



Replicating influential HIV impact studies: lessons learned and next steps

Impact evaluation studies should be carefully reviewed, understood and confirmed. Replication is the most well-established approach for verifying and validating these study results.

Decades of investment in HIV and AIDS prevention, care and treatment services have yielded numerous biomedical, behavioral, social and structural interventions deemed effective in specific subpopulations and settings. Impact evaluation studies have demonstrated the potential of many of these interventions to reduce HIV transmission and to reduce the morbidity and mortality associated with HIV infection. However, more work needs to be done before taking these interventions to scale.

In this brief

- An outline of 3ie's replication approach, with an example;
- A summary of challenges encountered across the five replication studies; and
- Recommendations for donors, policymakers and program implementers on how to advocate for replication studies.

With the support of the Bill & Melinda Gates Foundation, 3ie funded five replication studies of HIV prevention and treatment impact evaluations. The original studies investigated the impact of several interventions on various HIV and AIDS outcome measures.

The interventions included conditional and unconditional cash transfers, country-level development assistance from the US President's Emergency Plan for AIDS Relief, HIV education programs, and approaches to administering antiretroviral therapy (ART).

3ie-funded internal replication

Internal replication is the reanalysis of published results by an independent researcher. 3ie requires our replication researchers to use the published study methodology and original data to reproduce the study results. In addition, replication researchers test the robustness of the results to pre-specified verification checks. By re-examining published results, our replication program aims to increase decision makers' confidence that scaling up or nationally implementing a given intervention will be a good return on their investment.

Replication of an ART task shifting impact study in South Africa

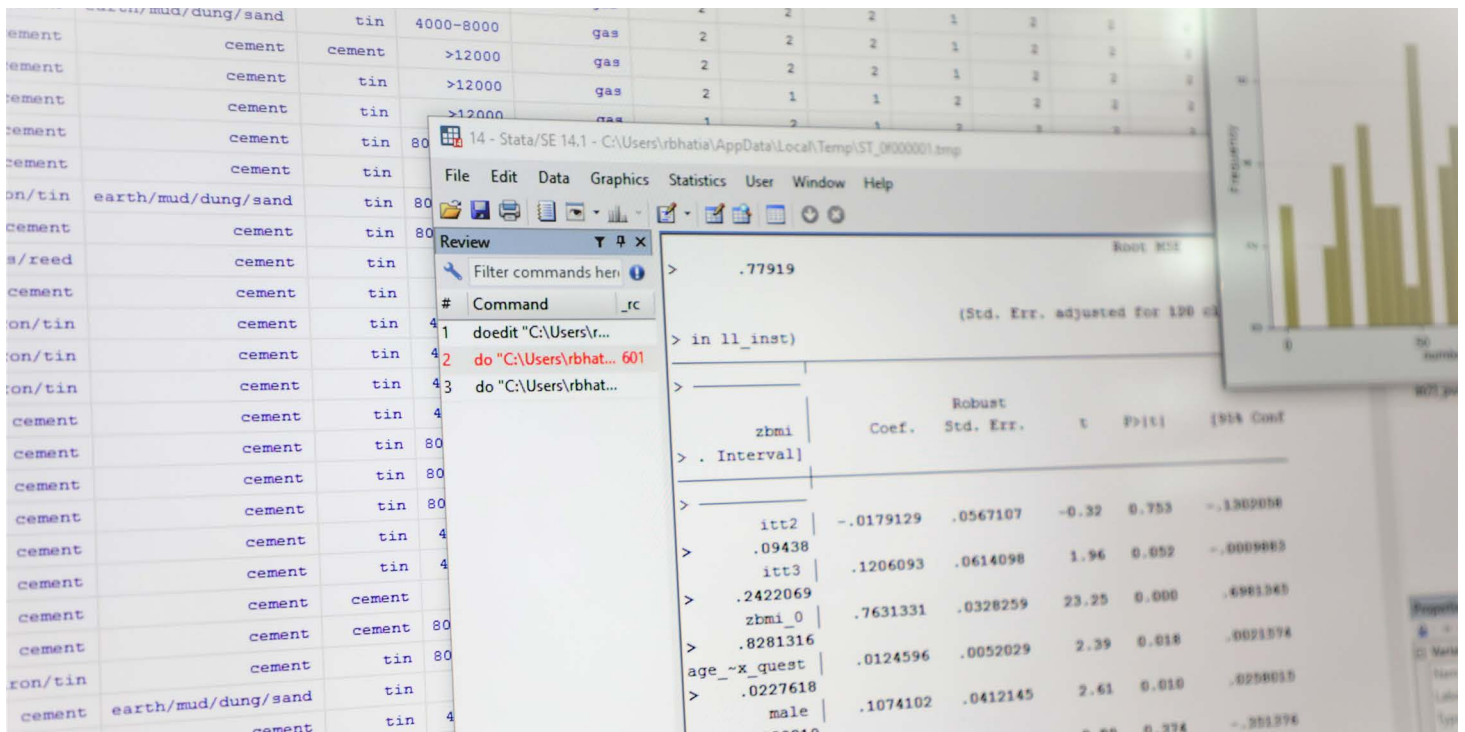
Fairall and colleagues' influential study, *Task shifting of antiretroviral treatment from doctors to primary-care nurses in South Africa (STRETCH)* (2012) sought to address the critical shortfall in doctors providing ART across South Africa. The original researchers conducted a cluster-randomized evaluation to determine the effectiveness of nurses' versus doctors' provision of ART on patient health outcomes, quality of care and mortality. They found

that shifting ART provision to nurses improved some health outcomes and quality of care measures and decreased the risk of dying among patients who were less sick at enrollment. But it may not have decreased mortality rates overall, as compared to standard care.

Baojiang Chen and Morshed Alam's forthcoming replication study¹ of this influential paper found that their replication of the

original analysis and their robustness verifications validated the published study findings. They agreed that expanding ART provision to include nurses improved some health outcomes and quality of care measures and may not have reduced overall mortality. The South African government is reviewing the replication results as it explores approaches to expand task shifting nationally.





Replication challenges

While implementing the five replication studies referenced in this brief, 3ie and the replication researchers encountered a number of challenges. The following are a few examples:

- De-identification – the process of preventing the identification of individuals through data (sometimes referred to as anonymizing) – is necessary before making personal data publicly available and is of particular importance for health researchers. However,

de-identifying data can be time consuming and costly, particularly if identifying characteristics have been used in multiple ways throughout the analysis.

- Data are not always saved in ways that make them easily accessible after the original data analyst moves on to new studies, new computers or new institutions.
- The original studies involved multiple organizations, government agencies and

research institutions. When multiple entities maintain data ownership, it can be difficult to reach consensus on sharing data. One replication research team changed studies because members could not reach agreement.

- With many co-authors filling different roles, it is not always obvious which author is the most appropriate contact for a given question, causing delays.

Recommendations for improving replication research and practice

Donors, policymakers and program implementers have an obligation to be transparent and accountable in allocating resources to maximize the beneficial impact of and return on their investments. Replication of influential study findings is a key step in this process. The following recommendations are actions that can be taken to advocate for and facilitate adopting replication of impact evaluations.

Donors

- Require a plan at grant initiation to ensure that studies' data will be available in the future.
- Require research registration before data analysis. The following registries are provided as examples:
 - 3ie's Registry for International Development Impact Evaluations ([RIDIE](#));
 - The Evidence in Governance and Politics [registry](#); and

- The American Economics Association's [RCT Registry](#).

- Require open research through the sharing of de-identified data, code and documentation.

Policymakers and implementers

- Ask researchers if their evidence is independently verified.
- Partner with researchers who make their data publicly available.
- Inform researchers of existing datasets available for repurposing and reuse.



CDC South Africa

Studies being reproduced in the 3ie HIV replication grant program

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Endnote

¹ Chen, B and Alam, M, (forthcoming). *STRETCHing HIV treatment: a replication study of task shifting in South Africa*. 3ie Replication Paper 13. Washington, DC: International Initiative for Impact Evaluation (3ie).



The International Initiative for Impact Evaluation (3ie) is an international grant-making NGO promoting evidence-informed development policies and programmes. We are the global leader in funding, producing and synthesising high-quality evidence of what works, for whom, why and at what cost. We believe that high-quality and policy-relevant evidence will help make development more effective and improve people's lives.

For more information on 3ie's Replication program, contact replication@3ieimpact.org or visit our website.

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