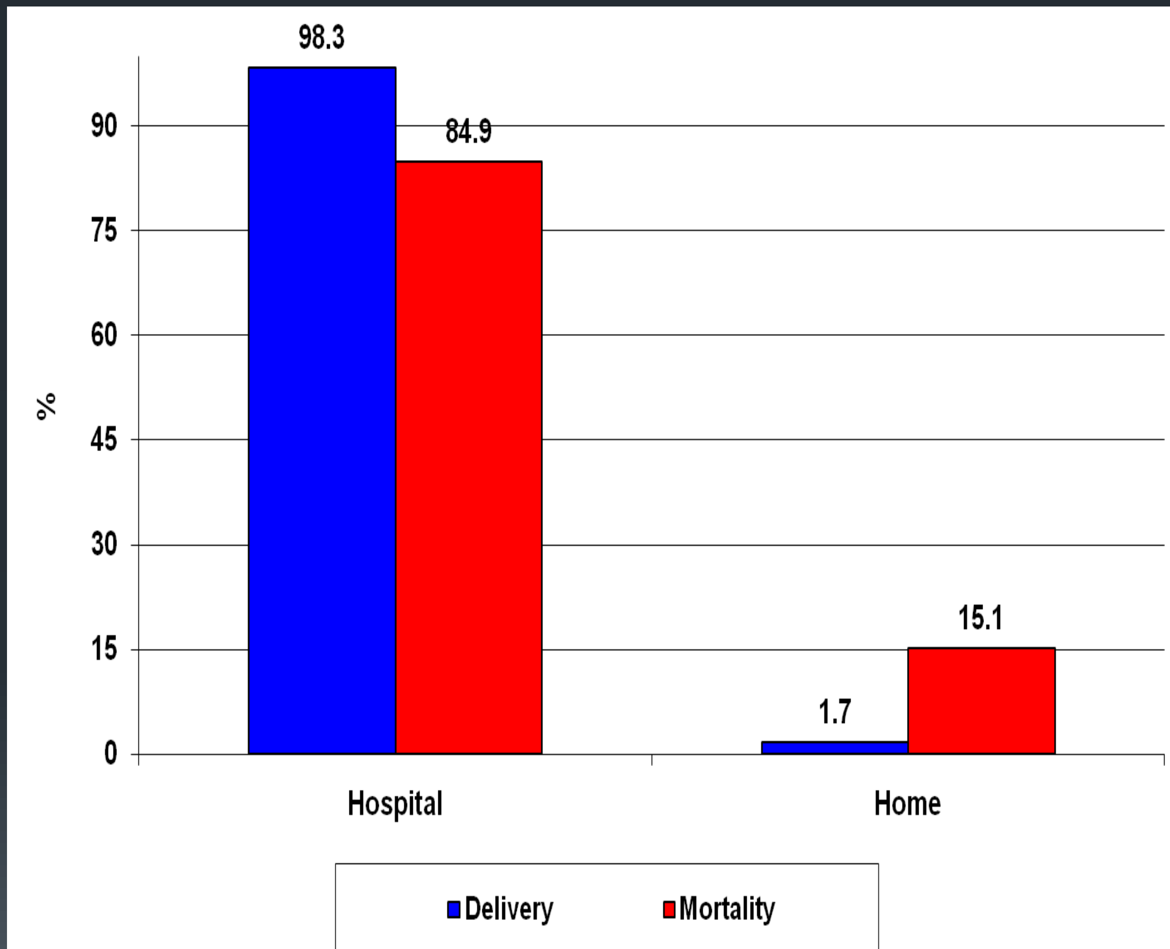
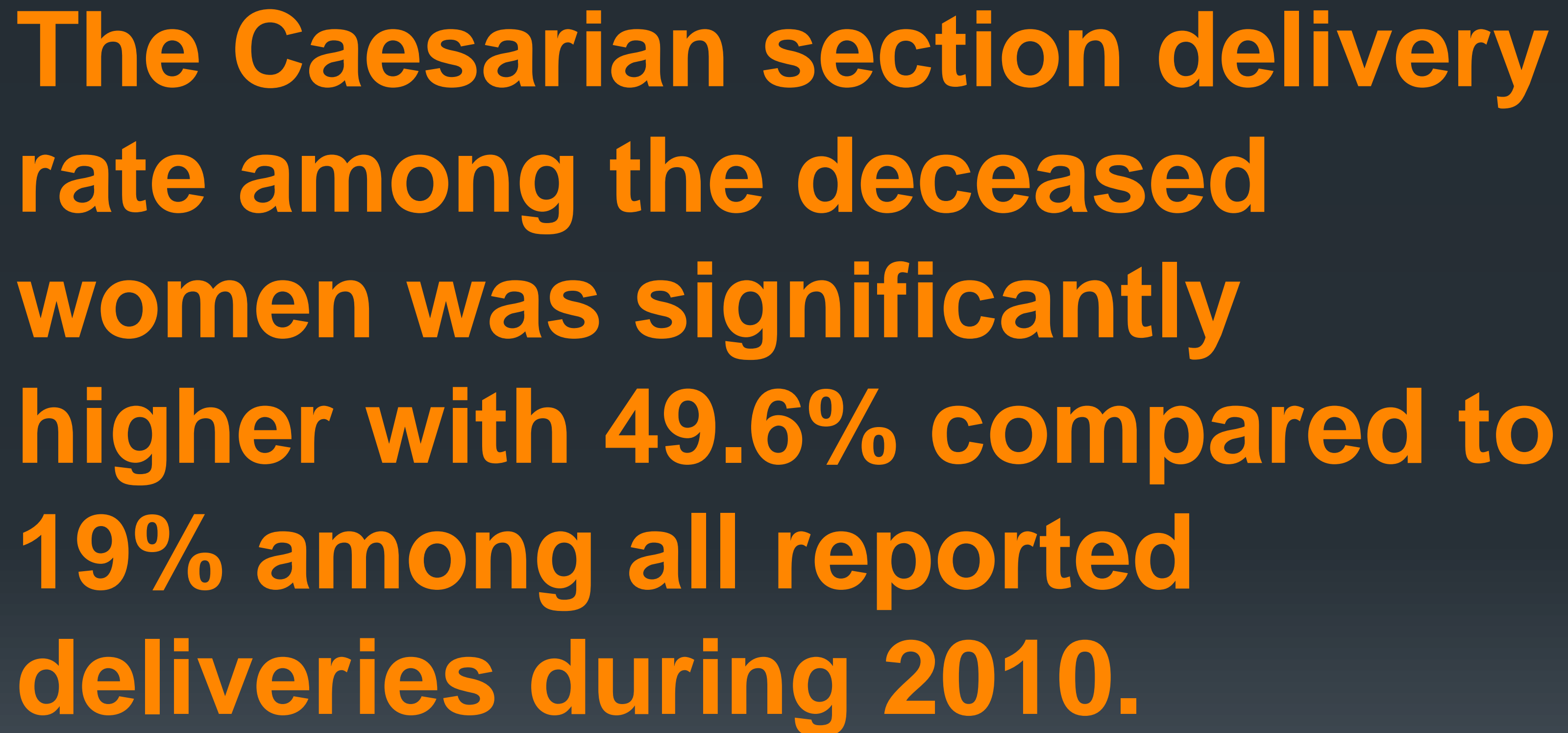


Figure 6, Maternal deaths by place of delivery


The Caesarian section delivery rate among the deceased women was significantly higher with 49.6% compared to 19% among all reported deliveries during 2010.