

Research Statement

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The long-term objectives of my research are to increase knowledge about the influence of development assistance on health-related outcomes, and second, to provide scientific evidence that will inform decisions on aid resource allocation. I am a spatial epidemiologist with strong training in economics and my research is grounded in extended public health frameworks.

While the health sector has attracted significant foreign aid, evidence on the effectiveness of this support is mixed. My dissertation “Health Aid: Does it Matter to Africa?” examines the allocation and impact of health aid within the context of placement, efficiency, and benefits. The first paper investigates the relationship between the placement of Chinese aid in Africa and political preferencing. The second paper uses spatial methods to project an alternative, more efficient, aid allocation strategy. The final project focuses on population level health effects of health aid placement, specifically whether all-cause child mortality is lower in regions receiving malarial aid interventions. To address these areas, I primarily study Africa and use secondary sources combined with methods from econometric and geospatial analyses. By combining household panels with geographically-referenced data, my research determines the contribution of aid on key health outcomes. When taken together, my findings indicate that funding has a detectable association with local development outcomes. I concluded that investments, such as malaria bed nets, should be carefully targeted and should consider disease risk in order to realize the full benefit of population level improvements in child health. I also provide a series of policy recommendations for structuring aid allocation to actively support development impact. This work is currently funded by the World Bank Group and USAID.

Existing research has relied largely on country-level inputs and outcomes, because systematic collection of sub-national data was previously unavailable. These studies have contributed greatly to our knowledge of aid effectiveness and have been influential in the design of follow-on and new programs. However, the result is that aggregate information is being used to make important decisions regarding individual- or project-level programs. My research answers questions using econometric methods and more granular data on targeted aid and program target results, which specifically address how health aid is used and whether it has any effect on health-related outcomes. In contrast to other scholars who have found that aid does not have the association we would expect to see, my dissertation finds evidence that health projects are positively associated with health outcomes.

In the past three years I have presented my research at the Carnegie Endowment for International Peace, the United Arab Emirates Ministry of International Cooperation and Development, the Southern Economic Association Annual meeting, and the American Public Health Association annual meeting. I have published six refereed journal articles that use geocoded health data. Most recently, I received acceptance of a co-authored publication to the *British Medical Journal Global Health*. This impact evaluation determined that health aid was targeted to areas with greater existing health infrastructure rather than areas most in need, but still effectively reduced malaria prevalence and enhanced self-reported health care quality. This month I will submit a geospatial impact evaluation to *Lancet Global Health*. Beyond that, I am planning two more

articles based on material from my dissertation. Those publications will complete the publishing arc of this work, and then I will move on to my second major project.

My next project examines the role of international collective action for health (ICAH) in addressing high mortality rates among poor populations in middle-income countries (MICs). In collaboration with Duke University's new Center for Policy Impact in Global Health, I will lead a sub-national spatial analysis of donor financing flows in India, examining the relationships between health aid, poverty, and health outcomes. This case study will use spatial methods to explain where contributions of health aid are located in relationship to poverty and to donor-preferential outcomes such as malaria, tuberculosis, and vaccine preventable illness. This work is funded by the Bill and Melinda Gates Foundation.

In summary, my research examines the relationship between aid allocation and outcomes from a quantitative and interdisciplinary perspective. Through this work I determine valuable insights into the resource-allocation process of global health funders. This research provides an interpretation of aid flows and is currently being used by multilateral donors, such as the World Bank, to understand how those aid flows can be more effective.