Authors
Jessica Cohen
Harvard University

Pascaline Dupas
Princeton University

Simone Schaner
University of Southern California

American Economic Review 2015, 105(2): 609–645
http://dx.doi.org/10.1257/aer.20130267

Price Subsidies, Diagnostic Tests, and Targeting of Malaria Treatment: Evidence from a Randomized Controlled Trial[†]

By Jessica Cohen, Pascaline Dupas, and Simone Schaner*

Both under- and over-treatment of communicable diseases are public bads. But efforts to decrease one run the risk of increasing the other. Using rich experimental data on household treatment-seeking behavior in Kenya, we study the implications of this trade-off for subsidizing life-saving antimalarials sold over-the-counter at retail drug outlets. We show that a very high subsidy (such as the one under consideration by the international community) dramatically increases access, but nearly one-half of subsidized pills go to patients without malaria. We study two ways to better target subsidized drugs: reducing the subsidy level, and introducing rapid malaria tests over-the-counter. (*JEL* D12, D82, I12, O12, O15)

Limiting the spread of infectious diseases has positive spillovers. As such, subsidies for prevention and treatment products are often central to infectious disease programs. Financing such subsidies is obviously subject to a budget constraint, however, and it is important to ensure that subsidy dollars are spent where they have the highest return. For products whose usage has heterogeneous returns, the introduction of a subsidy creates a trade-off between access and targeting. That is, subsidies for the product are likely to increase demand among both those for whom the health returns are high and among those for whom the private health benefits are marginal (and the social returns possibly negative). The problem of how to set prices in the context of this type of moral hazard has been dubbed the "menu-setting problem" by Olmstead and Zeckhauser (1999).

This paper studies the menu-setting problem introduced by subsidies for the latest class of antimalarials, artemisinin combination therapies (ACTs). This setting

*Cohen: Harvard School of Public Health, Harvard University, 665 Huntington Avenue, Building 1, Room 1208, Boston, MA 02115, and Brookings Institution (e-mail: cohenj@hsph.harvard.edu); Dupas: Department of Economics, Stanford University, 579 Serra Mall, Office 238, Stanford, CA 94305, and NBER (e-mail: pdupas@stanford.edu); Schaner: Department of Economics, Dartmouth College, 326 Rockefeller Hall, Hanover, NH (e-mail: simone.schaner@dartmouth.edu). We thank the Clinton Health Access Initiative and Novartis Pharmaceuticals for financial support. We are very grateful to the Kenya Ministry of Health, KEMRI-Wellcome Trust Collaborative, Kenya CDC, PSI-Kenya, Jean Arlaudo, Justin Cohen, and Olivier Sabot for consultation and feedback on the study design, and six anonymous referees, Adhyata Adhvaryu, David Canning, Melissa Dell, Rebecca Dizon-Ross, Dave Donaldson, Kelsey Jack, Asim Khwaja, Ramanan Laxminarayan, Anup Malani, Sendhil Mullainathan, Sarah Reber, Jon Skinner, John Strauss, and numerous seminar participants for helpful feedback. We thank, Katie Conn and Sarah Wahlen for excellent study coordination, Moses Ramos for smooth implementation of the project, and the IPA-Kenya field officers for superb data collection. This research was not the product of any paid consulting relationship and we have no financial interest in the topic of this paper. All errors are our own.

[†]Go to http://dx.doi.org/10.1257/aer.20130267 to visit the article page for additional materials and author disclosure statement(s).

Price Subsidies, Diagnostic Tests, and Targeting of Malaria Treatment: Evidence from a Randomized Controlled Trial

Both under- and over-treatment of communicable diseases are public bads. But efforts to decrease one run the risk of increasing the other. Using rich experimental data on household treatment-seeking behavior in Kenya, we study the implications of this trade-off for

subsidizing life-saving antimalarials sold over-the-counter at retail drug outlets. We show that a very high subsidy (such as the one under consideration by the international community) dramatically increases access, but nearly one-half of subsidized pills go to patients without malaria. We study two ways to better target subsidized drugs: reducing the subsidy level, and introducing rapid malaria tests over-the-counter.

June 18, 2015