

Social interactions and malaria preventive behaviors
in Sub-Saharan Africa

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The burden of malaria, a life-threatening disease that is transmitted to people through the bites of infected mosquitoes, is especially intolerable in sub-Saharan Africa, since most malaria cases and deaths occur in this part of the world (WHO, 2013). Children under five and pregnant women are particularly at risk, because they have not yet developed functional immunity against the disease or have temporarily lost their immunity. Fortunately, technologies exist that can prevent and cure malaria. Among these technologies, sleeping under an insecticide treated net (ITN) is considered one of most effective ways to prevent malaria, since the mosquito dies immediately when it comes into contact with the mosquito net. For pregnant women, using an intermittent preventive treatment (IPT) during the gestation period has been found very effective in protecting mother and baby from malaria.

In our paper, we present econometric evidence on the use of ITNs and IPTs among children and pregnant women in Sub-Saharan Africa. Specifically, we focus on social interactions in the use of ITNs and IPTs, i.e. on the influence of neighbors' preventive behaviors on individual's preventive behavior. We define the neighbors of an individual as the individuals living in his geographical region. Social interaction may be important determinants of adoption of ITN and IPTs for two reasons. First, individuals may learn about the benefits of preventive behaviors from the experiences of their neighbors either through conversations or direct observation (social learning). Second, outside factors, such as public campaigns, may encourage the usage of ITN and IPT to become the new social norm. If the influence of the neighbors' is strong enough, there is a social-multiplier effect, where an individual's preventive behavior creates a social spillover that produces a much larger effect in the region.

Identifying social interactions is very difficult without longitudinal data containing detailed information on both the individual source of information and their social networks (because of the endogeneity of the reference group's behaviors). We follow the identification strategy of Glaeser and Scheinkman (2002) and Auld (2011), which calculates the size of the social spillover by comparing the effects at the individual level and at the regional level. This method addresses endogeneity, but requires repeated cross-sectional data and a large sample size.

Our data come from 78 surveys (Demographic Health Surveys, Malaria Indicator Surveys, Multiple Indicator Cluster Surveys, and AIDS Indicator Survey) for 29 Sub-Saharan countries between 1999 and 2011. Our dataset covers half a million children and 200,000 pregnant women approximately.

Our results indicate that social interactions are important when considering the effect of household education and wealth level on preventive decisions. Further research could try to identify the mechanisms through which these interactions operate.