The Economics of Early Childhood Intervention: Evidence from the 1980s-1990s Expansion of the Medicaid Program

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Overview

- Inequality in mortality in the U.S. increased among adults but *declined* among children and approached the low levels seen in countries such as Canada.
- The U.S. expansion of public health care for pregnant women and children is likely responsible for much of this improvement, and provides a case study of how increasing access can improve health long-term.

Research Highlights Stalling Life Expectancy and *Increases* in Inequality in Mortality

There has been a great deal of research and publicity about stalling life expectancy and *increases* in inequality in life expectancy and mortality in adults 45+ over the past 20 years (Chetty et al. 2015; Lee et al. 2015; Case/Deaton 2015, 2017).

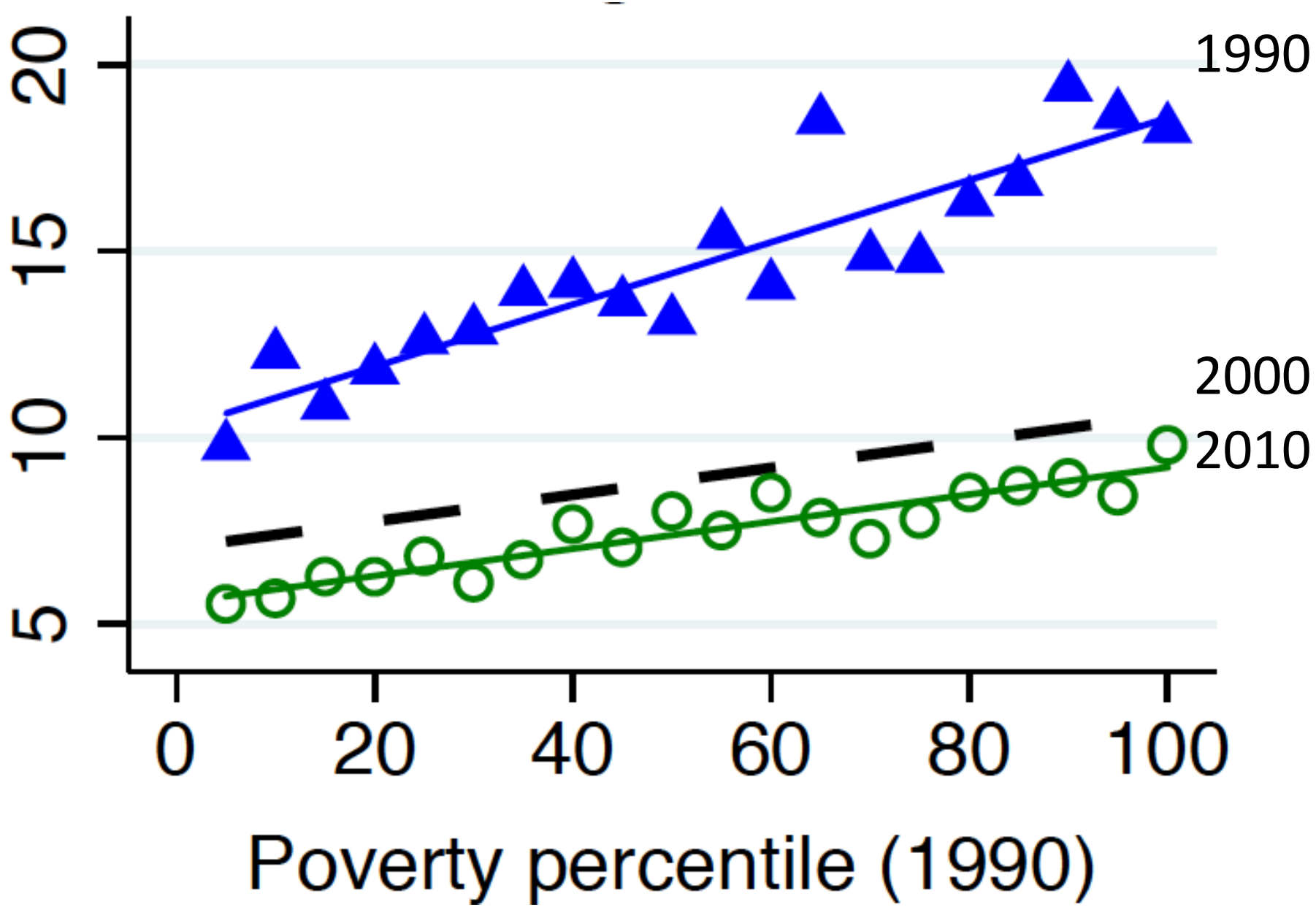
Disparity in Life Spans of the Rich and the Poor Is Growing, SABRINA TAVERNISE NYT FEB. 12, 2016

Photo Credit: Joshua Bright for The NYTs

Currie and Schwandt (2016a,b) look at *all* deaths at *all* ages

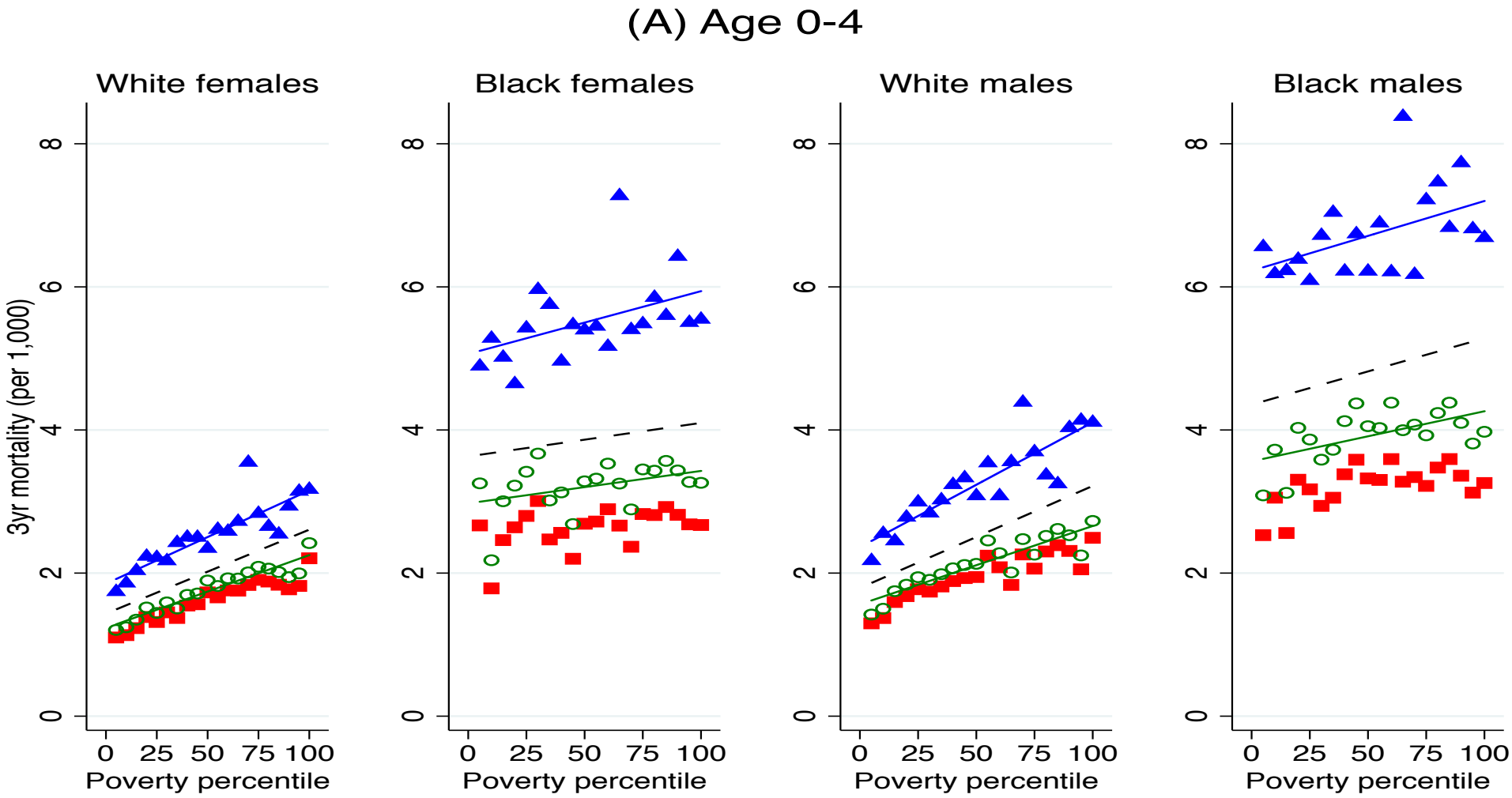
- Ranking people by earnings or education creates a selected sample because not everyone has these measures in every period.
- Selection can change over time.
- Problematic for children, the disabled, and those with weaker labor force attachment (women?).
- Every death is associated with a place. We can rank places from richest to poorest (group counties to looked at ~fixed percentiles of the population).

Male U.S. Infant Mortality by County Poverty Percentile (lower and flatter is better!)



U.S. 3-Year Mortality Rates by Race and Gender, County Groups Ranked by Poverty Rates

(Blue=1990, Green=2010, Red=2010 multi race)



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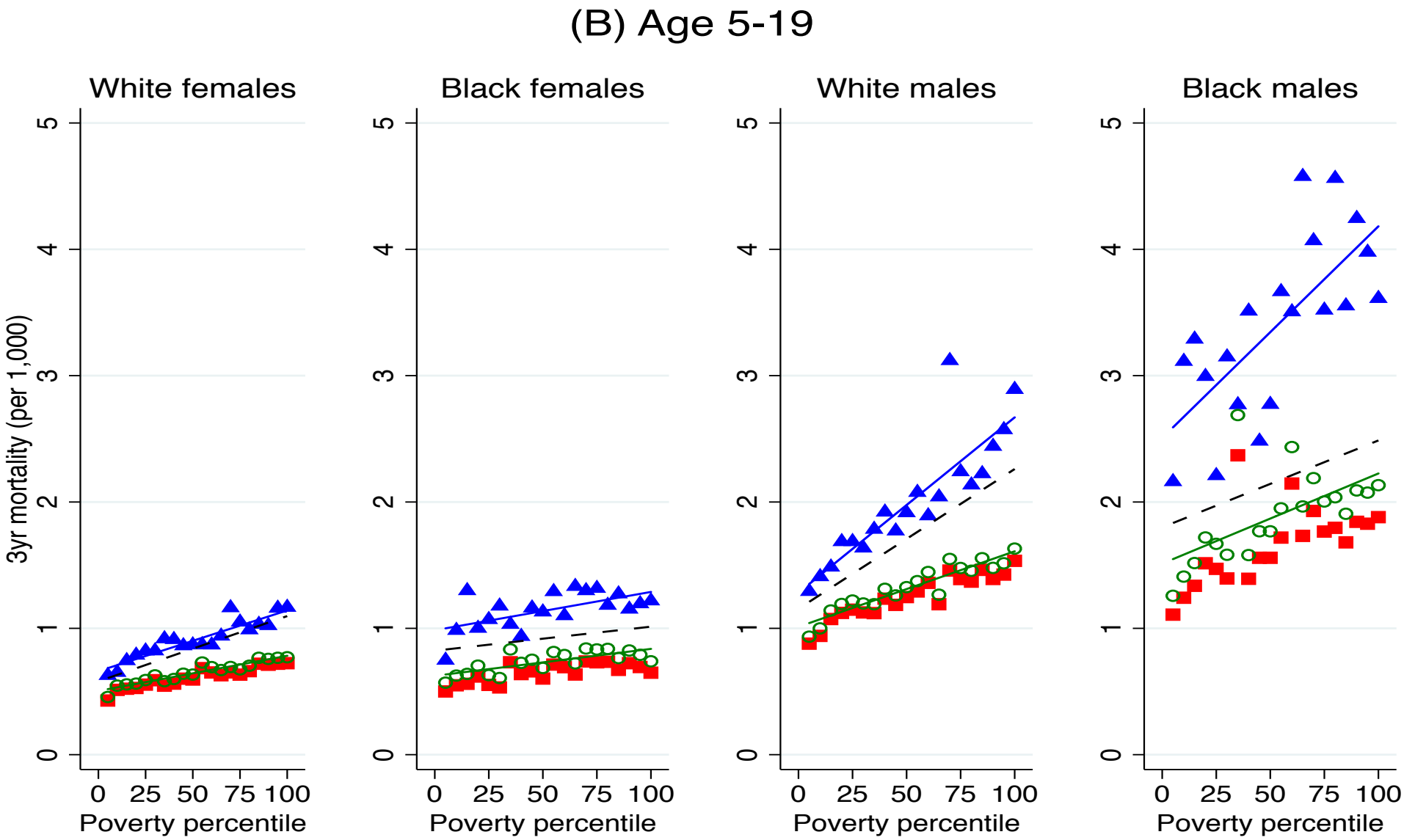


Male Mortality Gradients by 5-Year Age Categories - Children

Age Category	1990	2010	P-value of difference
<1	.083	.036	<.001
1-4	.008	.003	<.001
5-9	.004	.002	<.001
10-14	.009	.004	<.001
15-19	.031	.010	<.001
20-24	.034	.005	<.001

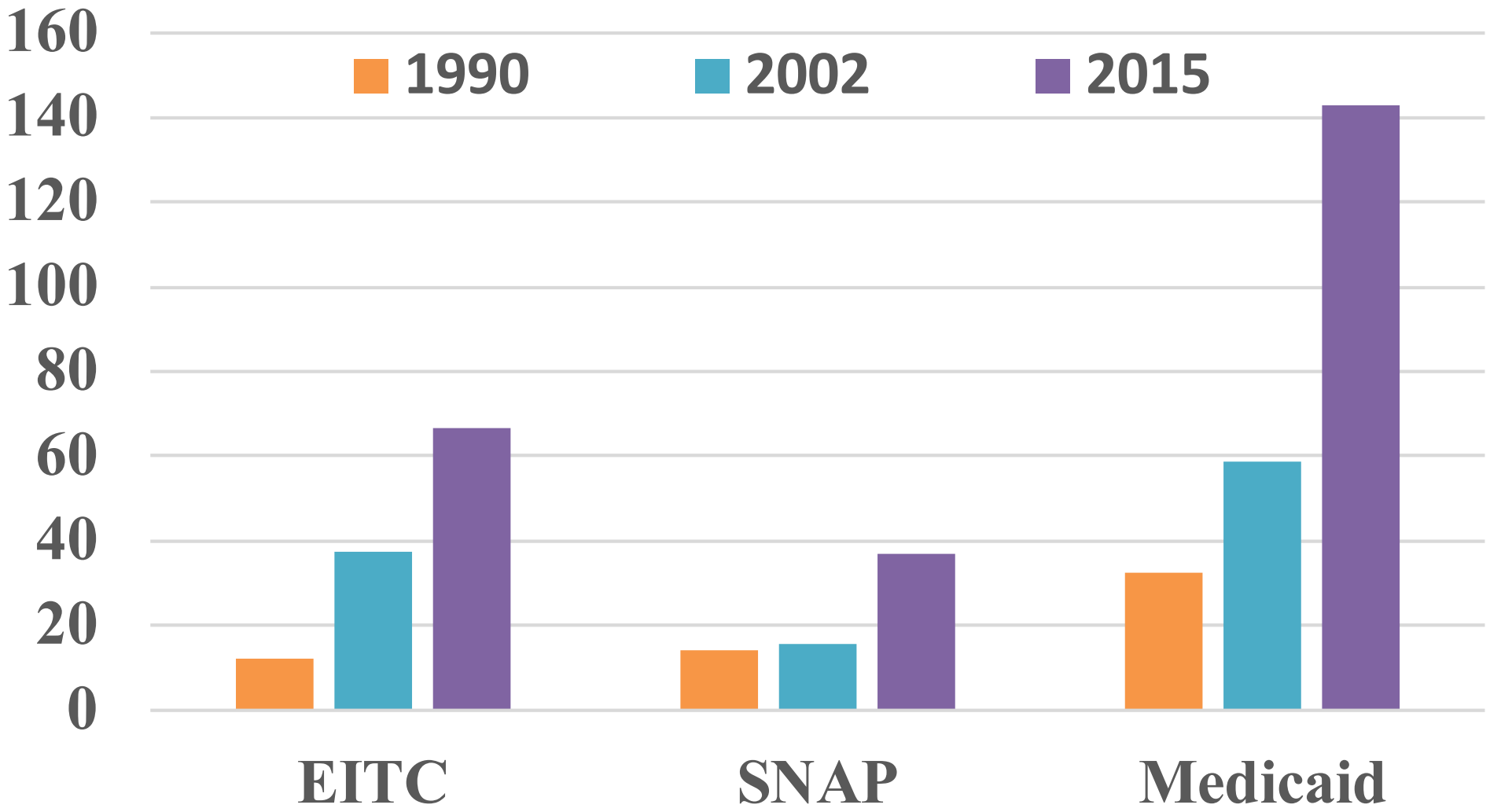
Female Mortality Gradients by 5-Year Age Categories - Children

Age Category	1990	2010	P-value of difference
<1	.071	.032	<.001
1-4	.005	.003	<.001
5-9	.003	.001	.003
10-14	.003	.002	.049
15-19	.006	.002	<.001
20-24	.009	.001	<.001

These results suggest that…

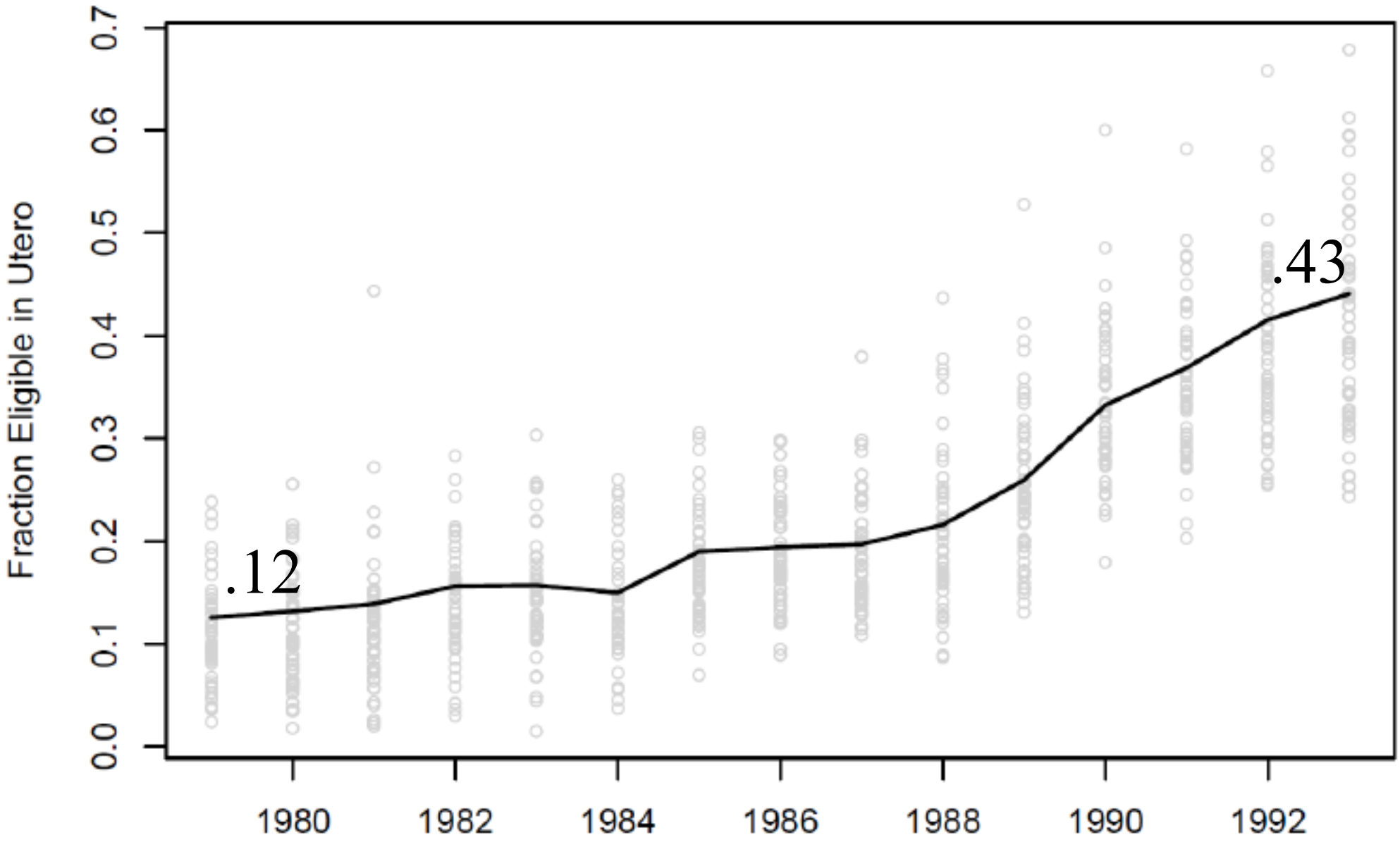
- There are very different trends in inequality in mortality for U.S. children and adults.
- Inequality in mortality fell for U.S. children between 1990 and 2010.
- What changed?
    - One of the biggest differences is the larger shares covered by insurance prenatally and in childhood under the Medicaid program.

Medicaid is the Largest Social Programs Affecting Children (billions $2015)

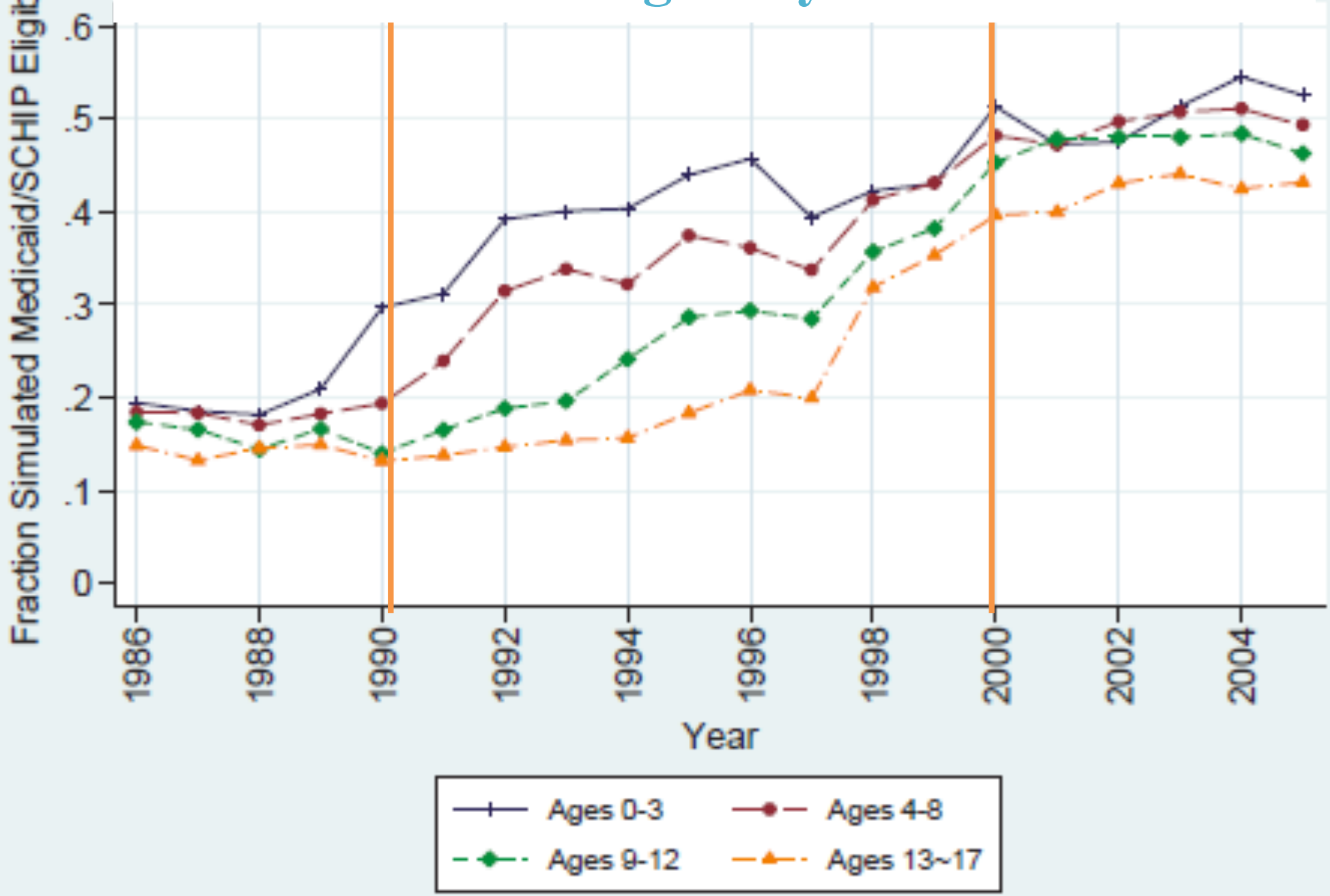


Note: Only Medicaid for children and non-disabled adults is included. Assumed that ½ of Food Stamp/SNAP payments go to families with children.

Rising Fraction 18-44 Year Old Women Eligible for Medicaid Coverage of Pregnancy, 1979-1993



Child Medicaid Eligibility Rose

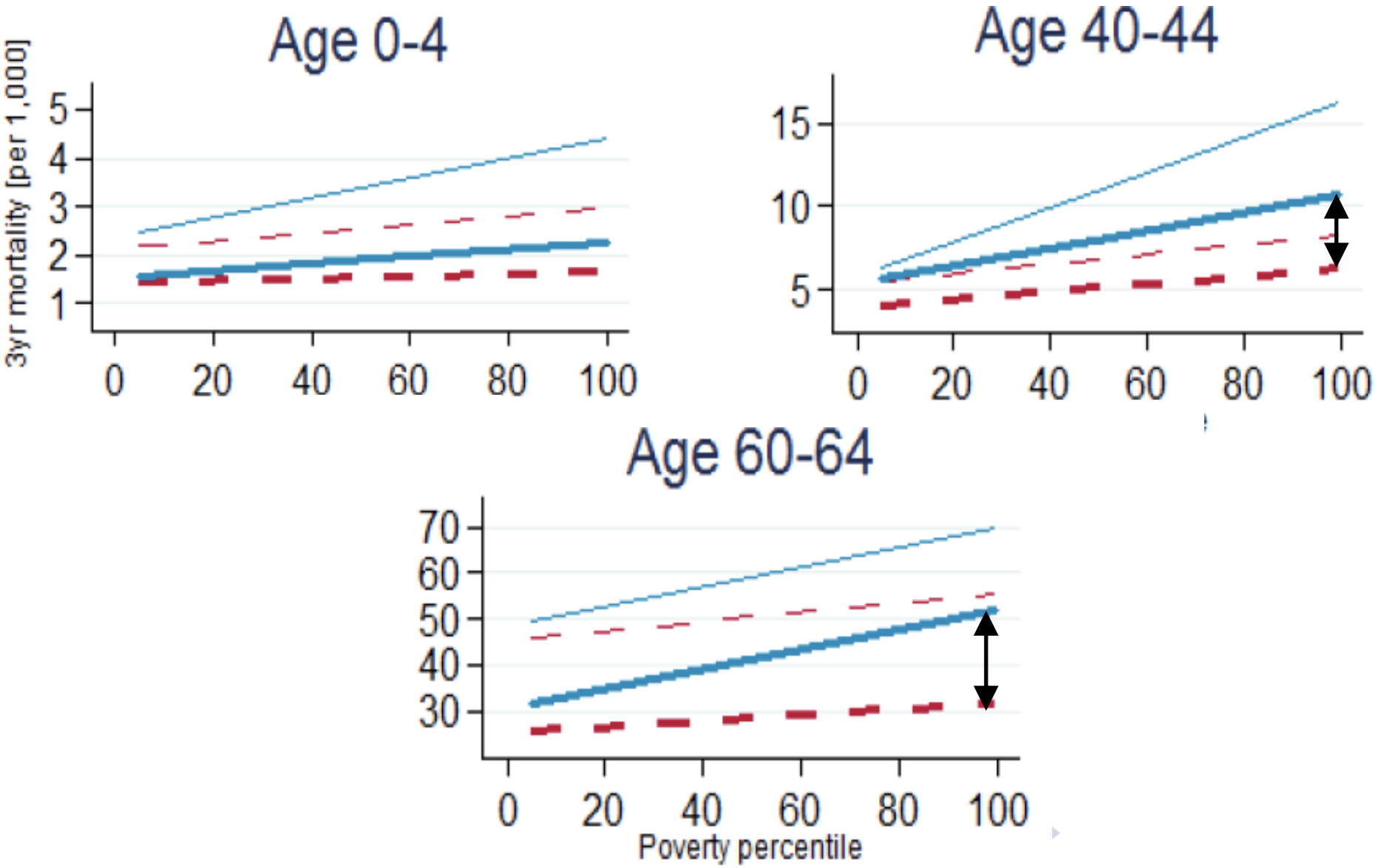


How can we see whether improvements in mortality are likely to be due to expansions of insurance for U.S. children?

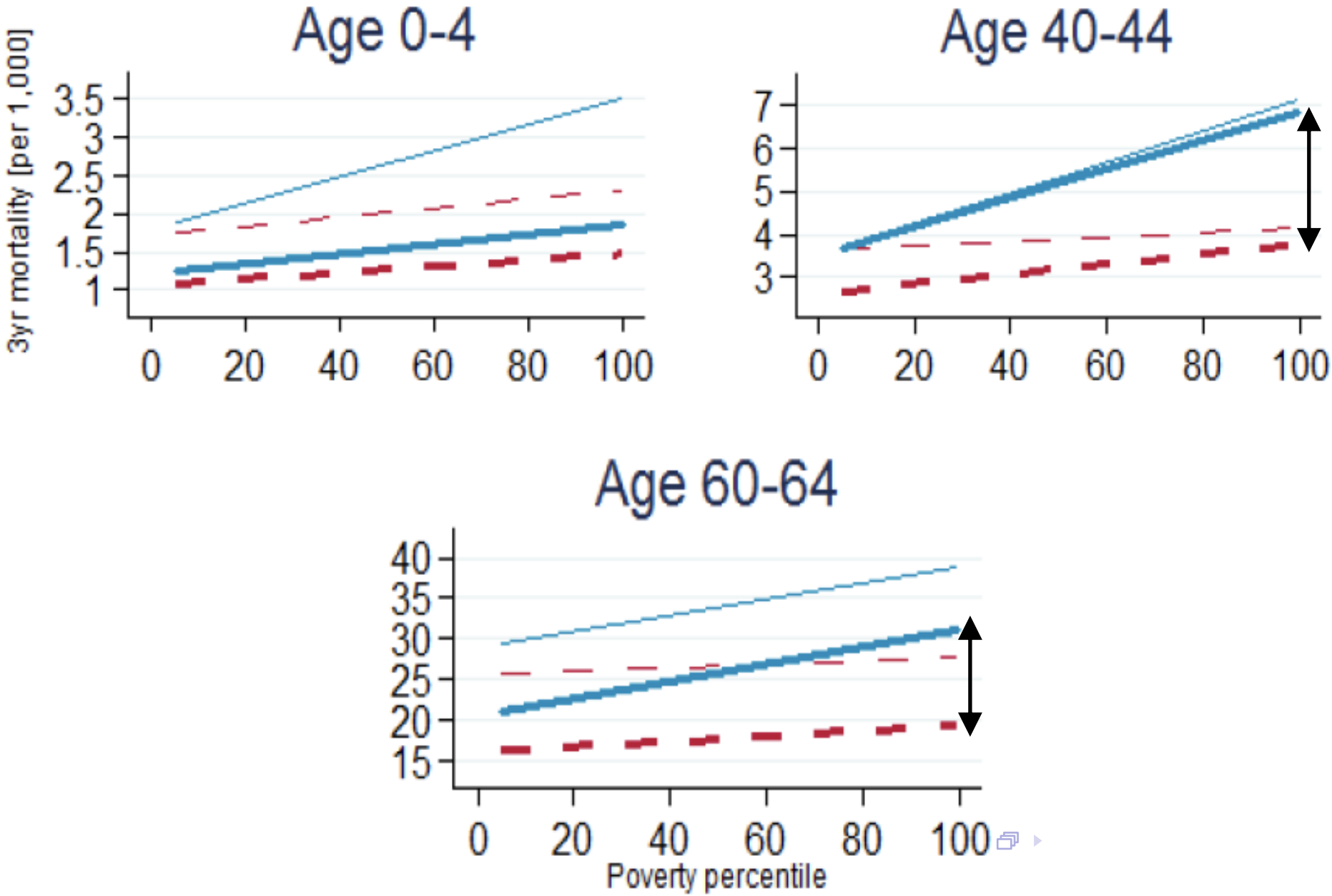
- Canada is a good comparison
- Factors such as access to technology, smoking, driving, product safety are similar in the two countries, and poverty rates showed similar declines.
- Canadian children had health insurance throughout the period.
- Compare trends in mortality and mortality inequality by age across the two countries.

Males: Canada (red) vs. US (blue) mortality, 1990/91 (thin) vs. 2010/11 (thick) by poverty

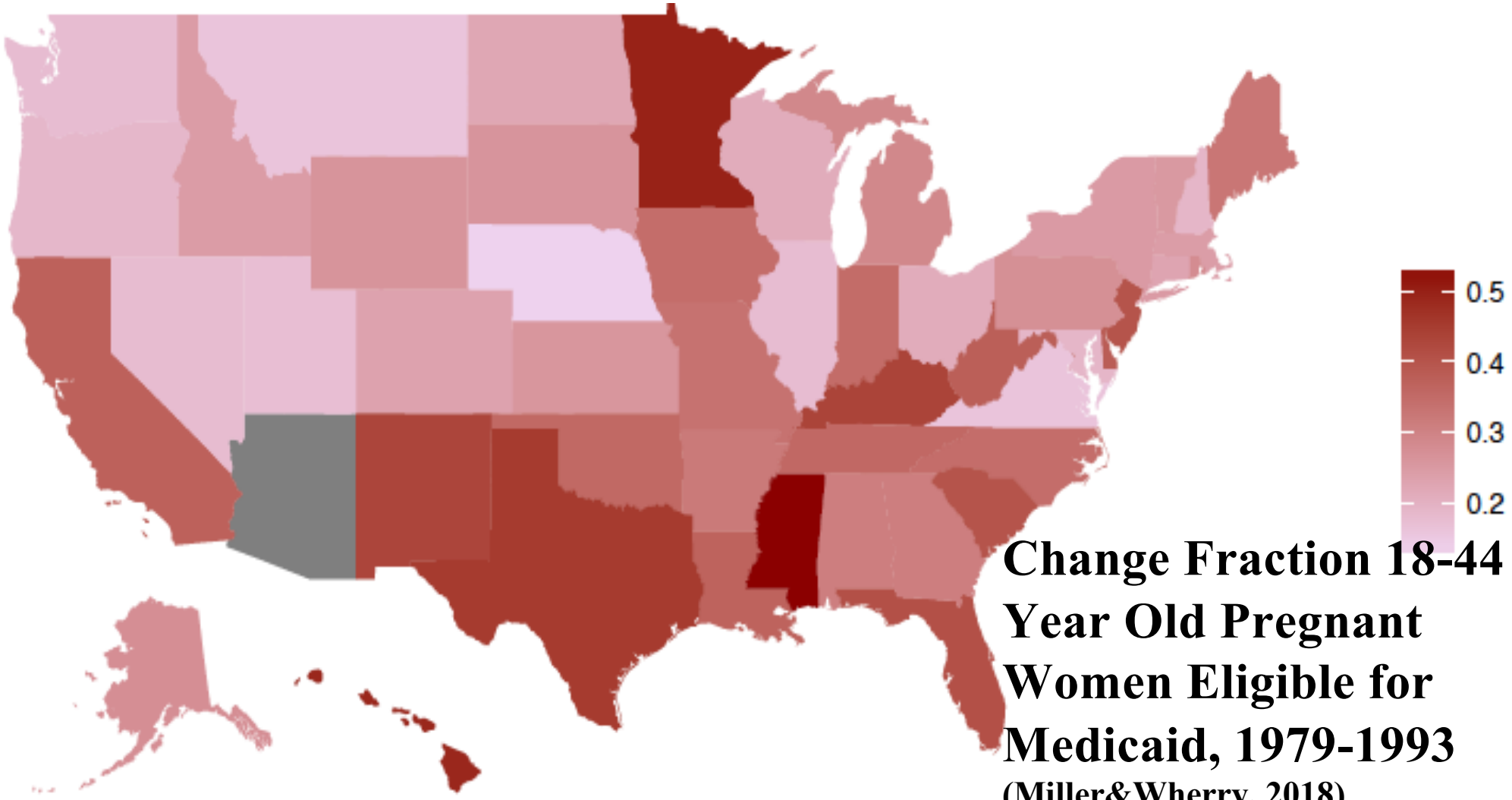
(Baker, Currie, and Schwandt, 2018)



Females: Canada (red) vs. US (blue) mortality, 1990/91 (thin) vs. 2010/11 (thick) by poverty



Within the U.S., Staggered Phase-in of Medicaid Expansions for Pregnant Women Can be Used to Identify Effects



Change Fraction 18-44 Year Old Pregnant Women Eligible for Medicaid, 1979-1993
(Miller&Wherry, 2018)

Short Term Effects of Medicaid Eligibility Expansions for Pregnant Women of late 80s, early 90s.

Currie and Gruber (1996)

- Use "simulated eligibility" measure to capture changes in the generosity of state Medicaid programs.
- 8.5% reduction infant mortality
- 50% reduction in delay in obtaining prenatal care among highest poverty group.

New Evidence on Long-Term Effects Prenatal and Infant Coverage

Miller and Wherry (2018): Young adult children of mothers who were eligible are overall:

- 1/3 of an SD less likely to have a chronic condition
- Have 0.56 fewer hospital visits (on a mean of 25.3 per 1,000)
- Are 0.011pp more likely to graduate high school (mean is 0.92).

Bigger Effects Among the Poorest…

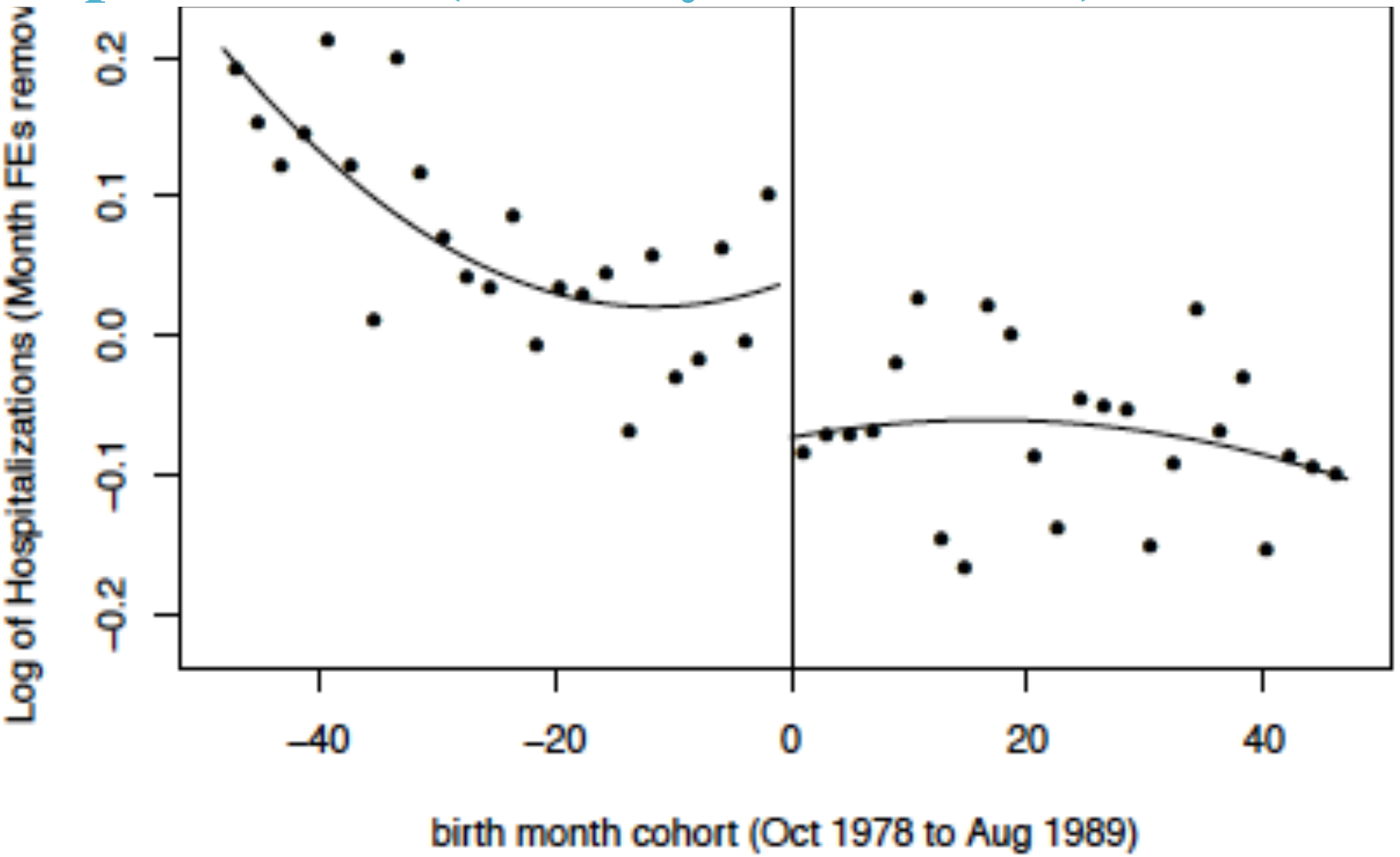
- 2/3 of an SD less likely to have a chronic condition
- Have 0.83 fewer hospital visits
- Are 0.031pp more likely to graduate high school
- Increase of .04pp in probability some college
- 0.20 increase in ln(personal income)
- -0.041 decrease in probability of using SNAP (Food Stamps)
- Decline of -2.185 on the Kessler 6 mental distress score (out of a possible 24).

Among U.S. children, a sharp cutoff in eligibility can be used to identify the effects of public insurance

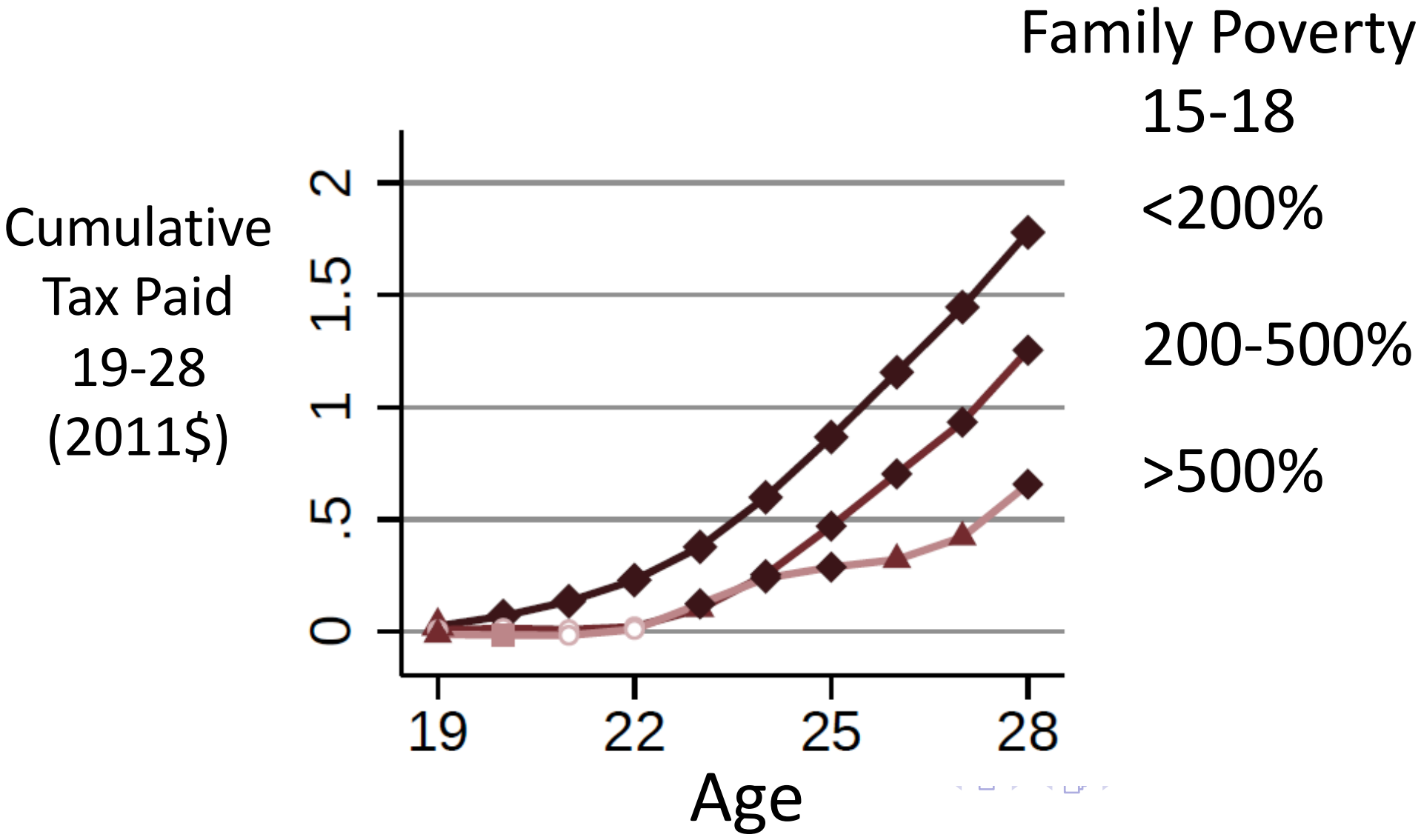
Only children born after September 1, 1983 were eligible for expansions, creating a discontinuity.

Much research shows long term effects on the health of children who became eligible (Currie, Decker, Lin, 2008; Wherry et al. 2015; Meyer and Wherry, 2016; Kowalski et al. 2015: Goodman-Bacon, 2016, Cohodes et al. 2015)

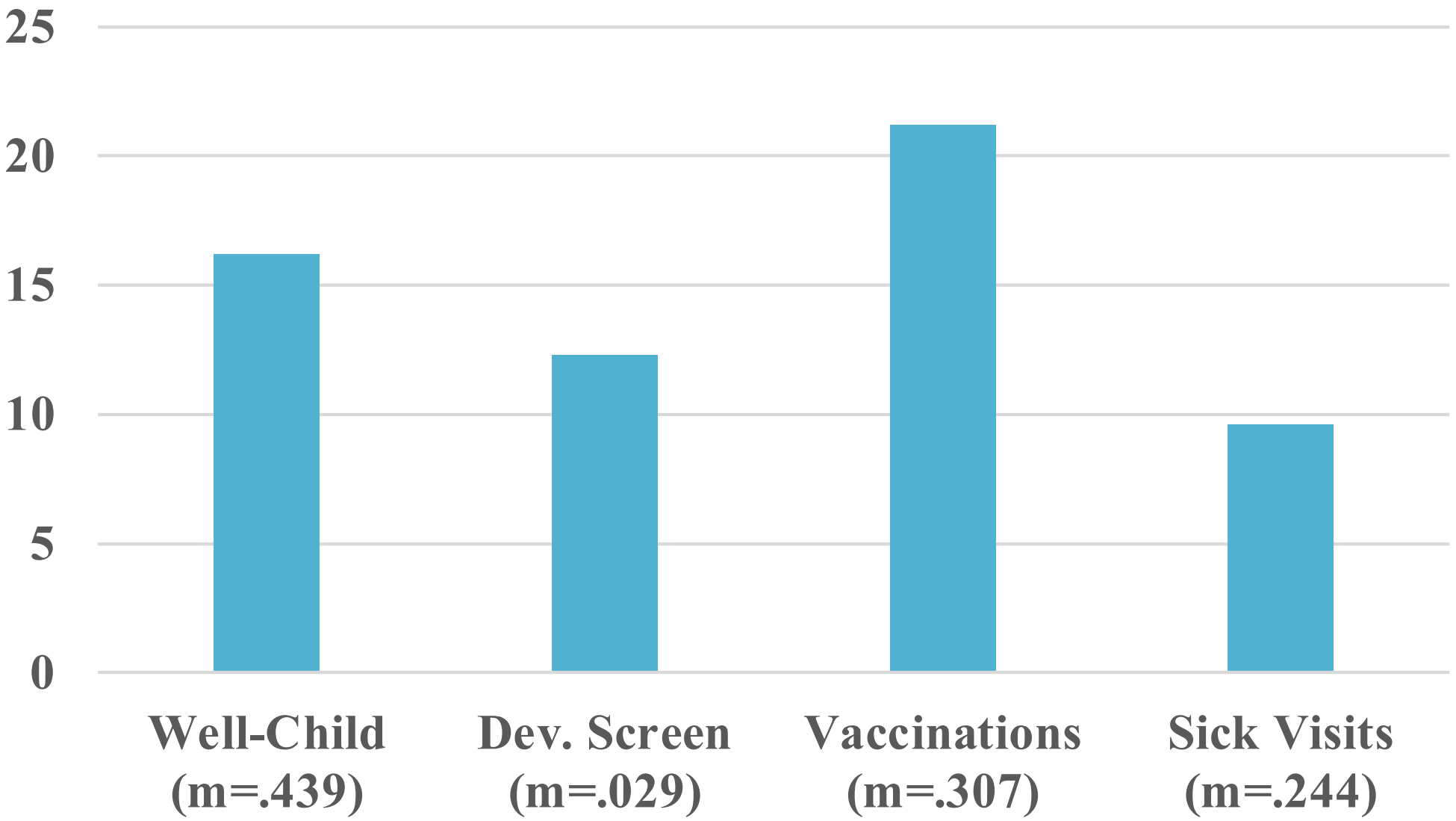
2009 hospitalizations for chronic illness in 21-28 year old African-Americans born after Sept. 1, 1983 (Wherry et al., 2018)



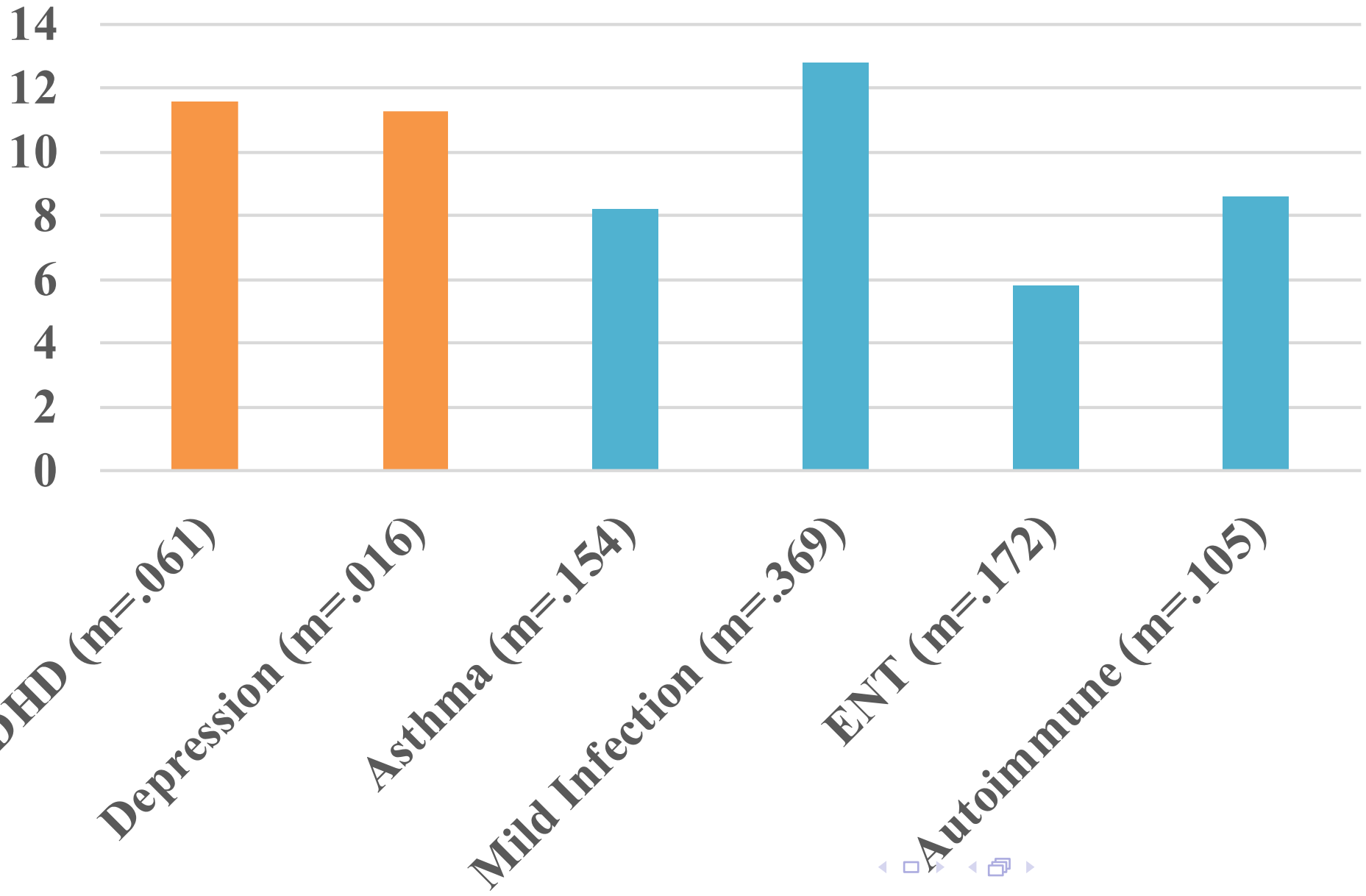
Effect of Years of Medicaid Eligibility 0-18
(Brown, Kowalski, and Lurie, 2018)



Estimated % increase in access in 12 mo. after switch to MMC in SC, child FE models



Estimated % rise in diagnoses in 12 mo. after Switch to Medicaid Managed Care, Child FE Models



Summary and Conclusions:

- Access to health care starting in the prenatal period improves child and adult health and productivity.
- The roll out of public insurance for pregnant women and children reduced mortality and improved adult health.
- U.S. reductions in inequality in mortality among children occurred against a backdrop of increasing inequality in mortality among adults, and brought child mortality rates close to much lower Canadian levels.
- Although measures of chronic diagnoses in children are increasing, this may be largely due to the improvements in access to screening, diagnosis, and treatment.