

# Scaling-up Maternal, Newborn and Child Health Interventions: The Need for Strategies to Reach the Urban Phoor

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# Presentation Outline

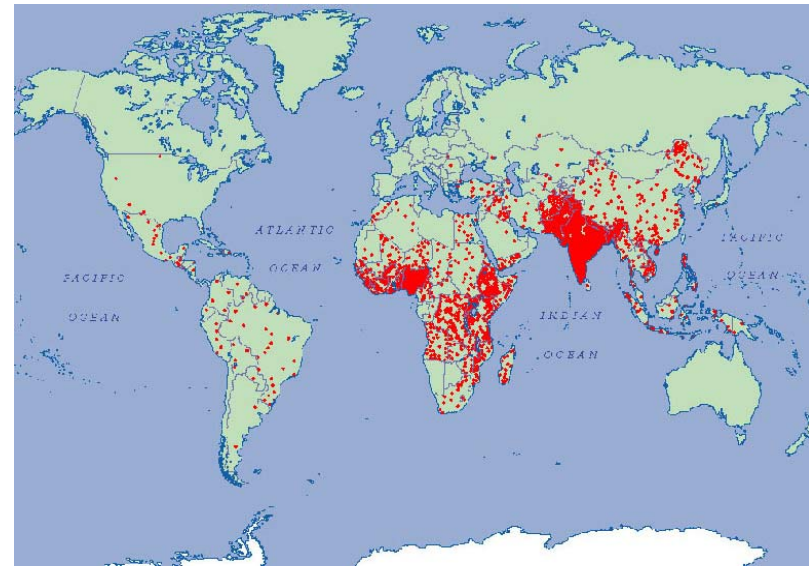
- Burden of disease in mothers, newborn and children globally and in India
- Evidence-based interventions that save lives
- Grand challenges for improving outcomes

## Child survival I

### Where and why are 10 million children dying every year?

*Robert E Black, Saul S Morris, Jennifer Bryce*

- 10.7 million children die every year
- The main causes of death are neonatal conditions, diarrhoea, pneumonia and malaria
- Malnutrition is an underlying cause of a large proportion of all deaths
- India accounts for 25% of deaths



# Neonatal Survival 1

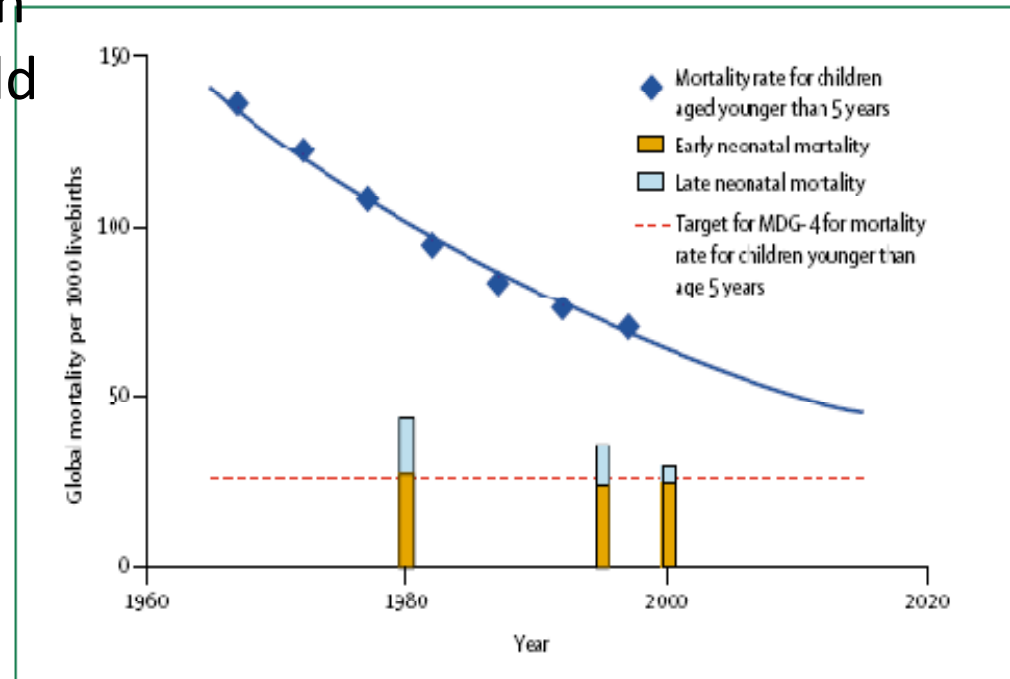
## 4 million neonatal deaths: When? Where? Why?

Joy E Lawn, Simon Cousens, Jelka Zupan, for the Lancet Neonatal Survival Steering Team\*



Lancet 2005; 365: 891-900

- Neonatal mortality  
Has declined more slowly than post-neonatal and 1-4-year-old mortality.
- Primary causes of death are preterm birth (27%), sepsis (26%) and birth asphyxia (23%).
- 1 million deaths occur in India annually.



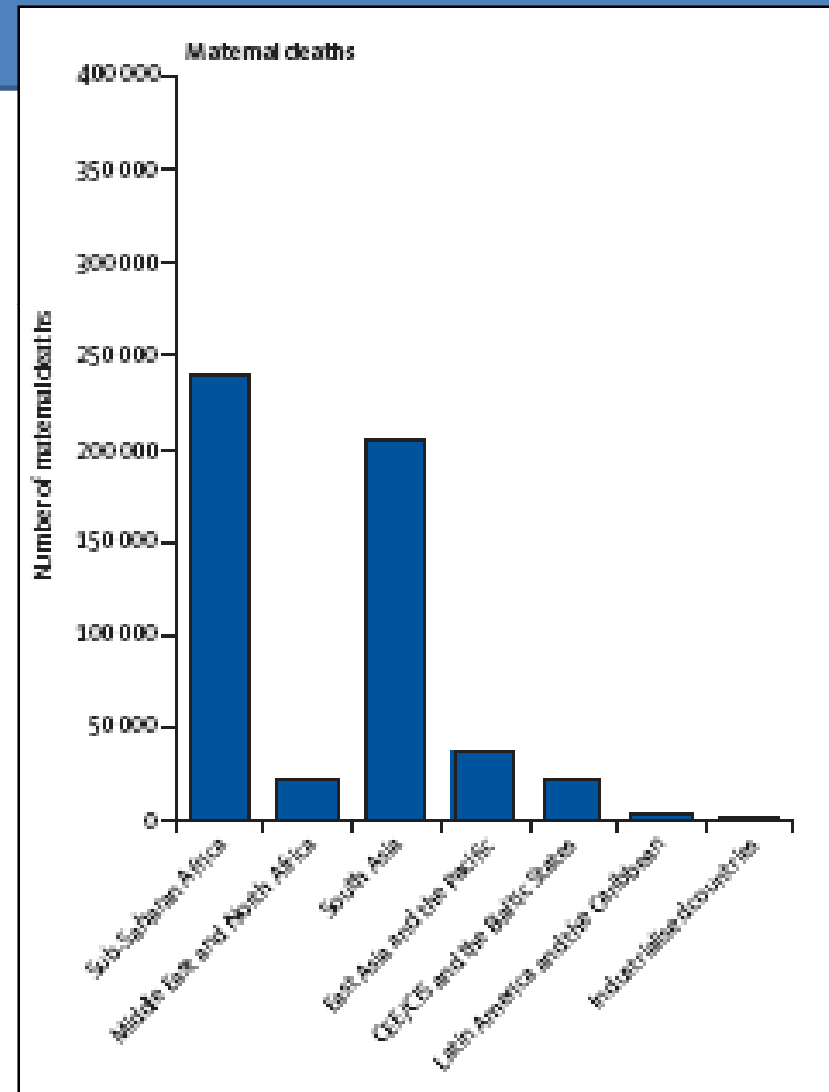
## Maternal Survival 1



### Maternal mortality: who, when, where, and why

Carine Ronsmans, Wendy J Graham, on behalf of The Lancet Maternal Survival Series steering group\*

- 529 000 global maternal deaths
- South Asia and sub-Saharan Africa experience the greatest number of maternal deaths.
- In South Asia, the primary causes of death are hemorrhage, sepsis and hypertensive diseases.
- >100 000 maternal deaths occur in India annually (UNICEF)



# Proven interventions to reduce deaths

- 63% of all child deaths may be prevented by reaching universal coverage with feasible, low cost interventions.
- Universal coverage (99%) with evidence neonatal interventions could avert 41-72% of global neonatal deaths.
- The vast majority of maternal deaths are preventable with appropriate obstetric care.

# Efficacious interventions to improve child health in India

- Breastfeeding promotion
- Insecticide-treated materials
- Complementary feeding education
- Zinc supplementation
- Hib vaccine
- Water/sanitation/hygiene
- Vitamin A
- Measles vaccine

Source: Jones et al, IJP, 2006

# Efficacious interventions for maternal and neonatal health

- Iron-Folic acid supplementation
- Tetanus toxoid immunization
- Syphilis screening and tx
- Ca supplementation for pre-eclampsia
- Malaria tx
- Detection & tx of asymptomatic bacteriuria
- Antibiotics for PROM
- Corticosteroids for preterm labor
- Management of breech
- Emergency transport
- Partograph
- Clean delivery
- Newborn resuscitation
- Breastfeeding counseling
- Hypothermia prevention and management
- Community-based pneumonia case management
- Birth spacing
- Antenatal Vitamin A
- Insecticide-treated bednets
- Anthelmintic tx
- Maternal chx cleansing
- Antepartum hemorrhage management

Source: Darmstadt 2005

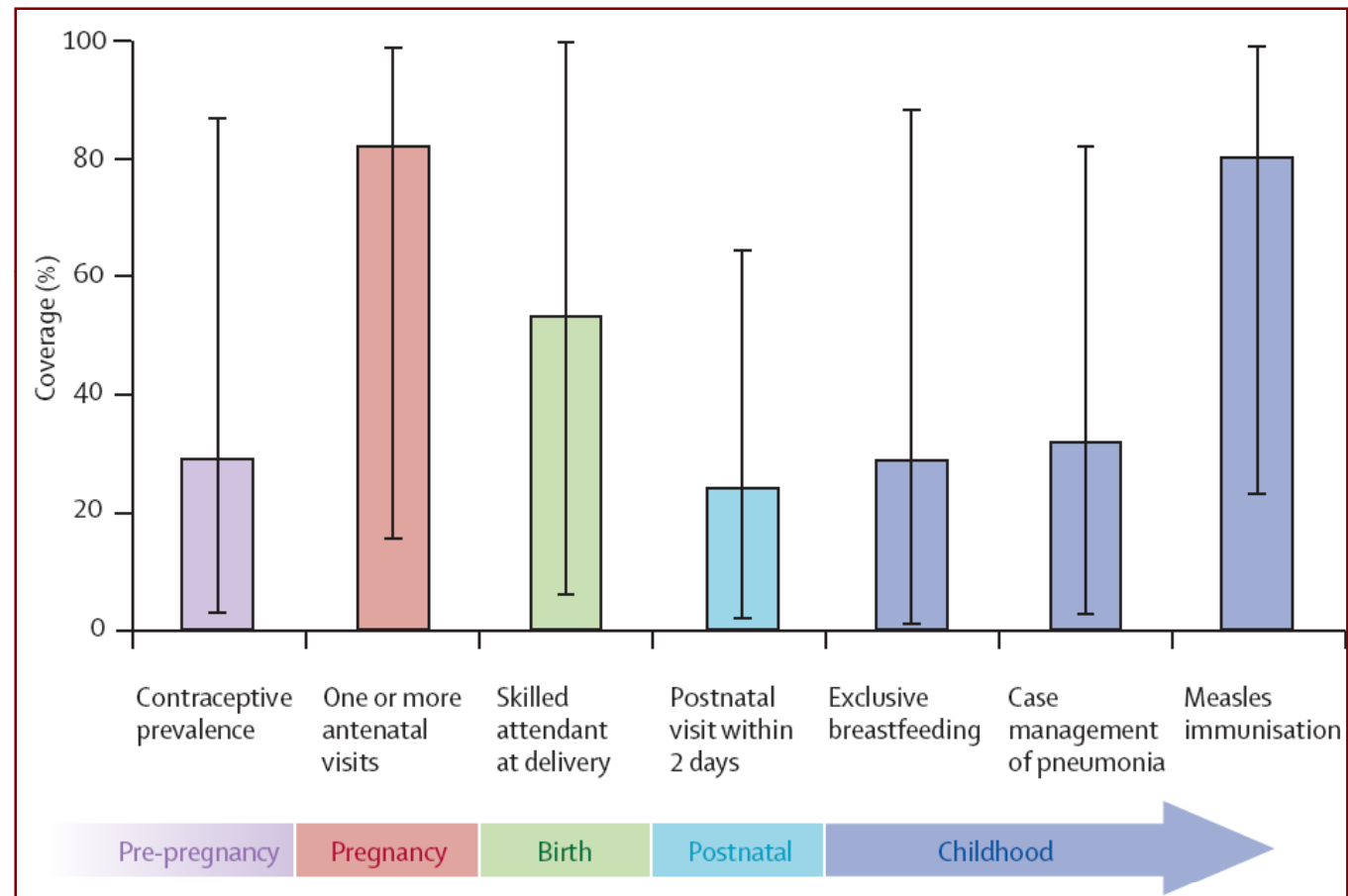
# Coverage failures across the continuum of care

For some interventions:

- Family planning
- Exclusive breastfeeding
- Clinical care for newborn and child illnesses

In some countries:

- Wide gaps in coverage across countries



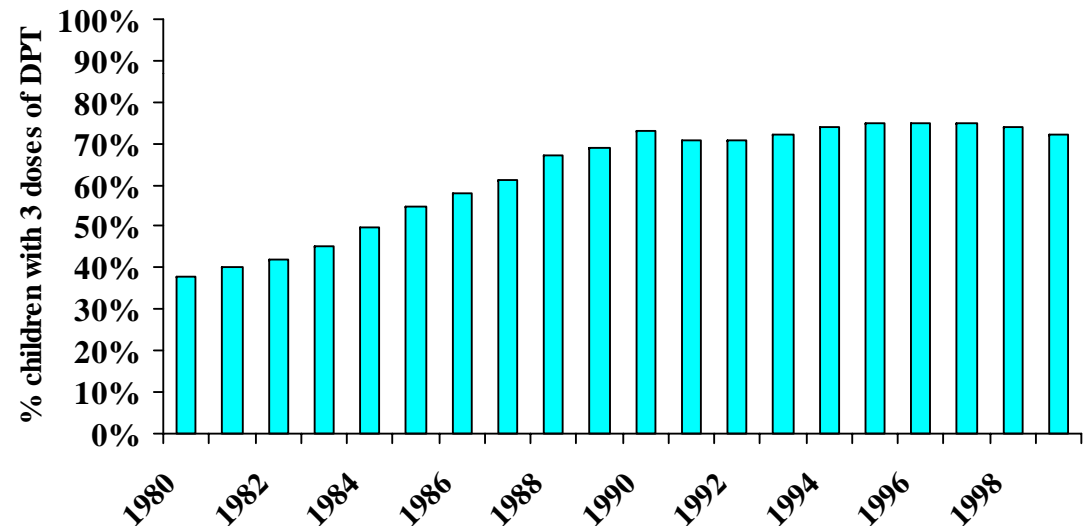
**Coverage estimates for interventions across the continuum of care in the 68 priority countries (2000-2006).** Vertical bars indicate the range in coverage across countries.

## Child survival III

# Reducing child mortality: can public health deliver?

Jennifer Bryce, Shams ul Arifeen, George Pariyo, Claudio F Lanata, Davidson Gwatkin, Jean-Pierre Habicht, and the Multi-Country Evaluation of IMCI Study Group\*

- **Life-saving interventions are not reaching most children, particularly the poor**
- Weak health systems
  - costs of training
  - staff turnover
  - lack of regular supervision
  - low utilization rates/ low accessibility
- Inability to reach communities
  - poor care-seeking practices
  - low coverage of preventive interventions
- Inadequate efforts to deliver child survival interventions



# POLICY FORUM

PUBLIC HEALTH

## Grand Challenges in Global Health

H. Varmus, R. Klausner, E. Zerhouni, T. Acharya, A. S. Daar, P. A. Singer

On 26 January 2003, at the World Economic Forum in Davos, Switzerland, Bill Gates announced a \$200-million medical research initiative—the Grand Challenges in Global Health—based on a century-old model, the grand challenges formulated by the mathematician David Hilbert (1). Hilbert's list of important unsolved problems in mathematics

world, a grand challenge was described as “a call for a specific scientific or technological innovation that would remove a critical barrier to solving an important health problem in the developing world with a high likelihood of global impact and feasibility.” Throughout the process of developing the grand challenges, the board struggled with how best to

### GOALS AND GRAND CHALLENGES

To improve childhood vaccines:

GC 1: Create effective single-dose vaccines that can be used soon after birth;

GC 2: Prepare vaccines that do not require refrigeration;

GC 3: Develop needle-free delivery systems for vaccines.

To create new vaccines:

GC 4: Devise reliable tests in model systems to evaluate live attenuated vaccines;

GC 5: Solve how to design antigens for effective, protective immunity;

GC 6: Learn which immunological responses provide protective immunity.

To control insects that transmit agents of disease:

### Likely Grand Challenges of 50 years ago:

- develop an oral treatment for dehydration
- create oral antibiotics for childhood pneumonia
- develop an effective vaccine for measles
- reduce malaria transmission by preventing vector-human contact
- etc...

health status;

GC 14: Develop technologies that allow assessment of individuals for multiple conditions or pathogens at point-of-care.

e-transmitting

se-transmitting

staple plant

ood of drug-

ns.

n poor countries:  
population

# Today's grandest challenge

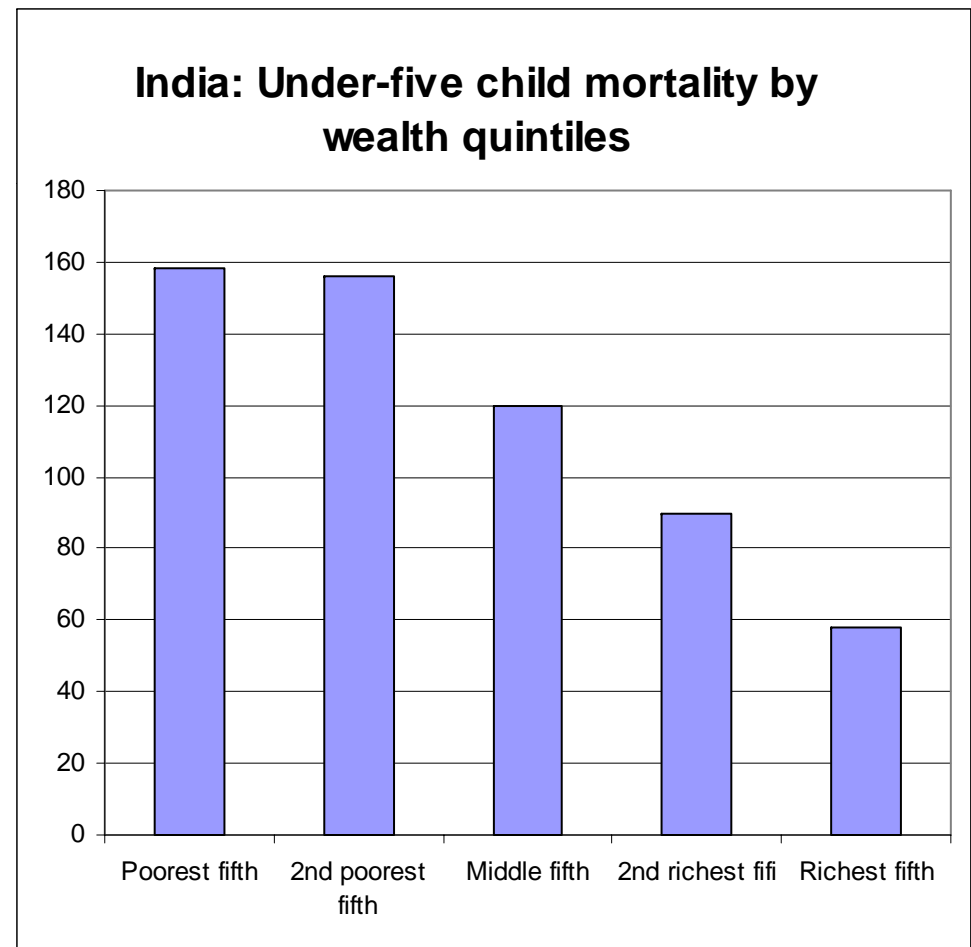
How to deliver the effective, low-cost interventions that we already have, to those who need them most?

- need for research on delivery methodologies for different vulnerable population groups including urban poor
- need for program evaluation to assess if equity and health impact achieved

## Applying an equity lens to child health and mortality: more of the same is not enough

Cesar G Victora, Adam Wagstaff, Joanna Armstrong-Schellenberg, Davidson Gwatkin, Mariam Claeson, Jean-Pierre Habicht

- Mortality ratios between rich and poor countries are increasing
- Within-country inequities are often large
- Governments often spend more with the rich than with the poor
- Inequities in disease incidence, severity and case-management are stacked against poor children



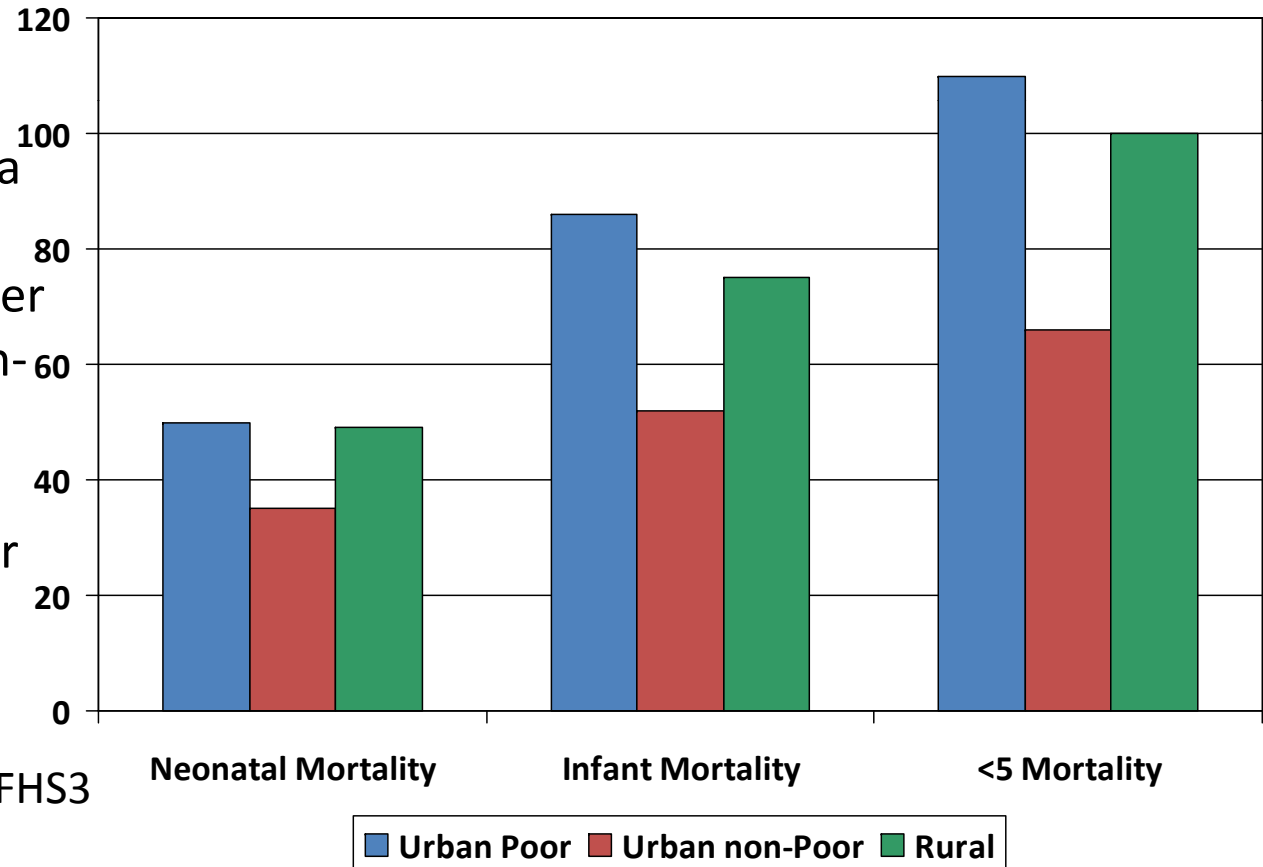
# Urbanization: key challenge of the 21<sup>st</sup> Century

- Beginning in 2007, a majority of the world's population live in urban areas
- According to UN projections, urban population will account for two-thirds of the world's population by 2030
- The rural population will decline by about 20 million
- Within developing country urban populations: about 1/3 live in slums and about 1/2 are poor

# Mortality differentials within urban populations

## Uttar Pradesh, India

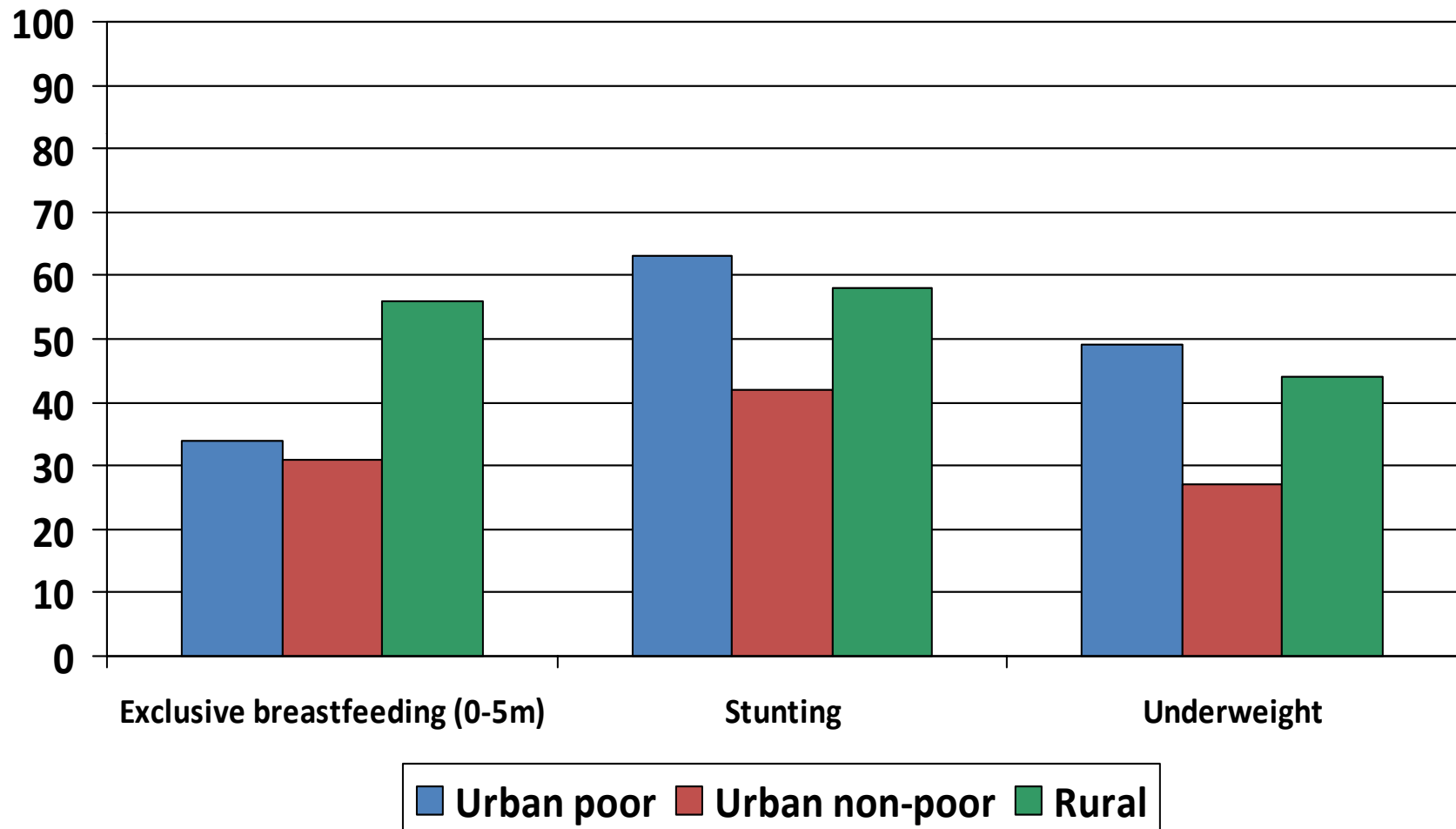
- Significant intra-urban differentials in health globally as well as in India
- India's urban poor experiences a much higher mortality than urban non-poor
- IMR and <5 mortality among urban poor higher than rural populations.



Source: UHRC Analysis of NFHS3 Data

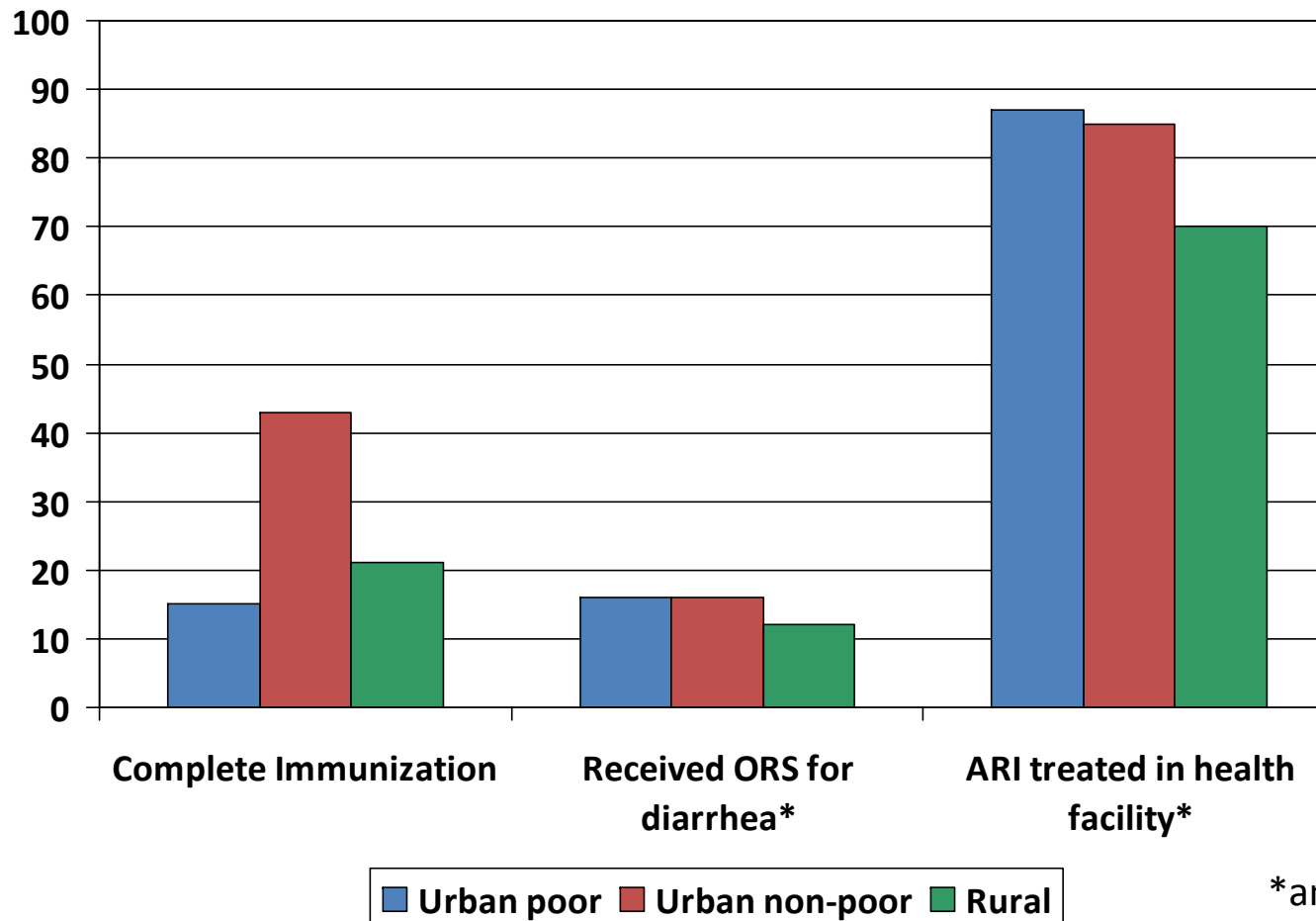
# Differentials within urban populations: child nutrition

Source: UHRC Analysis of NFHS3  
Data



# Differentials within urban populations: utilization of child health services

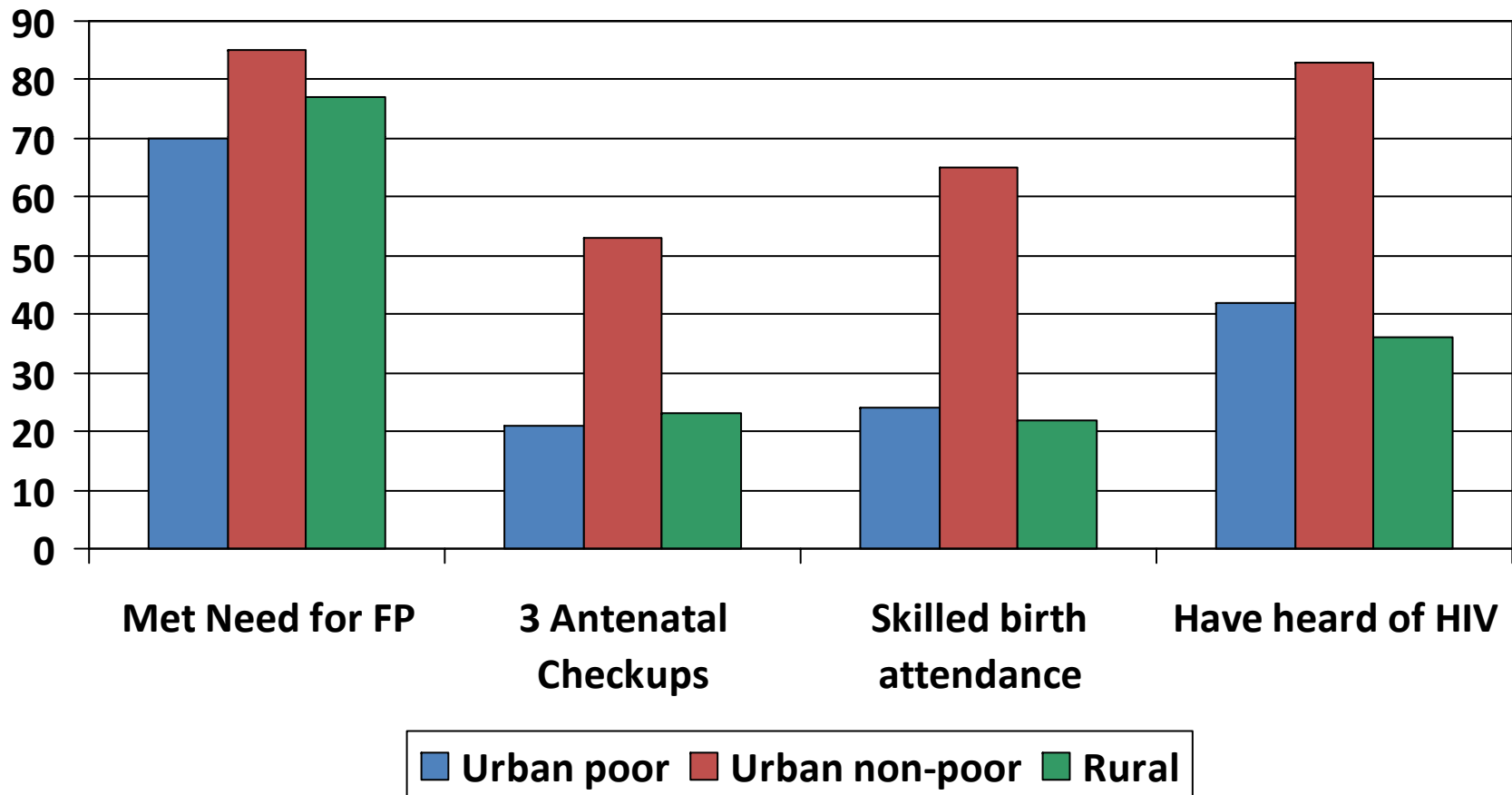
Source: UHRC Analysis of NFHS3 Data



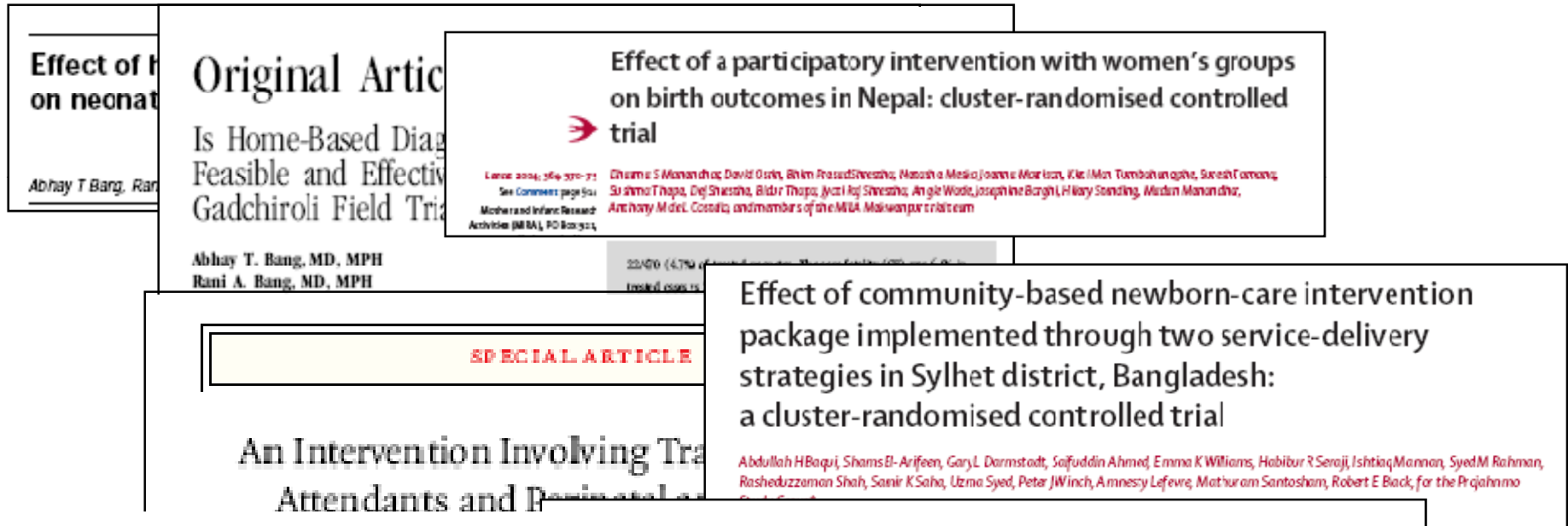
\*among those with illness in past 2 weeks

# Differentials within urban populations: women's health

Source: UHRC Analysis of NFHS3 Data



# Trials of Neonatal Health Intervention in South Asia



- Previous trials have been conducted in rural settings.
- An urgent need exists to adapt newborn health strategies for the urban poor.

# Current Status of Urban Health System

- Urban areas differ from rural in a number of ways:
  - Characterized by multiple providers for health services with little or no coordination, leading to under-provision of critical services in the poor areas.
  - Government public health services are not well developed
  - Private sector is the main provider; however, affordability and quality of private services are concerns.
  - Several studies document that the urban poor spend a disproportionate share of their income on poor quality health care, much of it from the private sector.

# Current Status of Urban Health System

- Non-governmental organizations (NGOs) and charitable organizations help fill the gaps, but their services are usually not comprehensive and they are fragmented in terms of geographic coverage.
- The challenge is how you develop a coordinated, cost-effective system for urban residents or at a minimum develop a safety net for the poor.

# Summary

- Global burden of child, neonatal and maternal mortality remains high
- Proven, cost-effective interventions exist
- Within-country differences are substantial
- Past programming and research has largely focused on rural poor
- Improving health of the urban poor is a key challenge of the 21<sup>st</sup> century