LETTER

Global research partnerships in advancing public health: A case study on India

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Collaborative research is integral to medicine. Multi-national and multi-institutional research partnerships produce advances in medicine and public health that have a significant societal impact. Developing nations can gain from such collaborative partnerships in achieving progress in sustainable development goals. However, it is important that the research agenda is relevant to the region where studies are conducted. Funding of research by the national government and regional organisations will ensure that the research is appropriate for the region, and ethically rigorous. In this study, I investigated the characteristics of research partnerships in India, especially the sources of research funding.

I conducted a cross-sectional analysis of all original research articles published in the top five high impact clinical research journals over a period of ten years prior to February 18, 2018. I restricted the search on the PubMed database to articles containing the word "India" in any part of the publication, and to those which provide an abstract. Of the 258 articles that were retrieved from this search, I found 59 manuscripts which describe research conducted exclusively in India.

Of the 59 research studies, 31 were published in *The Lancet*, 13 in *BMJ*, 11 in *New England Journal of Medicine*, 3 in *Journal of American Medical Association* and 1 in *Annals of Internal Medicine*. Only 46% of the studies had an Indian-affiliated researcher listed as a first author, and 29% as a corresponding author. The first and the last authors of the study were both from outside India in 63% of the studies. The Government of India provided funding support to 9 studies (15%), whereas a foreign government provided support to 29 studies (51%). 54% of studies had funding from a non-governmental organisation, not including the United Nations, the World Health Organization or the World Bank. The Bill & Melinda Gates Foundation and Wellcome Trust provided research funding in 14 (24%) and 7 (12%) of the studies respectively. Only 6 studies were conducted with pharmaceutical support, of which only 3 were funded exclusively by the industry. Of the 59 studies, 36 were interventional and 23 were observational. Maternal and child health were the fields of study in 36% of the publications. Infections, chronic diseases, and cause of death studies formed the other major fields. A substantial proportion of research projects (15%) were focused on describing mortality rates specific to exposures such as infectious organisms and risk factors such as smoking.

A majority of the high-impact clinical medicine and public health research articles on India have partnerships that span countries and funders. Although all the research topics identified in this study were relevant to the Indian context, two-thirds of the projects were conceived, designed, and conducted by an individual who has an affiliation to a foreign nation. Non-governmental and external government support has been crucial to these studies. More than four-fifths of the funding for high-impact research projects conducted in India was independent of the government of India. In fact, one-third of the funding support has been from the Bill & Melinda Gates Foundation and Wellcome Trust, which are organisations based in the United States of America and the United Kingdom, respectively. It is to their credit that the areas of research funded by such organisations are relevant to the region.

Research in developing regions should be conducted based on strong ethical benchmarks. Collaborative partnerships, social value, scientific validity, and context of the research have to favour the region where research is conducted (1). Funders of research projects can ensure that such benchmarks are met. Recently, the government of India has imposed strict restrictions on research funding from the Bill & Melinda Gates Foundation, among several other similar non-governmental organisations (2). While such a move may have been to minimise the risk of exploitation of Indian citizens by an externally-driven research agenda, the decision could negatively impact the progress in public health. International collaborative research partnerships have only helped advance research into vital areas of public health in India. Unless the paucity in research funding that is likely to occur from such a decision by the Government of India is not urgently rectified by the national government and regional organisations, curtailing research funding from external sources may have a human cost. The solution to this problem rests with the government which should ensure greater investment in research. Not doing so will be detrimental to the well-being of its people.

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