

3ie-IFPRI Joint Seminar: Malaria Eradication and Economic Outcomes in Sub-Saharan Africa: Evidence from Uganda

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[Jeremy Barofsky](#), a Visiting Fellow at the Brookings Institution, presented the paper "[Malaria Eradication and Economic Outcomes in Sub-Saharan Africa: Evidence from Uganda](#)," – which he co-authored with Tobenna Anekwe and Claire Chase – at the [3ie-IFPRI joint seminar series](#) on February 11th. His talk discussed the long-run economic benefits of a malaria eradication campaign implemented in southwestern Uganda from 1959-1960. This was done through variation in childhood exposure to malaria by birth cohort, from the 1991 Ugandan census. He compared the treatment district to a synthetic control district, which is a weighted average of other districts in Uganda created to generate a counterfactual. Synthetic control methods are an innovative and relatively recent impact evaluation tool that mimics a matching procedure.

Barofsky's study exploits a Uganda's Ministry of Health and WHO pilot malaria eradication program in southwest Uganda in 1959. The campaign consisted of widespread DDT spraying in human and animal dwellings, as well as mass distribution of anti-malarials. The study employed district level data from the 1959 Ugandan census to construct a synthetic control district, and child mortality data from the Uganda 1969 Census. This ensured that pre-eradication baselines were analogous between treatment and synthetic control groups, and the synthetic control was an effective counterfactual to test treatment effects.

The results provide pertinent insights into the significant long-term benefits of malaria eradication in sub-Saharan Africa. The results indicate that malaria eradication raised educational attainment by half a year for both females and males. It also decreased child mortality by 16%, increased female primary completion rate by 30% and led to a 40% rise in the likelihood of male wage employment, as defined as wage/salary worker in a national survey. Furthermore, there are equal human capital benefits for boys and girls and an even more pronounced labour market effect for boys, though the effect for girls was muted. Few studies look at long-term malaria eradication benefits as is done here, making it a very important addition to the research base.

The discussant, [Anna Heard](#), a Senior Evaluation Specialist for 3ie's HIV/AIDS evidence programmes, provided the researcher with some suggestions on constructing the weights of the synthetic control group. Five northern districts that do not share similar pre-eradication characteristics with the treatment district were added to synthetic control groups, which potentially weakens its validity as a counterfactual. The audience raised concerns regarding the recolonization rate of mosquitos in the treatment district and the synthetic control. The presenter noted that the recolonization rate is likely to have a minimal impact on the results, but mentioned that he did not have data on the recolonization rate and that is an aspect that should be looked at moving forward. Audience members also noted the parallels between the study and the current Zika virus outbreak in Latin America and what the economic benefits demonstrated in the paper says about eradication campaigns more generally.