

ERSA Research Brief

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Can paid maternity leave improve childhood health?

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Evidence from California shows that paid maternity leave leads to improved health outcomes among elementary school children.

Introduction

Despite rising labour force participation rates among mothers with children under the age of 18, the United States remains the only OECD country without any national paid maternity leave. California became the first state to offer a paid family leave (PFL) program in 2004, with Rhode Island, New Jersey and New York following in later years. To examine whether California's paid family leave program improved health outcomes of elementary school children, we examined evidence on how health outcomes changed for children in California after the introduction of its PFL program compared to children in other states.

While there are obvious differences between South Africa and California—for one, California's GDP of \$2.7 trillion is the fifth largest in the world and about 7.7 times that of South Africa—both places have relatively high levels of poverty and inequality. South Africa is the most unequal country in the world with a Gini coefficient of 63, but California's Gini coefficient of 48.8 puts it on par with the 18th most unequal country in the world (Paraguay).¹ Almost 50% of South Africans and 20% of Californians live in poverty.² Thus, despite differences between the two places, findings based on California policies may still be relevant to the South African context.

The findings presented here aim to inform policymakers seeking to design interventions that will improve child health outcomes. Improving childhood health can lower the economic and social costs of adverse health conditions in terms of treatment and medication, labour market participation, and social well-being.

Methods

We used survey data from three cohorts of the Early Childhood Longitudinal Study with two cohorts (1992/93 and 2001) born before, and one cohort (2004/05) born after, the introduction of California's PFL program. We examined six health outcomes measured in kindergarten: overweight, attention deficit/hyperactivity disorder (ADHD), a rating of the child's overall health condition, hearing problems, communication problems, and a history of frequent ear infections.

¹ Gini coefficients for South Africa and Paraguay from the World Bank, Development Research Group. Gini coefficient for California from the U.S. Census Bureau.

² South African poverty rate based on upper bound national poverty line (World Bank, 2018) and California poverty rate based on the California Poverty Measure (Wimer et al, 2018).

Existing evidence suggests that paid family leave may improve child health outcomes through three channels:

- 1) Increased breastfeeding duration and initiation. Prior research has demonstrated that paid family leave increases breastfeeding duration and initiation,³ and there is ample epidemiological evidence linking improvements in health outcomes with increased breastfeeding duration and initiation.
- 2) Increased parental presence. Longer maternity leave durations have been linked to an increased likelihood of timely medical check-ups and vaccinations.⁴ By spending more time at home with a newborn, parents are likely delaying child care outside the home that significantly decreases the risk of frequent ear infections due to reduced contact with other infected children.⁵
- 3) Reduced maternal stress. The knowledge of anticipated financial security during maternity leave may contribute to reduced stress during pregnancy that has been linked to improved birth and child health outcomes.⁶

Health outcomes of children born in California prior to PFL are compared to those of children born in California after PFL's implementation, while controlling for any trends in these outcomes by using the changes observed for children born in other states. Because PFL had the greatest effect on leave-taking duration after childbirth among less-advantaged mothers,⁷ we also examined whether changes in health outcomes varied differentially based on child, household, and maternal characteristics.

Key Findings

The risk of medically diagnosable conditions was lowered.

Children born after the introduction of PFL in California had lower risks of being overweight, or being diagnosed with ADHD or hearing problems by kindergarten. They were also less likely to have had a history of frequent ear infections. The reductions are sizable—a 4.1, 0.7, 2.4 and 2.7 percentage point reduction in overweight, ADHD, hearing problems and frequent ear infections, respectively, among California children born after PFL's introduction.

The baseline results also showed that California children born after PFL were 1.1 percentage points less likely to be diagnosed with communication problems but this result does not survive the robustness checks.

Parents reported better overall health for their children.

The surveys asked parents to assess their child's health on a scale of one (best) to five (worst). We standardized these scales to Z-scores with a mean of 0 and standard deviation of 1 in each survey. For children born in California post-PFL, there is a decrease of 0.056 standard deviations for this Z-score measure indicating that parents are reporting better overall health for their children.

The observed health improvements are driven by children with lower socioeconomic status and less educated mothers.

The reductions in overweight, ADHD, health scale and hearing problems are concentrated among children from the lower socioeconomic status (SES) quartiles as shown in the figure below. After the introduction of PFL, California children in the lowest SES quartile (quartile 1) experience statistically significant reductions in overweight, ADHD and health scale on the order of 9.7 percentage points, 3.1 percentage points and 0.138 standard deviations, respectively. Children in the second lowest socioeconomic quartile experience a similar improvement in their health score as well as a 4.5 percentage point reduction in hearing problems (and no statistically significant change in overweight or ADHD). Children in the two highest SES quartiles experience no statistically significant improvements in their health, except for a 2.5 percentage point reduction in hearing problems for children in the third SES quartile.

³ See Huang and Yang (2015) and Appelbaum and Milkman (2011) for California's PFL specifically, and Baker and Milligan (2008) and Berger, Hill, and Waldfogel (2005) for other contexts.

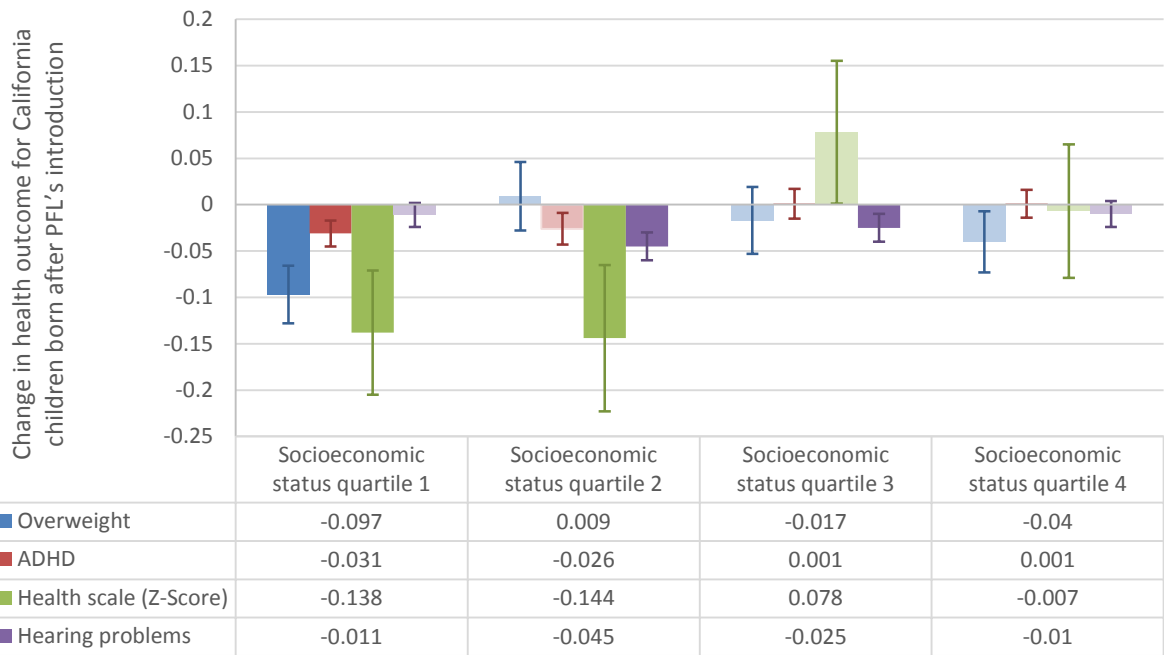
⁴ Berger, Hill, and Waldfogel (2005)

⁵ Uhari, Mantysaari, and Niemela (1996)

⁶ Carlson (2015), Copper et al. (1996), and Persson and Rossin-Slater (2018)

⁷ Rossin-Slater, Ruhm & Waldfogel (2013)

Differential changes in health outcomes by socioeconomic status



Notes: Estimated effects of California's PFL program on four health outcomes are shown with standard error bars. Darker shaded bars represent statistical significance at the 10% level. A negative value indicates an improvement in the health outcome.

A similar pattern is revealed when we broke down the changes in health outcomes by mother's education level. The estimated reductions in overweight and ADHD are driven by children whose mothers have less than a high school diploma, and improvements in the parent reported health scale (Z-score) is concentrated among children whose mothers have a high school diploma. For hearing problems, the largest effects are found for children whose mothers have some college.

Larger improvements in overweight, ADHD, health scale and hearing problems among relatively disadvantaged children⁸ is consistent with existing evidence that PFL's introduction in California had the greatest effect on maternity leave duration for less-advantaged mothers.⁹ Furthermore, overweight and ADHD are more prevalent among low income children.¹⁰

Male children experienced larger improvements in health than did female children.

The reductions in overweight, ADHD, hearing problems and frequent ear infections are driven almost entirely by male children. Male children tend to be more susceptible to many of these conditions—in particular boys are nearly three times more likely than girls to be diagnosed with ADHD.¹¹ We observed a similar difference in ADHD in the survey data we used, along with a greater prevalence of overweight, hearing problems and frequent ear infections among boys.

Policy Lessons

Providing paid maternity leave can improve childhood health outcomes.

The findings presented here suggest that providing extended paid maternity leave can improve child health outcomes in elementary school. The health improvements are driven by relatively disadvantaged children who have greater prevalence of some of these adverse health conditions, and whose mothers experienced the greatest increases in maternity leave duration due to California's PFL.

Paid maternity leave may contribute to reduced inequality.

⁸ There were no statistically significant differential effects for communication problems and frequent ear infections across either socioeconomic status or mother's education level.

⁹ Rossin-Slater, Ruhm & Waldfogel (2013)

¹⁰ See <http://www.cdc.gov/obesity/downloads/pednssfactsheet.pdf> for obesity and Pastor et al. (2015) for ADHD.

¹¹ Source: http://www.cdc.gov/nchs/data/series/sr_10/sr10_258.pdf

The concentration of health improvements among disadvantaged children suggests that paid maternity leave may be one effective channel for reducing the inequality between children born to high- and low-income families in terms of their health outcomes. Reduced inequality in childhood health outcomes can translate into reduced inequality in much longer-term outcomes through adulthood such as earnings.

These findings from California can also be relevant for the South African context.

Both places have relatively high levels of poverty and inequality, and California also had no paid maternity leave policy until PFL was introduced. Given South Africa's high levels of unemployment—the female unemployment rate is 30% and the female labour force participation rate is 53%—job creation is a clear policy priority (World Bank, 2018). The findings presented here suggest that a paid maternity leave policy, alongside increasing female labour force participation rates, can be an important tool in improving child health outcomes and reducing inequality.

This policy brief presents findings and policy lessons identified in a paper prepared by Shirlee Lichtman-Sadot and Neryvia Pillay Bell. See Lichtman-Sadot, S. and Pillay Bell, N. 2017. Child Health in Elementary School following California's Paid Family Leave Program, *Journal of Policy Analysis and Management*, 36 (4) 790-827.

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