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Is the Families First Home Visiting Program effective at reducing population level health and social disparities? A PATHS Equity for Children project

Research Team

*Mariette Chartier,
Marni Brownell,
Michael Isaac, Dan
Chateau, Nathan Nickel,
Pat Martens, Alan Katz,
Joykrishna Sarkar,
Elaine Burland, Chun
Yan Goh, Carole Taylor,
Milton Hu, Rob Santos,
and the PATHS Equity
Team*

Mariette Chartier, RN, PhD, May 27, 2015, Montréal

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5 year Programmatic Grant: Evaluates policy impact on health equity

Research Team

PI: Dr. Marni Brownell

Leadership Group:

Drs. Alan Katz, Dan Chateau,
Nathan Nickel, Elaine Burland

Plus 14 scientists from Manitoba,
Canada, USA.

Advisory Board

- 6 Government Department Deputy Ministers, plus Healthy Child Committee of Cabinet
- Healthy Child Manitoba Office
- CEO of the Winnipeg RHA
- Executive Director of Manitoba RHAs
- United Way

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Early Childhood Development: A Powerful Equalizer



“What children experience during the early years sets a critical foundation for their entire life course.

This is because ECD – including the physical, social/emotional and language/cognitive domains strongly influences basic learning, school success, economic participation, social citizenry, and health.”

Irwin, L.G., Siddiqi, A., & Hertzman, C. (2007) Early Childhood Development: A Powerful Equalizer. A Final Report for the World Health Organization’s Commission on Social Determinants of Health.

Retrieved November 22, 2008 at

http://www.earlylearning.ubc.ca/globalknowledgehub/documents/WHO_ECD_Final_Report.pdf

Families First Home Visiting

- Enhancing parents' capacity to provide a **nurturing and supportive environment** for their children
- Currently serving approx 1500 families
- Weekly home visits provided by **trained non-professional home visitors.**
- Home Visiting support is offered for **3 years** (although average time = 18 months)
- Home Visitors have limited caseloads
- Use skill building **curriculum focused on parenting, child development and family functioning**



Methods for Program Effectiveness

- Children with high risk scores born in years 2003-2009
 - In program = 4,575
 - Not in program = 5,186
- Imputed missing risk scores
- Propensity score calculated
 - Probability that in program based on FF Screening
- Inverse probability of treatment weights
 - Applied to balance program and comparison groups

Summary of Program Evaluation Results:

Families First home visiting associated with:

- **25%** and **21%** decreases in rates of being “in care” of Child and Family Services after 1 and 2 years
- 41% decrease in hospitalizations for injuries related to child maltreatment
- **6%** and **10%** increase in complete immunizations after 1 and 2 years
- No change in Child Development scores at age 5

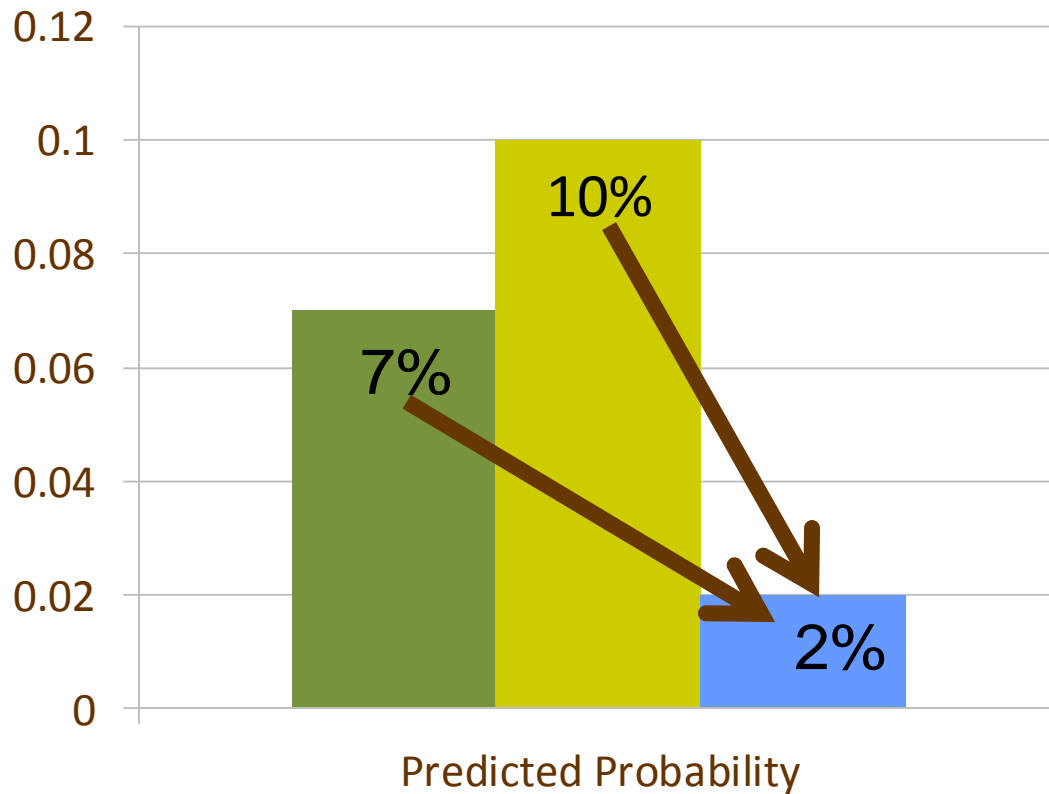
Is Families First home visiting reducing the gap in health and social outcomes for children?



Methods for Determining Reduction in Health Inequity

- Linkage De-identified Program ↔ Administrative
- 3 methods were used:
 - Method #1 – Measured & tested differences in the risk differences
 - Method #2 – Measured & tested differences in risk ratios
 - Method #3 - Concentration Curves - Has the concentration curve become less pronounced because of the program?

Probability of Child Being Taken into Care at Year 1



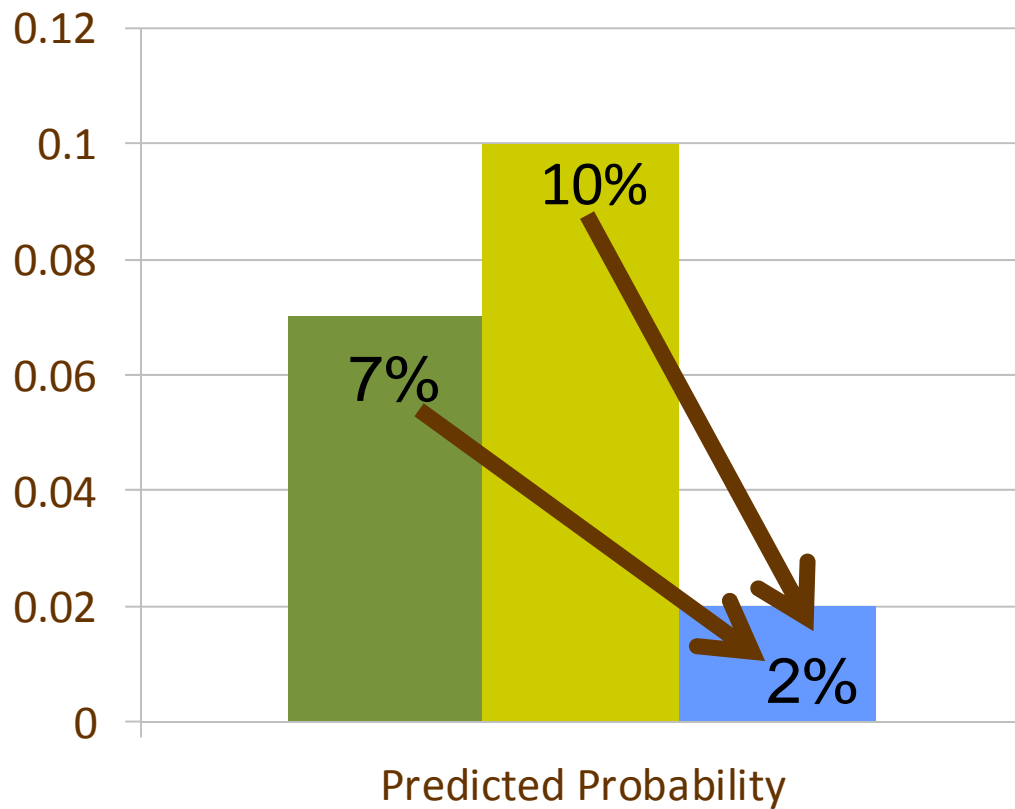
- Families First HV (Eligible)
- Not in Program (Eligible)
- All Other Children (Not Eligible)

No program
– All others
Gap = 8

Program –
All others
Gap = 5

Is this difference statistically significant?

Probability of Child Being Taken into Care at Year 1, Example of Ratio of Ratios



- Families First HV (Eligible)
- Not in Program (Eligible)
- All Other Children (Not Eligible)

No program – All others
Risk Ratio = 4.5

Program – All others
Risk Ratio = 3.4

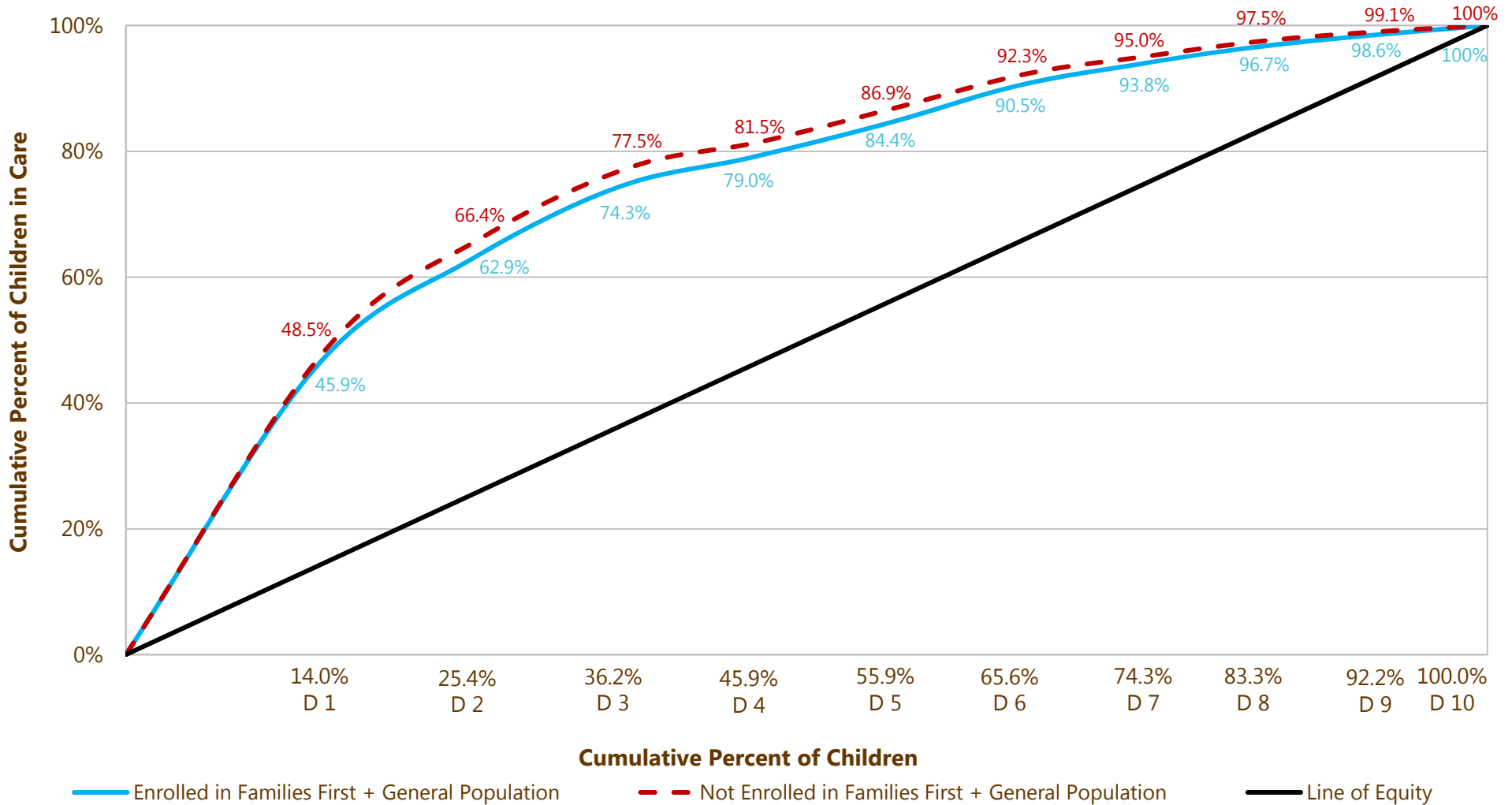
Ratio of Ratios = $3.4/4.5 = 0.75$

Is this ratio statistically significant?

Method 1 & 2: Differences of risk differences and ratios of risk ratios – for child outcomes (adjusted ATE)

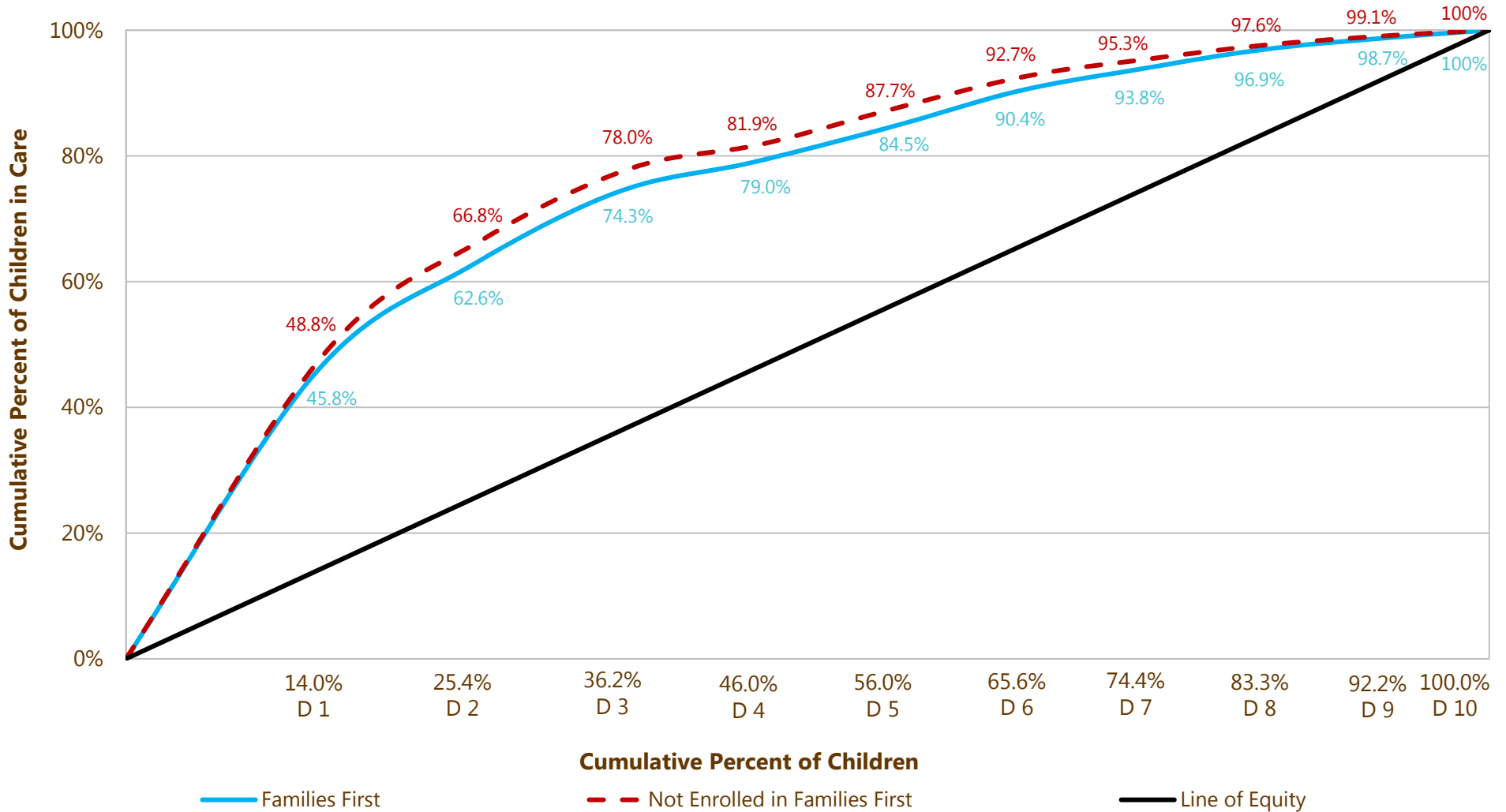
	Risk Difference (95% CI)		Differences of RD (95% CI)	Risk Ratio (95% CI)		Ratio of RR (95% CI)
	Enrolled in FF	Not Enrolled in FF		Enrolled in FF	Not Enrolled in FF	
In Care (1 year)	0.05 (0.05, 0.06)	0.08 (0.07, 0.08)	-0.02* (-0.04, -0.01)	3.35 (3.08, 3.63)	4.45 (4.12, 4.81)	0.75* (0.65, 0.86)
In Care (2 years)	0.08 (0.07, 0.08)	0.11 (0.10, 0.12)	-0.03* (-0.04, -0.02)	3.67 (3.42, 3.93)	4.70 (4.37, 5.05)	0.78* (0.69, 0.88)
Immunization (1 year)	-0.01 (-0.02, 0.00)	-0.05 (-0.06, -0.04)	0.04* (0.02, 0.06)	0.99 (0.98, 1.00)	0.93 (0.92, 0.95)	1.06* (1.03, 1.08)
Immunization (2 years)	-0.05 (-0.06, -0.04)	-0.10 (-0.11, -0.09)	0.05* (0.03, 0.07)	0.92 (0.90, 0.93)	0.83 (0.81, 0.86)	1.10* (1.05, 1.15)

Method 2: Concentration Curves (adjusted- ATE) of Children in Care within 1 year of birth



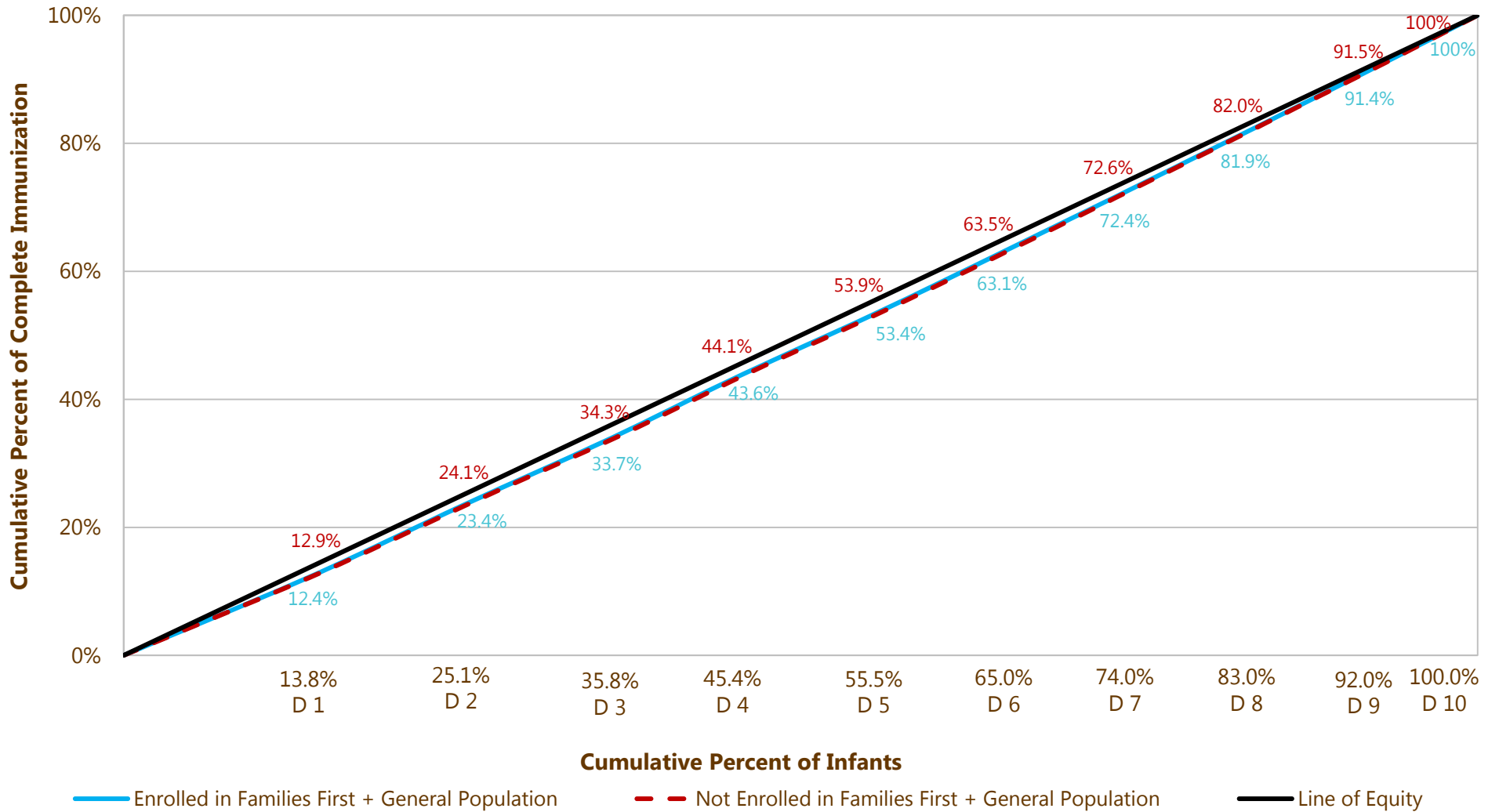
* Cumulative percentages on the x-axis are based on the Manitoba population including eligible children in Families First. The percentages that include eligible children not in the program are not shown here, but are similar to those on the graph.

Method 2: Concentration Curves (adjusted- ATE) of Children in Care within 2 years of birth



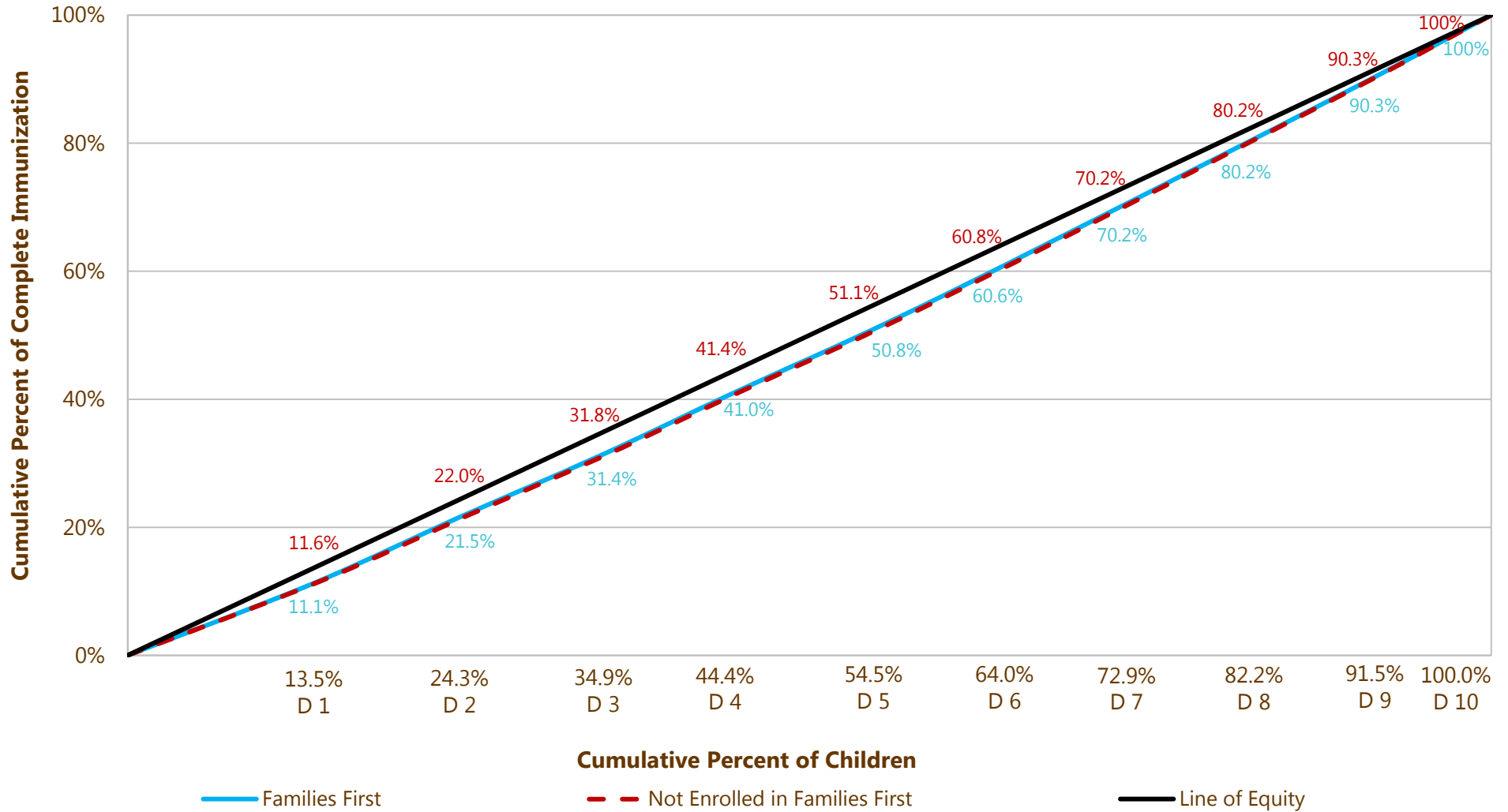
* Cumulative percentages on the x-axis are based on the Manitoba population including eligible children in Families First. The percentages that include eligible children not in the program are not shown here, but are similar to those on the graph.

Method 2: Concentration Curves (adjusted- ATE) of Complete Immunization for 1-year old Infants



* Cumulative percentages on the x-axis are based on the Manitoba population including eligible children in Families First. The percentages that include eligible children not in the program are not shown here, but are similar to those on the graph.

Method 2: Concentration Curves (adjusted- ATE) of Complete Immunization for 2-year old Children



* Cumulative percentages on the x-axis are based on the Manitoba population including eligible children in Families First. The percentages that include eligible children not in the program are not shown here, but are similar to those on the graph.

Method 2: Differences of adjusted concentration index: Child Outcomes (Adjusted ATE)

	Adjusted Concentration Index (95% CI)		Differences of adjusted CI (95% CI)
	Enrolled in FF + All Other Population	Not Enrolled in FF + All Other Population	
Child Outcomes			
In Care (1 year)	-0.487 (-0.466, -0.508)	- 0.521 (-0.502, -0.540)	-0.034* (-0.062, -0.006)
In Care (2 years)	- 0.489 (-0.471, -0.506)	- 0.529 (-0.512, -0.546)	-0.040* (-0.065, -0.016)
Immunization (1 year)	0.029 (0.027, 0.031)	0.032 (0.030, 0.034)	-0.003* (-0.006, 0.000)
Immunization (2 years)	0.053 (0.050, 0.056)	0.058 (0.054, 0.061)	-0.005* (-0.009, 0.000)

Summary

- We have explored 3 different ways of measuring changes in inequities
- Families First home visiting program has narrowed the gap for immunization rates (small but significant) and rates of children in care (large & significant).

~ ~ ~ Save the Date ~ ~ ~

Conference: **'Pathways to Health Equity: Levelling the Playing Field'**

when: **May 30 – June 1, 2016**

where: Fort Garry Hotel, Winnipeg

–International knowledge exchange and dissemination event, building on the theme of 'from research to policy'

–Themes include: child health; social determinants of health & equity; economics & equity; measuring health equity; indigenous health; health interventions & equity; international health equity; ethics and equity; gender equity

•For more information, visit our website at:

–http://www.umanitoba.ca/faculties/health_sciences/medicine/units/community_health_sciences/departamental_units/mchp/paths_conference.html

“The results and conclusions are those of the authors and no official endorsement by Manitoba Health, Healthy Living and Seniors is intended or should be inferred.”

Thank You / Questions

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