

Authors

Anne Karing
The University of Chicago

**SOCIAL SIGNALING AND CHILDHOOD IMMUNIZATION:
A FIELD EXPERIMENT IN SIERRA LEONE**

Anne Karing*

March 2024

Abstract

This paper explores the use of social signaling as a policy tool to sustainably affect childhood immunization. In a 26-month field experiment with public clinics in Sierra Leone, I introduce a verifiable signal - in the form of color-coded bracelets - given to children upon timely completion of the first four, or all five required vaccinations. Signals increase parents' belief in the visibility of their actions and their knowledge of other children's vaccine status. The impact of signals varies significantly with the cost and perceived benefits of the action: there are no discernible effects on timely and complete immunization when the signal is linked to an easier-to-complete vaccine with low perceived benefits, and large, positive effects when the signal is linked to a costlier-to-achieve vaccine with high perceived benefits. Parents adjust their behavior nine months prior to realizing the social image benefit, demonstrating the motivational strength of signaling incentives. Of substantial policy importance, bracelets increase full immunization at one year of age by 9 percentage points, with impacts persisting up to two years. At a cost of US\$24.7 per additional fully immunized child, social signals can prove more cost-effective than financial or in-kind incentives.

Keywords: social signaling, social image, incentives, immunization
JEL codes: D01, D82, I12, O10

*University of Chicago. Email: akaring@uchicago.edu. I am extremely grateful to Stefano DellaVigna, Edward Miguel, Ned Angrablick and Rachel Glenaster for their support and encouragement over the course of this project. I also thank Nava Ashraf, Stephanie Bruck, Leonardo Busueta, Frederico Finan, Paul Gertler, Zarek Isaac Gidhinga, Sagore Kaur, Ricardo Pantoja-Trujillo, Matthew Rabin, Jonathan Schleibinger, Frank Schilbach, Arsen Shalizi, Raul Sanches de la Sierra, Dmitry Tuzholsky, Christopher Walters, Noam Yuchtman, and seminar participants at Berkeley for helpful discussions and feedback. Arthur Bider, Juliette Finetti, Anna Stantiocki and Giang Thai provided outstanding research assistance in Sierra Leone, and Jonas Gutheff also provided tremendous support for the analysis. The field experiment would not have been possible without the invaluable support of and collaboration with the Ministry of Health and Sanitation Sierra Leone, the International Growth Center and Innovations for Poverty Action, and especially Abdoulaye Bah, Fata Coureik, Abou Bakary Kamara, Dennis Markie and Osman Skilling. Funding for this project was generously provided by the Center for Effective Global Action, the William and Flora Hewlett Foundation, the International Growth Center, the National Institutes of Health, the Weiss Family Fund for Research in Development, UNICEF Sierra Leone, and an anonymous donor. The experiment and data collection were approved by UC Berkeley and Princeton University IRB and the Office of the Sierra Leone Ethics and Scientific Review Commission. The experiment was registered at AEA RCT registry (RCT ID: AEABCT08-0001299). All errors are my own.

Social Signaling and Childhood Immunization: A Field Experiment in Sierra Leone

This paper explores the use of social signaling as a policy tool to sustainably affect childhood immunization. In a 26-month field experiment with public clinics in Sierra Leone, the researcher introduces a verifiable signal—in the form of color-coded bracelets—given to children upon timely completion of the first four, or all five required vaccinations. Signals increase parents' belief in the visibility of their actions and their knowledge of other children's vaccine status. The impact of signals varies significantly with the cost and perceived benefits of the action: there are no discernible effects on timely and complete immunization when the signal is linked to an easier-to-complete vaccine with low perceived benefits, and large, positive effects when the signal is linked to a costlier-to-achieve vaccine

with high perceived benefits. Parents adjust their behavior nine months prior to realizing the social image benefit, demonstrating the motivational strength of signaling incentives. Of substantive policy importance, bracelets increase full immunization at one year of age by 9 percentage points, with impacts persisting up to two years. At a cost of US\$24.7 per additional fully immunized child, social signals can prove more cost-effective than financial or in-kind incentives.

March 12, 2024