

**Title:** Global research partnerships: Twinning of individual Ph.D. students to break down power asymmetries - experiences from Rwanda

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**Background:** The burden of NCDs is rapidly rising in low- and middle-income countries (LMICs), facing 80% of global NCD-related deaths. The epidemic is going to be more prominent in the coming years. However, particularly in these countries, the responses to NCDs are driven by evidence from high-income countries (HICs) or adapted from infectious diseases. Therefore, strengthening the research capacity of local researchers and building the culture and practice of knowledge co-sharing with researchers from the developed world is elemental for generating contextually relevant high-quality evidence to inform policy and practice.

Yet, there are significant disparities in scientific capacity between countries, and researchers from LMICs are under-represented in the academic literature compared to their colleagues in HICs. The African region accounts for 10% of the global population but only 1.3% of global health research publications. Several barriers contribute to inadequate research culture in LMICs. These barriers include access to funding, an elevated patient burden per health worker, lacking data registration, less advanced technology, and weak local institutions.

**Aim:** To develop a framework in global health research that disassembles power asymmetries between researchers in high-income regions and low-resource settings.

**Methods:** Since 2013, The University of Rwanda and Aarhus University in Denmark have partnered on health research projects in primary health care, diabetes, and psychiatry, twinning Ph.D. students from north and south. The twins are enrolled at the northern university to obtain

a doctoral degree and at a southern institution to ensure local ownership and implementation, with supervisors from both institutions. The twins work together in several phases, residing in the southern country, enabling cultural and knowledge exchange and daily academic discussions and decision making; The shared phases include: 1) The design phase, 2) The data collection phase, 3) The final result dissemination and advocacy. Meanwhile, the twin students explore separate objectives and write their independent research papers and Ph.D. thesis.

**Perspective:** The twin model is based on the principles of local capacity building to ensure high scientific standards and participation by local stakeholders, preempting extractive research and scientific colonialism. It offers opportunities for equal participation in research activities to local researchers and research that reflect local realities and needs, providing a framework for innovations compatible with the realities in resource-constrained settings.