

## Authors

Michael Kremer  
The University of Chicago

Edward Miguel  
University of California, Berkeley  
Center for Effective Global Action (CEGA)

Sendhil Mullainathan  
Harvard University

Clair Null  
Mathematica Policy Research

Alix Zwane  
Global Innovation Fund

## Social Engineering: Evidence from a Suite of Take-up Experiments in Kenya<sup>1</sup>

Michael Kremer  
Harvard University,  
Brookings Institution, and NBER

Edward Miguel  
University of California, Berkeley and NBER

Sendhil Mullainathan  
Harvard University and NBER

Clair Null  
Emory University

Alix Peterson Zwane  
The Bill and Melinda Gates Foundation

*First draft: February 2008  
This draft: April 2011*

Preliminary results. Please do not cite or circulate without authors' permission.

**Abstract:** Many effective health products and behaviors available through the private market are not widely adopted in less developed countries. For example, fewer than 10% of households in our Kenyan study area treat their water with dilute chlorine. Using a suite of randomized evaluations, we find that information and marketing interventions do little to boost use of chlorine. However, chlorine take-up is highly sensitive to price, convenience and social context, with more than half of households using chlorine when an individually-packaged supply is delivered free to the home. The highest sustained take-up is achieved by combining free, convenient, salient, and public access through a point-of-collection chlorine dispenser system and a local promoter. More than half of households treat their water and this use continues 30 months later even though promoters are paid only for the first six months. The estimated long-run costs of this intervention at scale, including administrative costs, are between \$0.25 and \$0.50 per person per year.

<sup>1</sup> \* This research is supported by the Hewlett Foundation, USDA Foreign Agricultural Service, International Child Support (ICS), Swedish International Development Agency, Finnish Fund for Local Cooperation in Kenya, google.org, The Bill and Melinda Gates Foundation, the UC Berkeley Blum Center for Developing Economies and the Harvard University Center for the Environment and Center for International Development Sustainability Science Initiative. We thank Liang Bai, Jeff Bruns, Leonard Braker, Lourenço Casaburi, Joan Hanmer, Anne Hawley, Jessica Leim, Owen Olor, Eric Van Dusen and Polycarp Waweru for excellent research assistance. Helpful comments have been received from: Anne Ahuja, Andrew Foster, Vivian Herlihy, Emerson Inyang, Dorelle Lantagne, Ethan Ligon, Robert Nantanyi, Mark Rosenzweig, and Paul Wangala. Sandra Spence gave guidance on chlorine testing. We are grateful to Anthony Fwamba, District Public Health Officer in Busia, for his interest in the project. All errors are our own. Views are those of the authors and do not reflect the opinions of the Bill and Melinda Gates Foundation.

# Social Engineering: Evidence from a Suite of Take-up Experiments in Kenya

Many effective health products and behaviors available through the private market are not widely adopted in less developed countries. For example, fewer than 10% of households in our Kenyan study area treat their water with dilute chlorine. Using a suite of randomized evaluations, we find that information and marketing interventions do little to boost use of

chlorine. However, chlorine take-up is highly sensitive to price, convenience and social context, with more than half of households using chlorine when an individually-packaged supply is delivered free to the home. The highest sustained take-up is achieved by combining free, convenient, salient, and public access through a point-of-collection chlorine dispenser system and a local promoter. More than half of households treat their water and this use continues 30 months later even though promoters are paid only for the first six months. The estimated long-run costs of this intervention at scale, including administrative costs, are between \$0.25 and \$0.50 per person per year.

April 01, 2011