



**Instituto Nacional de Perinatología**

Isidro Espinosa de los Reyes



# **Community Intervention**

## **Towards a New Generation of Mexicans**

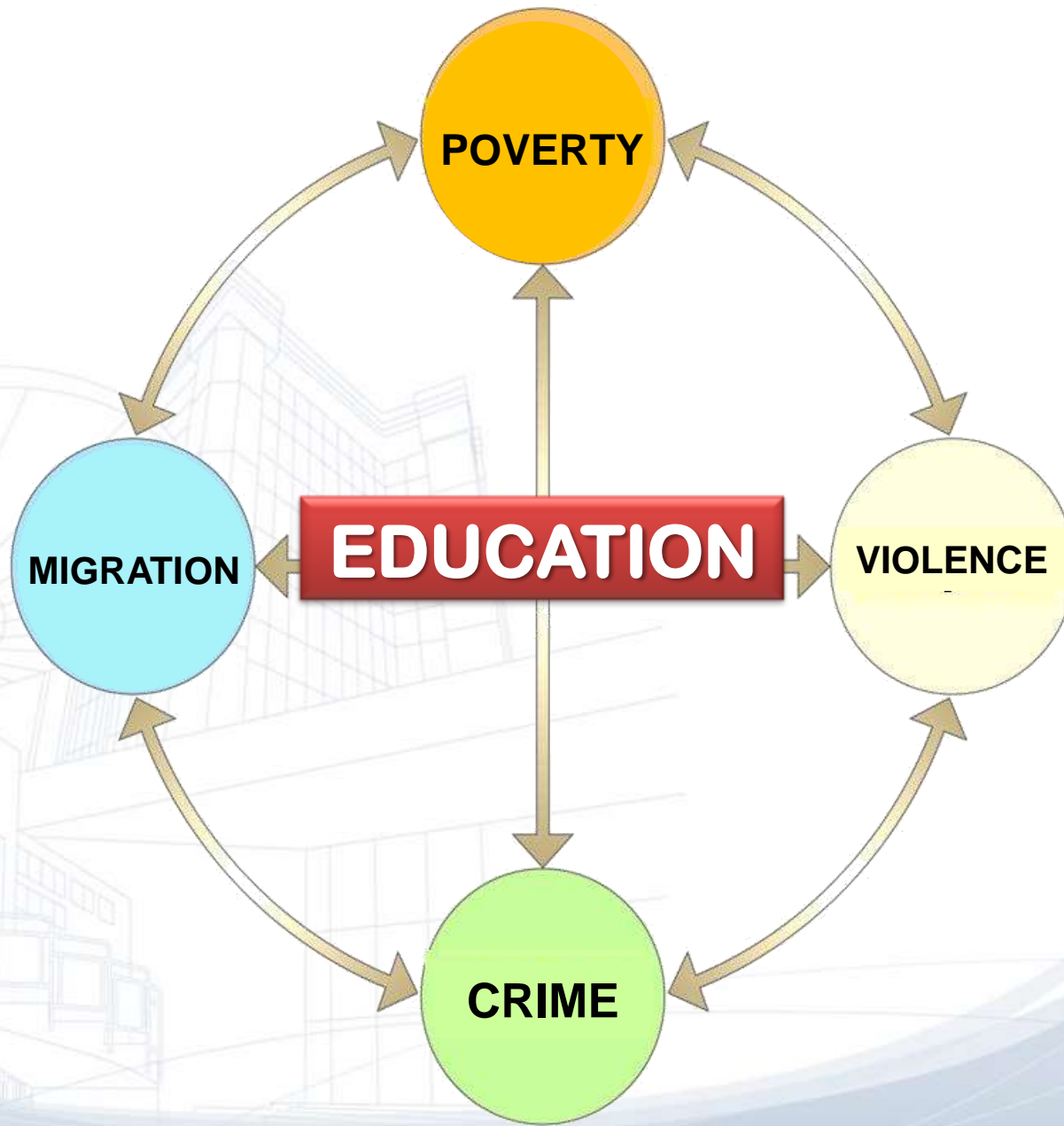
# **Maternal and Perinatal Mortality in Mexico**

**Javier Mancilla, MD, PhD**

**General Director**

**October, 2011**





# SIZING UP THE PROBLEM



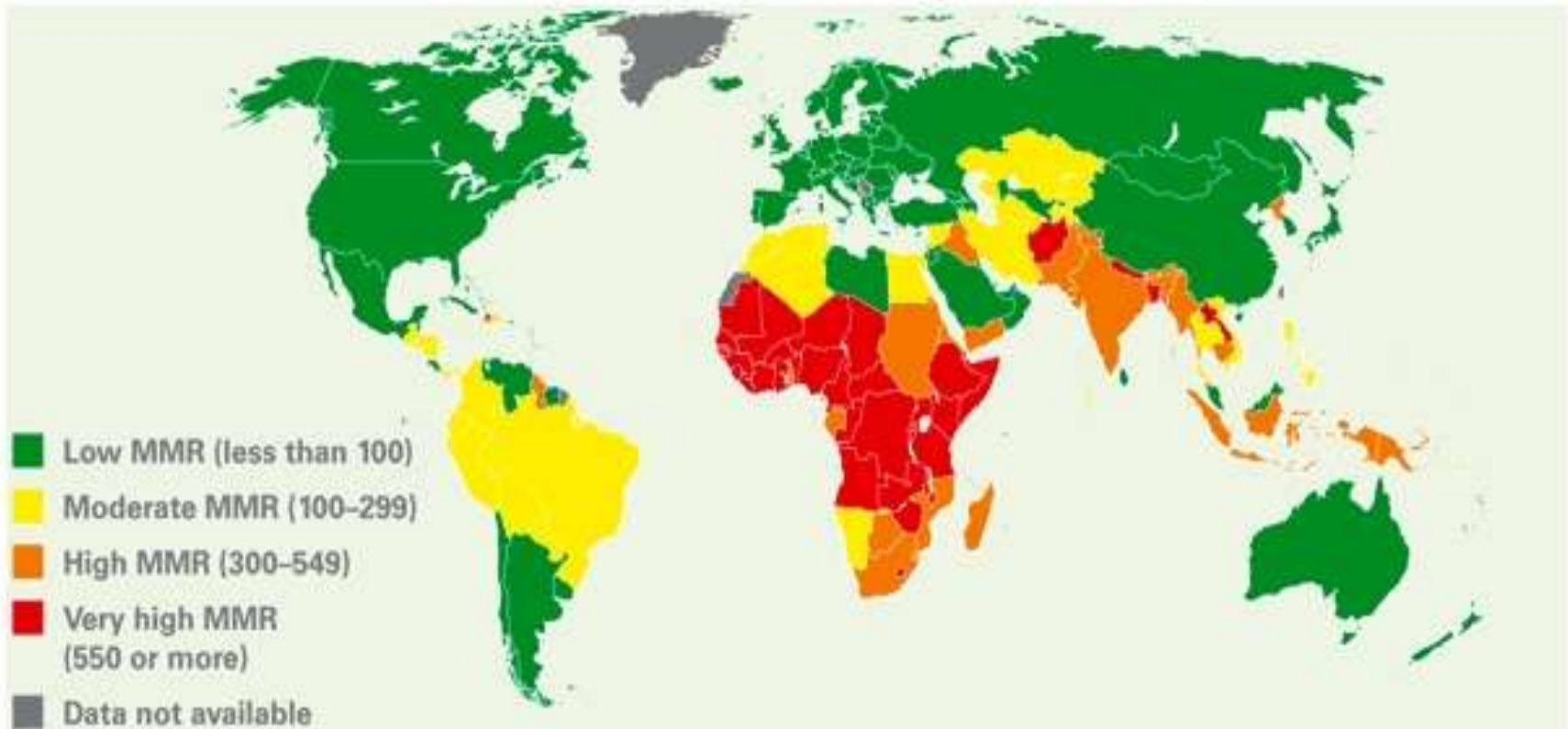
# MATERNAL MORTALITY RATE



SALUD

(MMR) WHO, 2009

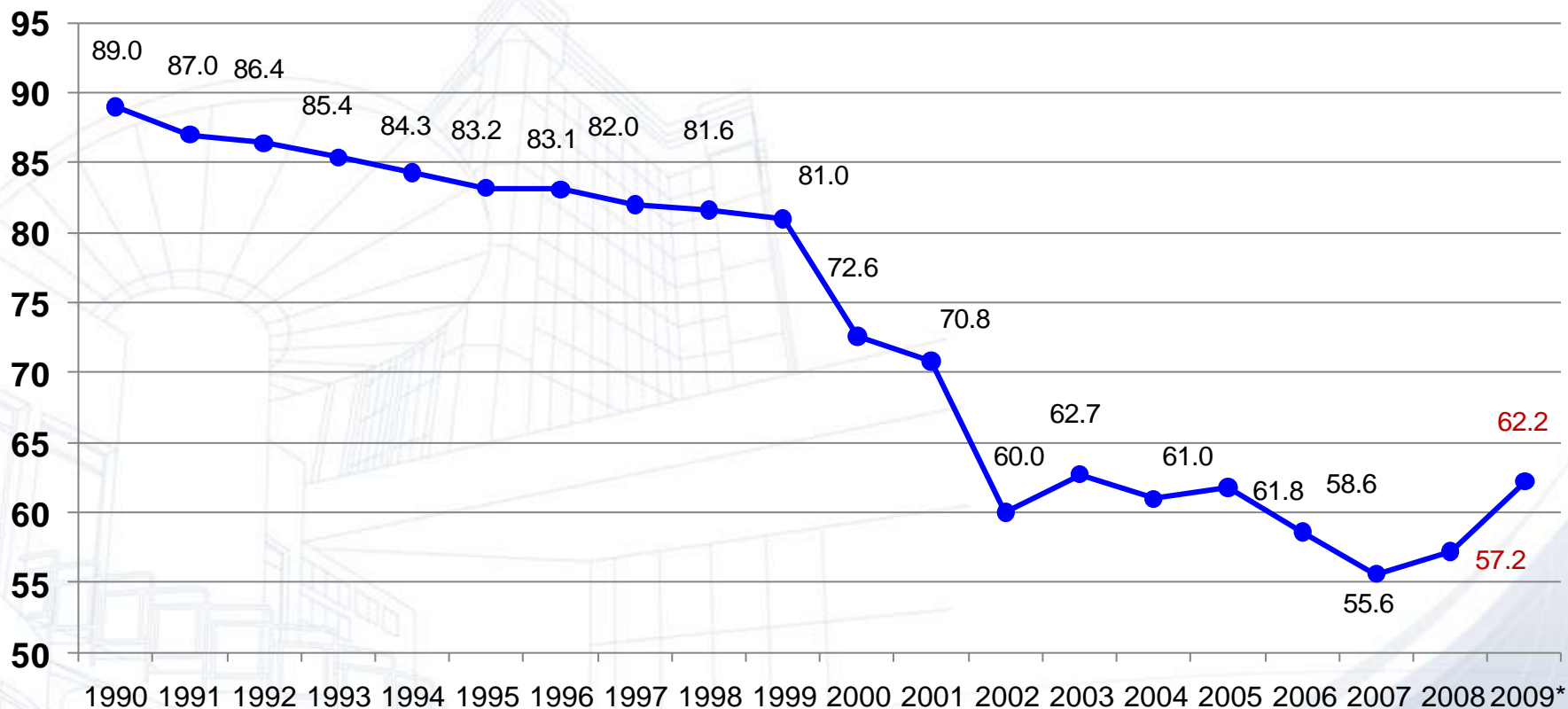
**MATERNAL MORTALITY IS HIGHEST IN COUNTRIES OF SUB-SAHARAN AFRICA AND SOUTH ASIA** Maternal mortality ratios (MMR) per 100,000 live births (2005)



Source: World Health Organization, UNICEF, 2009

# MATERNAL MORTALITY RATE

(MMR) MÉXICO, 1990 - 2009



\* MMR in 100,000 births

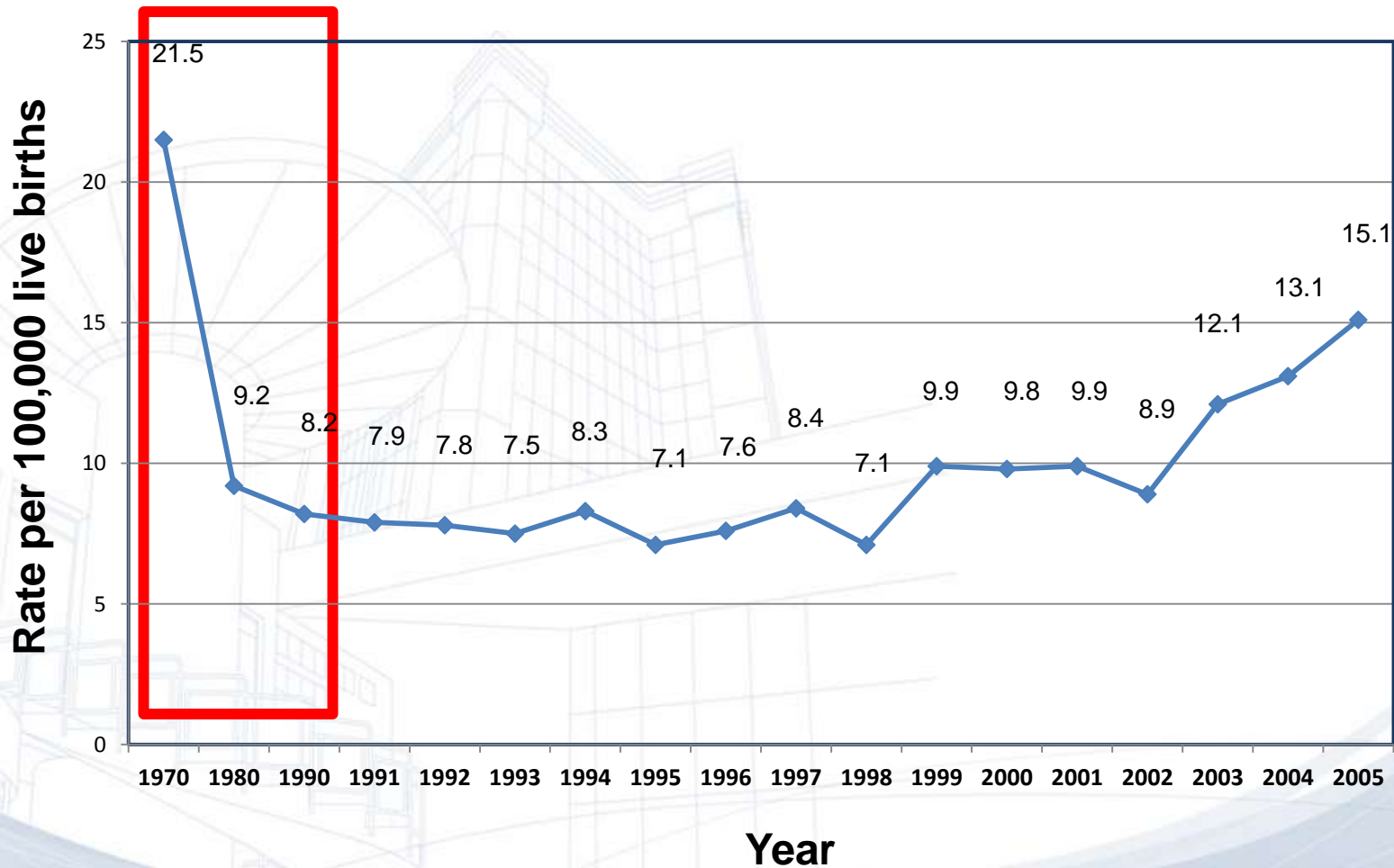
2010

MMR 50

Sources: INEGI-SSa/DGIS, SSa, México



# Maternal mortality in the United States of America

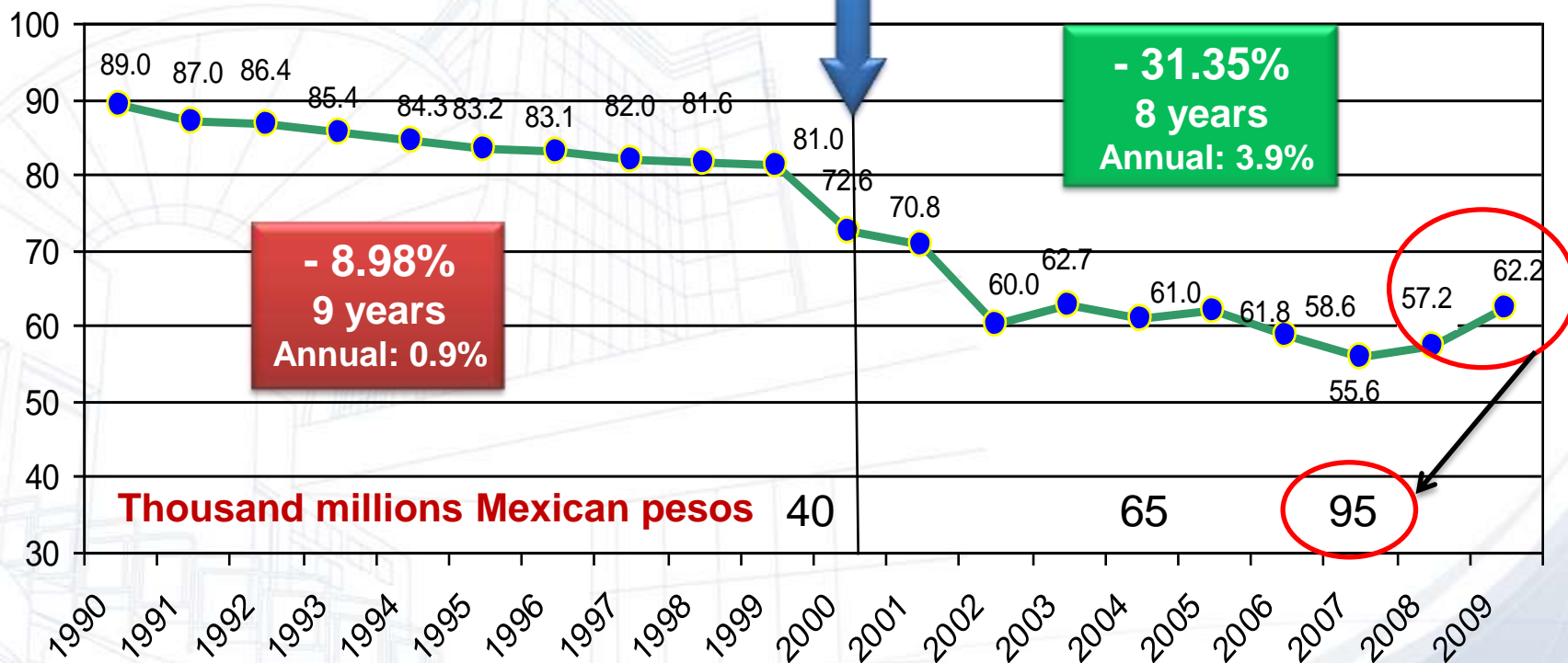


Source: NSVR, ACOG

# Investing in Maternal Health



**Development Millennium Goals  
75% decrease from 1990 to 2015**



\* MMR in 100,000 births

**2010**

**MMR 50**

Sources: INEGI-SSa/DGIS, SSa, México

For every woman who **dies** due to pregnancy complications:

**30** are left with some **permanent disability**

World Health Organization

**June, 2009**

Araceli, **17** years old

**Eclampsia**

Attended in a hospital

**Twin** vaginal delivery

Both twins delivered alive

Female: 2,500 g

Male: 1,600 g

**Mother: Quadriplegic**



# Social and Economic Impact of Maternal Mortality



- Social Development
  - Family nucleus **affected**
- Surviving Newborns
  - > 3-10 times chance of **dying** in the next 2 years
- Complications from Pregnancy, Labor and Puerperium
  - Main causes for **impairment, disease** or **death** in women at reproductive age in developing countries

# QUALITY OF MEDICAL ATTENTION AND MATERNAL DEATH



# QUALITY OF HOSPITAL CARE

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- 93% deliveries are attended by **physicians**
- 86% maternal deaths at **medical facilities**
- 82% maternal deaths related to deficiencies in obstetric emergency procedures
- Necropsy is practiced in only 12.7% cases

# WHAT TO DO?



**Reach a Consensus among  
Governmental Agencies  
(UNFPA, UNICEF, OMS, OPS, FCI)**

***Advice and  
Supervision INPer***

**Promote Reproductive Health Education  
Coverage by Qualified Personnel  
Quality of Obstetric Emergency Care**

**→ CNEGYSR/SPPS**

**→ INPer**

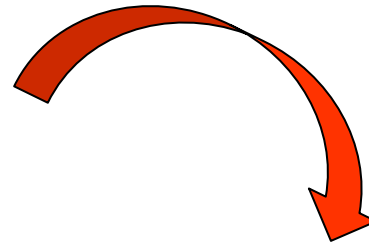


INPer

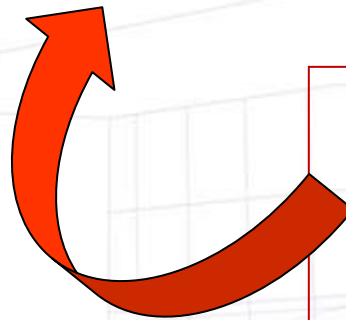
# PROPOSAL



Integration and  
Coordination **CNEGySR**



Focus on the actions for a proper  
**obstetric emergency attention**  
within the Mexico City metropolitan area



Formation of Specialized  
Human Resources  
**INPer**

# Interventions to reduce Perinatal Mortality



## Interventions in women

- Contraception
- Nutrition
- Micronutrients
- Detection ITS
- Substance abuse
- Preconceptional care
- Timely identification of the pregnant woman

## ALFRED BRANN METHOD



<1500 g

>1500 g

## Maternal fetal Interventions

- Pregnant women identification
- Surveillance and pregnancy control
- Timely risk detection
- Personal care guide
- Intrapartum monitoring
- Surgical services
- Pregnancy followup in high risk cases

## Interventions in NB care

- Clean delivery
- Neonatal reamination
- Thermic control
- Lactation
- Hospital amigo
- Parent education
- Timely identification and management of NB at risk

## Interventions in NB

- Parent education
- Child surveillance nutrition/lactation Immunizations Growth and development Anticipation guides IRAS, EDAS, lesions Newborns at risk
- Communitary Services



# Urban Poverty, consequences and necessity of intervention





**53 millions Mexican people live in patrimonial poverty**  
**40 % in urbane localities**

# Urban Poverty, consequences and necessity of intervention



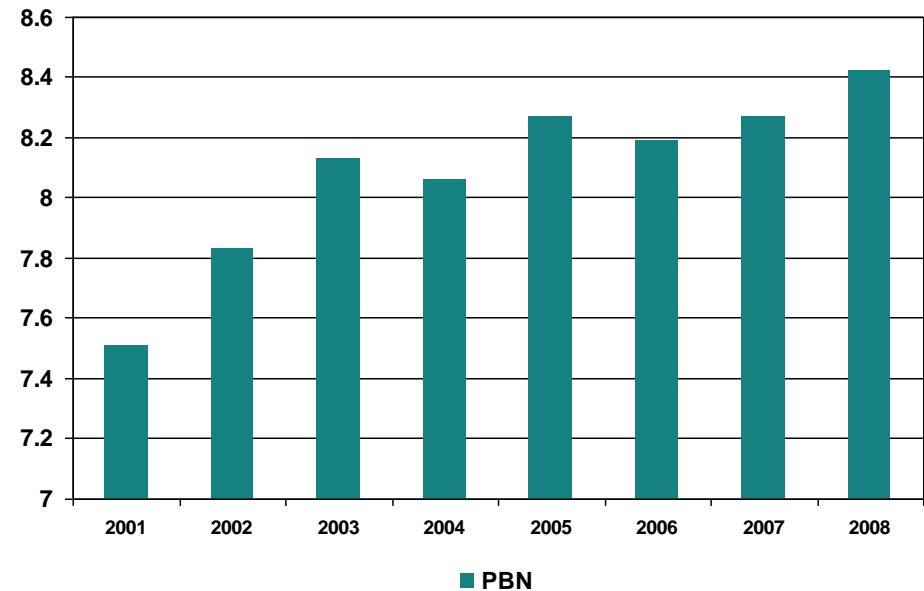
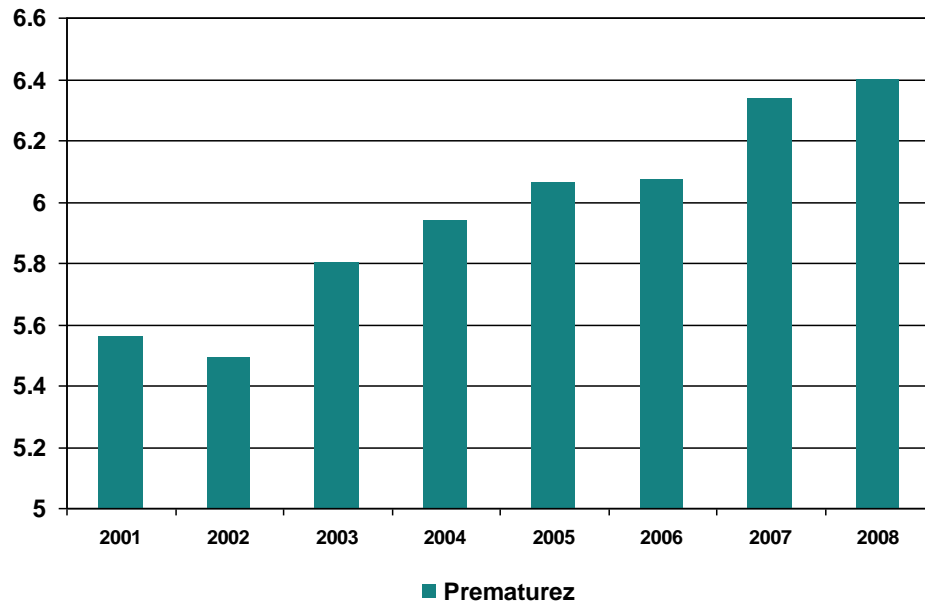
**Urban localities: > 15 000 inhabitants**

# Municipalities with more people in patrimonial poverty

Municipio	Number People	Incidence of Poverty
Iztapalapa	757,622	41.6
Gustavo A. Madero	418,170	35.0
Ciudad Nezahualcóyotl	583,711	51.2
Ecatepec de Morelos	837,200	49.6
Puebla	543,675	36.6
León	488,117	38.2
Acapulco	431,649	60.1
Aguascalientes	346,918	48.0
Guadalajara	490,816	30.7
Ciudad Juárez	438,281	33.4
<b>Total</b>	<b>5,336,159</b>	<b>41.2%</b>

# Prematurity and Low Birth Weight

## Secretaría de Salud, México 2001-2008



**IZTAPALAP A, 2009:**

**12%**

**17%**

Fuente: SSA/DGIS; SIS

# Poverty and Pregnancy



# Community Intervention Project



## Towards a New Generation of Mexicans

### Objective

Structure a simple and replicable intervention protocol intended to:

- Strengthen prenatal attention quality control
- Improve health conditions in mothers and NB
- Increase birth weight by 200 g

# Benefits



SALUD

**MOTHER**

- **Early detection of pregnancy complications**
- Hypertension, gestational diabetes, cervico-vaginitis, urinary tract infection, premature membrane rupture

**FETUS**

- **Intrauterine growth-retardation prevention**
- **Congenital malformation detection**

**NEWBORN**

- **Newborns  $\geq 37$  week old pregnancies**
- **Newborn weight increase average 200 g**

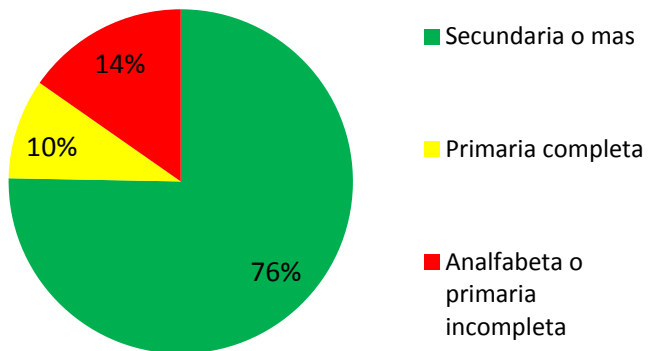
**Proyecto Hacia una Nueva generación de Mexicanos**  
Rodríguez R, Mancilla J, Ahued A et al. Pilot study Iztapalapa

# Community Intervention Project



## Towards a New Generation of Mexicans

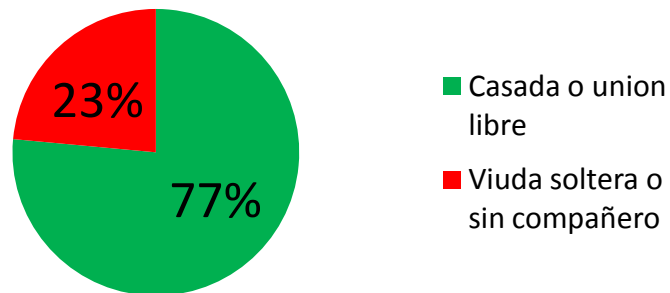
### School



### Acceptance of Pregnancy



### Partner



**IZTAPALAPA**



**PATRIMONIAL POVERTY 42%**



# Maternal Age (years)



Age (years)	n = 407	%
13-18	101	24.8
19-23	122	29.9
24-28	96	23.5
29-33	55	13.5
34-38	24	5.8
39-43	9	2.2

**Average 23**

**Minimum 13**

**Maximum 43**

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# Nutritional Status According to BMI



## BMI Evaluation Criteria

<b>Weight</b>	<b>BMI (1st trimester)</b>	<b>n= 407</b>	<b>%</b>
<b>Low</b>	<b>&lt;18.5</b>	<b>12</b>	<b>2.9</b>
<b>Normal</b>	<b>18.5 a 24.9</b>	<b>129</b>	<b>31.9</b>
<b>Overweight</b>	<b>25.0 a 29.9</b>	<b>153</b>	<b>37.5</b>
<b>Obesity I</b>	<b>30.0 a 34.9</b>	<b>88</b>	<b>21.6</b>
<b>Obesity II</b>	<b>35 a 39.9</b>	<b>20</b>	<b>4.9</b>
<b>Obesity III</b>	<b>&gt;40.0</b>	<b>4</b>	<b>0.9</b>

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Rodríguez R, Mancilla J, Ahued A et al. Estudio Piloto Iztapalapa

# Risk Detection



**Risk**      ***n* = 407**      **%**

Low	126	30.9
Medium	182	44.7
High	99	24.3

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# Preliminary results



SALUD

## MOTHER

- **August, 2011**
- **Early detection since the first contact (n=407)**
- **69% pregnancy with medium or high risk**

## FETUS

- **Eclampsia and preeclampsia prevention**
- **22 risk US (Aspirin 100 mg/d) ...Only 4 cases**

## NEWBORN

- **195 newborns**
- **Prematurity**            **4%**            **(2009, 12%)**
- **Low Birth Weight**    **9%**            **(2009, 17%)**

**Proyect: Hacia una Nueva generación de Mexicanos**  
Rodríguez R, Mancilla J, Ahued A et al. Pilot study Iztapalapa



# Breast Feeding



- **Exclusive for 6 months**





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# THANK YOU

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