WORLD Policy Analysis Center

RESEARCH BRIEF

April 2016

Paid maternity leave and childhood vaccination uptake: Longitudinal evidence from low-and-middle-income countries

This research brief presents key findings from the following article: Hajizadeh M, Heymann J, Strumpf E, Harper S, Nandi A. Paid maternity leave and childhood vaccination uptake: Longitudinal evidence from 20 low-and-middle-income countries. Social Science and Medicine 2015 (In Press). To access this and other WORLD publications, please visit http://worldpolicycenter.org/publications.

Background

Although childhood immunization rates have increased significantly in recent decades, nearly 19 million children are not fully vaccinated on time, and vaccine-preventable diseases continue to be substantial sources of morbidity and mortality in low-income countries.

Studies from both low- and high-income countries have identified "conflicting work schedules" as a barrier to the immunization of children. In particular, vaccines that are required several months after birth or are only administered at a clinic can create challenges for parents when both have returned to work. Paid parental leave may help mitigate this barrier by enabling parents to take their infants to the clinic without sacrificing income.

This study represents the first effort to examine the effects of parental leave policies on vaccine uptake in 20 low- and middle-income countries (LMICs). Because leave for mothers is currently far more widely available than leave for fathers, this study examines the impact of paid maternity leave.

Methods

Data from the Demographic Health Surveys (DHS) were used to construct a representative sample of 258,769 live births occurring in 20 LMICs between 2001 and 2008. DHS data contain information on:

- vaccine-receipt for each child, including Bacillus Calmette-Guerin (BCG), diphtheria, tetanus, and pertussis (DTP, three doses), and Polio (three doses)

- factors that might affect vaccine-receipt, including mother's education, urban/rural area of residence, child's gender, mother's age at birth, birth order, number of children, and attendance of skilled health personnel at birth

We chose to examine these three vaccines because there are important differences in how they are administered. The BCG vaccine is given right after birth, while both Polio and DTP are given in three doses, at least four weeks apart, beginning when the infant is at least six weeks old. Additionally, DTP is administered primarily at clinics, while Polio is administered both at clinics and through national campaigns that make the vaccine available at other locations and times.

DHS data were merged with data collected by WORLD and MACHEquity on the duration and wage replacement rate of maternity leave available in each country for each year. Length of paid maternity leave in full-time equivalent (FTE) weeks was calculated by multiplying the legislated length of leave by the wage replacement rate.

Logistic regressions were used to examine the impact of changes in paid maternity leave policies within countries on vaccine receipt among children.

Estimates were obtained by examining changes in the likelihood of receiving each type of vaccination in countries that increased the duration of maternity leave, compared to countries that did not.

Findings

Increasing the duration of paid maternity leave had a notable and statistically significant effect on the probability of receiving all 3 doses of the DTP vaccine: each additional week of paid maternity leave increased the probability of the DTP1, 2 and 3 vaccinations by 1.38, 1.62 and 2.17 percentage points, respectively.

By contrast, we did not find a significant relationship between increases in paid maternity leave and the probability of children receiving the BCG vaccine. Maternity leave increased the likelihood of children receiving the Polio vaccine but the effect was not statistically significant.

Discussion

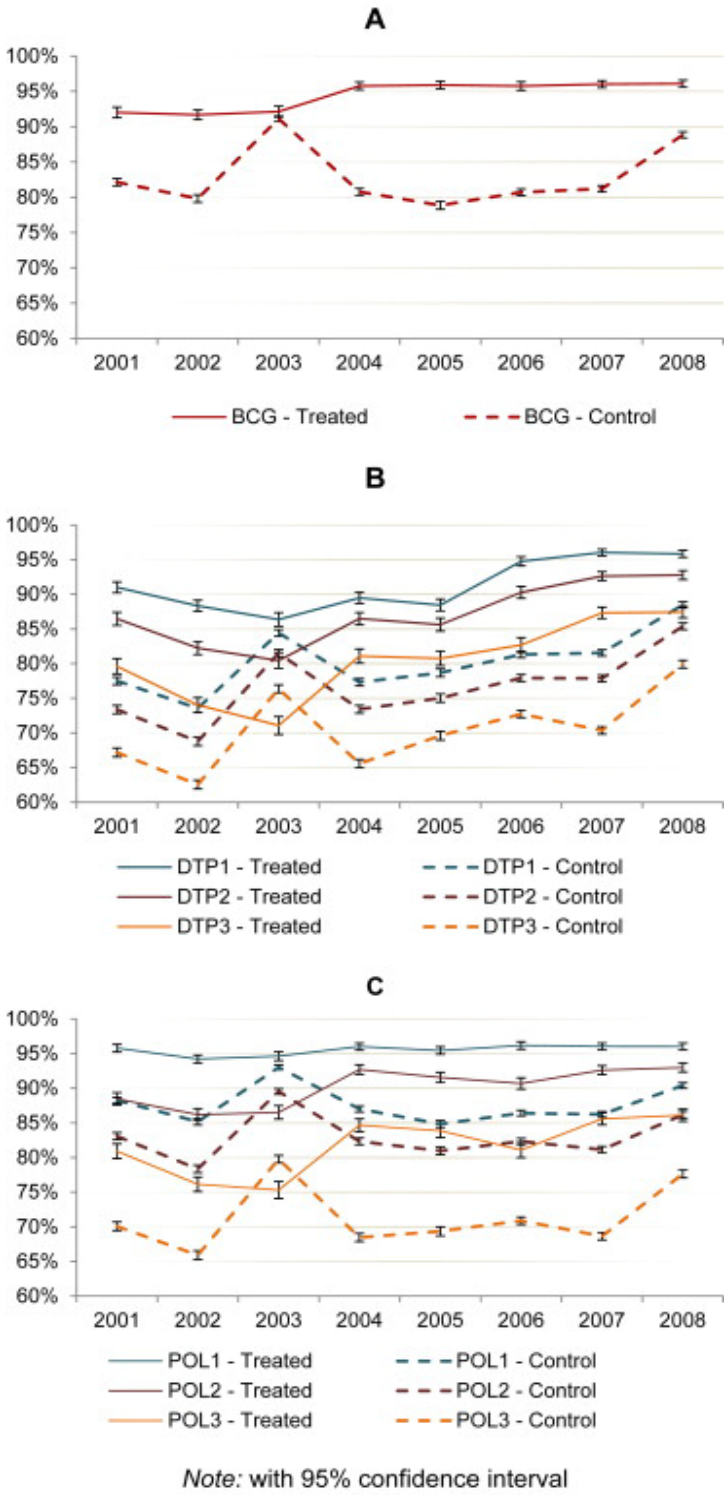
These findings suggest that more generous paid maternity leave policies may lower barriers to improved vaccination coverage by making it more likely parents can bring a child to the clinic for immunizations.

The greater impact of increasing maternity leave only on DTP makes sense in light of the important differences among the three vaccines examined:

- Since BCG is typically administered right after birth, length of maternity leave likely has little to no impact on whether or not children are vaccinated for BCG.

- Since Polio has been the focus of large-scale campaigns that provide immunizations in a wide range of settings and times beyond clinic hours, even mothers who must return to work have more options for getting their child the Polio vaccine compared to the DTP vaccine.

Fig 1. Trends in vaccination rates for BCG, DTP (3 doses) and Polio (3 doses) in treated and control countries, 2001-2008



Note: with 95% confidence interval