Challenges for the Design and Implementation of Programs Ensuring Early Childhood Comprehensive Attention

Ricardo Paes de Barros (INSPER/IAS)
Rosane Mendonça (UFF)

Presentation Plan

1. **The importance and the components of early childhood comprehensive attention is known**
2. **Defining the roles of family and government in the provision of comprehensive care.**
3. **Brazilian Progress and the need for continuity**
4. **Monitoring child development**
5. **What is needed I? Focus on positive rights**
6. **What is needed II? Integration of public programs and between public and private actions**
7. **What do we need to know? Sequencing**

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Roles of Family and Government

- **Confusion between comprehensive attention and care through public programs.**
- **Complementarity or substitution between family actions and governmental programs.**
- **Fulltime versus part-time daycare centers.**
- **Home visits for all versus home visits just for the most vulnerable groups.**

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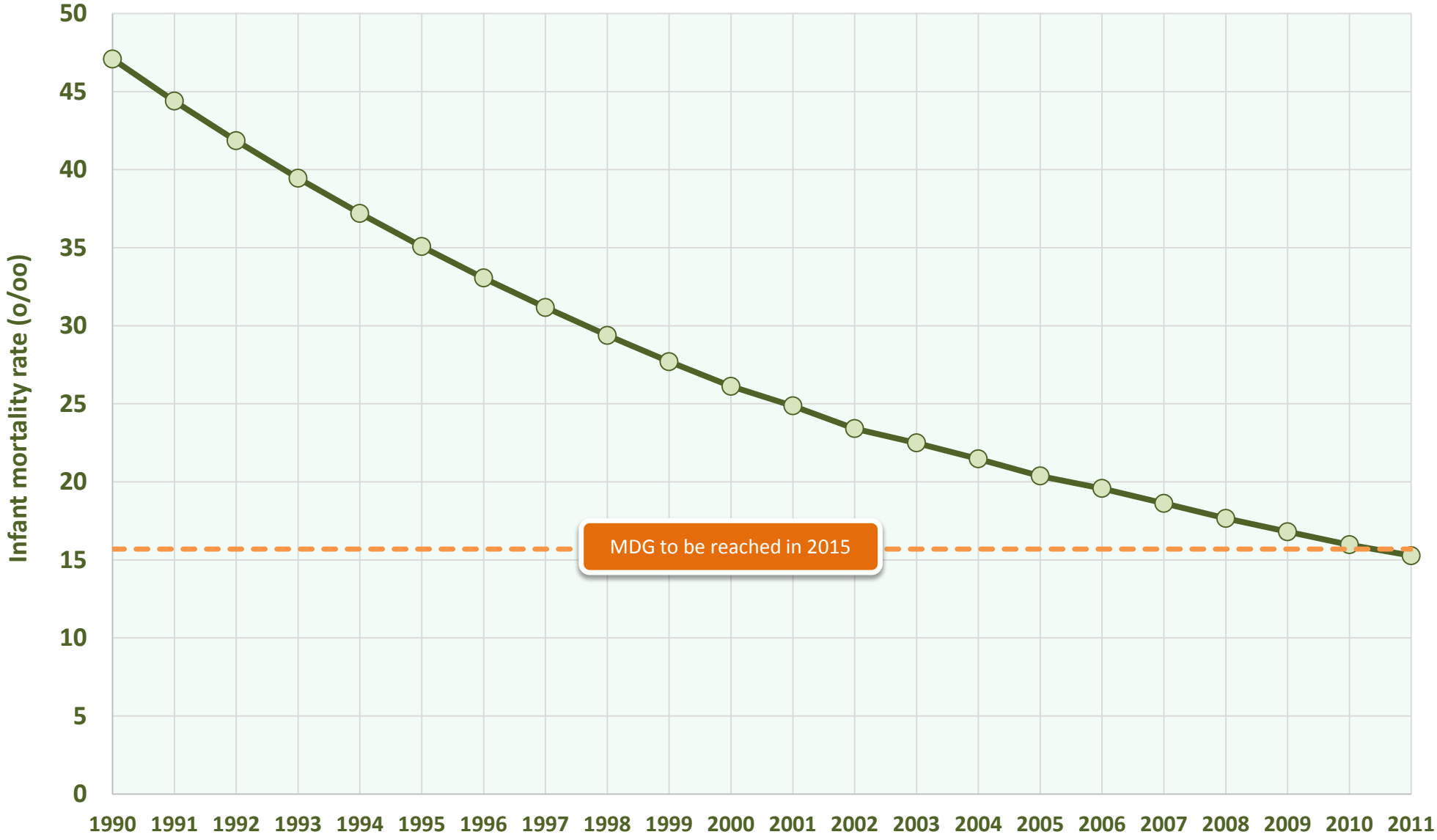
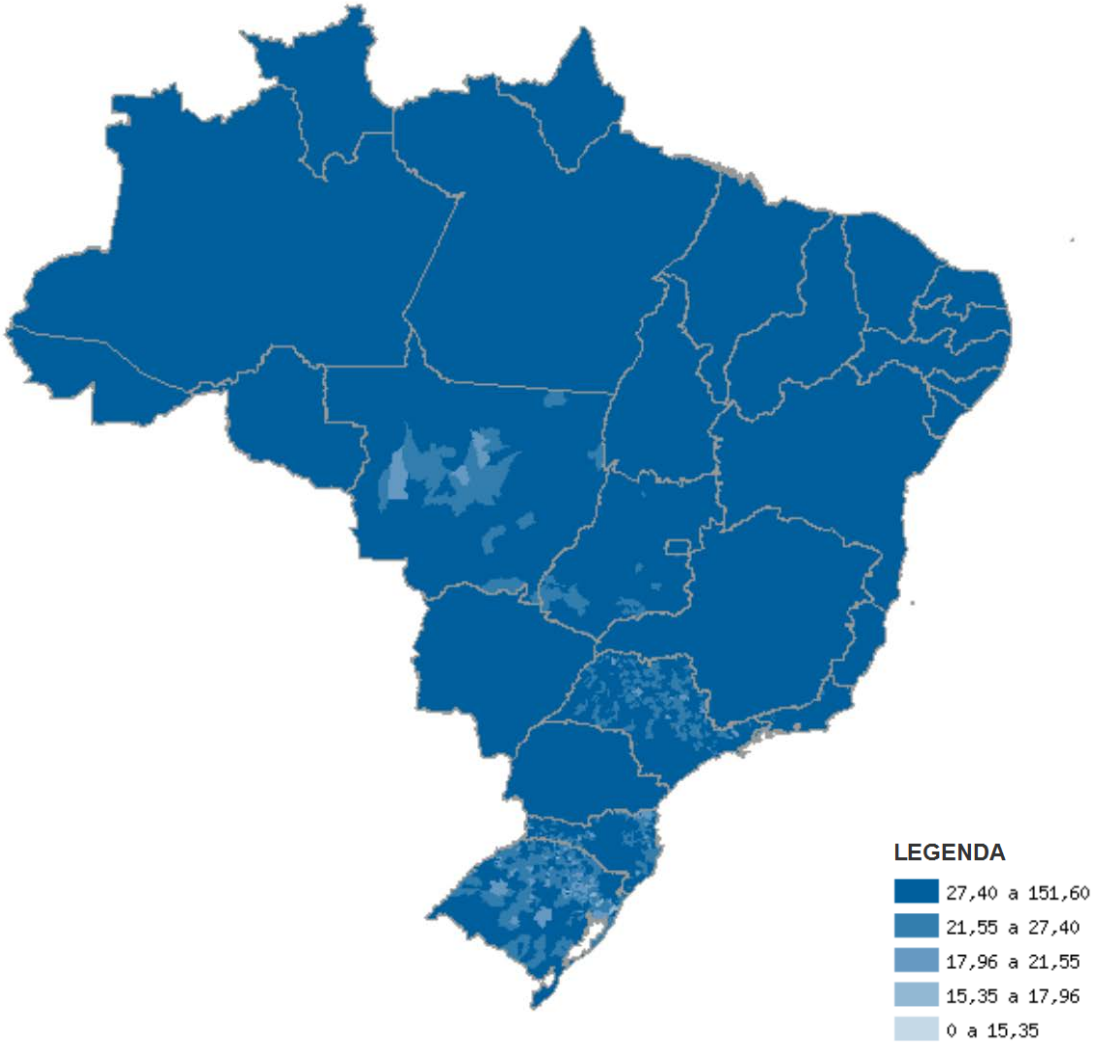
Evolution of Infant Mortality Rate: 1990-2011

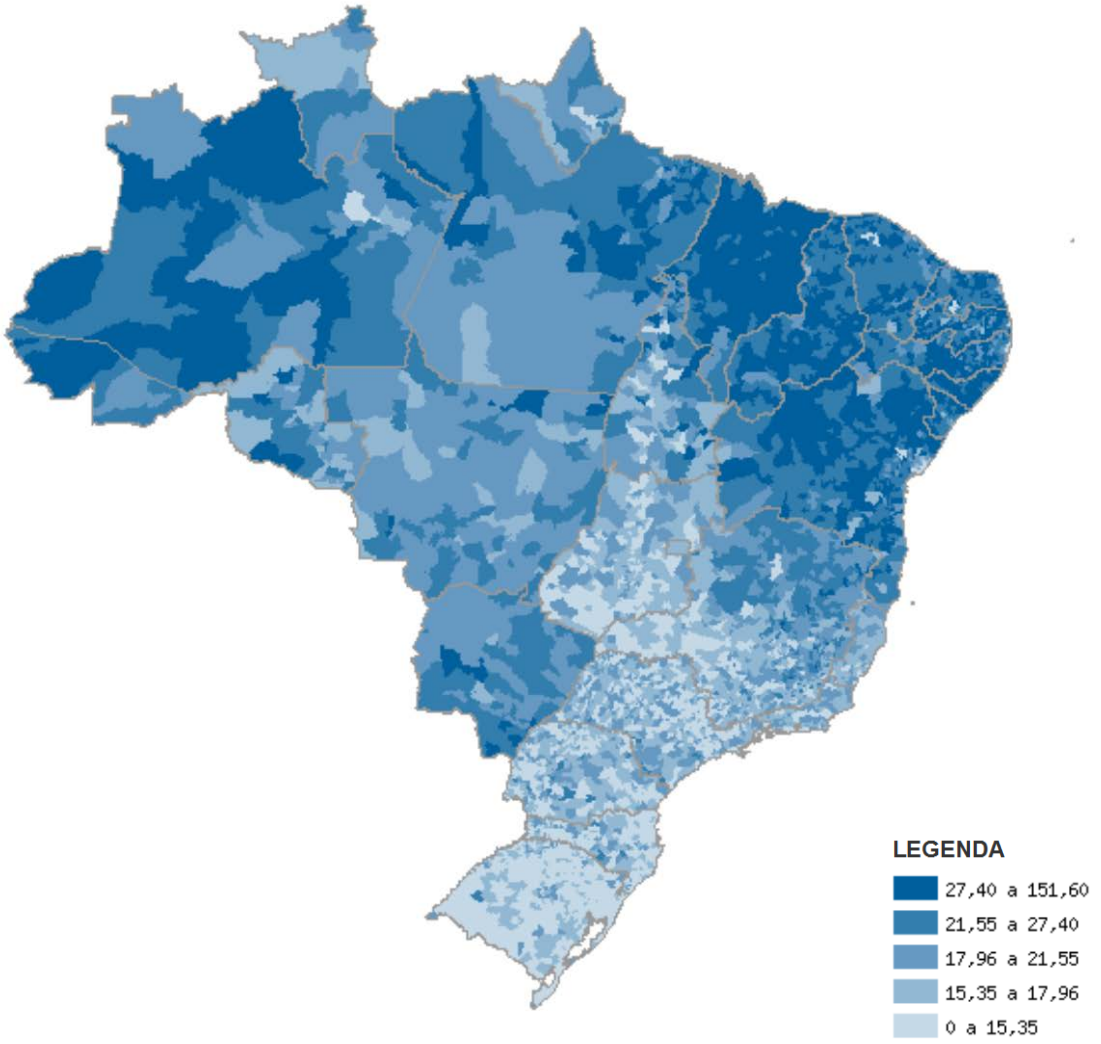


Child mortality (up to 5 years old) rate in Brazilian Municipalities: 1991



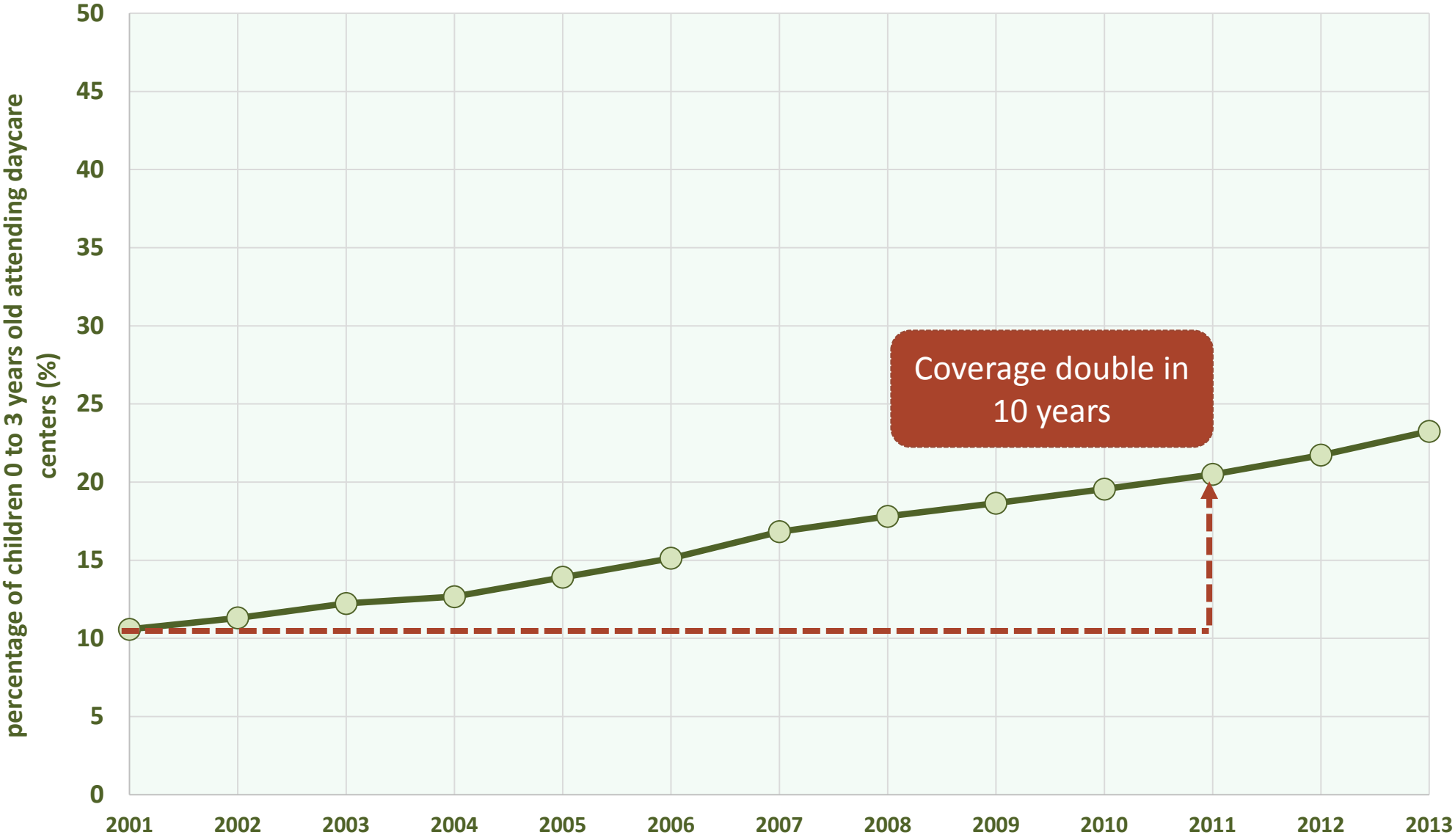
Source: HDI-M Atlas

Child mortality (up to 5 years old) rate in Brazilian Municipalities: 2010



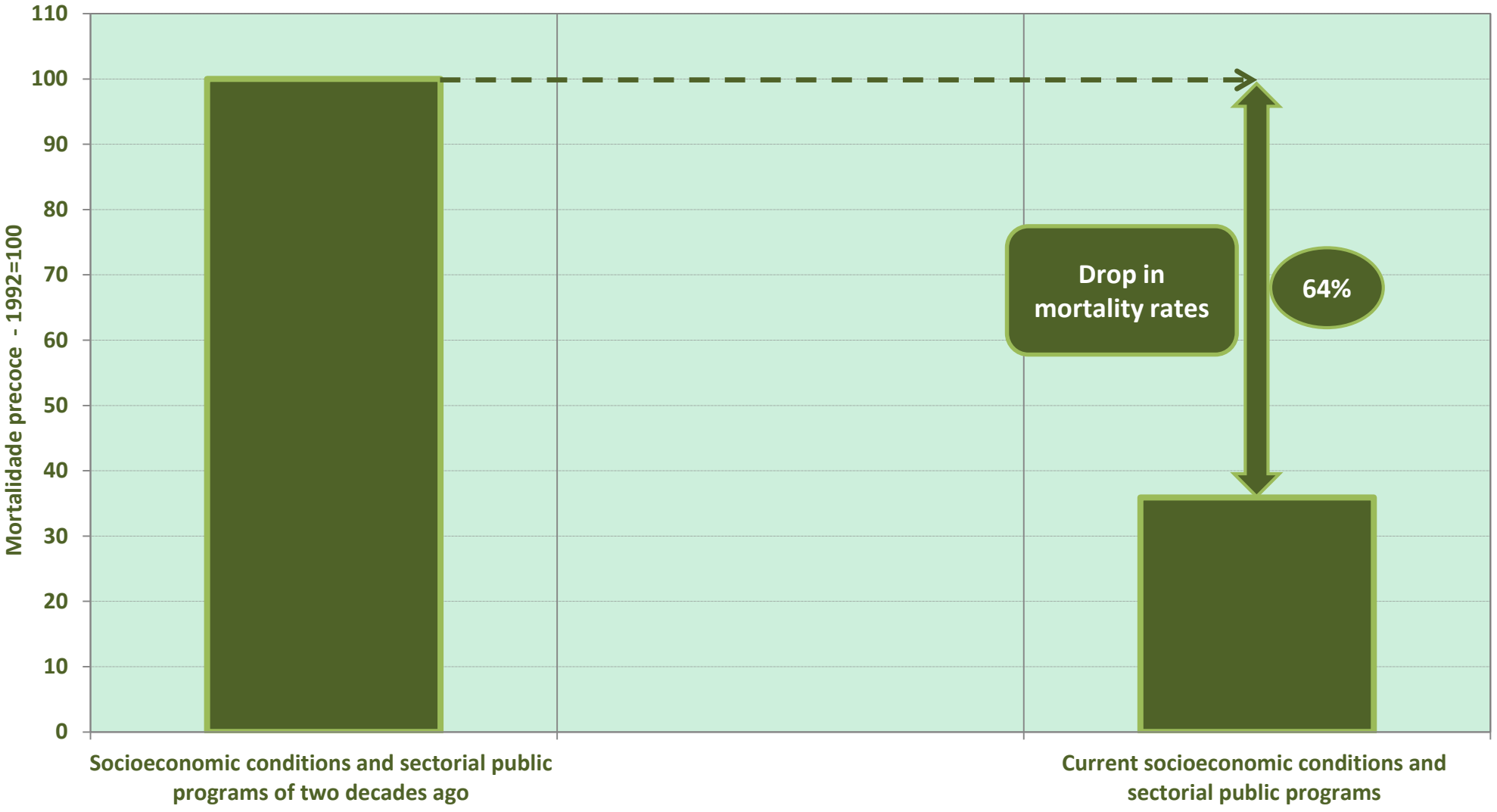
Source: HDI-M Atlas

Evolution of the Access to Daycare Centers: 1990-2011

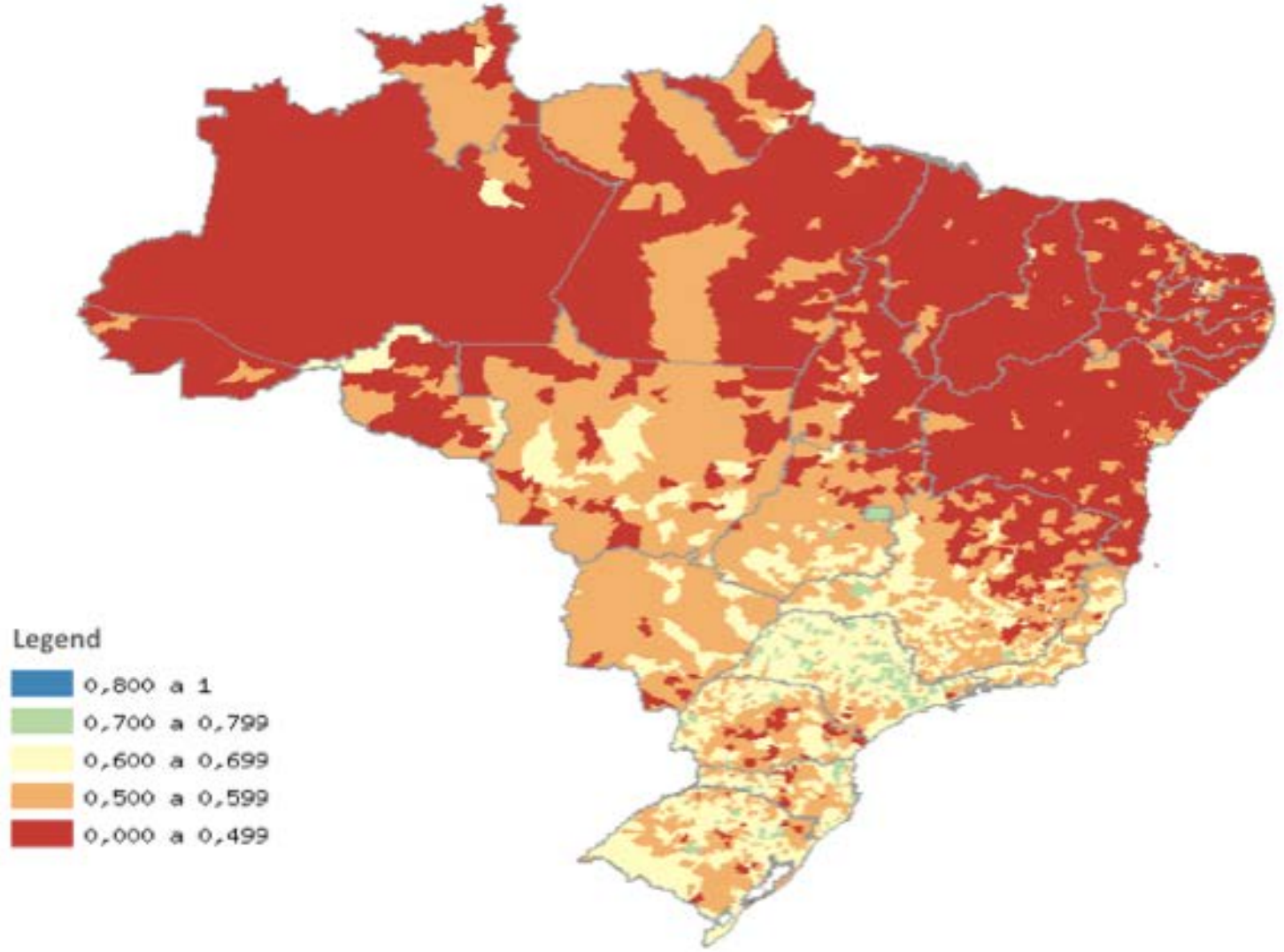


Evaluating the contribution of improvements is socioeconomic status of families

Decomposition of the drop in child mortality between sectoral social programs and socio-economic status

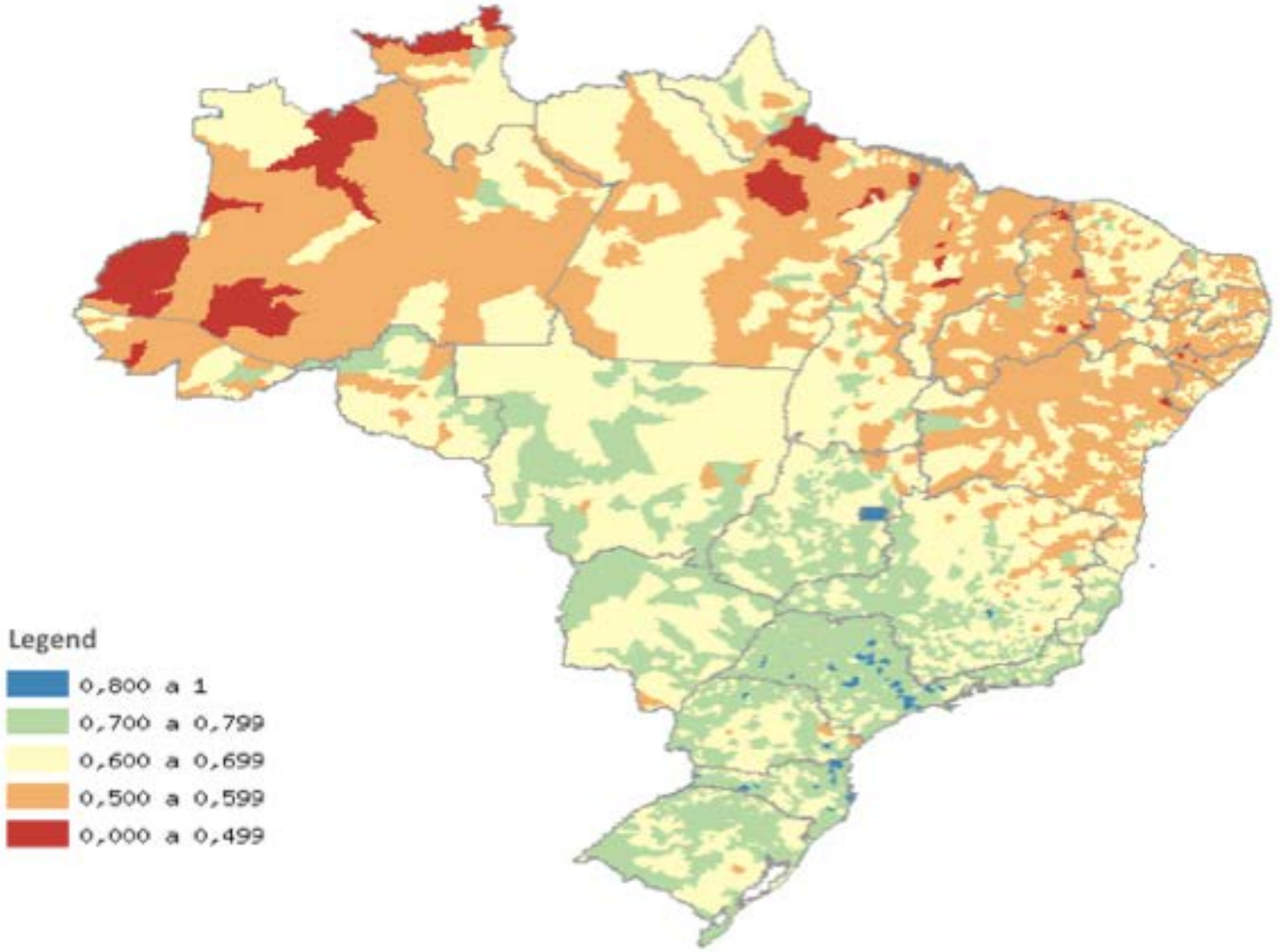


Brazilian progress: HDI by municipality
Brazil: 2000



Source: SAE/PR, based on Demographic Census of 2000 and 2010 and HDI as calculated by the UNDP, Human Development Report.

Brazilian progress: HDI by municipality
Brazil: 2010



Source: SAE/PR, based on Demographic Census of 2000 and 2010 and HDI as calculated by the UNDP, Human Development Report.

Although socioeconomic progress has been of great help, the vast majority of the improvement in child development was due to sectorial public programs

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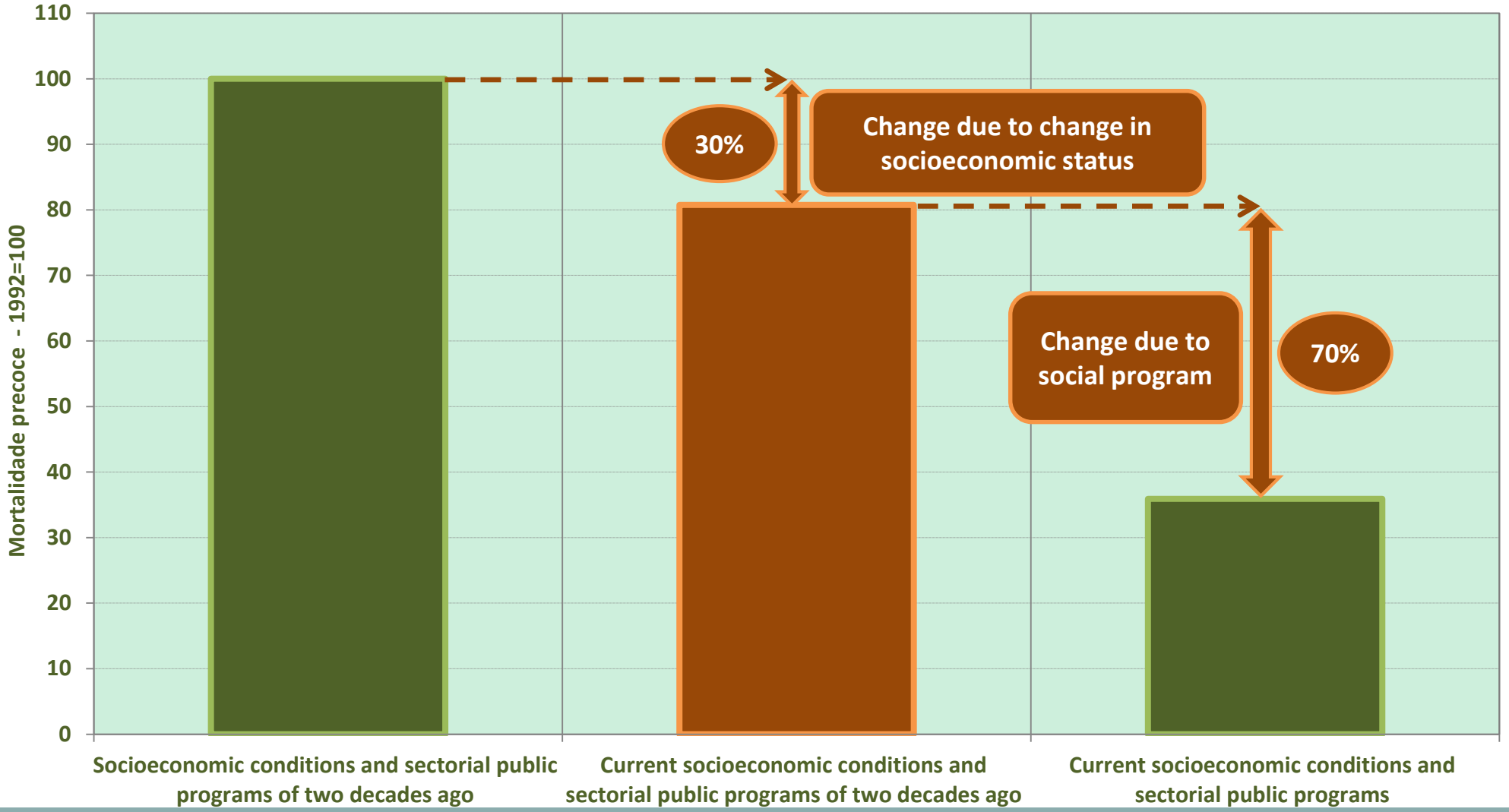


Supply of basic care services for early childhood

Health:

- ✓ 50 thousand family health care teams – ESF,
- ✓ 66% of population covered,
- ✓ 265 thousand community health agents – PACS and
- ✓ 24 thousand dental care teams - ESD.

Social Assistance:

- ✓ 8 thousand one-stop-shops for social protection –CRAS,
- ✓ 91% with Program of integrated family care – PAIF,
- ✓ 98% of the brazilian municipalities with at least one one-stop-shop for social protection.

Education:

- ✓ 2,5 million children attending 50 thousand childcare centers.
- ✓ More of 25% of the 0-3 population covered.

Innovative Local Early Childhood Programs

Primeira Infância Melhor

Nova Semente
AS CRIANÇAS EM PRIMEIRO LUGAR.

Naves-Mãe

mãe paulistana

Cegonha carioca

Programa Mãe Curitibana

Projeto Trevo de Quatro Folhas
APOIANDO A MÃE E INCENTIVANDO A VIDA

PIC
Primeira Infância Completa

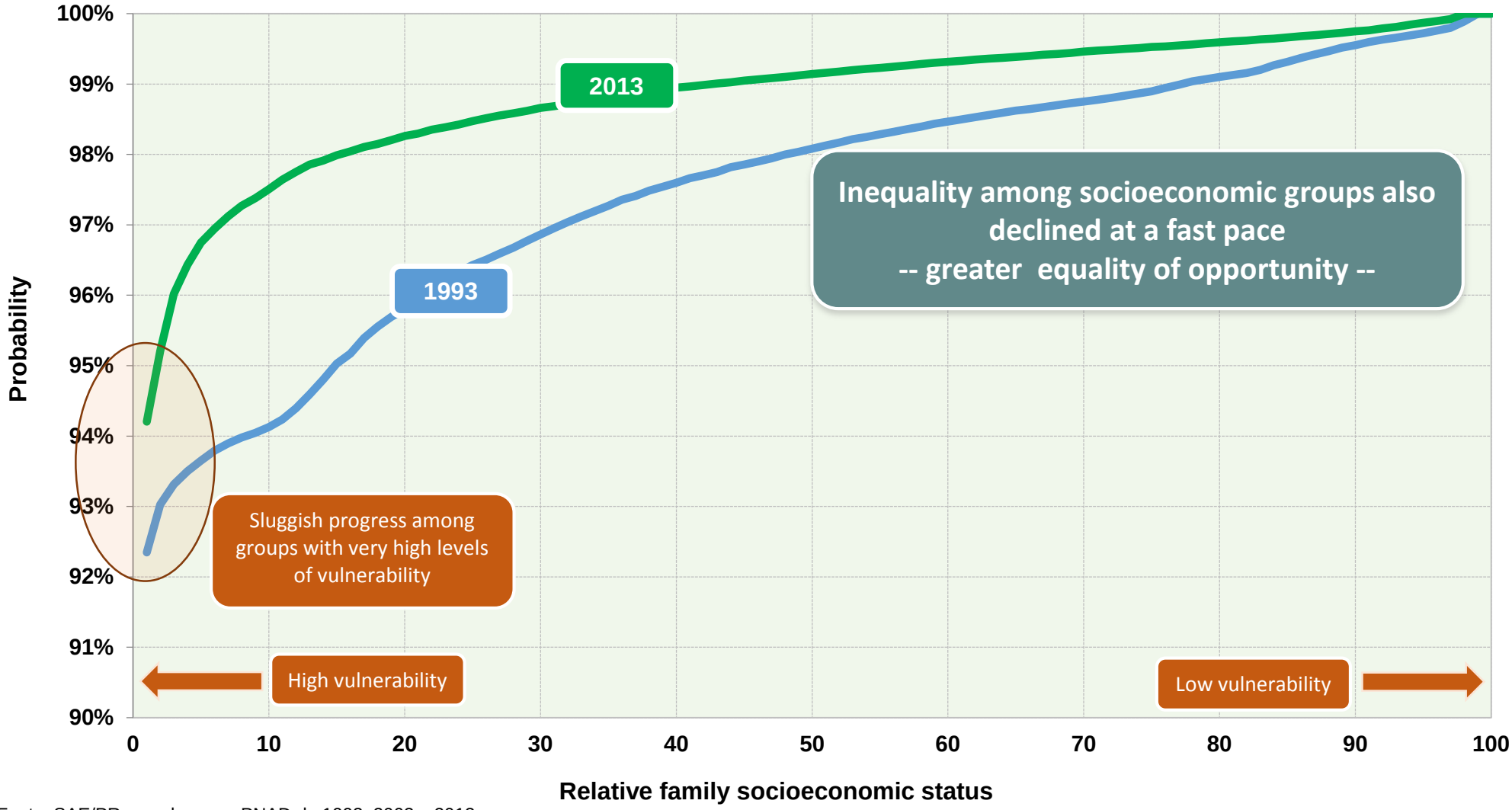
Brasileirinh@s de Floripa

Asas da Florestania Infantil

Legislation and Institutional Advances

- ✓ Child and Adolescent Rights Statute – ECA
- ✓ "Marco Legal" (Legal References) for Early Childhood Development
- ✓ Subscribing the UN document "A World Fit for Children"
- ✓ Strenghtening and expansion of the number of Child Guardianship Councils (Conselhos Tutelares) – present in 98% of municipalities
- ✓ Strenghtening of the State and Municipal Councils for the Protection of the Rights of Children – present in 92% of municipalities.
- ✓ Strenghtening of Childhood and Adolescense Development Funds (FIA).

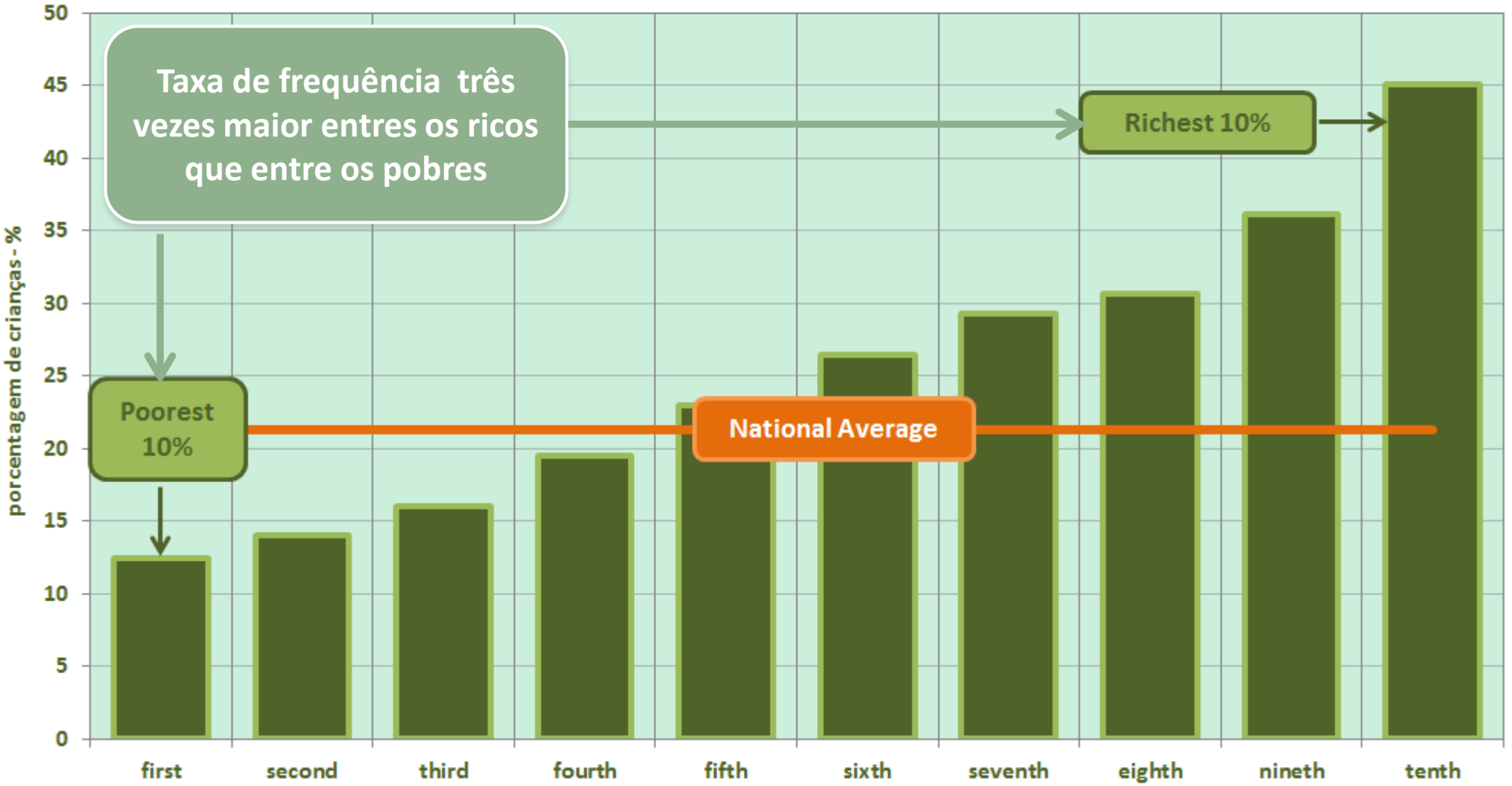
Probability of survival, children born last year: Brazil, 1993 e 2013



Fonte: SAE/PR, com base na PNAD de 1993, 2003 e 2013.

Challenges for Brasil Carinhoso Program

Daycare enrollment rates for children 3 and younger by decile of the income distribution, Brasil 2011



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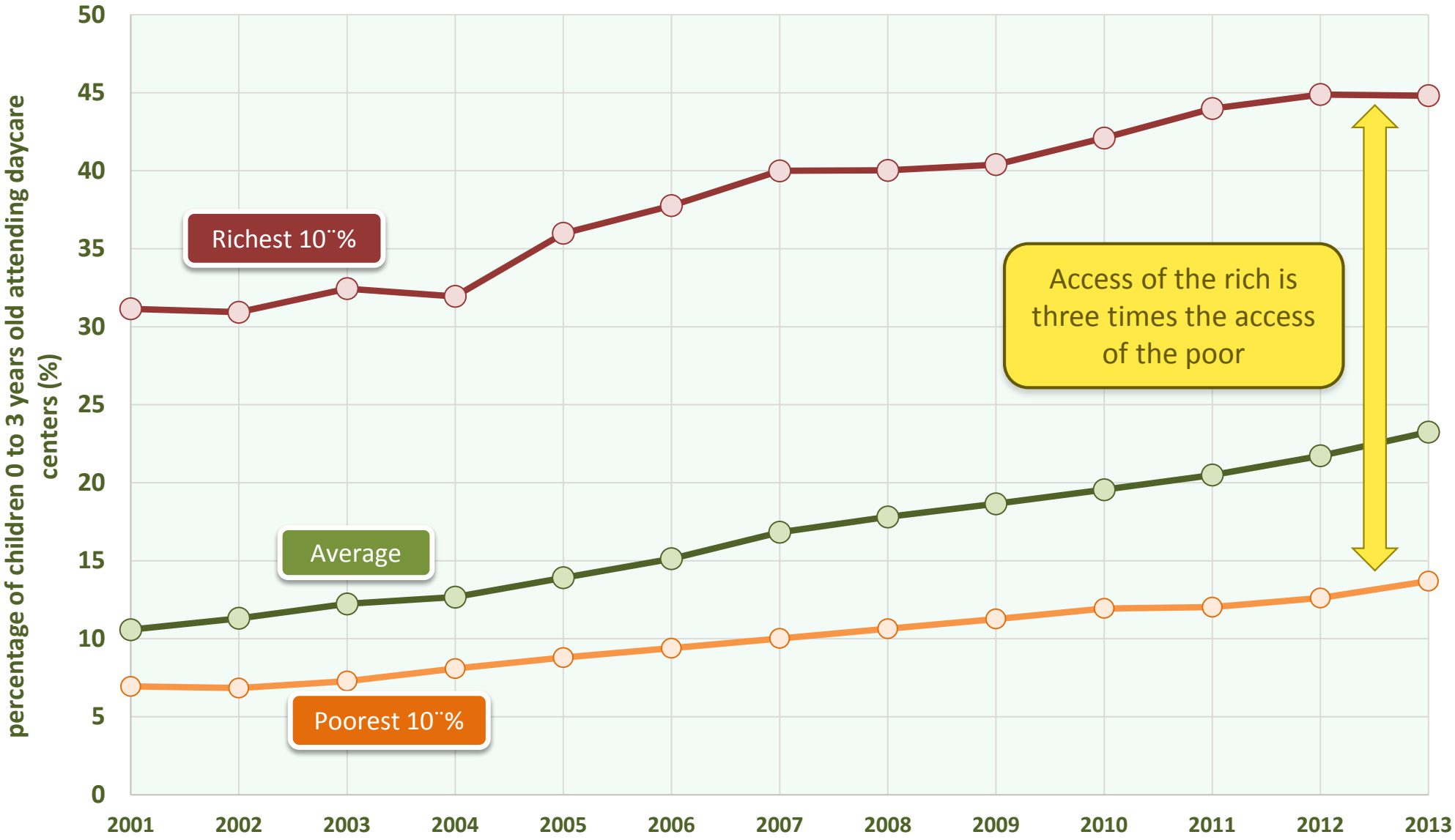

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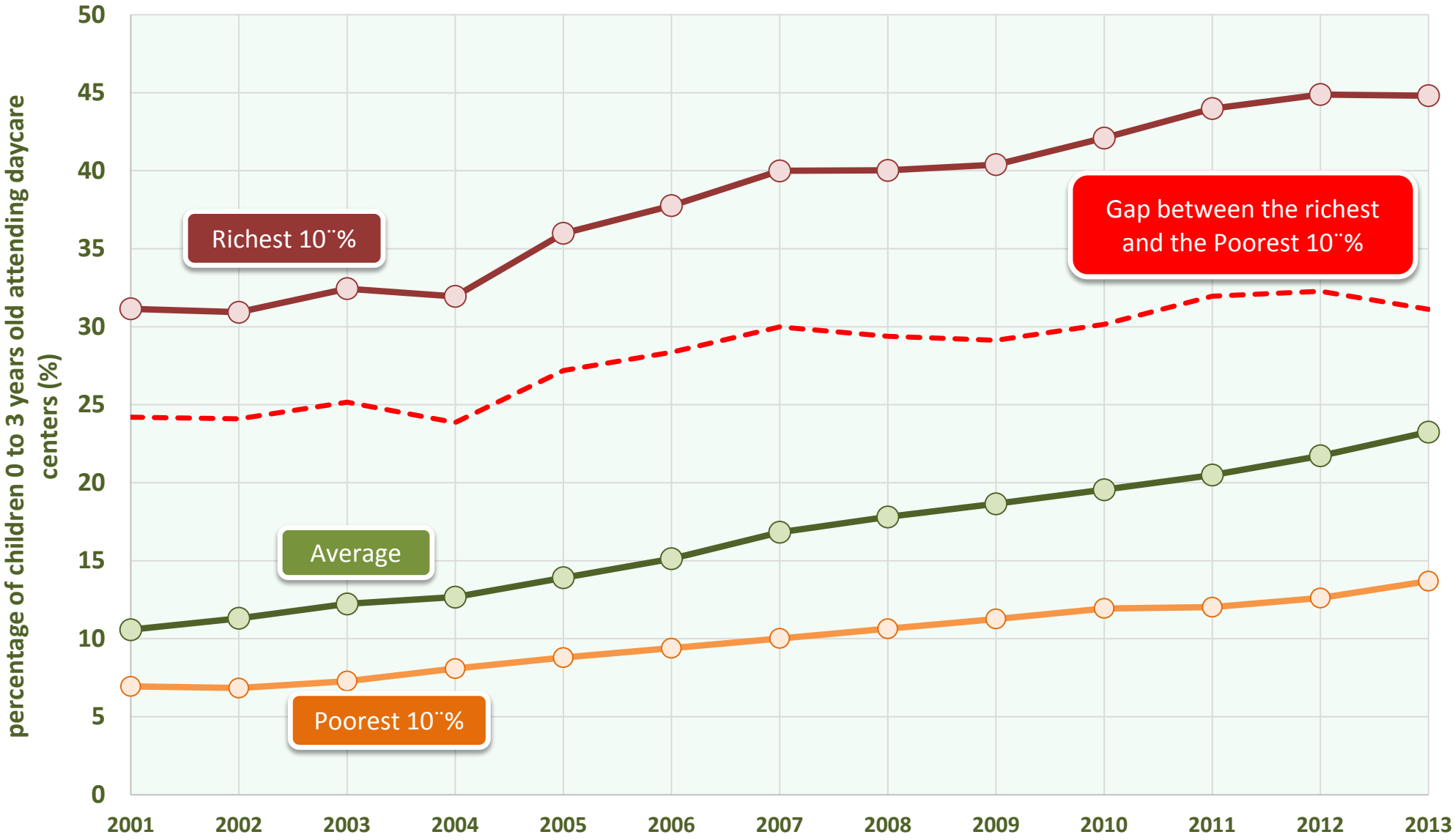
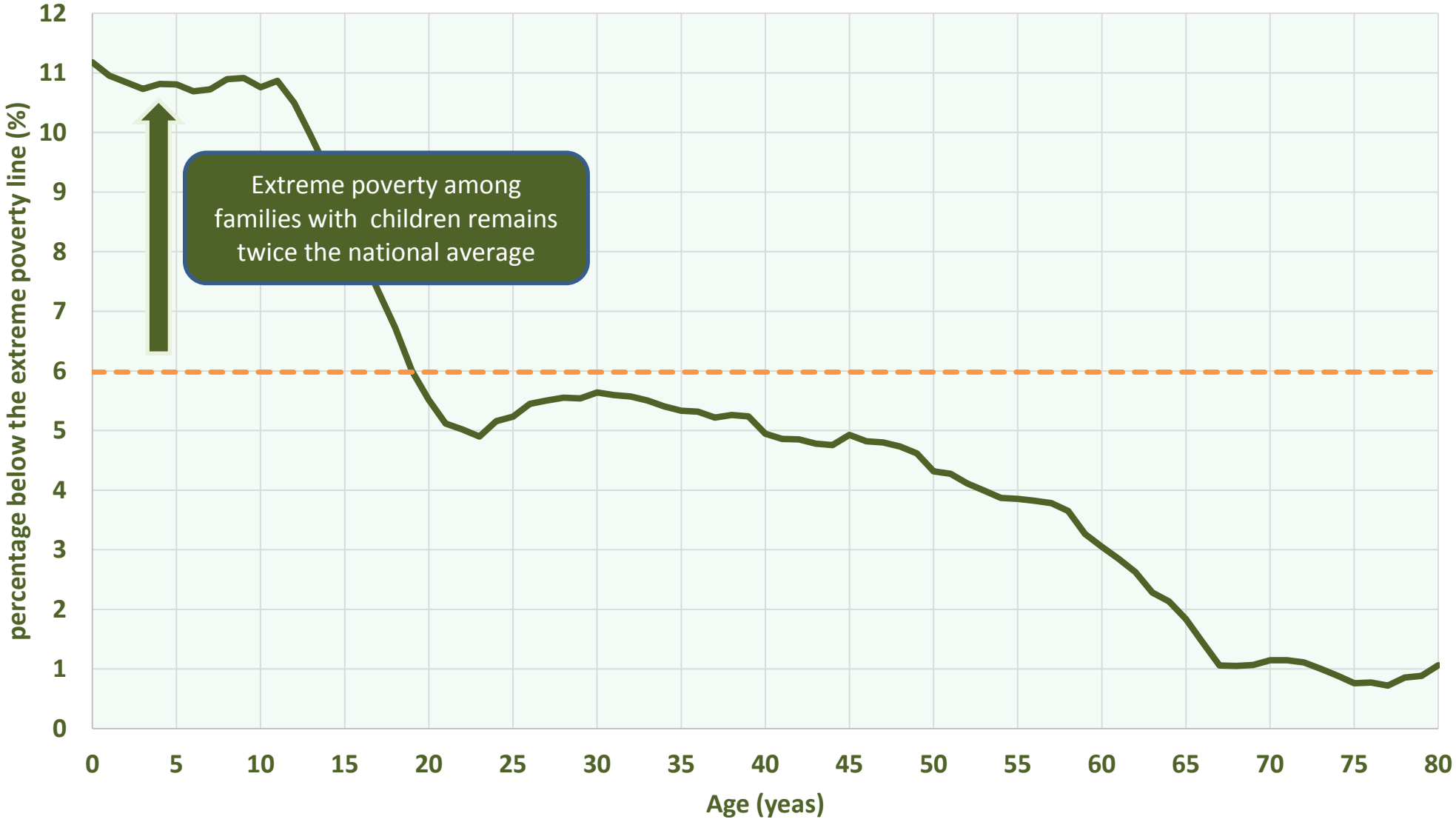
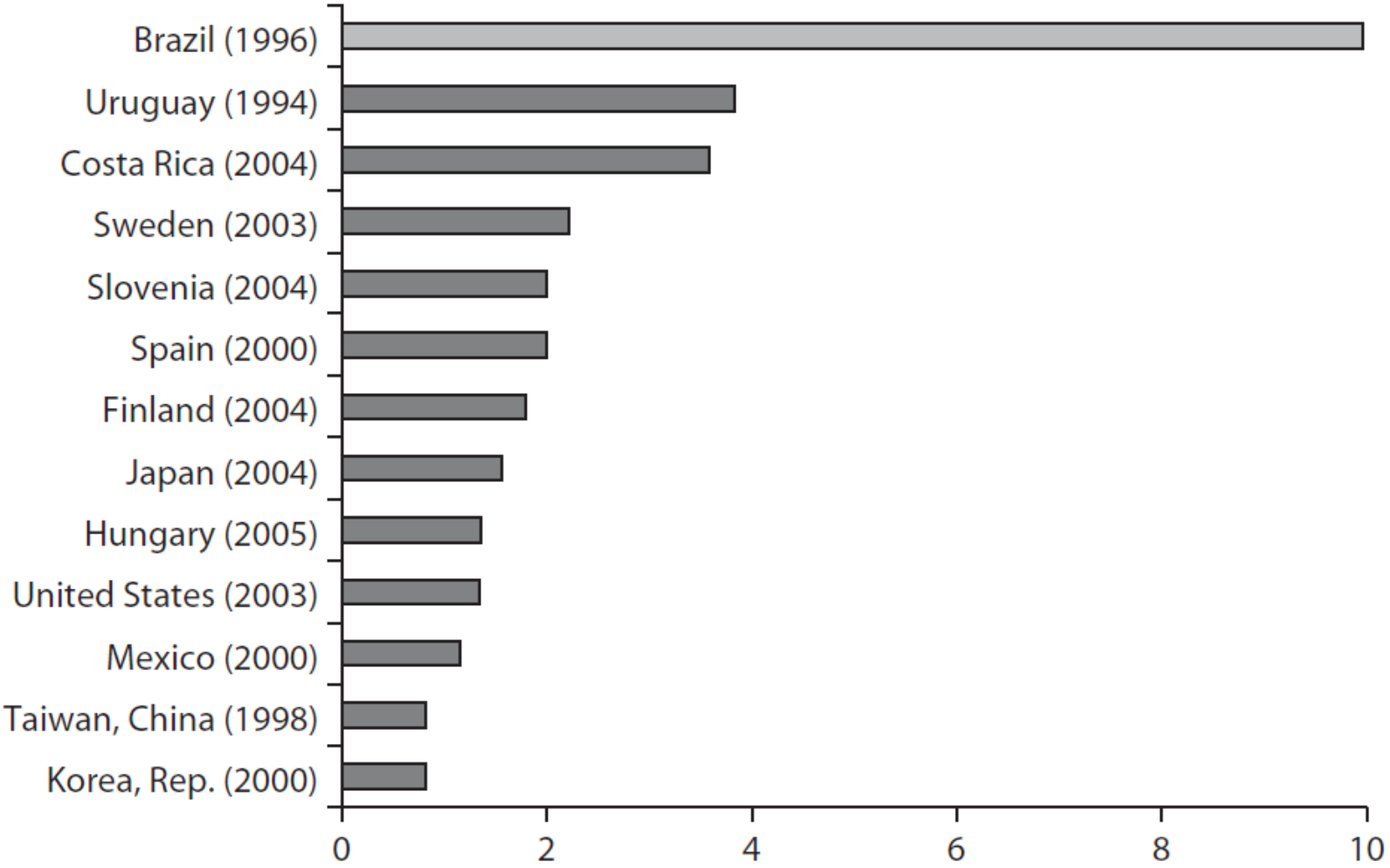


Age profile of extreme poverty in Brazil: 2013



Ratio of net per capita public transfers (elderly to children)



Source: Growing old in an older Brazil : implications of population aging on growth, poverty, public finance and service delivery / Michele Gragnolati, et al. Washington D.C.: The World Bank, 2011. p. 12.

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A Guide to General Comment 7:

'Implementing Child Rights in Early Childhood'

United Nations Committee on the Rights of the Child
United Nations Children's Fund
and Bernard van Leer Foundation

Data collection

6. The Committee reiterates the importance of comprehensive and up-to-date quantitative and qualitative data on all aspects of early childhood for the formulation, monitoring and evaluation of progress achieved and impact assessment of policies. In view of the lack, in many States parties, of adequate national data collection systems on early childhood for all areas covered by the Convention and that specific and disaggregated information on children in early years are not readily available, the Committee urges all States parties to develop a system of data collection and indicators consistent with the Convention and disaggregated by gender, age, family structure, and urban and rural residence, and other relevant categories. This system should cover all children up to the age of 18 years, with specific emphasis on early childhood, particularly children belonging to vulnerable groups.

Monitoring is Necessary

Canada is a signatory to the United Nations Convention on the Rights of the Child, which commits us to ensuring that all children are provided with the opportunities they need to develop cognitively, physically, socio-emotionally and spiritually.

The ability to comply with this commitment requires a system that monitors early childhood outcomes.

How else can we guarantee that all children and their families have the support and resources they need to thrive?

Canadian Early Years TaskForce

Members: *Robin Williams MD (Chair until June 30, 2011); Sue Bennett MD; Jean Clinton MD; Clyde Hertzman MD; Denis Leduc MD; Andrew Lynk MD*

Principal authors: *Clyde Hertzman MD; Jean Clinton MD; Andrew Lynk MD*

“In this statement, the Canadian Pediatric Society calls on federal and provincial/territorial governments to measure and monitor the developmental progress of children in Canada”

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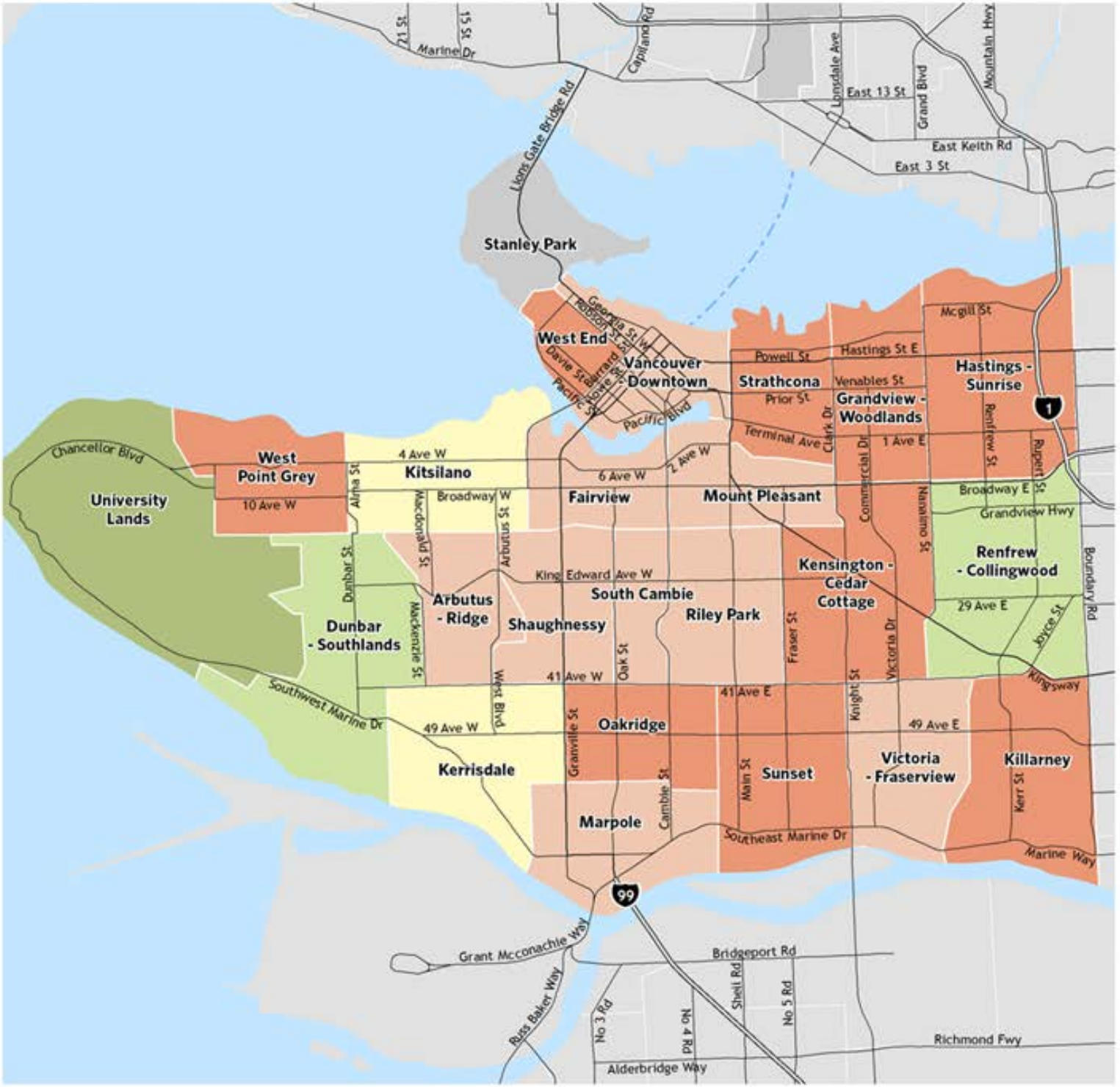


Vancouver

School District 39

Wave 4 EDI

Emotional Maturity

Measures things such as behaviour in less formal environments, focusing on helping, tolerance and ability to demonstrate empathy for others

% VULNERABLE

- 0 - 5%
- 6 - 8%
- 9 - 10%
- 11 - 15%
- 16% and above
- Suppressed (<35 EDI children)

SCHOOL DISTRICT SUMMARY

SD #	SD Count	Percent Vulnerable SD Avg.	NH Min.	NH Max.
SD 39	3253	15	4	25

Notes: Colour classification is based on quintiles of the provincial data for Wave 1.

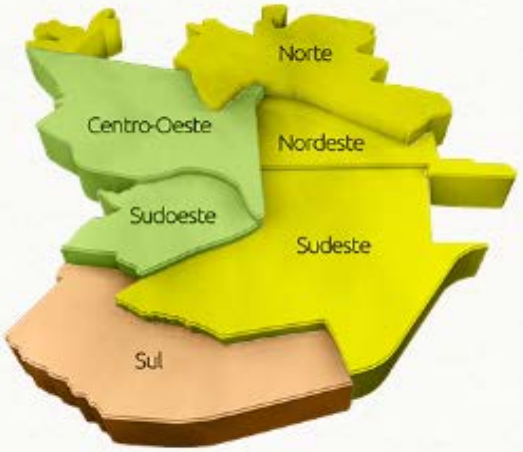
Wave 4 data includes 2009/10 & 2010/11. Produced by the Human Early Learning Partnership in August 2011.

FUNDAÇÃO MARIA CECILIA SOUTO VIDIGAL
PELA PRIMEIRA INFÂNCIA

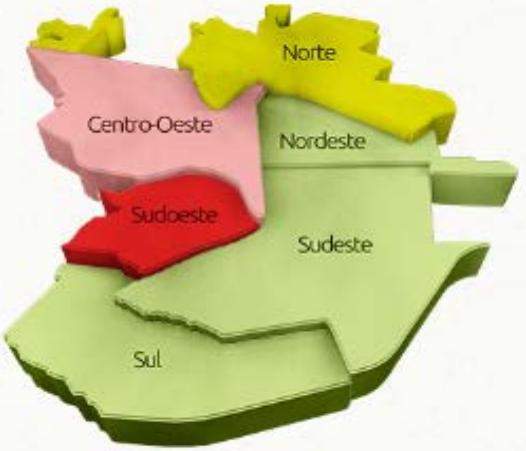
EDI
EARLY DEVELOPMENT INSTRUMENT
a population-based measure for communities

São Carlos | < Voltar

Vulnerability



Coverage of daycare and pre-school



Frequência Creche antes pré-Escola

3,00% - 15,00% | 15,01% - 20,00% | 20,01% - 25,00% | 25,01% - 30,00% | 30,01% - 35,00% | 35,01% - 60,00%

http://www.fmcsv.org.br

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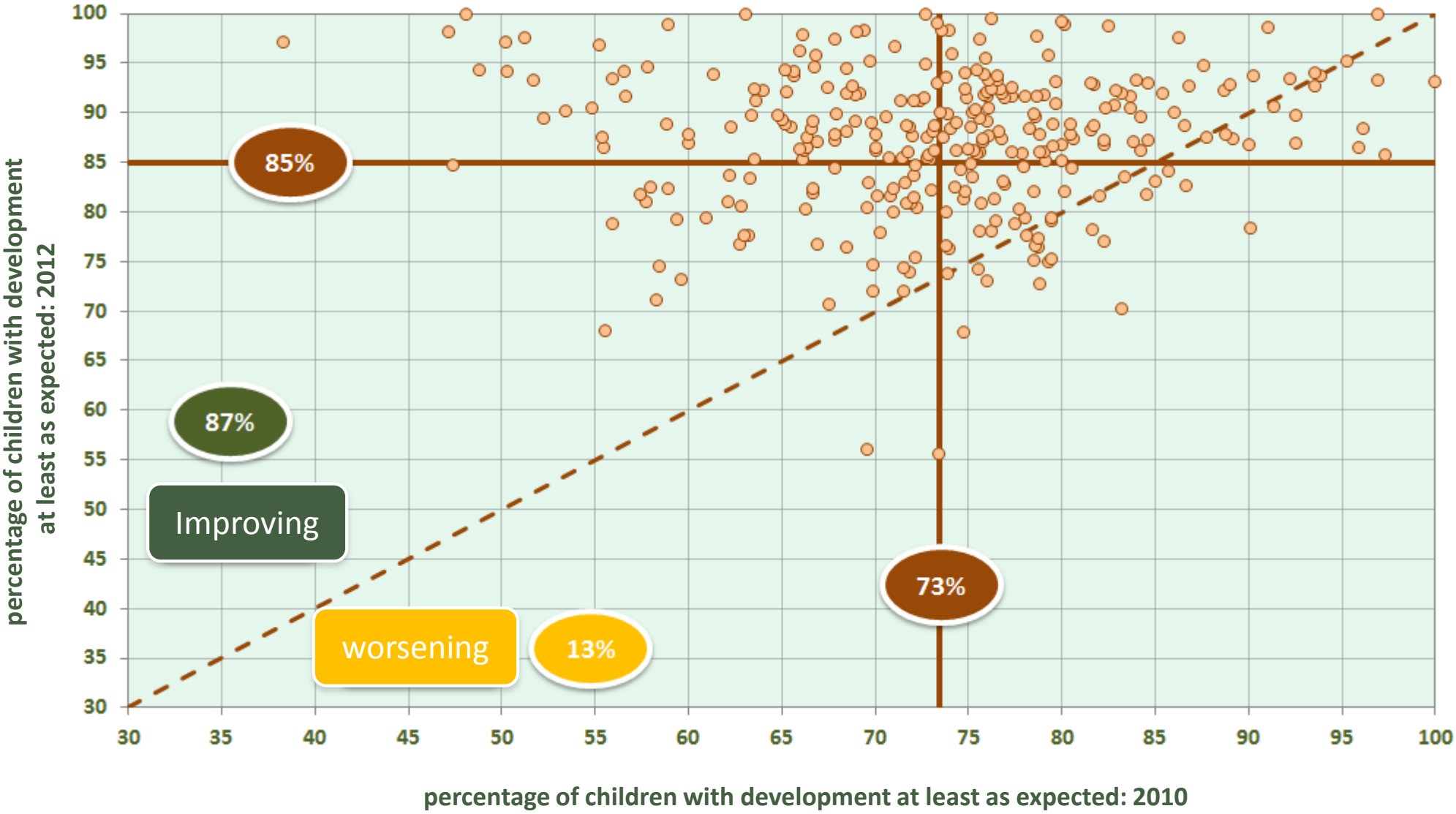
Evolution of the percentage of children with development at least as expected: 2010-2012



Scale	Communication						Gross Motor						Fine Motor						Problem Solving						Personal-Social					
	Q1	Q2	Q3	Q4	Q5	Q6	Q1	Q2	Q3	Q4	Q5	Q6	Q1	Q2	Q3	Q4	Q5	Q6	Q1	Q2	Q3	Q4	Q5	Q6	Q1	Q2	Q3	Q4	Q5	Q6
8 meses	→	→	→	↑	→	↑	↑	↑	↑	↑	↑	↑	↑	→	↑	→	→	↑	→	↑	↑	↑	↑	↑	→	↑	→	→	→	↓
9 meses	→	↑	→	→	↑	→	↑	→	↑	↑	→	→	→	↑	↓	↑	→	↑	→	→	↑	↑	↑	→	→	→	→	↓	→	↑	→
10 meses	→	↑	↑	↑	↑	↑	↑	→	↑	↑	↑	↑	→	→	↑	↑	↑	↑	→	→	↑	↑	↑	↑	→	↑	→	↑	↑	↑
12 meses	→	→	→	↑	→	→	→	→	→	→	→	→	→	→	→	→	→	→	↓	↑	→	→	→	→	→	→	→	→	→	↑
14 meses	↑	↑	→	→	→	→	→	→	→	↑	→	→	↑	→	→	↑	↑	→	↑	→	↑	↑	→	↑	→	→	→	↑	↑	↑
16 meses	→	↑	→	↑	↑	→	→	→	→	→	→	→	→	→	→	→	↑	↑	↑	↑	→	↑	↑	↑	↑	↑	→	↑	↑	↑
18 meses	→	→	→	→	→	→	→	→	→	→	→	→	→	→	↑	→	→	↑	→	↑	↑	↑	→	→	→	↓	→	↑	↑	→
20 meses	↑	→	↑	↑	→	↑	→	→	→	→	→	→	→	↑	→	↑	↑	↑	→	↑	→	↑	↑	↑	→	→	↑	↑	↑	↑
22 meses	↑	→	↑	↑	↑	↑	→	↑	→	→	↑	↑	→	↑	↑	→	↑	↑	→	↑	→	↑	↑	→	↑	→	↑	↑	↑	↑
24 meses	→	→	→	↑	↑	→	→	→	→	→	↑	→	→	→	↑	↑	↑	↑	↑	↑	→	→	→	↑	↑	↑	↑	↑	→	↑	↑
27 meses	→	→	→	→	↑	→	→	→	↑	→	↑	→	↑	→	↑	↑	↑	↑	→	→	→	→	↑	↑	→	↑	→	↑	↑	↑
30 meses	→	→	→	→	→	→	→	→	→	→	→	→	→	↑	↑	↑	↑	→	→	→	→	→	→	↑	→	→	→	↑	→	→
33 meses	→	→	→	↑	↑	→	→	→	→	→	↑	→	↑	↑	↑	↑	↑	↑	→	→	↑	→	→	→	→	→	→	↑	→	→	→
36 meses	→	→	→	→	↑	→	→	→	→	→	→	→	↑	↑	↑	↑	↑	↑	→	→	→	→	→	→	→	→	→	↑	→	↑
42 meses	→	→	→	↑	→	→	→	→	→	→	→	→	→	↑	↑	→	↑	↑	→	→	→	→	→	→	→	↑	→	→	↑	→
48 meses	→	→	→	↑	→	→	→	→	→	→	→	→	↑	↑	↑	→	↑	↑	→	→	↑	↑	→	↑	↑	↑	→	→	→	→
54 meses	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	↑	→	→	→	→	→	→	→	→	→	↑	↑	→

510 milestones

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From an approach based on negative rights to an approach based on positive rights

Traditional approach:

- ✓ ***Based on guaranteeing basic negative rights.***
- ✓ ***For instance, guaranteeing the child will <u>not</u>: (i) die, (ii) get sick or (iii) be hungry***
- ✓ ***Hence, the focus of reducing (i) mortality rates, (ii) morbidity rates and (iii) malnutrition rates***
- ✓ ***Emphasis on actions aimed at (i) defense of rights, (ii) protection, (iii) prevention of violation of rights***
- ✓ ***Hence the concentration on avoiding (i) negligence and disregard, (ii) violence, e (iii) abuse e cruelty***

From an approach based on negative rights to an approach based on positive rights

Focus on positive rights:

Directed to

(i) Complete development of the potential of every child and for

(ii) The promotion of his well-being during childhood.

Focus on:

(i) Opportunities to play,

(ii) Development of motor skills,

(iii) Capacity to communicate,

(iv) Cognitive potential ,

(v) Opportunities to develop progressive autonomy,

(vi) Development of social and emotional skills

From an approach based on negative rights to an approach based on positive rights

Focus on positive rights:

Emphasis on child development

Require actions of four types:

(i) Opportunities necessary for each child to develop his full potential;
(ii) Condition for each child be able to fully benefit from the available opportunities;
(iii) Information and advise for parents to ensure their children have and effective access to the available opportunities;
(iv) Stimulation, interaction and incentives to ensure children fully benefit from the available opportunities

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Components of an Integrated Program Offering Comprehensive Care for Early Childhood Development

- ***Unification or consolidation of:***
  - ✓ ***Program's name***
  - ✓ ***Local governance***
  - ✓ ***Calendar of activities***
  - ✓ ***Center for accessing all benefits and services***
  - ✓ ***Personal records***
  - ✓ ***Offer of services***
  - ✓ ***System to evaluate children's development***
- ✓ ***Customization***
  - ✓ ***Individual development plan***
  - ✓ ***Individual servicing plan (at home and at local center)***

Objectives of an Integrated Program Offering Comprehensive Care for Early Childhood Development

- ***To promote the complete development of the potential of each child;***
- ***To ensure all parents can give to their children the best available attention, care and opportunities;***
- ***To take advantage of all synergies among all sectorial actions and services available in the community;***
- ***To promote intense community participation in providing comprehensive care for early childhood development.***

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Phases in the Construction of a System to Provide Comprehensive Care to Early Childhood Development

1. Expansion of coverage of programs devoted to early childhood development
2. Improvements on the quality of public and private services
3. Integration of available supply of services and programs aimed at early childhood development

The Impact of the Availability and Quality of Daycare Centers on Child Development

Ricardo Barros – Insper-IAS
Mirela de Carvalho – Instituto Unibanco
Samuel Franco – Instituto Unibanco
Rosane Mendonça – UFF
Pedro Olinto – World Bank
Andrezza Rosalém – IJSN

University of Nebraska - Lincoln, August 2015

A. On the Impact of the Quality of Services

Impact of an extra year of daycare and pre-school on educational performance, labor force participation and income

Outcome	Daycare		Pre-school	
	Coefficient	P-value(%)	Coefficient	P-value(%)
The impact on educational performance				
Finally achieved educational level	**-0.07**	**33**	**0.63**	**8**
Probability of completing 8th grade	**-0.14**	**63**	**0.27**	**0**
Probability of completing secondary education	**-0.05**	**85**	**0.18**	**1**
Probability of going to college	**-0.06**	**91**	**0.35**	**0**
Probability of having completed 4th grade before age 14	**-9.47**	**34**	**0.65**	**2**
Probability of having completed 8th grade before age 18	**7.65**	**97**	**0.41**	**23**
Probability of having completing secondary educational before age 25	**0.65**	**6**	**0.05**	**9**
Probability of entering college before age 25	**0.67**	**18**	**0.50**	**2**
Repetition rate (ratio between the number of years spent on school and the number of grades completed)	**-0.01**	**80**	**-0.05**	**0**
The impact on labor market outcomes				
Labor force participation rate (women 25 to 64 years old)	**0.67**	**54**	**-0.10**	**16**
Occupation rate (women 25 to 64 years old)	**0.78**	**53**	**-0.07**	**27**
Labor income (men 25 to 64 years old)	**-0.06**	**61**	**0.06**	**7**

Source: Barros, Ricardo and Mendonça, Rosane. Uma avaliação dos custos e benefícios da educação pré-escolar no Brasil, July, 1999, IPEA.

Note: This study was used as a background paper for: Young, Mary Eming. From Early Child Development to Human Development: Investing in Our Children's Future

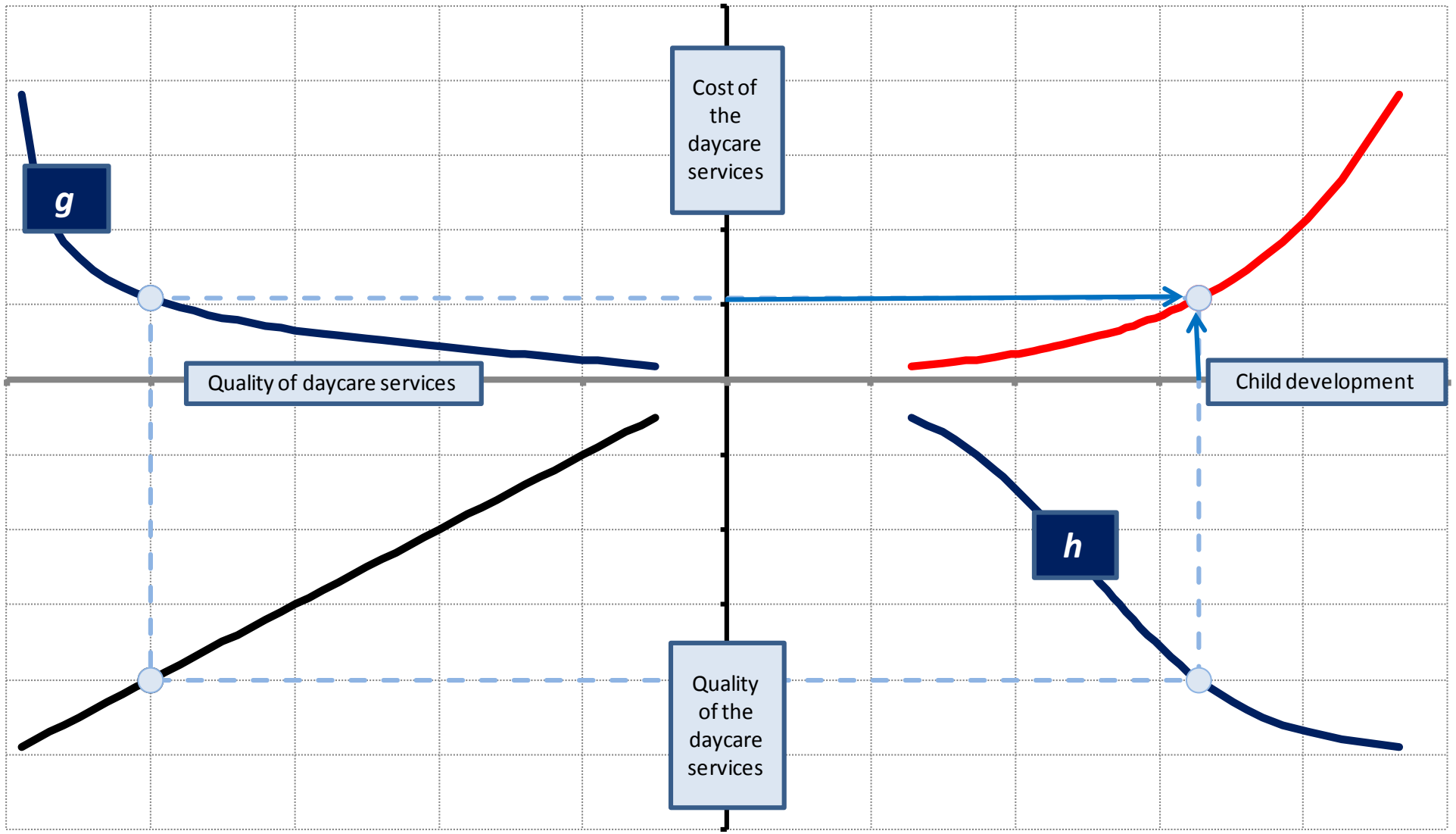
Four alternative interpretations

1. Statistically non significant estimates result from the poor quality of the data
2. Weak statistical results are caused by fragile identification strategy (problems with internal validity)
3. *Small impact results from the low quality of daycare services in the past (problems with external validity)*
4. Daycare really do not have important impacts on child development

Main issues

- How important is the quality of daycare services for child development?
- To which extent does the extra cost of quality compensate for its additional impact?

Diagram 1: Relationship between quality and cost of daycare services and child development



Nature of Data Collection

- Evaluation of the economic cost of 100 daycare centers in Rio de Janeiro Municipality.
- Objective evaluation of the quality of these 100 daycare centers (469 items, 15 dimensions).
- Evaluation of the development age of a sample of 10 children per daycare center (total of 1000 children evaluated).
- Collection of information on family socioeconomic conditions for each child in the study (household survey).

Composition of the Day Care Quality Indicator
Municipality of Rio de Janeiro

Macro-dimensions	Dimensions	Sub-dimensions	Indicators
1. Infrastructure	*1.1. Physical Space*	5	5
	1.2. Building and Land Structures	9	58
	1.3. Safety and Environmental Health Material Conditions	2	42
	1.4. Material and Furniture for Children's Use	4	39
2. Health and Sanitation	*2.1. Personal Hygiene*	7	55
	2.2. Personal Hygiene Routine	6	56
	2.3. Methods of Health and Safety Conditions	2	34
3. Activities and Program Structure	*3.1. Practices of Oral Language and Comprehension*	2	12
	3.2. Psicomotor Activities	2	18
	3.3. Crative Activities	6	35
	3.4. Social Development	3	30
	3.5. Curricular Structure	4	46
4. Human Resources	*4.1. Human Resources*	7	7
	4.2. Educator's Necessity	2	17
5. Parents and Community Relations	*5.1. Day care's relationship with Family and Community*	2	15
Total	***15***	**63**	**469**

Source: Estimates based on the survey "Evaluation of Daycare Services in the Municipality of Rio de Janeiro", 2001 IPEA/UNESA.

Relationship between the logit of daycare center overall quality indicator, child characteristics and family background
- Rio de Janeiro municipality, 2001 -

Variable	Coefficient	P-value (%)
Intercept	-0,272	6
Child characteristics		
Gender (man)	-0,039	21
Race (white)	-0,018	59
Family background		
Presence of the mother	-0,109	15
Years of schooling of the person responsible for the child	0,002	68
Ln family per capita income (R$/month)	0,017	50
Number of observations	752	
R^2 - adjusted	0,00	

Source: Estimates produced based on the research "Evaluation of Daycare Services in the Municipality of Rio de Janeiro, 2001".

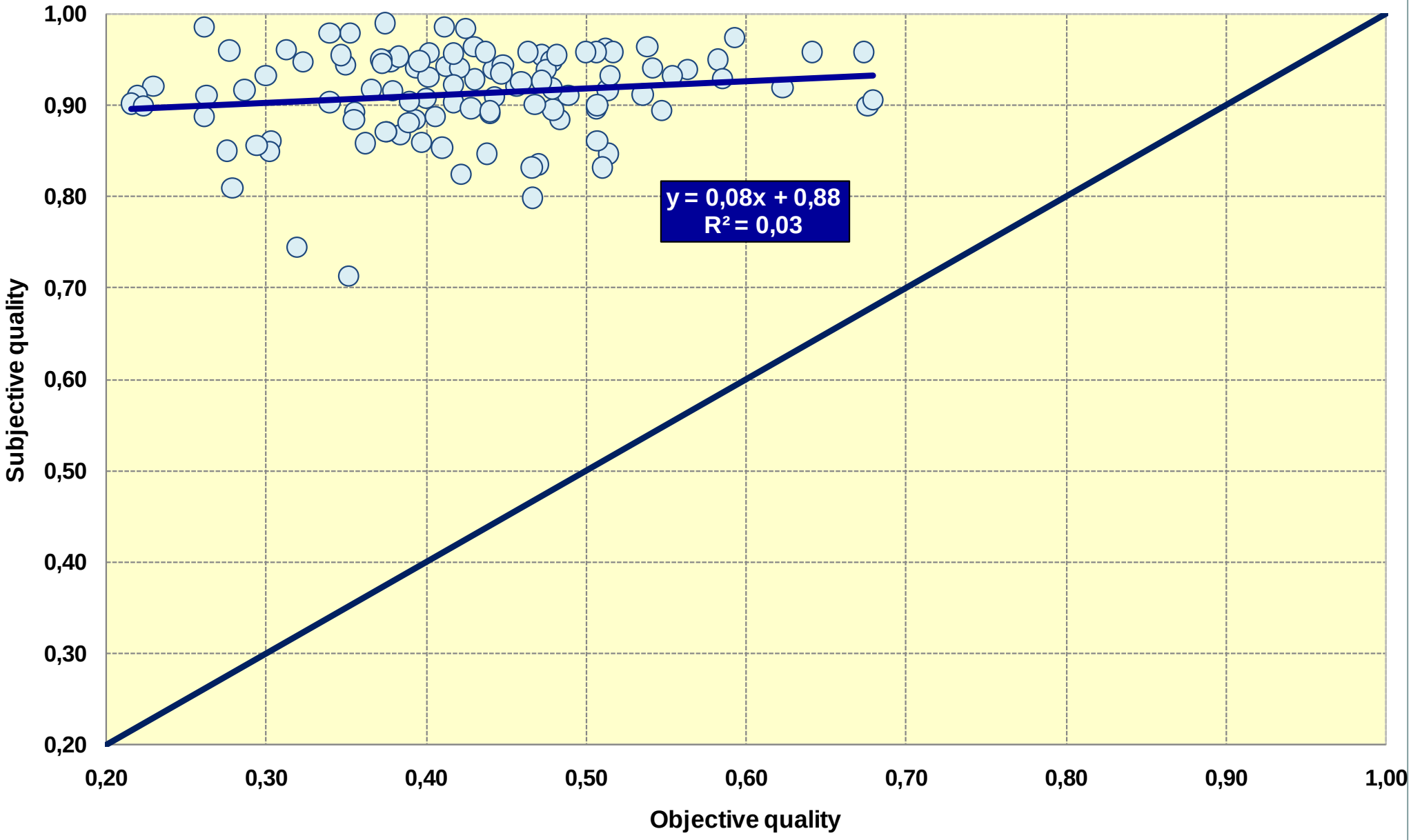
Distance from home to daycare centers: Rio de Janeiro municipality

Indicator	Value
Average time spent to daycare centers (minutes) [1]	14
Percentage of children taken from home to daycare center at most [1] ***(%):***	
15 minutes	73
30 minutes	96
Percentage of children applying to daycare centers who live in the same neighborhood the daycare center is located [2] ***(%):***	84

Source: Estimates produced based on the research “Evaluation of Daycare Services in the Municipality of Rio de Janeiro, 2001”.

Source 2: Estimate based on the "Cadastro da Pré-Matrícula das Creches Municipais da Secretaria Municipal de Educação da Cidade do Rio de Janeiro - 2009".

Relationship between objective and subjective measures of quality: Rio de Janeiro - 2001



Fonte: Estimativas produzidas com base na pesquisa Avaliação dos serviços das creches municipais do município do Rio de Janeiro, de 2001.

Impact of Daycare Quality Centers on Child Overall Development
Municipality of Rio de Janeiro, 2001

Specification	Regression Coefficient	Impact of Attending a High-Quality *versus* Low-Quality Day Care in terms of:		P-value (%)
		Months	Standard Deviation	
Age of Development				
Quality	4,13	1,2	17%	11
Logarithm of Quality	1,78	1,3	18%	9
Quality Logit	0,97	1,2	17%	11
Log Age of Development				
Quality	0,103	1,3	18%	17
Logarithm of Quality	0,043	1,3	18%	16
Quality Logit	0,024	1,2	18%	17

Source: Estimates based on the survey "Evaluation of Daycare Services in the Municipality of Rio de Janeiro", 2001 IPEA/UNESA.
Technical Notes: The model includes controls for child age, gender, race, presence of parents, household head years of schooling and per capita income. Sample Size: 752 children. R2 range from 0.64 and 0.66.

Relationship between Annual Unit Cost and Daycare Center's Quality
Municipality of Rio de Janeiro, 2001

Explanatory Variables	Quality of Day Care (specification)					
	Linear		Logarithmic		Logit	
	Coefficient	P-value (%)	Coefficient	P-value (%)	Coefficient	P-value (%)
Intercept	8,6	0	10,1	0	9,6	0
Daycare Center Scale						
Logarithm of day care size (number of full-time equivalent children)	-0,4	0	-0,37	0	-0,37	0
Daycare Center's Quality						
Function of the overall measure of quality	1,9	0	0,73	0	0,44	0
Impact on the costs of offering high-quality as opposed to low-quality services	72%		68%		72%	
Number of Observations	109		109		109	
Adjusted R^2	0,33		0,31		0,32	

Source: Estimates based on the survey "Evaluation of Daycare Services in the Municipality of Rio de Janeiro", 2001 IPEA/UNESA.

Technical Note: Dependent variable: Logarithm of unit cost.

Main Findings

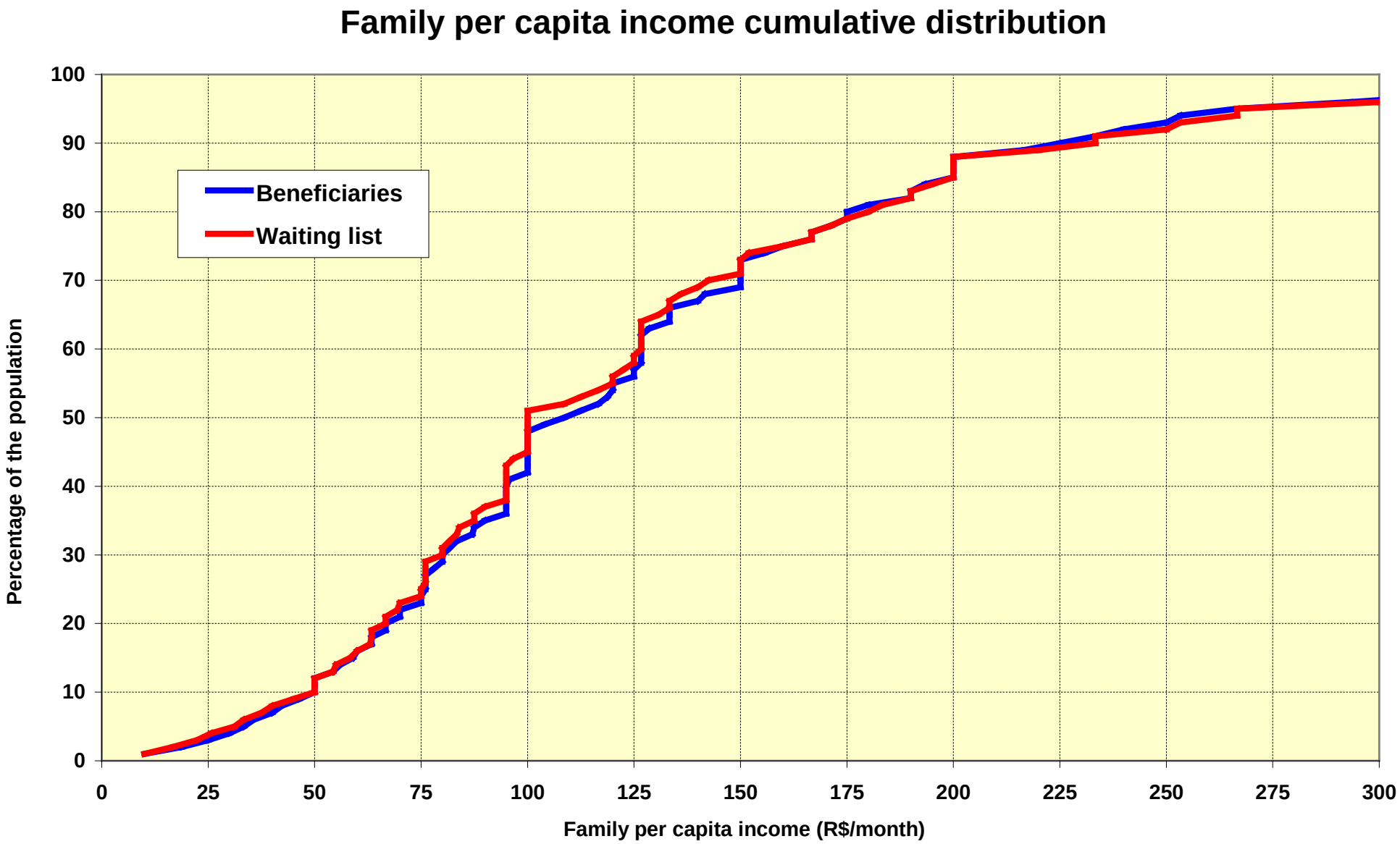
1. **The development age of children who attended high-quality day care centers is, on average, 1.3 months (18% of a standard deviation) higher than for those attending low-quality day cares.**
2. **The costs associated with providing high-quality services are 72% higher than low-quality ones.**
3. **In sum, if we wish to increase the age of development by 1 month (14% of a standard deviation) *via* an increase in service quality, we would need to increase service quality by 26 p.p., implying a 60% rise in costs.**
4. **Having assessed the impact of each one of the dimensions of day care quality on child development, we found that *activities* and *curricular structure* presents the highest impact.**

B. On the Impact of Fulltime Public Day Care on Child Development

The Lottery Design

- Approximately 25,000 children applied for the 12,000 open slots in the 243 daycare centers
- Of these, approximately 24,000 were eligible
- Randomization was done by grade and center (depending on the slots available in each grade of each center)
- Each child was given a “ranking”
- Control children were put in a waiting list

Evaluating the Success of The Randomization Process


Family per capita income cumulative distribution
Beneficiaries
Waiting list
Percentage of the population
Family per capita income (R$/month)
0
10
20
30
40
50
60
70
80
90
100
0
25
50
75
100
125
150
175
200
225
250
275
300

Sample Design and Attrition

- Sample of 4350 children from 209 lotteries (combinations of age group and daycare)
- Balanced sample 5 to 20 treatment and controls for each lottery
- Sample draw from top of list (treatment) and bottom of list (control)
- No significant attrition bias: 87% (3777) children found in the 2008 household survey
- Balanced attrition: 49.4% treatments, 50.6% controls
- Short questionnaire collected in mid-2008 covering contact information, maternal labor supply and depression and family income

Exposure, No Show and Contamination

Exposure	Treatment	Control
Attend daycare	93,9	55,0
Attend public daycare	93,9	46,5
Attend the daycare the child has applied	91,6	37,6
Attend other public daycare	2,2	8,8
Attend non public daycare	0,0	8,5
Attend non public non free daycare	0,0	4,3
Do not attend daycare	6,1	36,5
Stay home	0,0	35,0
"Mãe crecheira" or stay in community facilities	0,0	1,5
Others	6,1	8,6

2012 Follow-up

- Survey collected in second half of 2012,
- 4-5 years after initial enrolment
- Data collected just in six of the 10 regions of the city
- Each household visited by 2 enumerators
- One was a student of psychology, administering developmental assessments to children
- The other one would conduct a household survey with a single household respondent

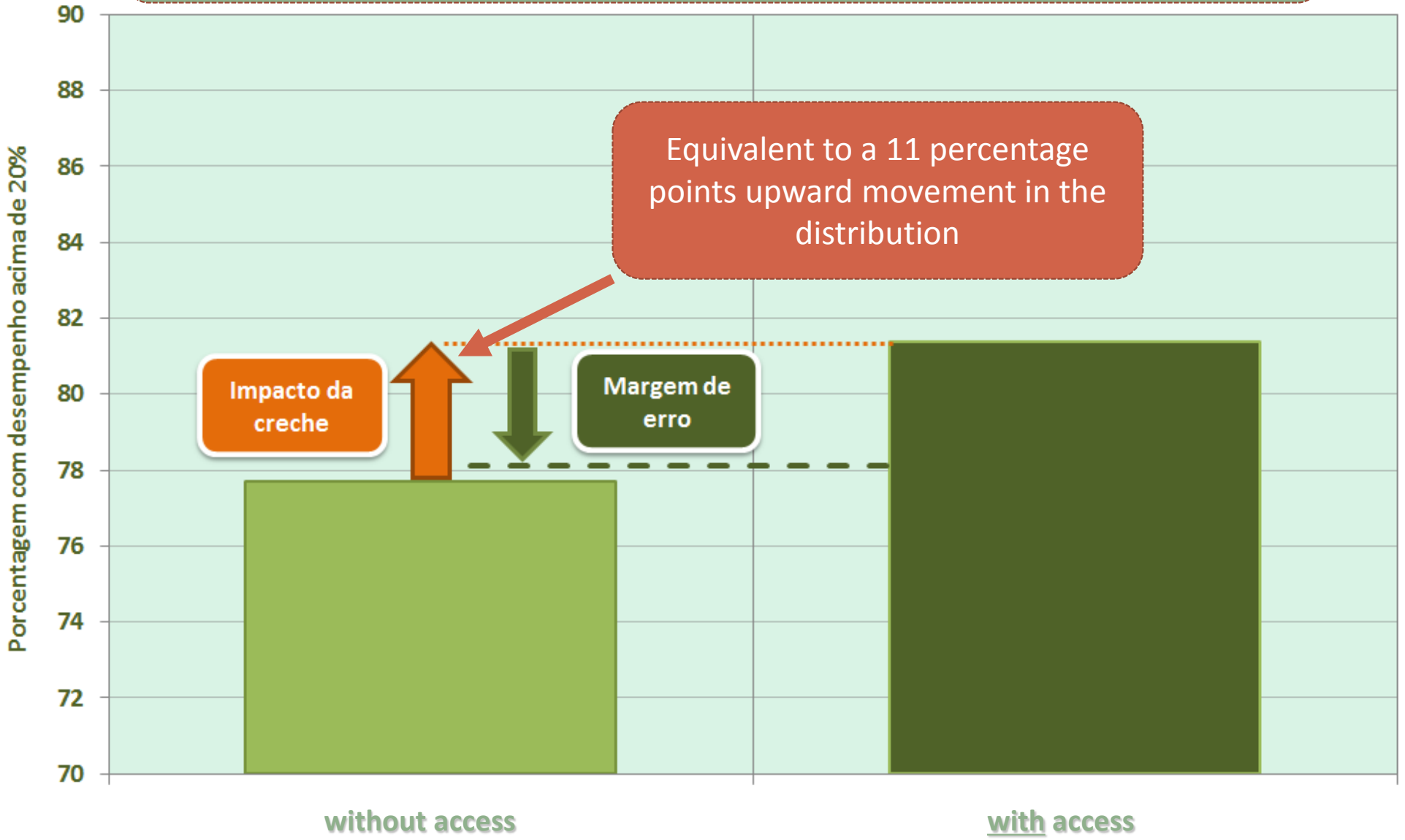
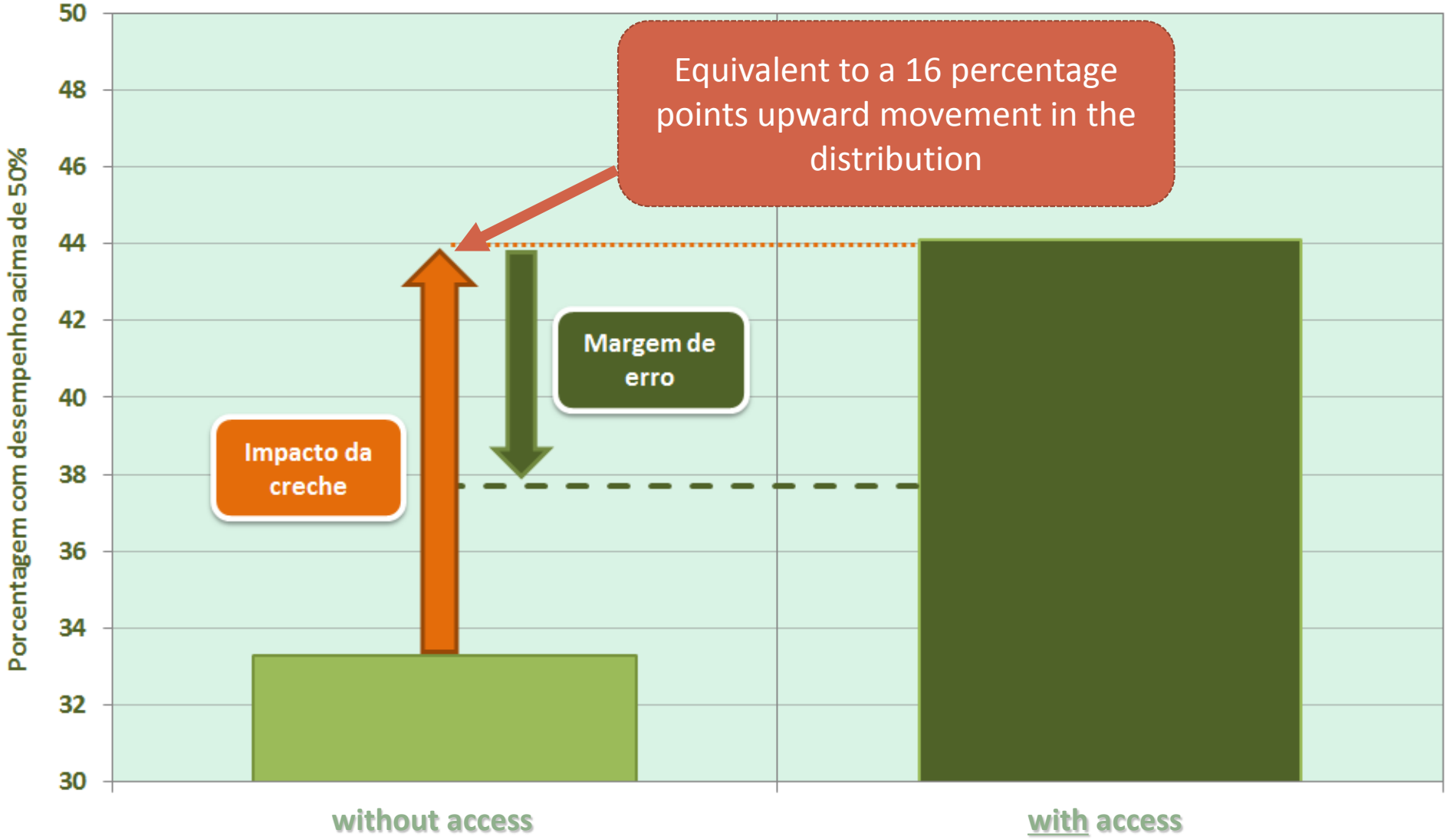
Developmental Assessments

- Directly administered to child
  - ✓ PPVT – Verbal Reasoning
  - ✓ Woodcock-Johnson Memory for Names and Visual Integration
  - ✓ Executive Function (Inhibitory Control) – Pencil Tapping, Stroop, HTKS
- Maternal report
  - ✓ CBQ (five dimensions of child behavior),
  - ✓ ASQ (five dimensions of development)
- Also administer PPVT to mothers

Household Survey

- Demographics
- Income and Labor Supply
- Time use (for child “guardian” figure)
- Basic expenditure (e.g., food)
- Basic assets and durables
- Child care history
- HOME environments
- Maternal depression

Impact of going to a fulltime public daycare center on working memory



Impact of going to a fulltime public daycare center on inhibitory control