A conversation with the Center for Global Development, November 10, 2021

Participants

- Rachel Silverman – Policy Fellow, Center for Global Development (CGD)
- Justin Sandefur – Co-director of Education and Senior Fellow, CGD
- James Snowden – Program Officer, GiveWell

Note: These notes were compiled by GiveWell and give an overview of the major points made by Ms. Silverman and Mr. Sandefur.

Summary call notes

GiveWell spoke with Ms. Silverman and Mr. Sandefur of CGD to discuss a proposed grant to understand and mitigate the global burden of lead poisoning. CGD's proposed two-pronged program would include: (1) empirical research on the links between lead exposure and adverse outcomes in low-to-middle-income country (LMIC) settings; and (2) a multi-stakeholder working group on lead abatement.

Background information on the grant proposal:

- For the empirical research prong of the program, CGD proposes three studies, to be pursued in parallel:
    - **Part 1:** Study the effect of removing leaded gasoline in Africa, which was banned in most African countries around 2005. CGD would merge spatial data on road networks with geographically identified data on social outcomes.
    - **Part 2:** Study the effect of polluted sites and/or cleanup efforts, by focusing on a case study of one or more specific toxic waste exposure sites. CGD anticipates needing bespoke survey data collection to credibly estimate the causal effect of the exposure and/or cleanup on later life outcomes.
    - **Part 3:** Study longitudinal correlations between lead poisoning in early life (measured in existing studies) and later life outcomes (measured through new follow-up surveys). This study would trace a direct link from blood levels in early childhood to adult life outcomes, by doing long-term tracking of individuals who were sampled for blood lead testing in childhood.
- **The working group** would bring together stakeholders to generate strategies to reduce the burden of global lead poisoning, and would be co-chaired by Pure Earth, an organization focused on solving pollution crises in LMICs. CGD would issue and disseminate a final report with findings and recommendations, with the goal of motivating action from the Biden Administration and relevant international agencies.

See more details in the grant proposal.

In brief, conversation topics included:

- Expected publication of empirical research.
    - CGD expects to put out working papers, and would submit those to journals.

    - A null result for the first piece of research would likely not be published due to norms around publication of null results from desk-based natural experiments.
    - Mr. Sandefur is more confident that parts 2 and 3 of the research proposal would be published in a journal because they involve primary data collection and have more credible research designs.
- Limitations of the research
    - The first research study will not be able to track blood lead levels of the participants, so a null result would be unable to distinguish between proximity to roads not being a good proxy for exposure to leaded gasoline, versus exposure to leaded gasoline having little effect on outcomes.
    - For part 2, the researchers are looking for more mechanisms to track lead exposure, such as environmental measures of lead or young adult blood lead levels, to get more data so that null results would be more compelling.
    - CGD believes the second piece of research is the strongest of the three.
- How to mitigate the risks of confounding in the third piece of research.
    - In the US, exposures are generally easy to trace, however in LMIC settings, those thought to be in the control group may have other lead exposures. This risk could be mitigated with specific site studies, but cross-country studies based on Demographic and Health Survey (DHS) data may be less accurate.
    - In part 3, results will likely not be confounded as cleanly as they would be in the US, where lead exposure is so highly correlated with poverty. In LMICs, confounding exists, but does not seem as unidirectional.
- The value add of part 3 to existing longitudinal studies is that it will be an LMIC setting.
    - CGD expects causal pathways and biological mechanisms of lead exposure to be similar across countries, regardless of income. However, it is possible that dose-response relationships may be different, with higher doses of lead exposure in LMICs. Research could find the extent to which the dose-response model between lead exposure and cognitive outcomes is linear or has diminishing effects.
    - Leaders in global development and of LMICs do not all agree that reducing lead exposure should be prioritized during development, and research specific to LMICs could be helpful.
    - Advocacy materials claim long-term implications on health and wellbeing for adults who were exposed to lead as children in LMICs, but these claims are based on modeling and need more data to be more convincing.
    - Part 3 is particularly helpful for an audience of non-economists, who are more likely to be persuaded by biological data than causal inference.
- The likelihood of being able to determine economic outcomes of lead exposure from the available data.
    - For parts 2 and 3, CGD has a database of a couple hundred sites, so it is highly likely to find a site for which researchers can measure lead exposure impacts into adulthood.
    - Potential challenges include finding another research team that started studying children's blood lead levels in the past and wants to cooperate, and then securing IRB approval.

    - A useful research scenario would be finding a natural experiment in which it was possible to do contemporaneous blood lead level testing. For example, there is a site in which refugees who were settled on top of an old lead smelter got acute lead poisoning, though they may have had too much lead exposure for any findings to be generalizable.
- How to deal with the need to do more work before knowing how feasible the study designs are:
    - CGD would be fine with a gated grant, in which research funding would be released once researchers had a better sense of whether the research was feasible. One option could be gating field work costs and two years of staff time. A downside is that gating research funding could interfere with the timing between the research findings and the working group.
    - If the proposed research was determined to be infeasible after further study, funds could be repurposed. Potential projects include working with civil engineers doing international low cost innovation for lead exposure, working on remedial measures, or evaluating interventions.
- Potential trackable advocacy outcomes (highly hypothetical imagined scenarios rather than promised outcomes):
    - More mentions of lead and lead remediation at international fora by leaders of USAID, President Biden, or leaders in India.
    - Policy changes, such as finding an ally on Capitol Hill who writes lead exposure into USAID appropriations, funding for lead surveillance as part of DHS surveys, or building lead surveillance into development agendas.
    - A World Bank trust fund that adds lead onto health and education or infrastructure loans.
- The likelihood and potential sources of cost overruns.
    - Relative to an RCT, there is less risk of cost overruns in this research.
    - At this stage, sources of uncertainty in budgeting include the power calculations and unit costs of data collection.
- The value add of the working group and its report.
    - CGD working groups specialize in bringing people together from different institutions and redefining consensus on this topic. Participants go back to their institutions as ambassadors for the topic they have discussed.
    - The Toxic Truth report, a joint report by UNICEF and Pure Earth, already presents valuable research. CGD expects its working group to add value, because:
        - CGD has particularly strong contacts with multilateral development banks, the UK, and the US. CGD also has Geneva-based contacts, and is well-connected with the Global Fund, WHO, and Gavi, the Vaccine Alliance. It is generally less well-connected with LMIC policymakers.
        - CGD is not a single issue advocacy group, which could lead to legitimization of the issues in the broader development field.