



The Health of Brazilian mothers and children, 1970-2010

The situation in the 1970s

- Military dictatorship
- Rapid economic growth
- One of world's highest income concentration
- IMR > 100
- MMR > 150
- Three tiered health care:
 - private / social security / charity

Underlying trends

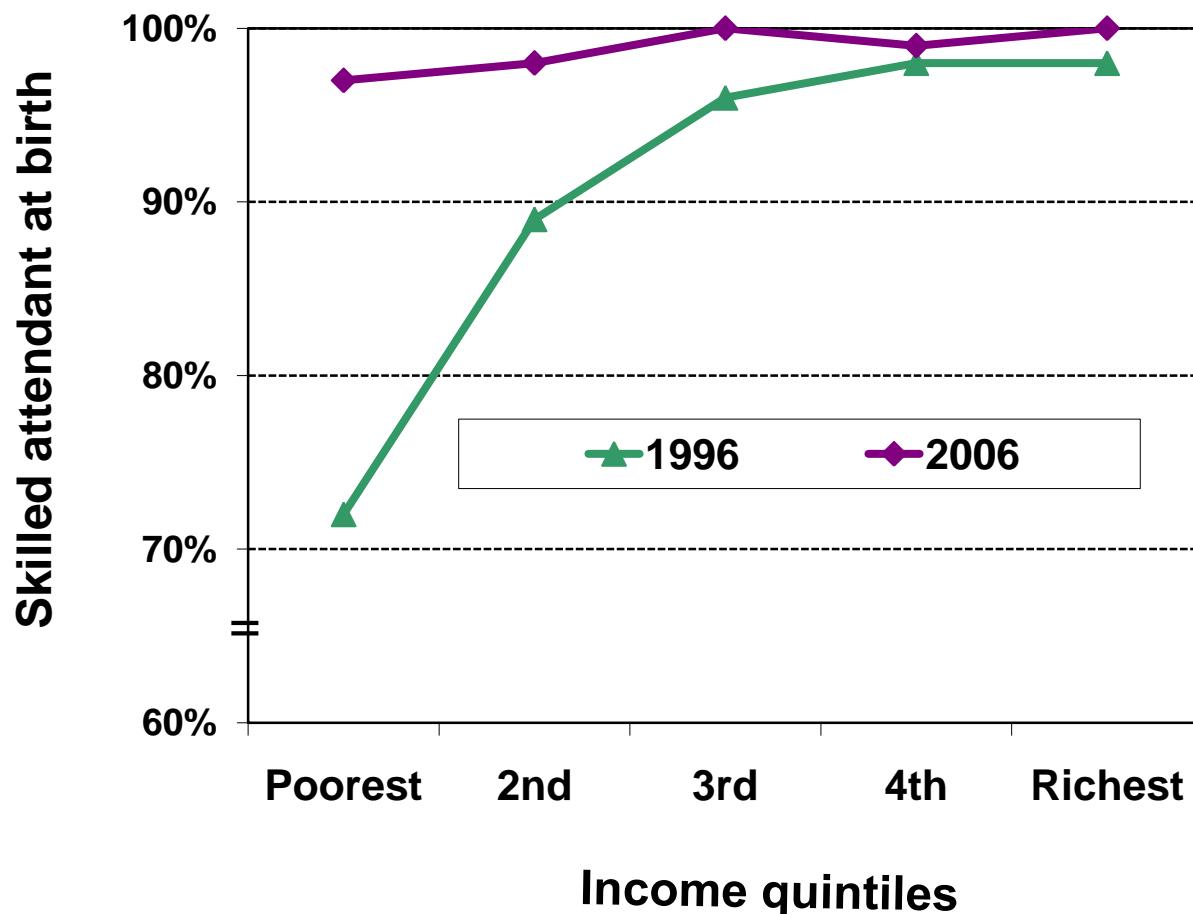
- Urbanization
 - 56% (1970) → 83% (2010)
- Marked drop in fertility
 - TFR 4.8 (1960s) → 1.8 (2000s)
 - CPR 67% (1986) → 79% (2007)
- Increased coverage
 - ANC: 75% (1981) → 99% (2007)
 - Hospital delivery: 80% (1981) → 98% (2007)

REDUCTION IN SOCIOECONOMIC INEQUITIES



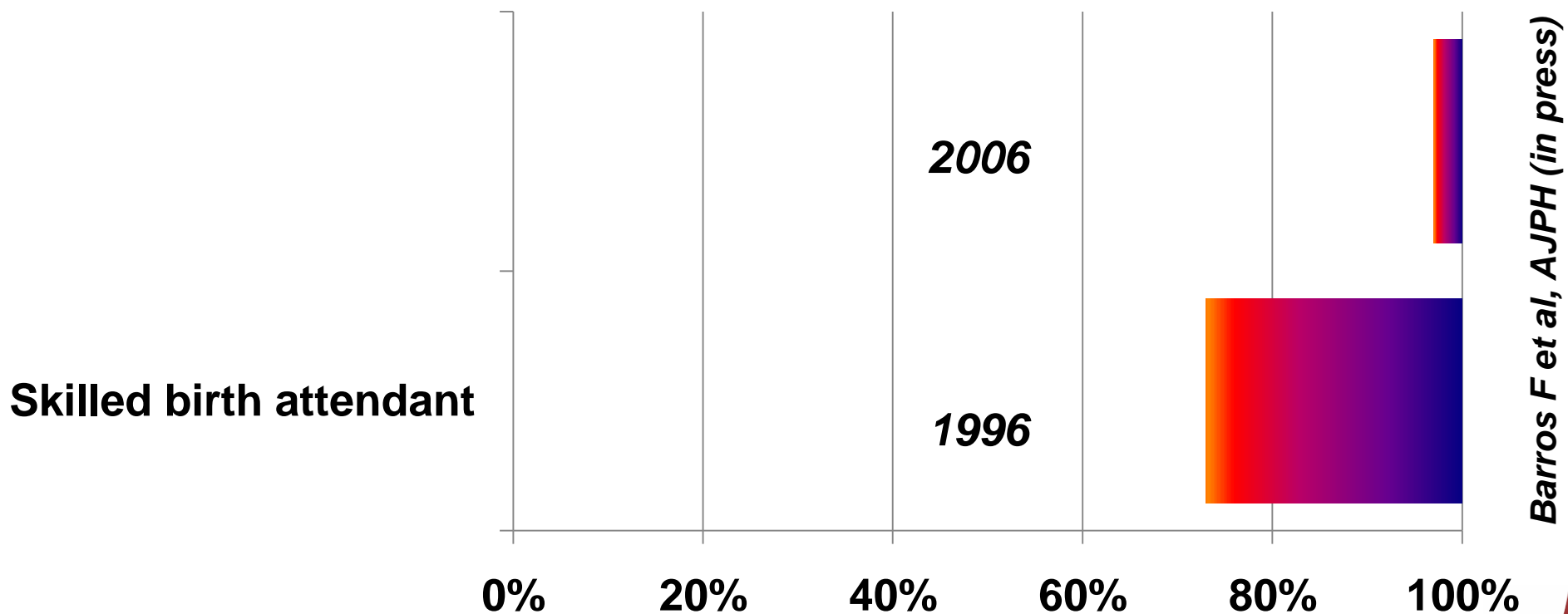
| Indicator (among all women or children unless otherwise stated) | Pre-1985 data | Survey results | | |
|--|--------------------------|----------------|------|-------------|
| | | 1986 | 1996 | 2006/7 |
| Modern contraceptive use rate | | 57.0 | 72.0 | 78.5 |
| Pregnancy and delivery care (5 years before the survey) | | | | |
| Any antenatal care | 74.7 (1981) | 74.0 | 85.7 | 98.7 |
| Antenatal care (6+ visits) | 40.5 (1981) | - | 75.9 | 80.9 |
| Started ANC in first trimester | - | - | 66.0 | 83.6 |
| Tetanus toxoid during pregnancy | - | - | 58.5 | 76.9 |
| Hospital delivery | 79.6 (1981) | 80.5 | 91.5 | 98.4 |
| Vaccine coverage for children aged 12-23 months (informed plus confirmed doses) | | | | |
| Measles vaccine | 16 (1975)* 56 (1980)* | 79.4 | 87.2 | 100 |
| DPT/tetavalent | 20 (1975)* 37 (1980)* | 68.9 | 80.8 | 98.2 |
| Other child health and related indicators (all children under 5 years) | | | | |
| Oral rehydration solution or recommended home fluids | 0 (not yet implemented) | 10.9 | 53.6 | 52.1 |
| Careseeking for cough/fever | - | - | 18.2 | 52.0 |
| Public water supply | 32.8(1975) | - | 78.7 | 81.8 |

Skilled birth attendance by income quintiles, 1996-2006

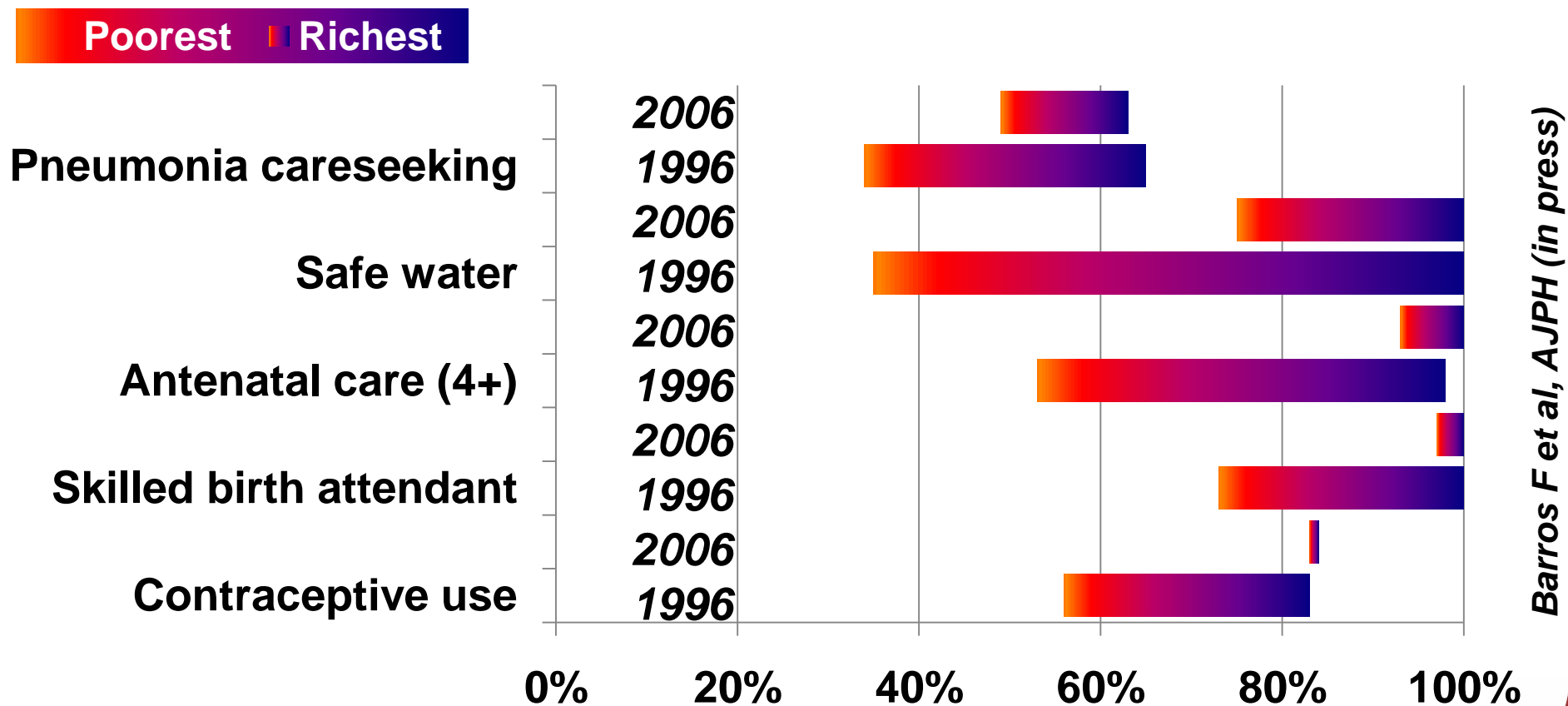


Skilled birth attendance: Inequity gaps, 1996-2006

Poorest Richest



Inequity gaps in coverage, 1996-2006



PROGRESS AGAINST INFANT AND UNDER-FIVE MORTALITY

Infant mortality trends

Annual rates of decline

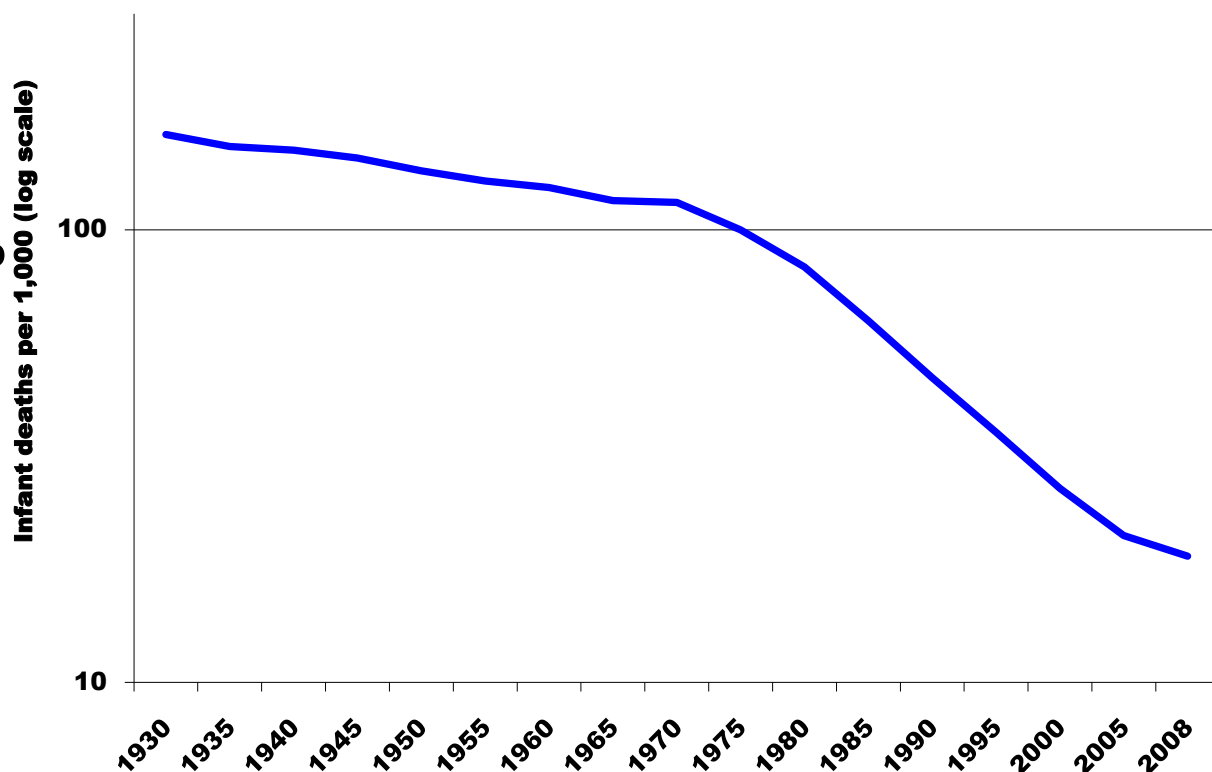
1930-1970 $\approx 1\%$

1970s = 3.2%

1980s = 5.5%

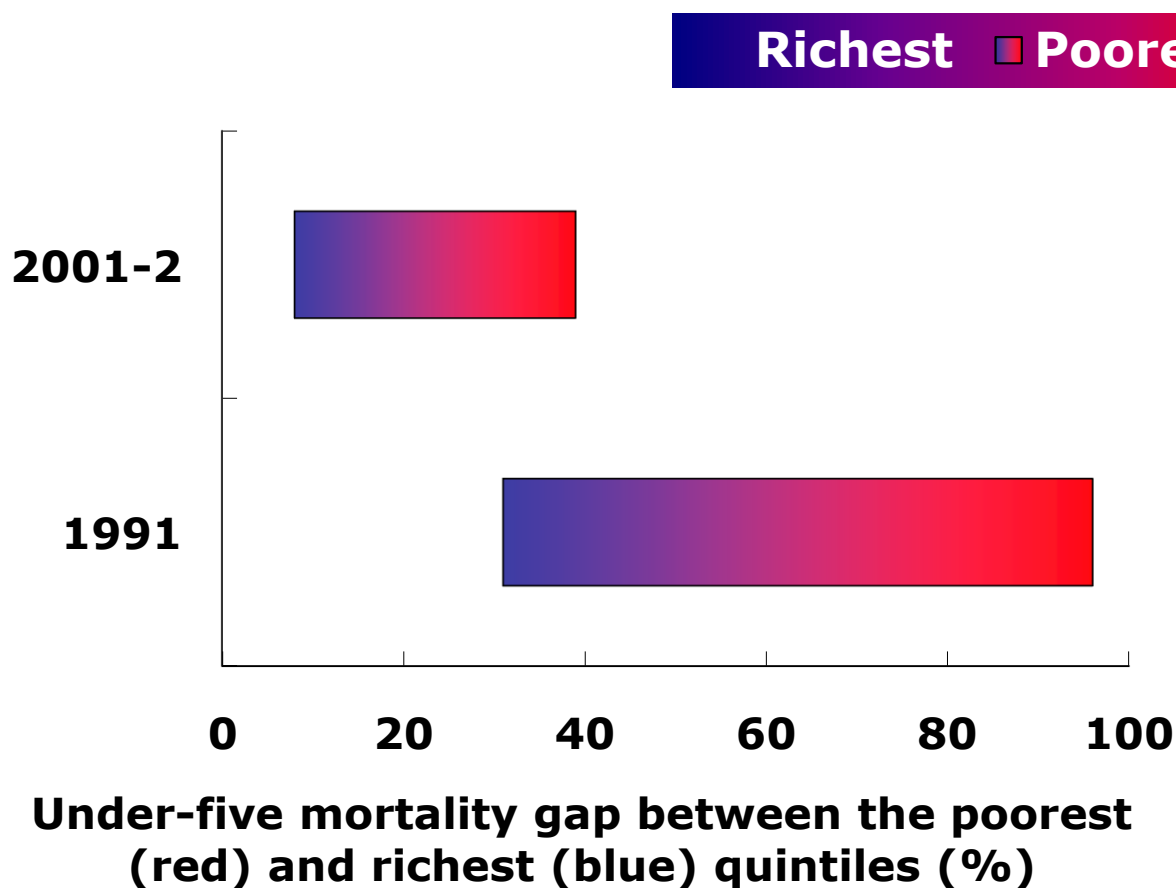
1990s = 5.5%

2000s = 4.4%

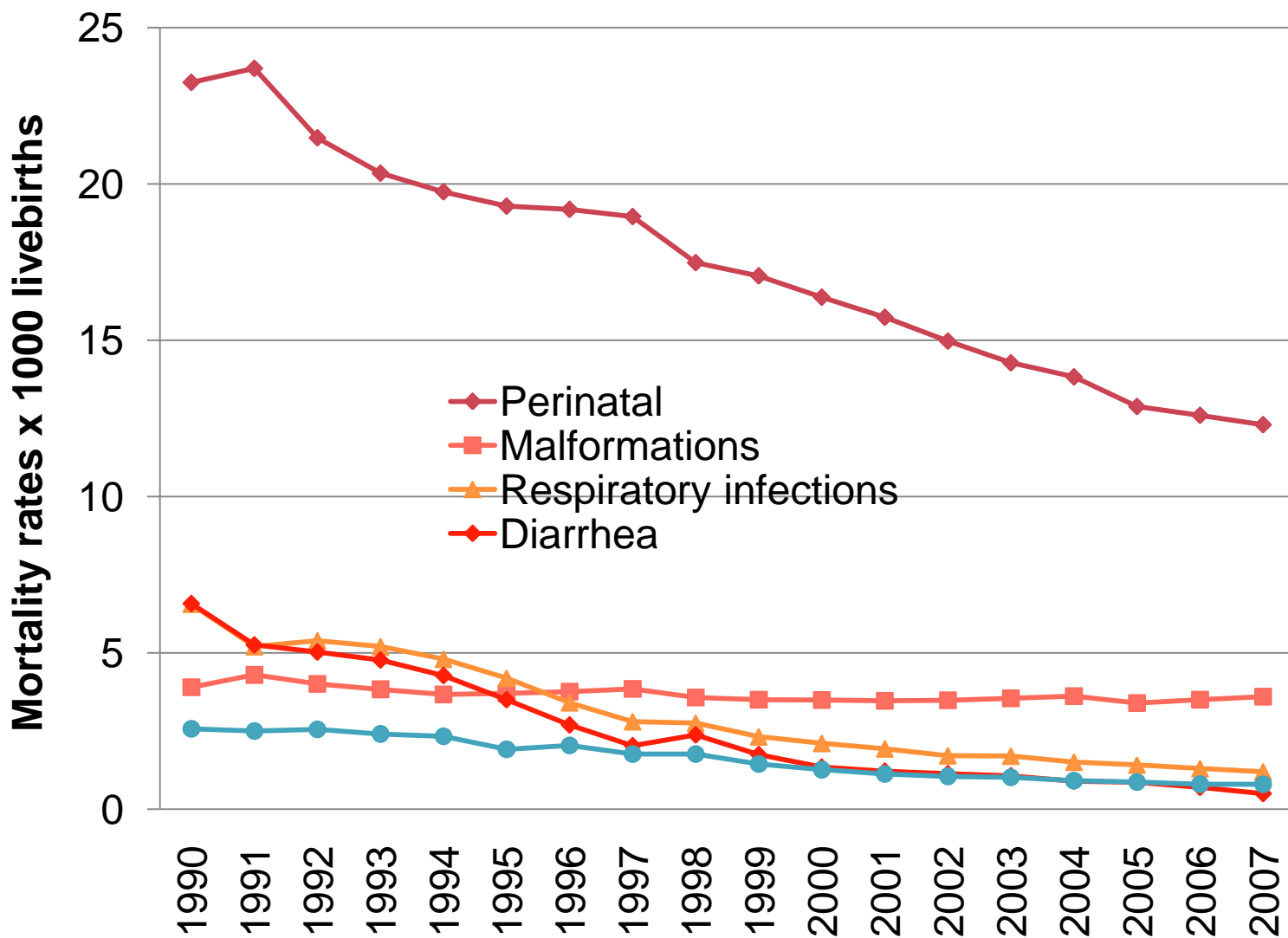


Source: Demographic Censuses, 1940-2000, and MIX model (Ministry of Health) 1990-2008

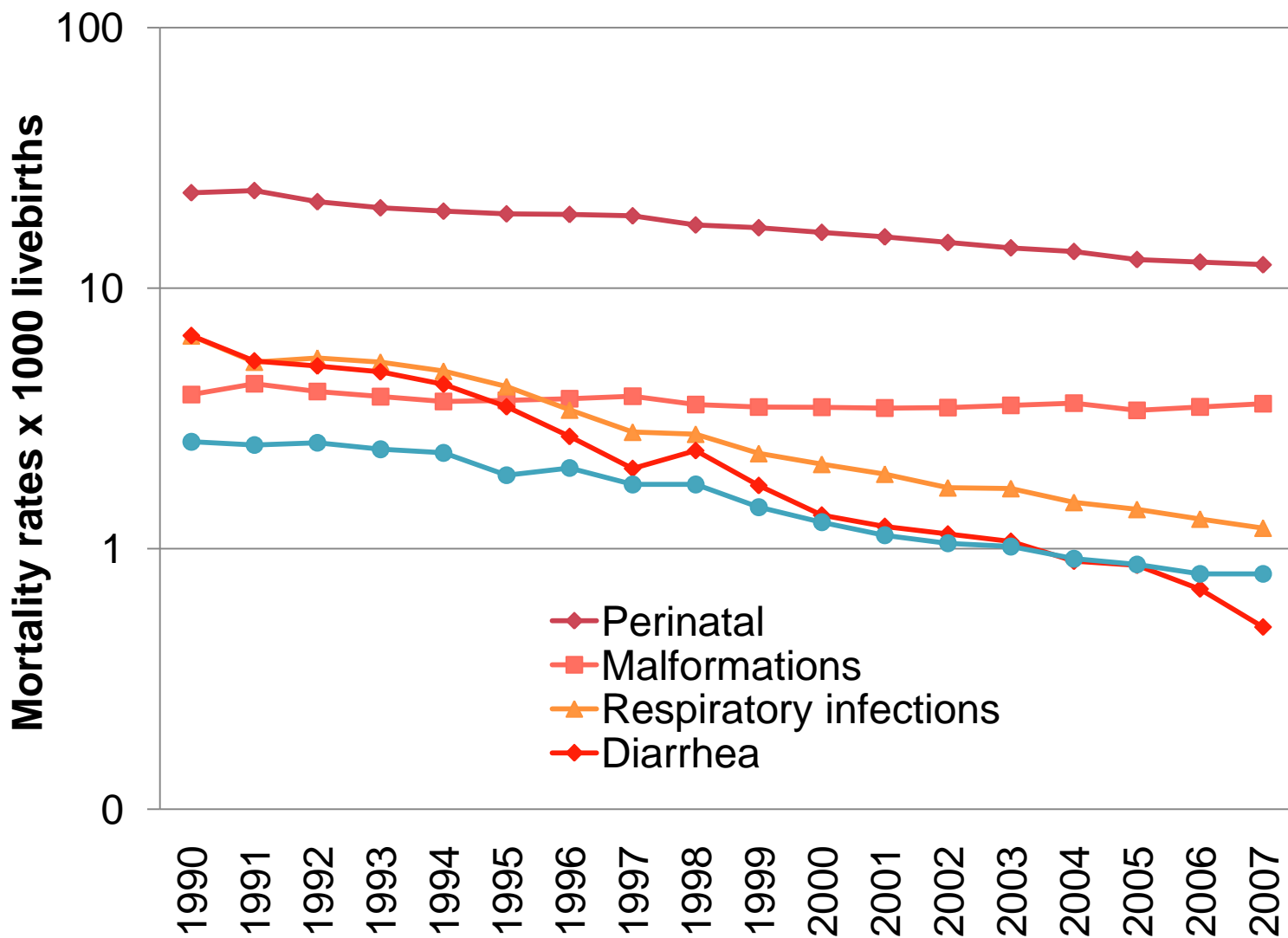
Poor-rich gaps in under-five mortality, 1991 and 2001-2



Infant deaths by cause 1990-2007



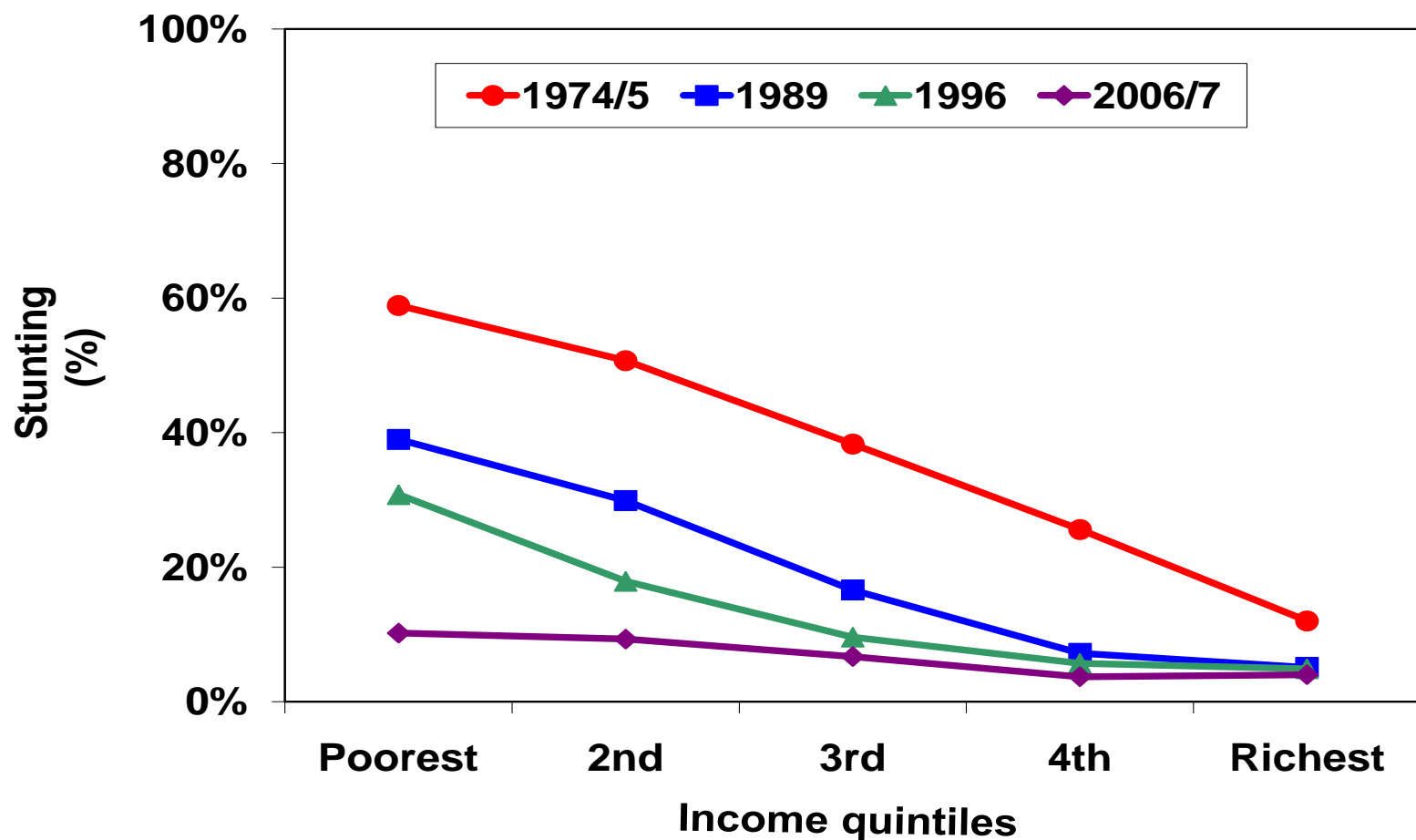
Infant deaths by cause 1990-2007



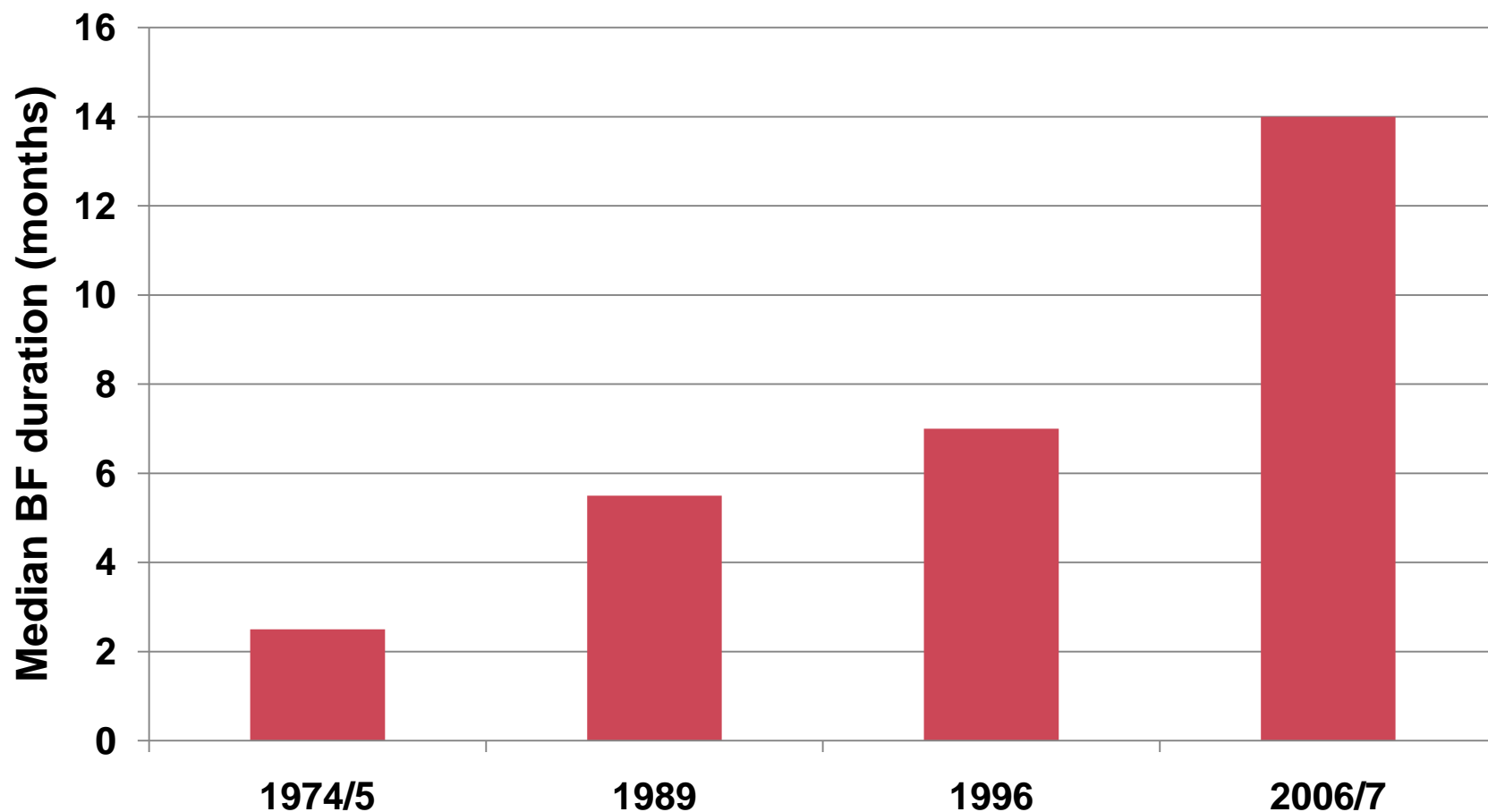
Undernutrition prevalence 1989-2006

| Year of survey | Stunting | Underweight | Wasting | Overweight/ obesity |
|----------------|----------|-------------|---------|------------------------|
| 1989 | 19.9 | 5.6 | 2.2 | 8.4 |
| 1996 | 13.5 | 4.6 | 2.5 | 7.4 |
| 2006/7 | 7.1 | 2.2 | 1.6 | 7.3 |

Child nutrition: stunting by income

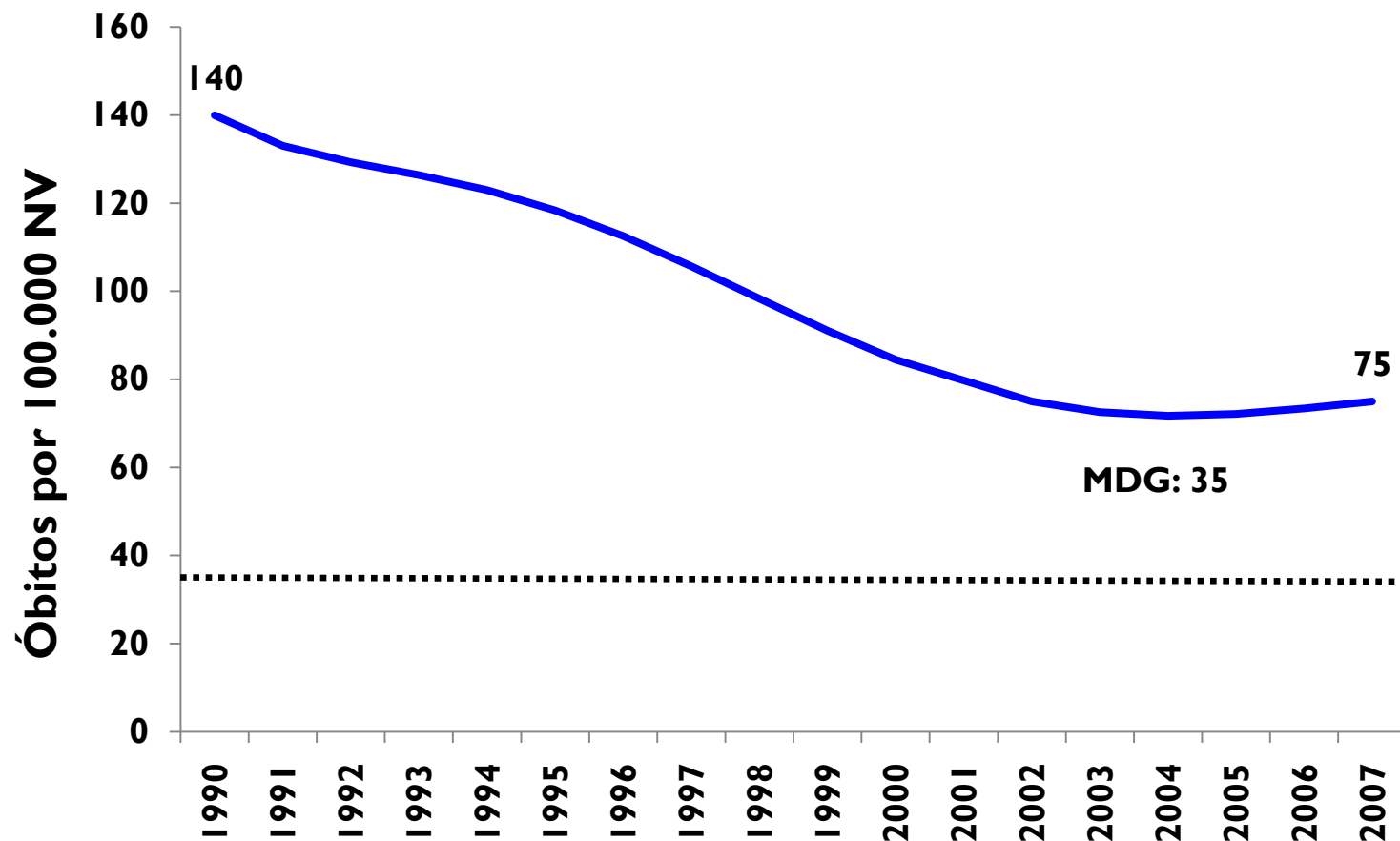


Median duration of any breastfeeding (months)



**ANY SUCCESS IN REDUCING
MATERNAL MORTALITY?**

Maternal mortality trends



C-sections: time trends

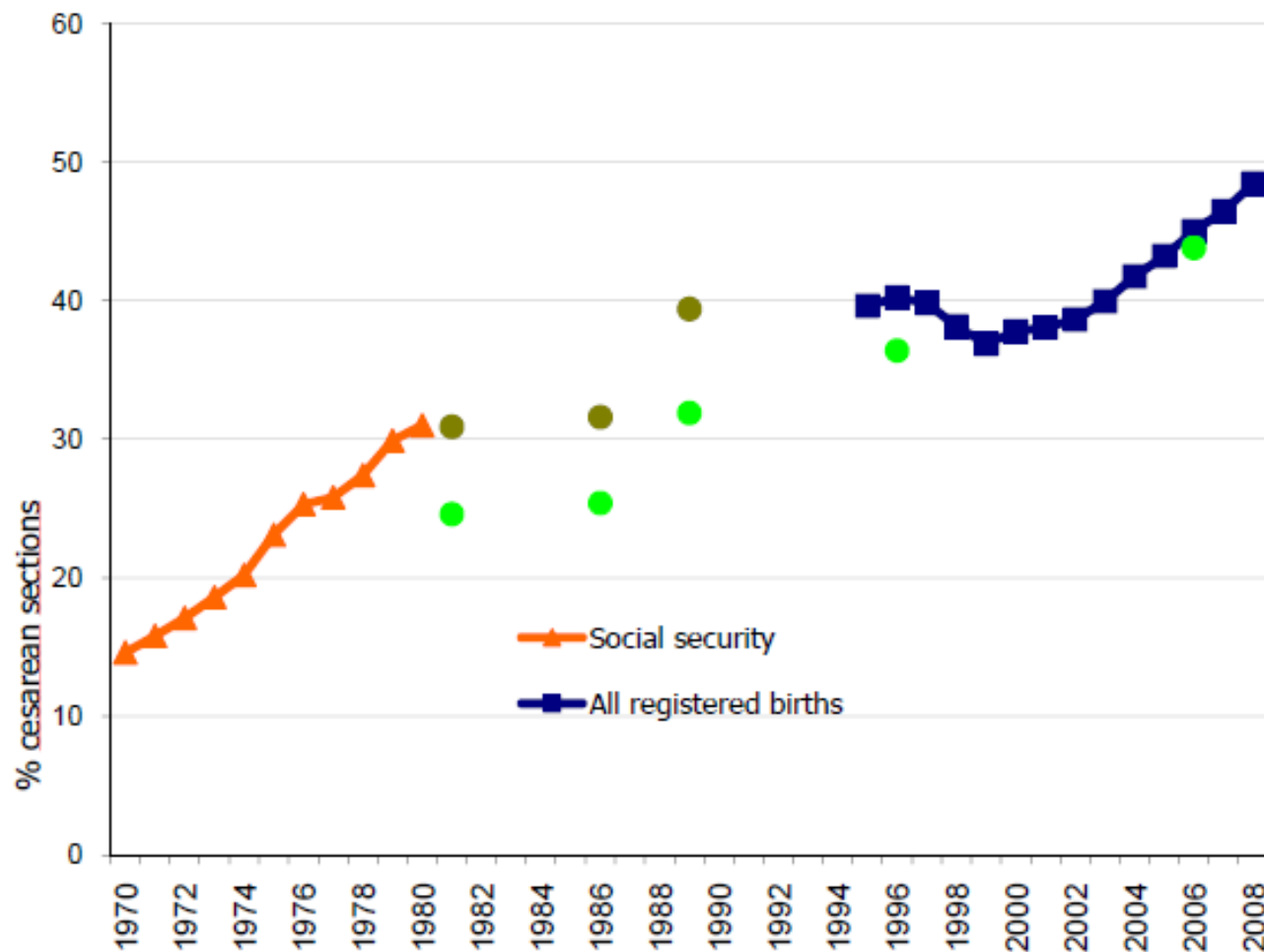


Figure 1.1. C-section trends according to hospital information systems (lines) and to national surveys (green dots: % of all births; brown dots: % of hospital births).

What about maternal mortality?

- Why does mortality seem to have stabilized at relatively high levels, in spite of increased access and coverage to antenatal, delivery and post-partum care?
 - Improved reporting?
 - Poor quality of services?
 - Too many C-sections?

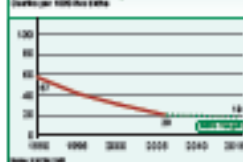
HOW TO EXPLAIN THE OBSERVED IMPROVEMENTS?

Countdown to 2015
Maternal, Newborn & Child Survival
Brazil

DEMOGRAPHICS

Total population (m) 180,320 (2006)
Total under-five population (m) 18,000 (2006)
Births (m) 3,720 (2006)
Birth registrations (%) 80 (2006)
Under-five mortality rate (per 1,000 live births) 20 (2006)
Infant mortality rate (per 1,000 live births) 10 (2006)
Neonatal mortality rate (per 1,000 live births) 10 (2006)
Total under-five deaths (m) 360 (2006)
Maternal mortality ratio (per 100,000 live births) 100 (2006)
Lifetime risk of maternal death (1 in 1,000) 100 (2006)
Total maternal deaths 4,300 (2006)

Under-five mortality rate
(per 1,000 live births)



Causes of under-five deaths
(per 1,000 live births)



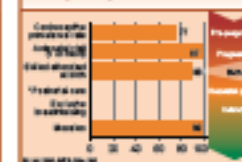
MATERNAL AND NEWBORN HEALTH

Unmet need for family planning (%) 7 (2006)
Adherence to the national contraceptive policy (%) 75 (2006)
Intercourse prevalence (months) for women (%) ...
Condom use prevalence (months) for women (%) ...
Condom use prevalence (months) for men (%) ...
Condom use prevalence (months) for both (%) ...
Condom use prevalence (months) for both (%) ...

Causes of maternal deaths
(per 100,000 live births)



Coverage along the continuum of care



INTERVENTION COVERAGE FOR MOTHERS, NEWBORN AND CHILDREN

Underweight prevalence
(Percent of children underweight for age)

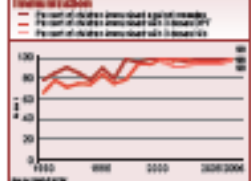


Exclusive breastfeeding
(Percent of children exclusively breastfed)



CHILD HEALTH

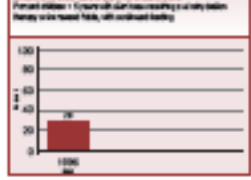
Immunization
(Percent of children immunized against measles)



Malaria prevention
(Percent of children with sleeping net)



Diarrhoeal disease treatment
(Percent of children with diarrhoea receiving oral rehydration solution)



Malaria treatment
(Percent of children with fever receiving antimalarial drugs)



- **MDG1: Reduce underweight by 1/2**
 - 1989: 5.6% -- 2006/7: 2.2%
- **MDG4: Reduce under-five mortality by 2/3**
 - 1990: 57 -- 2007: 20
- **MDG5: Reduce maternal mortality by 3/4**
 - Unlikely to be reached

MDG1 adopted (to reduce underweight by 1/2) ...
Condom use prevalence (months) for women (%) ...
Condom use prevalence (months) for men (%) ...
Condom use prevalence (months) for both (%) ...
Condom use prevalence (months) for both (%) ...

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Condom use prevalence (months) for both (%) ...

Brazil

Countdown to 2015
2006 Report

Reasons for Brazil's progress

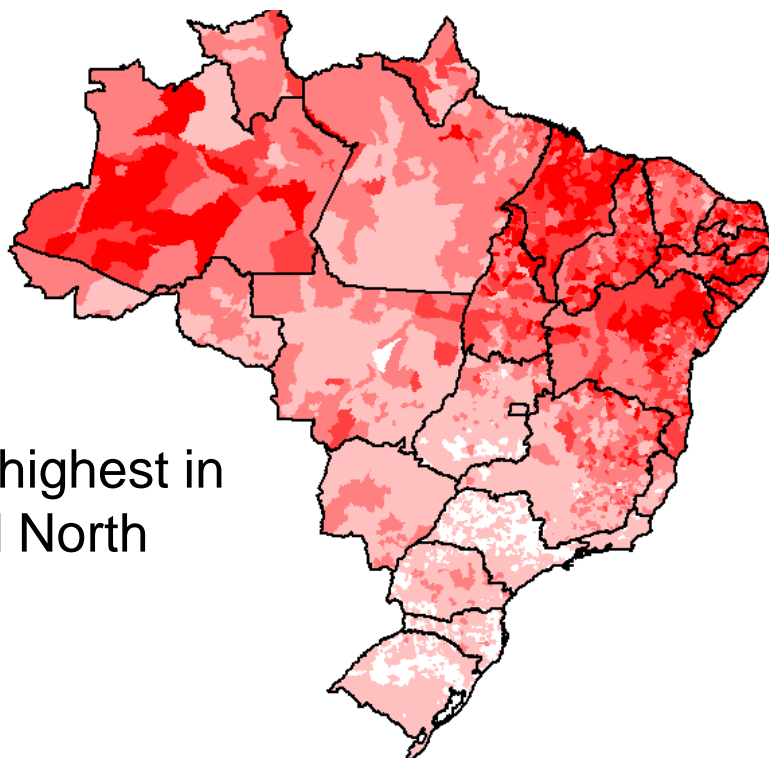
- Socioeconomic and demographic factors
 - Moderate economic growth
 - Reduction of socioeconomic inequalities (>2000)
 - Improved maternal education
 - Sharp decline in fertility
 - Urbanization
- Non health-sector interventions
 - Huge conditional cash transfer program
 - Marked improvement in water supply
 - Rural social security

Reasons for Brazil's progress

- Health sector interventions
 - Vertical programs in the 1980s-1990s
 - Oral rehydration
 - Immunizations
 - Breastfeeding promotion
 - Creation of a national health system in 1989
 - Strong popular participation at all levels of the NHS
 - Family health program with geographical targeting
 - High visibility of child health

Infant mortality by region

Infant mortality rate, 2000

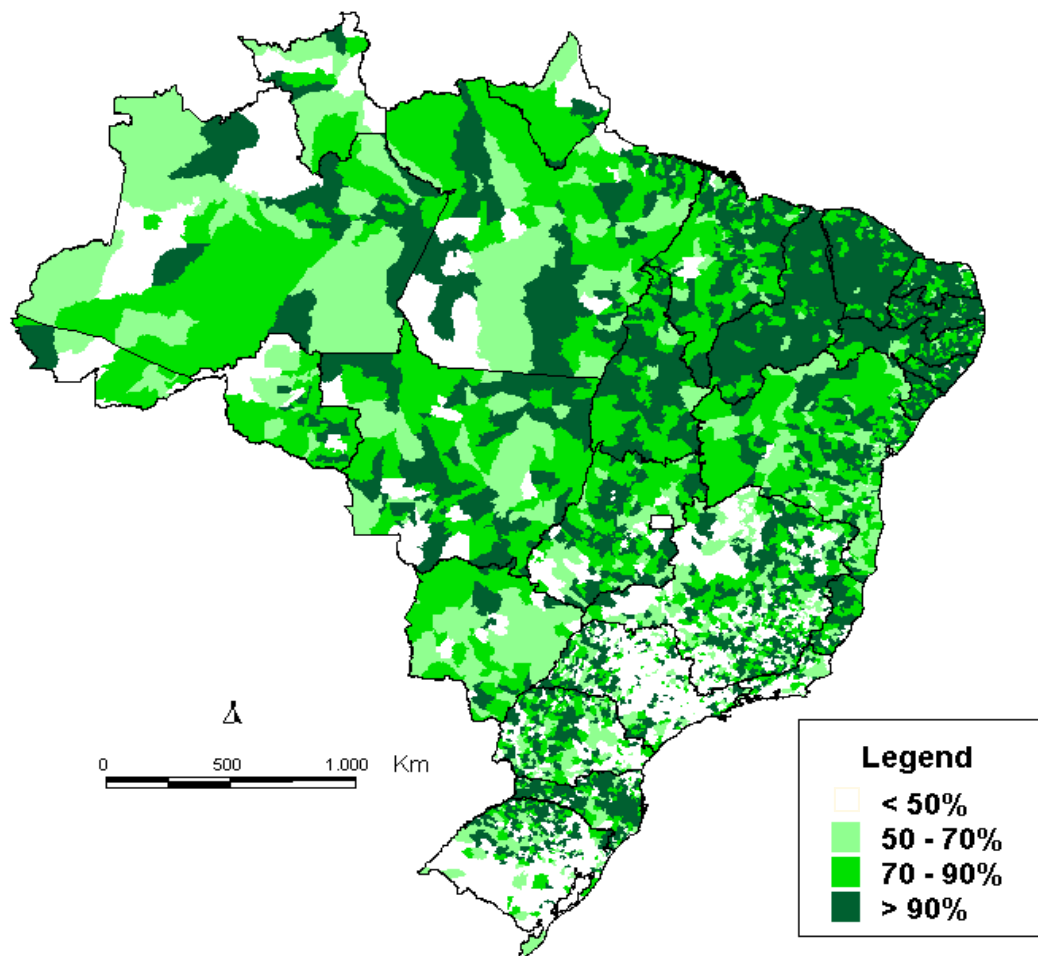


Infant mortality is highest in the Northeast and North

| Legenda | | |
|---------|------|--|
| <15 | (3) | |
| 15-29 | (36) | |
| 30-44 | (61) | |
| 45-59 | (26) | |
| >=60 | (0) | |

Family health program

Coverage of the Family Health Program. Brazil, 2002-04





But most and foremost:

Reducing inequities of all types is a central component of governmental policies