

# Global disparities in vaccination persist and leave many children at risk

December 22 2020

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There has been continual progress in expanding immunization programs over time, but even before the COVID-19 pandemic, tens of millions of children worldwide were not receiving basic doses of vaccines. New

research finds that there continue to be significant disparities in childhood vaccination, and poorer children from underrepresented and minority groups in most countries are more likely to be less fully vaccinated with all the recommended immunizations. A special supplement to the *American Journal of Preventive Medicine*, published by Elsevier, looks at the barriers and challenges that limit or prevent access to vaccines in vulnerable children.

"Improving access and receipt of immunizations for all [children](#) everywhere are key to achieving the World Health Organization's (WHO's) Sustainable Development Goal of realizing continued progress in reducing global mortality in children under five," explain Guest Editors Matthew L. Boulton, MD, MPH, and Abram Wagner, Ph.D., MPH, both of the Department of Epidemiology, School of Public Health, and Global Institute for Vaccine Equity, University of Michigan, Ann Arbor, MI, U.S.. "It's going to require a more sustained effort and investment on the part of governments worldwide to close the inequalities gap in childhood vaccination."

Dr. Boulton and Dr. Wagner observe that understanding who gets vaccinated can help us plan targeted programs to prevent future outbreaks of preventable disease like COVID-19. However, it is not just who gets vaccinated; [vaccine](#) timeliness also matters. Delays in vaccination leave children vulnerable to disease. An analysis of children in Sub-Saharan Africa looked at on-time vaccination and inequalities by household wealth, maternal education, and place of residence. Researchers report that over half the children received one or more vaccinations over a month late. On-time vaccination was consistently higher in children of educated mothers, in the richest households, and in urban areas.

"Our findings suggest that to reduce inequality in on-time vaccination coverage, health providers and policy makers should design health

interventions that include an equality lens," says lead investigator Martin K. Mutua, Ph.D., African Population and Health Research Center, Nairobi, Kenya. "There should be more awareness campaigns in areas where the poorest live and in rural areas. Mobile health clinics with flexible hours targeting these populations may help reduce the inequality gap."

Health interventions generally have a "pro-rich" pattern: They are more commonly adapted among wealthy than among poor individuals. However, loss of public confidence in vaccines and the rising attention to antivaccination movements are more commonly associated with higher-income countries. "Vaccine hesitancy" is one of the top 10 health threats identified by the WHO and may play a larger role in the future. Investigators sought to determine if vaccine hesitancy may be emerging among the wealthy in low and middle income countries, and what the impact might be on immunization coverage.

"We found that the classical pro-rich inequality pattern, in which the wealthy present better coverage than the poor, appears to be changing, especially in upper-middle income countries. The number of countries exhibiting the classical pro-rich inequality pattern declined as national income increased. This shift may be due to vaccine hesitancy among wealthy families," suggests lead investigator Cesar G. Victora, MD, International Center for Equity in Health, Federal University of Pelotas, Pelotas, Brazil. "Every vaccine demands a minimum level of coverage to secure community immunity. Special attention to prevent vaccine hesitancy in low and middle income countries is needed." Vaccine hesitancy is not limited to the wealthy; elsewhere in the supplement, studies address [vaccine hesitancy](#) based on religious beliefs and among lower income migrants to an urban area.

Dr. Boulton and Dr. Wagner note that insuring access to COVID-19 vaccines for historically marginalized groups, including persons of color,

will be important to ensure the universal coverage needed to eradicate the pandemic. "Inequitable distribution of a COVID-19 vaccine will further reinforce and entrench existing disparities and contribute to the substantial gaps we currently see globally in pandemic-related illness and death," says Dr. Wagner.

The Guest Editors suggest that the research published in this supplement can inform current and future discussions about global vaccine equity and contribute to the achievement of the WHO's vision of a world in which everyone can benefit from vaccines to improve [health](#) and well-being.

**More information:** Matthew L. Boulton et al. Advancing Global Vaccination Equity, *American Journal of Preventive Medicine* (2020). [DOI: 10.1016/j.amepre.2020.10.004](https://doi.org/10.1016/j.amepre.2020.10.004)

Provided by Elsevier

Citation: Global disparities in vaccination persist and leave many children at risk (2020, December 22) retrieved 23 June 2024 from <https://medicalxpress.com/news/2020-12-global-disparities-vaccination-persist-children.html>

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