

# A Model to Reduce Maternal and Fetal Mortality in 10 Hospitals in Kano and Kaduna State, Nigeria



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Continuously Conducted Quality Assurance in Obstetrics

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# A Model to Reduce Maternal and Fetal Mortality by Quality assurance:



## 1. Background

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- Millenium Development Goal 4:  
Reduce infant mortality 75% by 2015
- Millenium Development Goal 5:  
Reduce maternal mortality 75% by 2015

# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 1. Background: Maternal, Newborn and Child death in Nigeria (USAID, ACCESS 2007)

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### Mothers

- Maternal mortality ratio per 100 000 live births 800
- Annual number of maternal deaths 42 600

### Babies

- Stillbirth rate per 1000 total birth 30
- Annual number of stillbirth 163 400
- Neonatal mortality rate per 1000 live births 48
- Annual number of neonatal deaths 255 500

### Children

- Under 5 mortality rate per 1000 live births 197
- Neonatal mortality as % of under 5 Mortality 24

# **A Model to Reduce Maternal and Fetal Mortality by Quality Assurance**

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## **How to reduce Maternal and Fetal Mortality**



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# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance



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- The only way to achieve this goal:

Quality assurance in obstetrical service

Main focus: 



# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 2. Principles of Quality assurance

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- **Quality of structure**
- **Quality of process**
- **Quality of outcome**

# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 2. Principles of Quality assurance

### Quality goals in obstetrical service

Quality of structure

*Hospital building, equipment ,  
number of staff, service level*



Quality of process

*Trained and experienced  
personnel and professional  
performance*



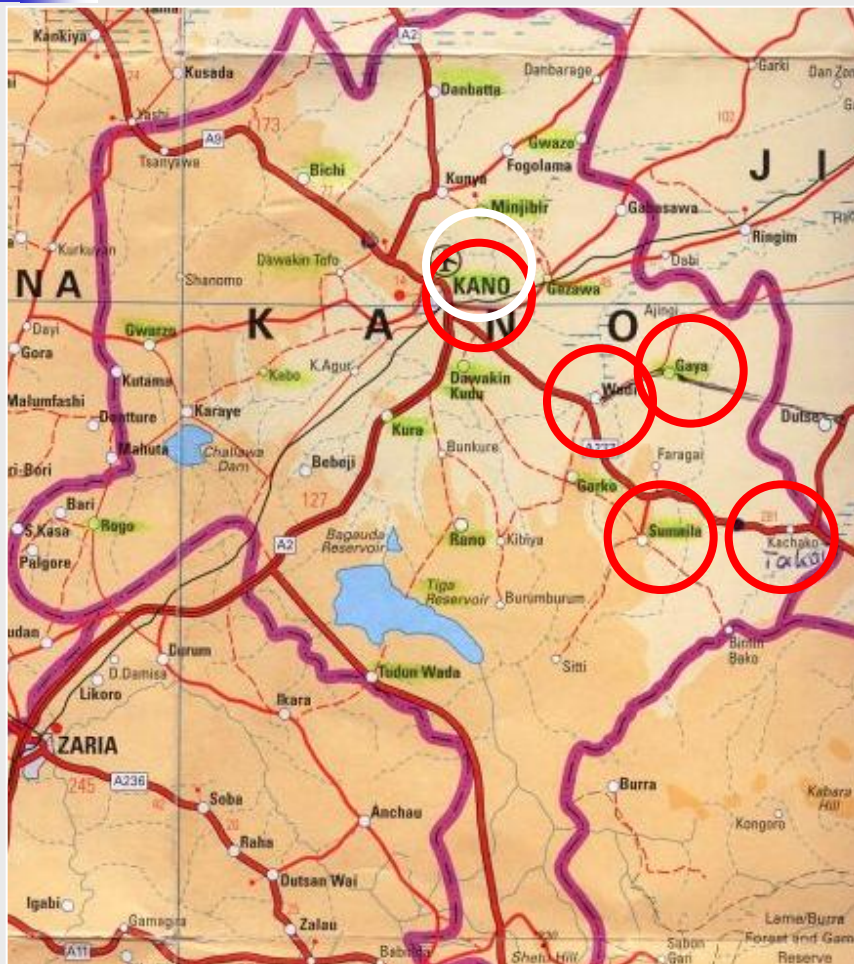
Quality of outcome

*Maternal and fetal morbidity and  
mortality*



# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 3. Selection of Hospitals in Kano and Kaduna State



General Hospital, Bichi

General Hospital, Danbatta

Cottage Hospital, Dawakin-Tofa

General Hospital Gaya

Cottage Hospital, Kabo

General Hospital, Kura

Murtala Mohammed Spec. Hospital, Kano

General Hospital, Rano

Cottage Hospital, Tudun Wada

General Hospital, Wudil

Takai Community Health Care Centre

General Hospital, Tudun Wada

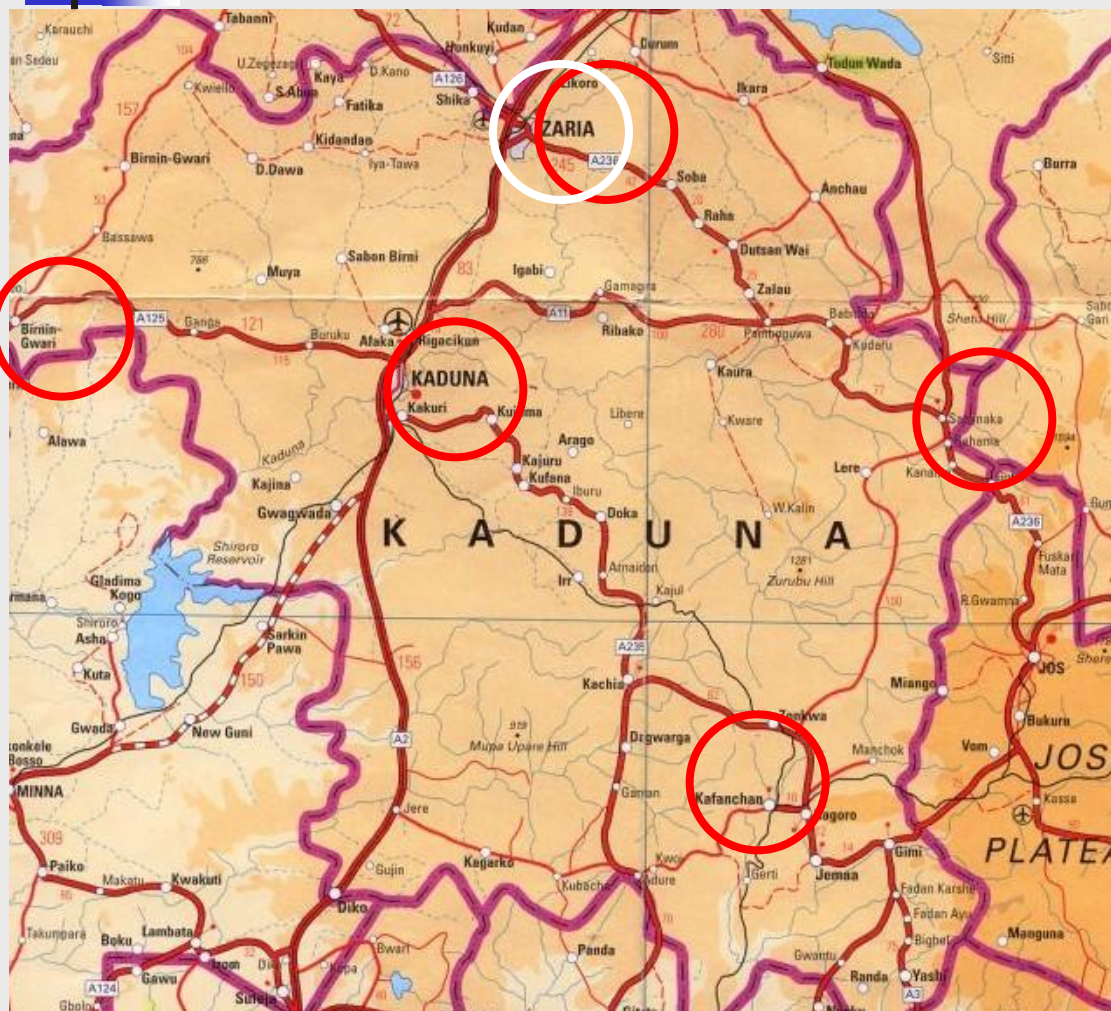
General Hospital Takai

General Hospital Sumaila



# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 3. Selection of Hospitals in Kano and Kaduna State



### Yusufu Dan Tsoho Hospital, Kaduna

General Hospital, Idon

General Hospital, Kachia

General Hospital, Kagarko

Rural Hospital, Zonkwa

General Hospital, Zango

Rural Hospital, Kaura

### General Hospital, Kafanchan

Rural Hospital, Kwoi

General Hospital, Gwantu

### General Hospital, Birnin Gwari

General Hospital Makarfi

General Hospital, Ikara

### Gambo Sawaba Hospital, Kofan Gaya Zaria

Rural Hospital, Maigana

### General Hospital, Saminaka

Rural Hospital, Pambegwa

Rural Hospital, Hunkuyi

Rural Hospital, Doka

Baran Dirko



# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4. Principles of quality assurance

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### ■ 4.1. Quality of Structure

- Condition of the delivery room
- Number of delivery beds
- Resuscitation unit for newborns
- Infusion systems
- Provision of caesarean section (distance)
- Operating theatre



# **A Model to Reduce Maternal and Fetal Mortality by Quality Assurance**

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- **4.1. Quality of Structure:**
- **Some examples of Facility Audit**

# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.1. Quality of Structure: Some examples

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# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.1. Quality of Structure: Some examples of facility audit



# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.1. Quality of Structure: Some examples of facility audit



# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.1. Quality of Structure: Some examples of facility audit



OP Impressions  
in S.

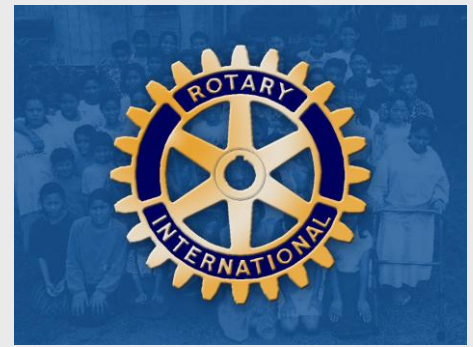


# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.1. Quality of Structure: Some examples of facility audit







- **Improvement of Structure of Hospitals by Donations of Rotary International:**
  - **3 Ultrasound machines and training**
  - **10 Vacuumextractors**
  - **3 Operating tables**
  - **10 Delivery beds**
  - **10 Maternity record books**
  - **Instruments for operating theatre**
  - **Instruments for delivery rooms**
  - **Mosquito nets for malaria prevention**

# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4. Principles of quality assurance

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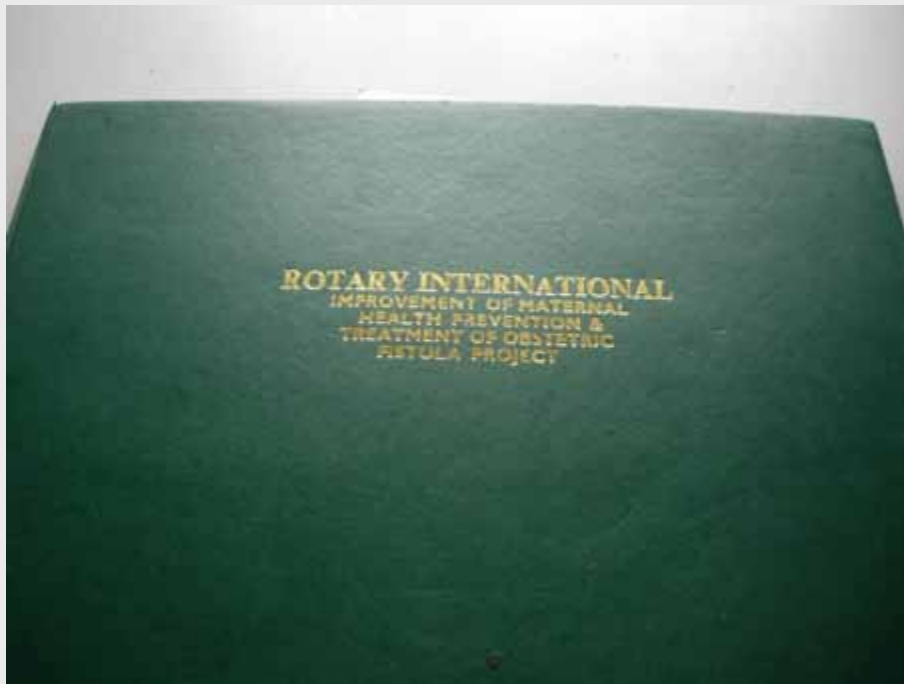
### ■ 4.2. Quality of Process

- Antenatal care and diagnostic measures
- Management of delivery
  - Data recording
  - FHR observation
  - Premature rupture of membrane
  - Mode of delivery: VE, Forceps, CS
  - Post date pregnancy
  - Duration of labor
  - Counselling after delivery

# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.2. Principles of quality assurance:

### Quality of process – Maternity record book



# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.2. Principles of quality assurance: **Quality of process – Maternity record book**



# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.3. Principles of quality assurance

### **Outcome quality**

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State of the **Mother** at delivery

Severe illness

Death

State of the **Newborn** at birth

Apgar score

Alive

Death

# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.3. Principles of quality assurance by benchmarking

Monthly report from each participating hospital about the following data:

Number of

**deliveries (total)**

premature birth (weight < 2500g)

instrumental deliveries: Forceps, VE

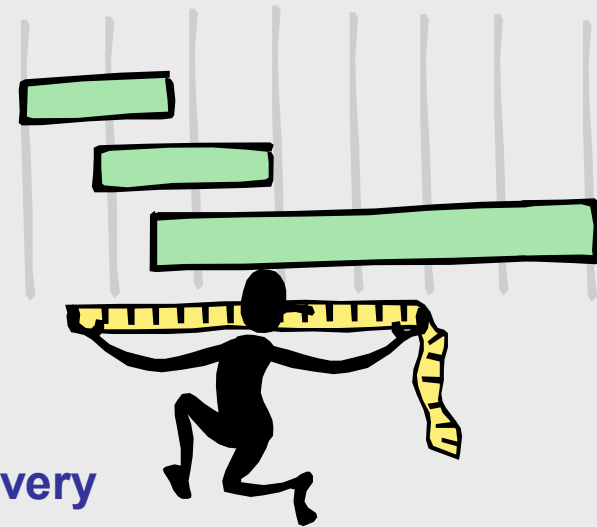
**caesarean sections**

severe haemorrhage during and after delivery

women with eclampsia

**maternal death**

**fetal death**





# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.3. Principles of quality assurance – Quality of outcome by benchmarking





# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

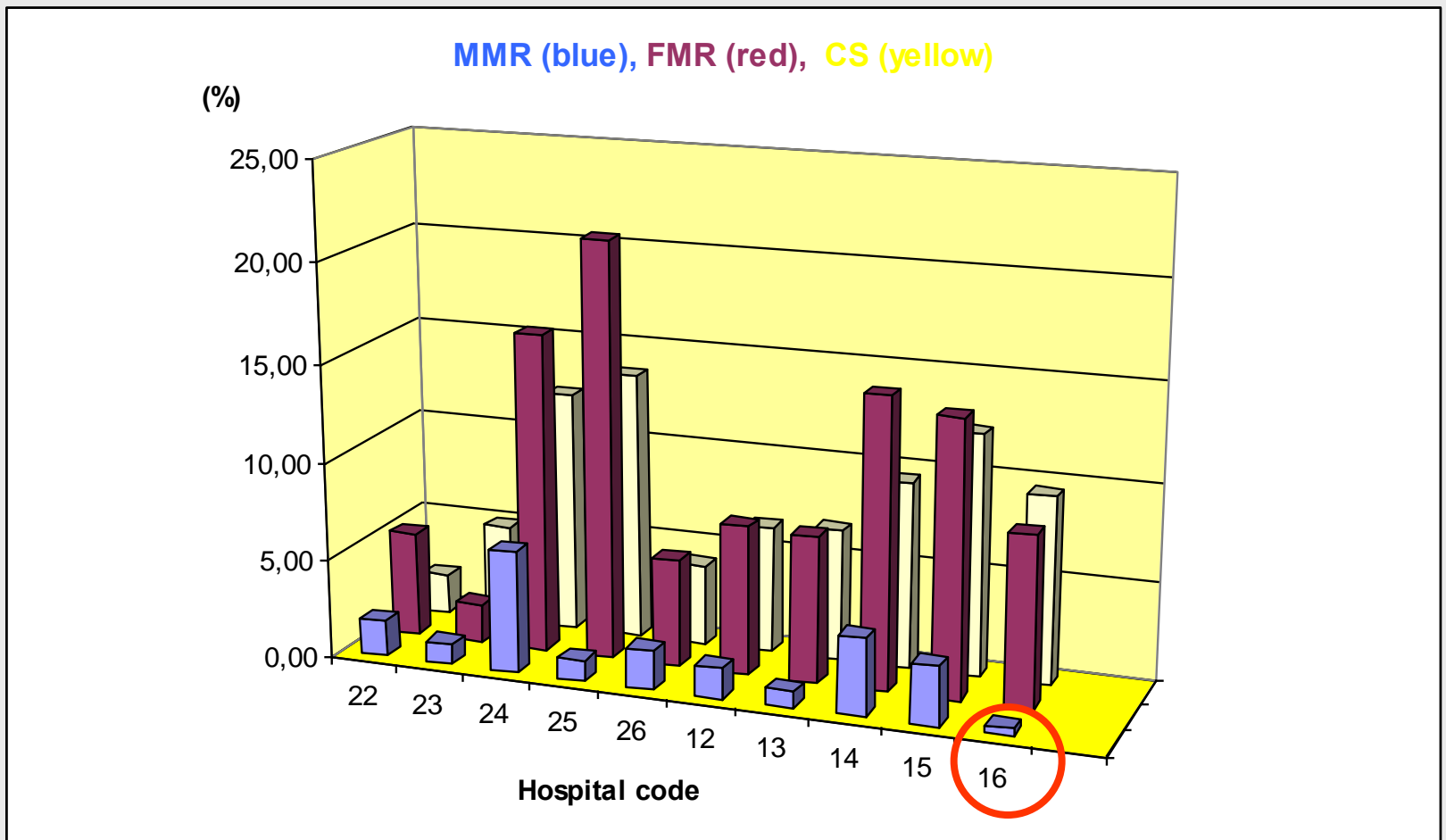
## 4.3. Principles of quality assurance – **Quality of outcome by benchmarking**

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- **Maternal Mortality**
- **Fetal Mortality**
- **Caesarean section rate**

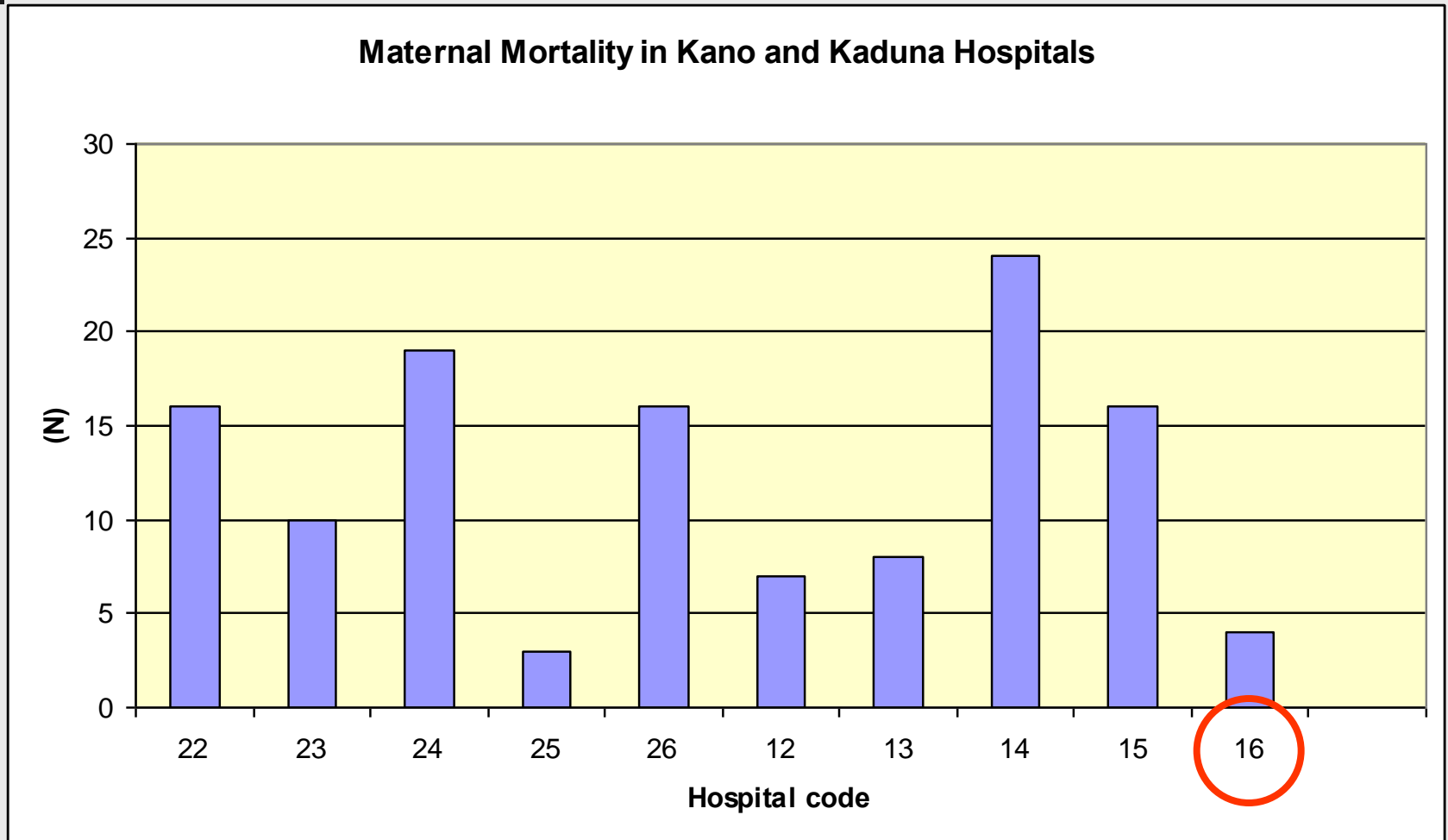
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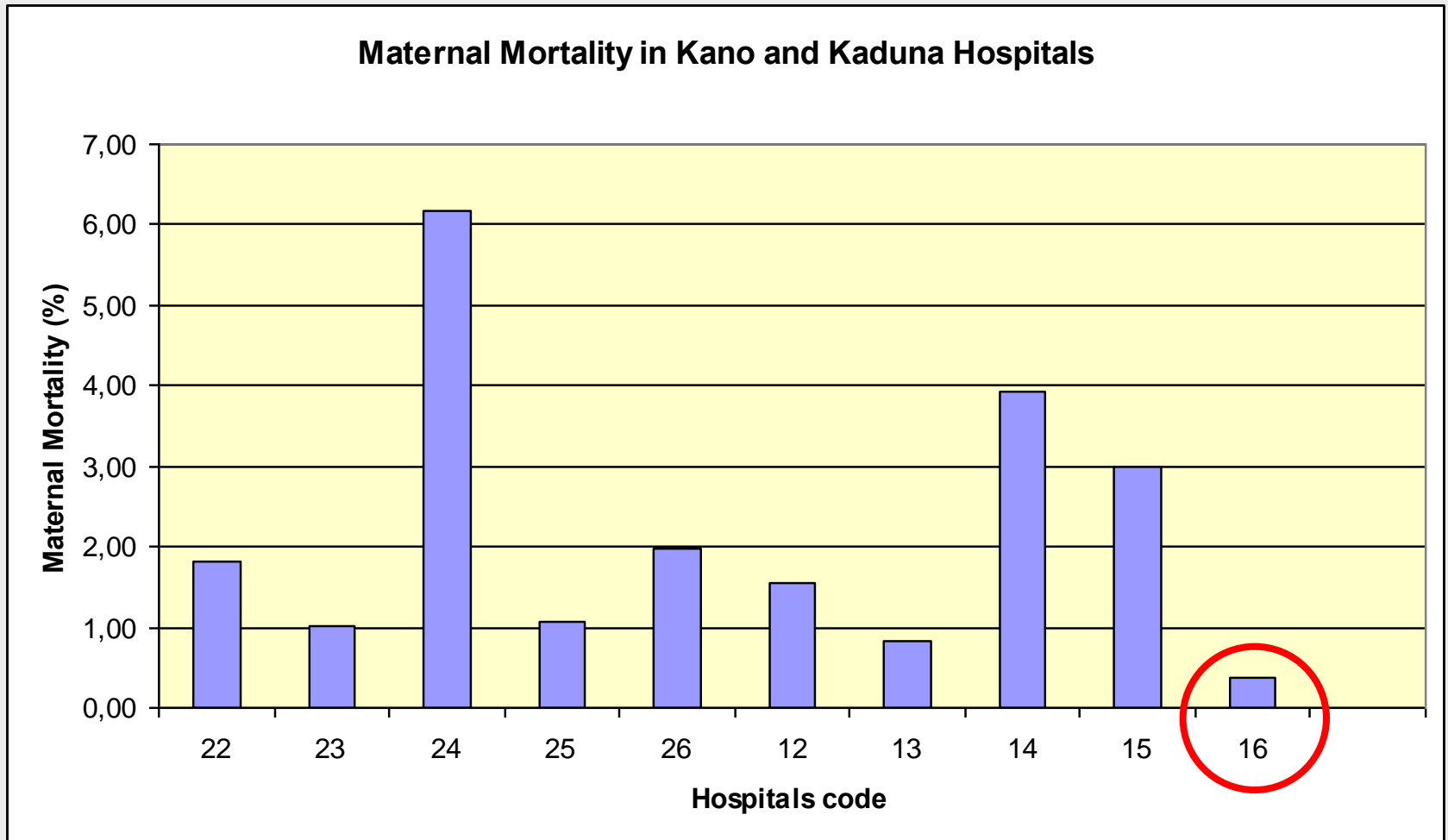
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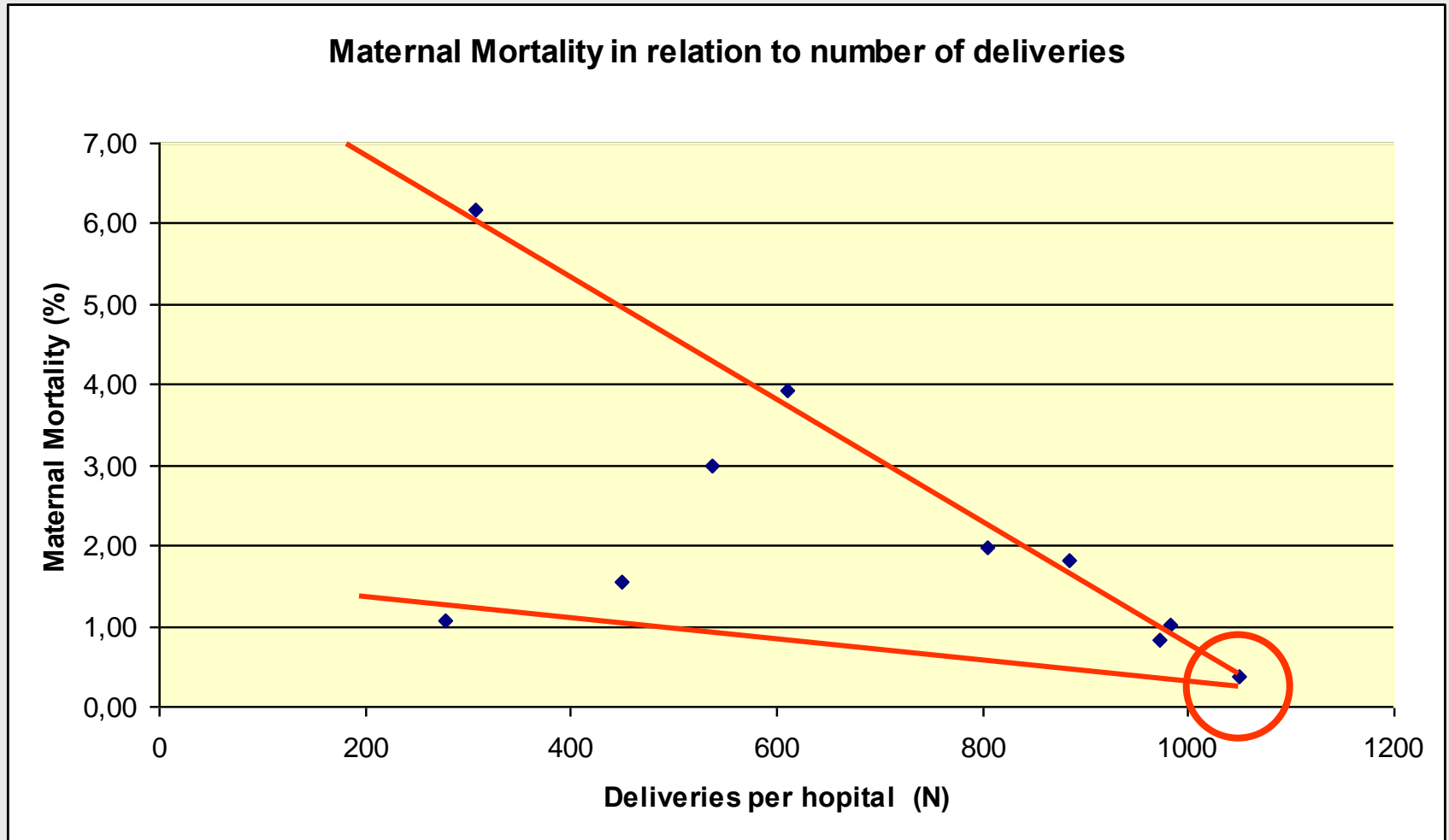
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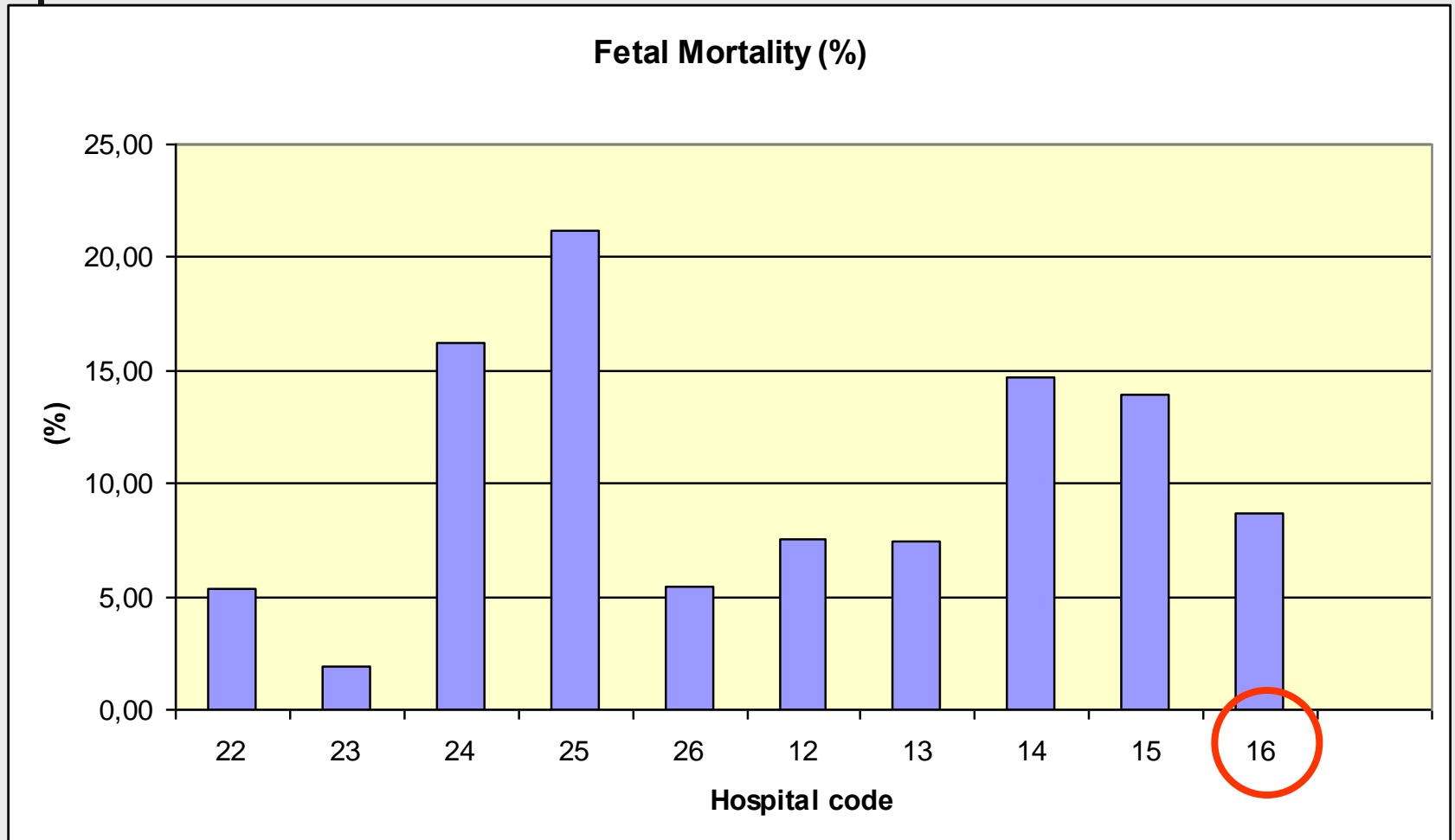
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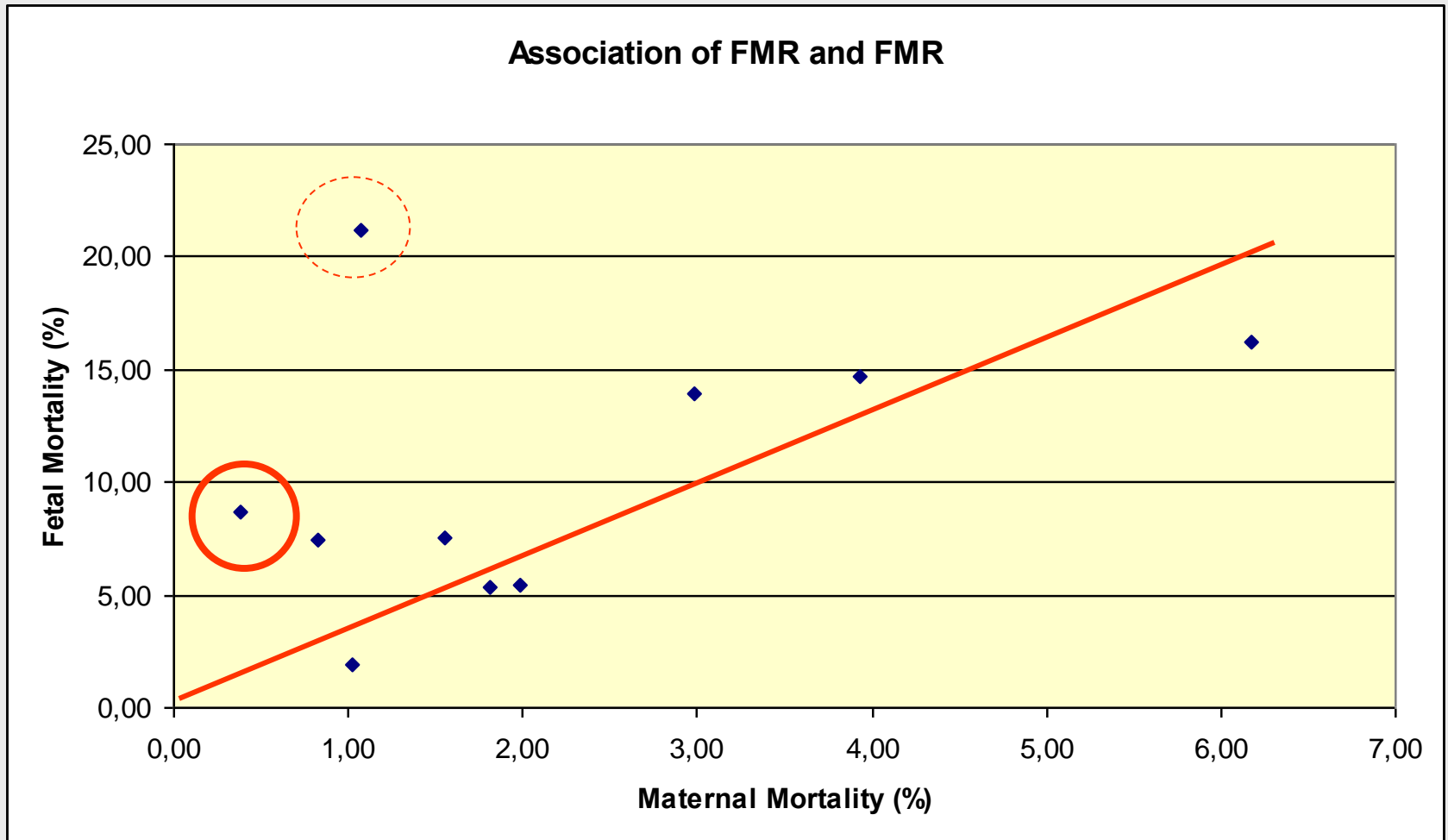
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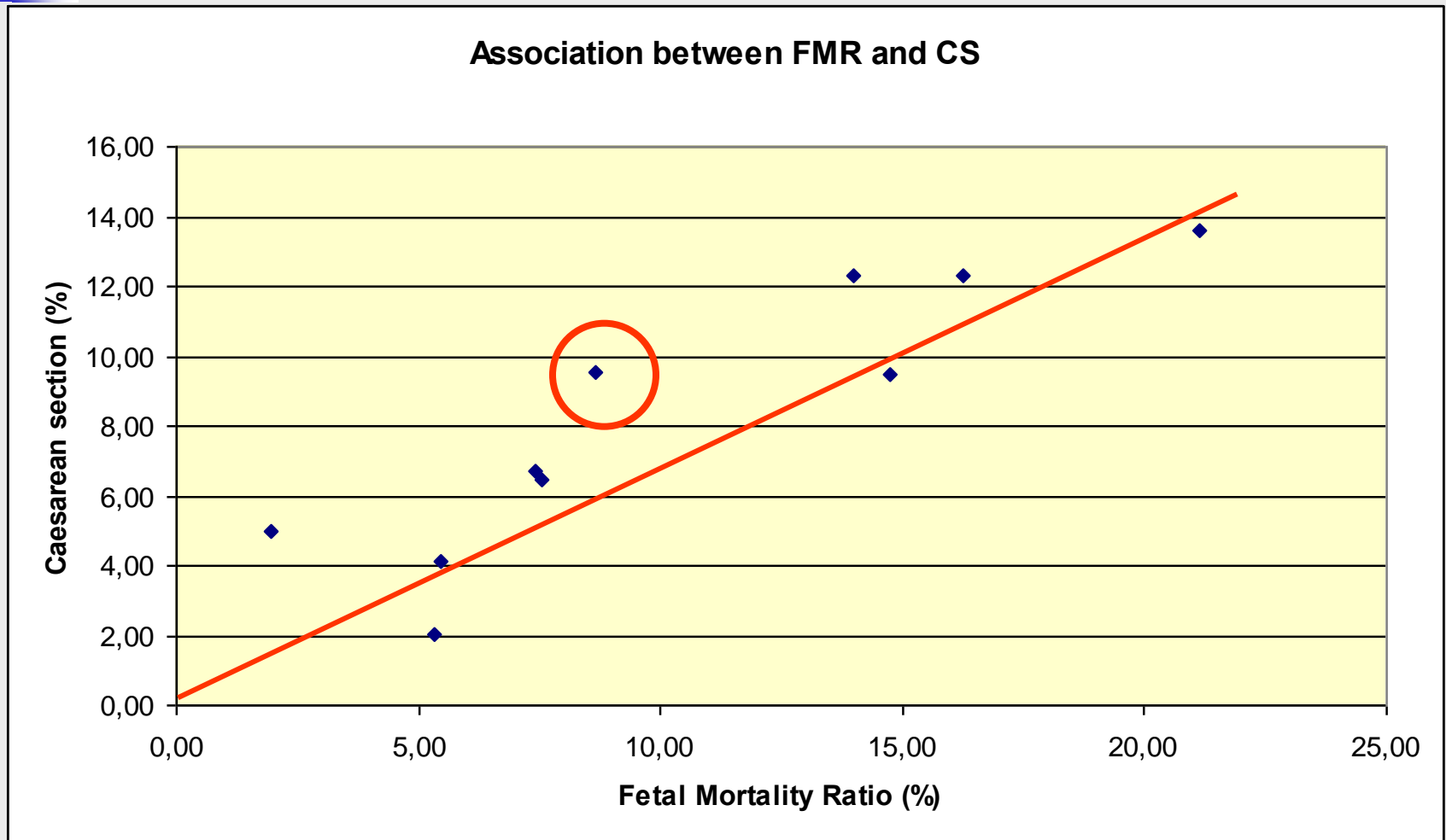
## 4.3. Principles of quality assurance – Quality of outcome by benchmarking



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## 4.3. Principles of quality assurance –

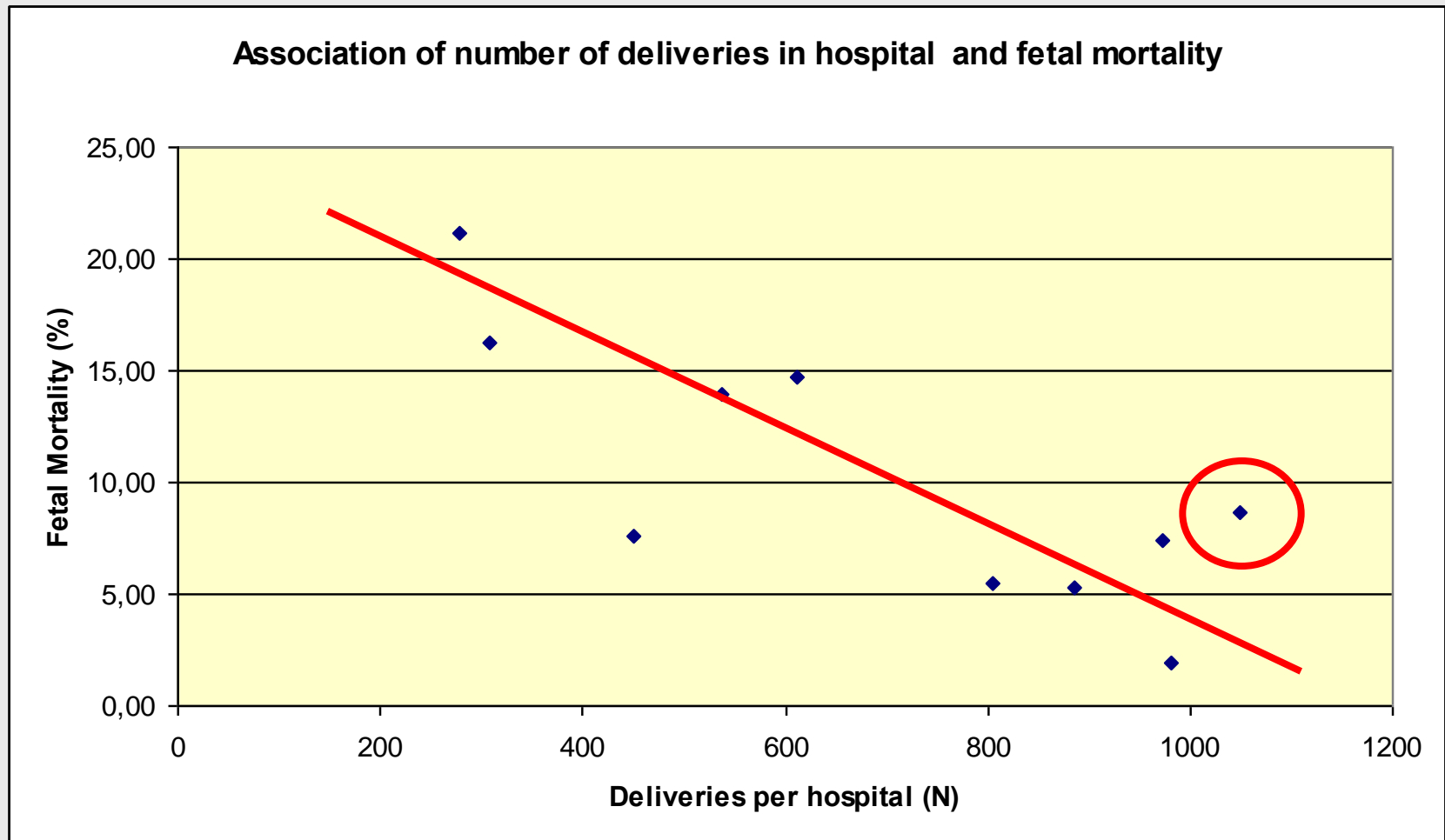
### Quality of outcome by benchmarking

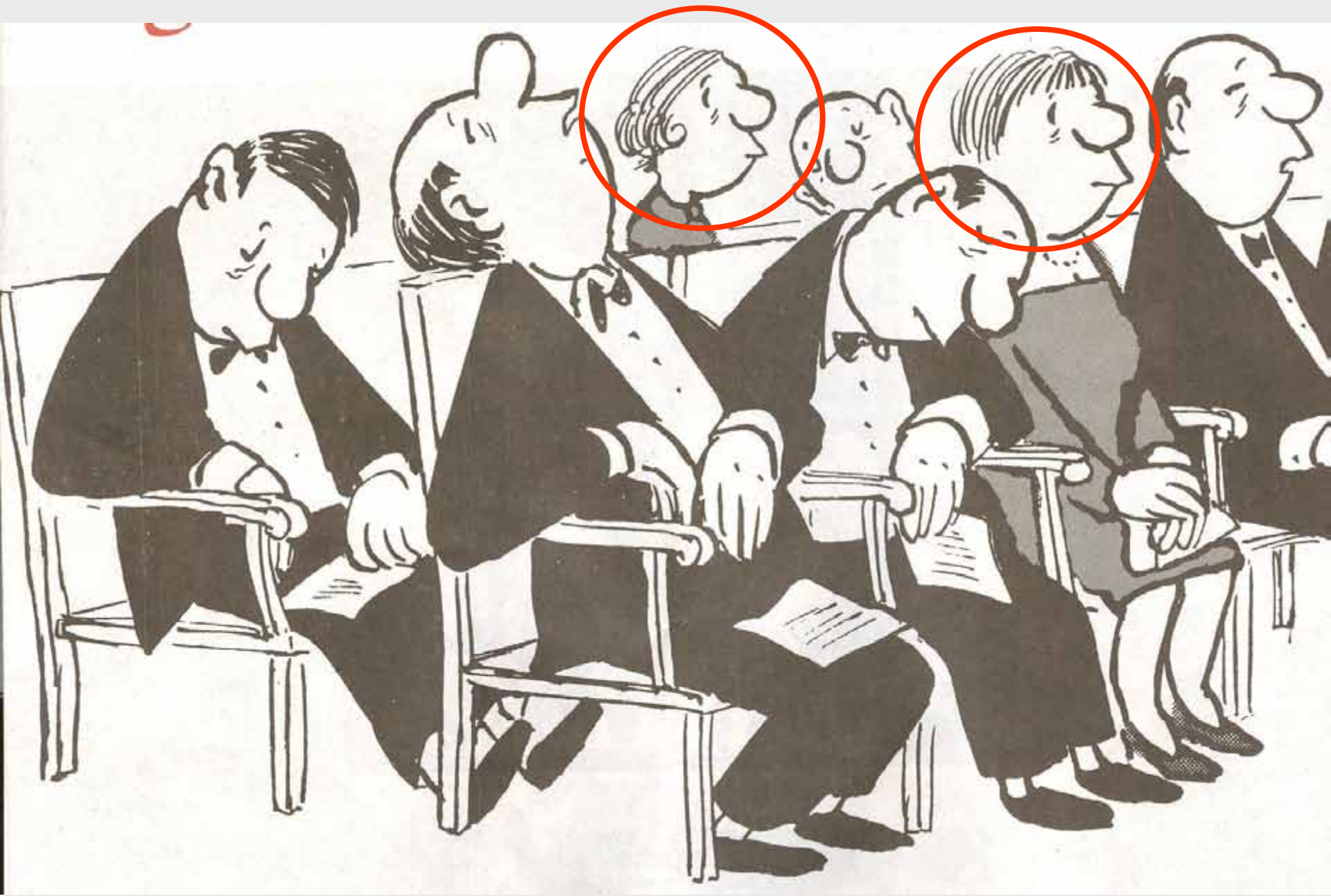




# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.3. Principles of quality assurance – Quality of outcome by benchmarking





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## 4.3. Principles of quality assurance –

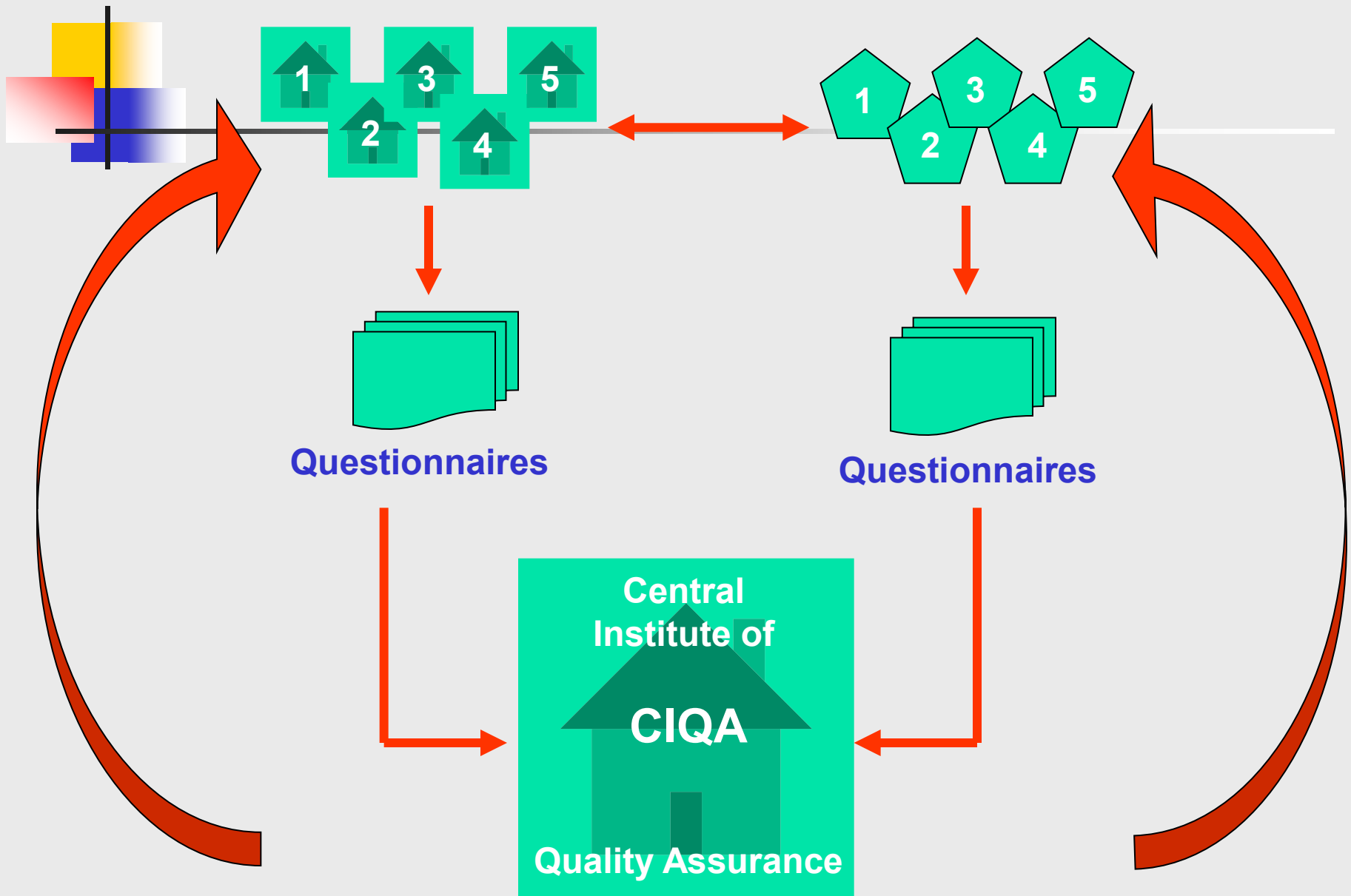
### **Quality of outcome by benchmarking**

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- **Foundation of an Institute of Quality Assurance**
  - **Continuous collection of quality indicators**
  - **Regular half-yearly meetings to exchange data and information**
  - **Set standards and improve standards**

# Kaduna - Hospitals

# Kano - Hospitals



Questionnaires

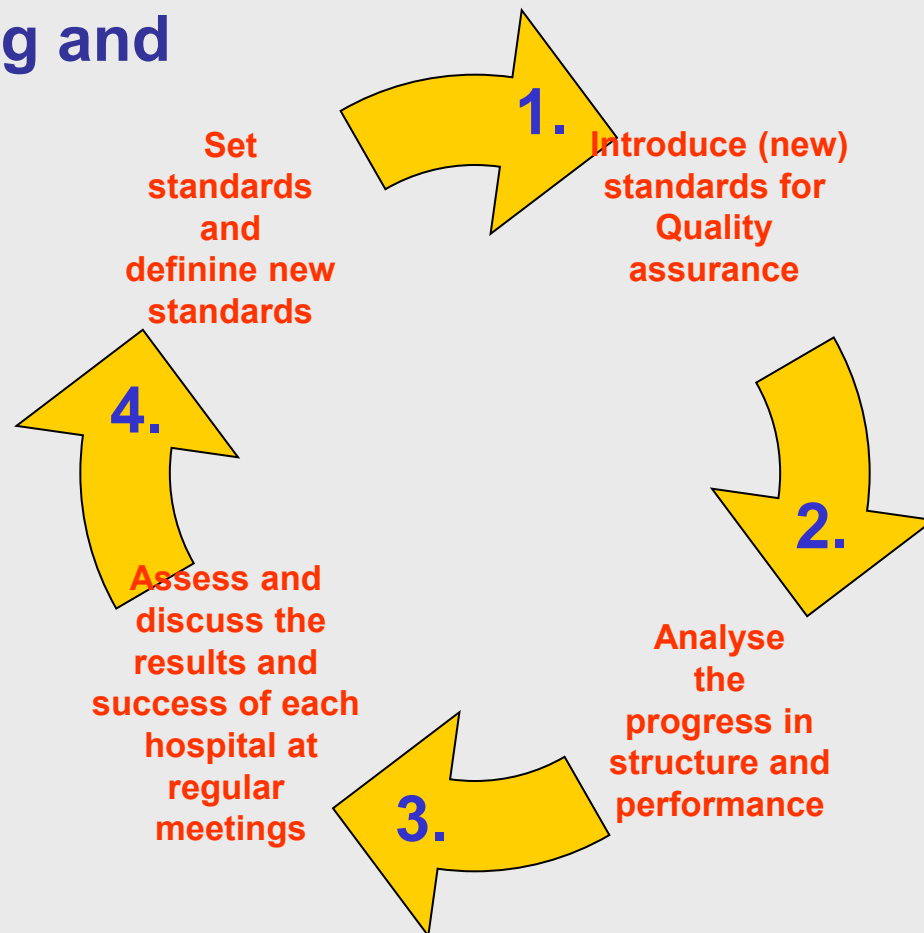
Questionnaires

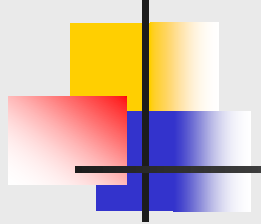
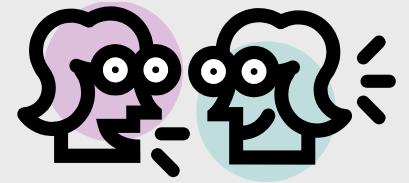
Central  
Institute of  
**CIQA**  
Quality Assurance

# A Model to Reduce Maternal and Fetal Mortality by Quality Assurance

## 4.3. Principles of quality assurance – Quality of outcome by benchmarking -

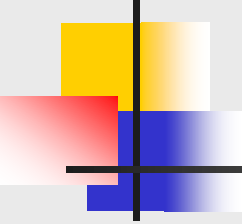
### Data processing and evaluation





# Discussions and further planning among colleagues





A  
journey  
of a  
thousand miles  
must begin  
with a  
single step.

Lao-Tzu (604-531 BC),  
Chinese philosopher







