

Preventing adverse birth outcomes could boost education, income

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A newborn baby's feet. Credit: Omar Lopez, Unsplash, CC0 (creativecommons.org/publicdomain/zero/1.0/)

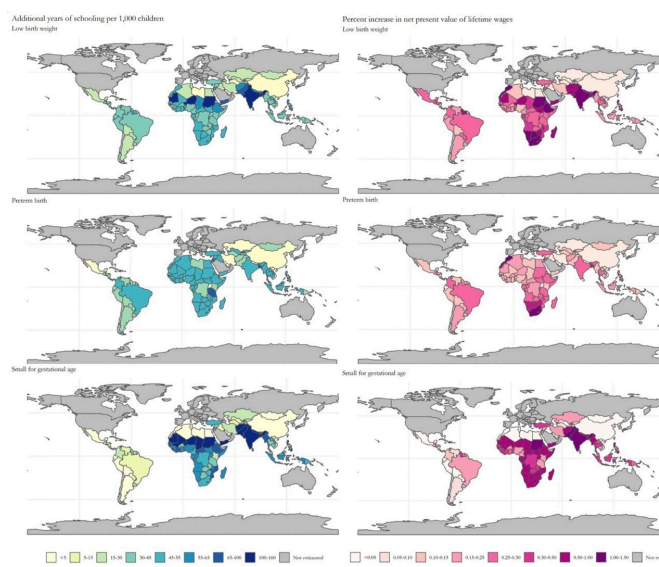
outcomes to theoretically possible minimums across 121 low- and [middle-income countries](#).

The team calculated that, across the 121 countries, reducing low birthweight to the theoretical minimum of 3.2% could lead to an additional 20.3 million [school years](#) (95% CI: 6.0,34.8) and US\$ 68.8 billion (95% CI: 20.3,117.9) in lifetime income gains per birth cohort. Reducing [preterm birth](#) to 5.5% could lead to estimated gains of 9.8 million school years (95% CI: 1.5,18.4) and US\$ 41.9 billion (95% CI: 6.1,80.9) in lifetime income. And reducing small-for-gestational age births to 10% could contribute 39.5 million (95% CI: 19.1,60.3) school years and US\$ 113.6 billion (95% CI: 55.5,174.2) in lifetime income gained. Gains varied between regions, with some of the largest gains in both [educational attainment](#) and lifetime earnings seen in South Asia and Sub-Saharan Africa.

Reducing the excess prevalence of low birthweight, preterm birth or small-for-gestational-age birth in low- and middle-income countries may lead to substantial long-term human capital gains when it comes to both long-term schooling and lifetime income gains, according to a new study published this week in the open-access journal *PLOS Global Public Health* by Mia Blakstad of Harvard TH Chan School of Public Health, U.S.A., and colleagues.

Globally, it is estimated that 14.6% of all [live births](#) are low birthweight, 10.6% are preterm and 27.0% are small-for-gestational-age. While the global contribution of adverse birth outcomes to child morbidity and mortality is well documented, the potential long-term schooling and economic consequences have been less well studied.

In the new study, the researchers used previously collected data on birth outcomes and population demographics from a number of open-access sources and previous studies. They modeled the potential impact of reducing adverse birth



Absolute gains in schooling and relative increase in annual income by country. (Maps were made using the spData package in R and basemaps from [naturalearthdata.com](#)/). Credit: Blakstad et al., 2022, *PLOS Global Public Health*, CC-BY 4.0 (creativecommons.org/licenses/by/4.0/)

The authors conclude that the impacts of interventions to improve birth outcomes have far-reaching effects beyond the more immediate benefits on [child mortality](#), growth and development, and could provide substantial population-level human capital returns.

The authors add: "We found that global investment to reduce the number of babies born too soon or too small today may return billions of dollars in workforce earnings in the future."

More information: Large gains in schooling and income are possible from minimizing adverse birth outcomes in 121 low- and middle-income countries: A modelling study, *PLOS Global Public Health* (2022). DOI: [10.1371/journal.pgph.0000218](https://doi.org/10.1371/journal.pgph.0000218)

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