



ORIGINAL ARTICLE

Global Health Donor Presence, Variations in HIV/AIDS Prevalence, and External Resources for Health in Developing Countries in Africa and Asia

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ABSTRACT

Objective: The presence of multiple global health aid organizations in donor recipient countries at any point in time has led to arguments for and against aid coordination and aid pluralism. Little data, however, exist to empirically demonstrate the relationship between donor presence and longitudinal disease outcomes in donor-recipient countries. We examined the association between global health donor presence and changes in HIV/AIDS prevalence in 14 developing countries: 12 in Africa (Ethiopia, Kenya, Tanzania, Malawi, Zimbabwe, Mozambique, Rwanda, South Africa, Uganda, Zambia, Burkina Faso and Mali) and compared them with two developing countries in Asia (India and Vietnam).

Methods: To conduct our analyses, we conceptualized a framework for examining global health donor presence and disease outcomes. Donor presence data were derived from *Mapping the Donor Landscape in Global Health: HIV/AIDS*, a report published by the Kaiser Family Foundation, Washington, DC, USA. HIV/AIDS prevalence data were obtained and analyzed from the World Health Statistics and the Demographic and Health Surveys. Percent changes in national HIV/AIDS prevalence between 2009 and 2011 in the 14 developing countries were computed and correlation coefficients between donor presence and prevalence changes were calculated.

Results: Between 2009 and 2011, HIV/AIDS prevalence decreased in all but one of the 14 developing countries with the presence of 21 or more global health donors. There was about 40% overall reduction in HIV/AIDS prevalence across the 14 countries in our analyses. South Africa recorded the most reduction in HIV/AIDS prevalence (-6.7%) followed by Zambia (-6.3, %), and Mozambique (-5.7%). Ethiopia was the only country without a reduction in HIV/AIDS prevalence (+0.1%). A correlation coefficient of 0.43 implied greater reductions in HIV/AIDS prevalence associated with increased donor presence.

Conclusions and Public Health Implications: Our study shows a correlation between donor presence and HIV/AIDS disease burden in 14 donor-recipient countries. Our findings indicate that increased donor presence yields quantifiable reduction in global health disease burden. Further research is needed to demonstrate whether these gains can be observed in other global health disease outcomes.

Key words: Global health • Donor presence • Donor coordination • Developing countries • Africa • Asia • HIV/AIDS • Global health conceptual framework

Introduction

At any point in time, there are numerous aid organizations providing development aid to address global health and other social and economic development issues in low and middle income countries (LMICs), also known as developing countries, a phenomenon referred to as “aid pluralism.” The pluralistic nature of aid organizations and the programmatic fragmentation that culminates from aid pluralism have led to increasing calls for donor coordination in aid assistance. According to proponents, donor coordination in global health and international development is important in maximizing population-level impact in global health.^[1] There are ongoing worries about the fragmented nature of donor activities and presence manifested often in duplicative programs or programs that ought to complement each other. Advocates of donor coordination argue that aid coordination leads to efficiency and effectiveness; they further argue that efficiency and effectiveness ensure that increased funding subsequently culminates in the reduction in disease burden in nations receiving aid from a more coordinated donor community.^[2]

In making their case for improved aid coordination, McCoy and colleagues^[2] lamented that:

“The fragmented, complicated, messy and inadequately tracked state of global health finance requires immediate attention. In particular it is necessary to track and monitor global health finance that is channeled by and through private sources, and to critically examine who benefits from the rise in global health spending.”

Implicit in the calls for donor coordination are two principal assumptions. First, proponents of donor coordination believe that the presence of multiple donor organizations both from the public (governments) and private (foundations) sector actors is a reality with inherent benefits. Second, calls for donor coordination are fuelled by the assumption of the potential benefits of pooled resources (or economies of scale) in addressing major global health challenges within the donor receiving countries as evidenced in aid alignment through sector-wide approaches.^[3] More recently, proponents of donor coordination are energized by the emerging concept of “collective impact,” an organizing concept that

opines the importance of leveraging broad sector coordination to achieve large-scale social change.^[4] Collective impact opines that although large-scale social change requires broad cross-sector coordination, the social sector regrettably remains focused on the isolated intervention of individual organizations.^[4] One apparent acknowledgment of the importance of donor coordination in global health was the founding, in 2002, of the Global Fund to Fight AIDS, Tuberculosis, and Malaria (the Global Fund), an international financing institution working as a partnership between government, civil society, the private sector and communities living with TB, Malaria and AIDS.^[5] Although it has enjoyed mixed reviews, Global Fund was a practical manifestation of the calls for donor coordination.

In opposition to aid coordination are proponents of aid pluralism who argue that having a range of active donors is in tandem with, and at the heart of, competitive economics that ought to be nurtured and not jettisoned within the development sector.^[6, 7] Proponents of aid pluralism argue that too much aid coordination is akin to low competition among donor organizations and that this could lead to unintended negative consequences—creating new aid monopolies—a milieu that is fraught with little aid effectiveness.^[8] According to this view point, donors enjoying monopoly in a sector are more likely to impose their biases on recipient countries, their staff, and potentially tie aid to conditions, demonstrate the political nature of and consequently alienate recipients detracting from the overall goals of these development aids.^[9] Aid pluralism proponents identify benefits of aid pluralism to include engendering of more ideas, competition, innovation, and consistent flow of funding.^[6, 7]

Calls for donor coordination and efforts or global health frameworks to engender donor coordination are not new, although they have been more prominent in the literature and in the advocacy world. In the last decade or so, there have been at least seven prominent global health efforts aimed at increasing donor coordination. These include the Organization for Economic Cooperation and Development’s (OECD’s) Development Assistance Committee (DAC) of 1960; the United Nations Development Program of 1965; the Rome High Level Forum on

Donor Harmonization of 2003; the Paris Declaration on Aid Effectiveness of 2005; the Accra Agenda for Action of 2008; and the Busan Partnership for Effective Development Cooperation of 2011.^[10] The 2005 Paris Declaration, endorsed by ministers of developed and developing countries and heads of multilateral and bilateral development institutions, committed to taking far-reaching and monitorable actions to reform the ways donor countries and agencies deliver and manage their aids. Five years later in 2010, leaders of eight leading global health agencies called for improved monitoring and evaluation of their own progress and performance and to be able to respond to increasing emphasis on results and accountability.^[11] The Paris declaration earlier and the recent unified statement by the leading global health leaders underscore one poignant fact: while aid volume and development assistance resources need to increase to achieve desired goals—which include addressing the outcomes for which the funds were disbursed—there is an urgency for results and/or outcomes. Underscoring this is the increased calls for increase in aid effectiveness at the nucleus of which is coordination of aid assistance for collective impact.^[11, 12] It is not surprising therefore that the need to demonstrate the effectiveness of health development aid and assistance has culminated in calls for increased accountability in the reporting of global health data.^[2] Donor agencies are under increased scrutiny by their boards or governance arms to demonstrate the effectiveness of their programs as a necessary prerequisite to retaining donor loyalty. Donor countries are facing increased demands for accountability from national legislatures and citizens. Writhing under tough global economic down turn, many donor nations are under duress to discontinue providing global health development aid when their own citizens are experiencing widespread economic adversity. For example, United States slowed its development assistance for health, the Global Fund to Fight AIDS, Tuberculosis, and Malaria did not make any new grants for two years, and global health funding by UN agencies stagnated and even plummeted.^[1] According to reports, at the peak of the global economic turmoil, between 2011 and 2012, development aid from the world's developed countries—who are the main aid donors—fell by 4%.^[13]

A number of existing studies have evaluated the effects of global health initiatives on country health systems.^[14, 15] However, little data exist in the literature to empirically demonstrate the relationship between donor presence and specific disease outcomes in donor-recipient countries. To address this gap in the literature, we examine the relationship between donor presence and change in HIV/AIDS prevalence in 14 low-and-middle-income countries (developing countries). This paper provides one of the first glimpses of who actually benefits from the rise in global health spending evidenced by the magnitude of donor presence.

Methods

We hypothesized an inverse relationship between donor presence and HIV/AIDS prevalence in developing countries. Specifically, we expected that an increase in the number of donors in a particular country will result in a reduction in the prevalence of HIV/AIDS in the adult population between the periods for which data are available. Our goal was to empirically demonstrate the basic assumption of global health donor philosophy, i.e. using donor funding to reduce disease burden. To do so, we calculated the percent changes in national HIV/AIDS prevalence between 2009 and 2011 in the 14 developing countries using the following mathematical formula: $((y_2 - y_1) / y_1) * 100$. In addition, we examined the overall relationship by computing the correlation coefficients between donor presence and prevalence changes. We analyzed external sources of funding for national health expenditure in the 14 developing countries to explore whether, as we hypothesize, these resources increased in a pattern that mirrors the magnitude of donor presence in the developing countries analyzed.

Data on Donor Presence. We obtained data on donor presence from *Mapping the Donor Landscape in Global Health: HIV/AIDS*, a report published by the Kaiser Family Foundation (KFF), a non-profit organization that analyzes major health care issues facing the U.S., as well as the U.S. role in global health policy.^[16] The report measures the landscape of donor presence based on analyses of data from the OECD Creditor Reporting System (CRS) database.

Briefly, the CRS database is the main source for comparable data across all major donors of international assistance and represents development assistance disbursements as reported by the 22 member countries of the OECD’s Development Assistance Committee, the European Commission and other international organizations.^[10] Details of the CRS database are provided elsewhere.^[10] The report calculates a cumulative number of global health donors and identified 14 out of 141 Developing countries with 20 or more bilateral or multilateral donors who provided development assistance for HIV for a three-year consecutive period covering the years 2009, 2010, and 2011. Substantive and detailed description of the KFF’s donor landscape reporting methodology can be found elsewhere.^[16]

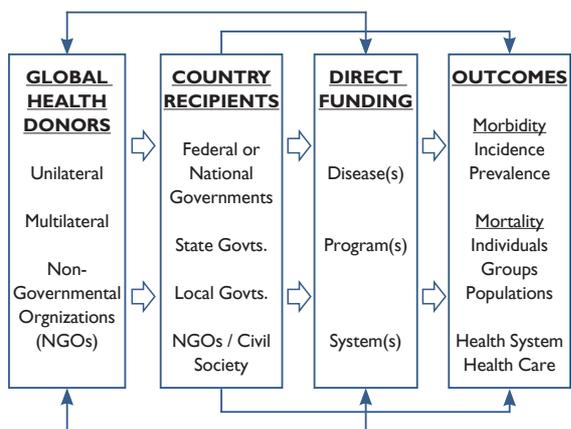
Data on HIV Prevalence. We extracted HIV/AIDS prevalence data among males and females aged 15-49 for the three-year period (2009-2011) for the 14 developing countries with the highest presence of donors for HIV covered in the donor landscape report using 2009 as our baseline and 2011 as the comparison period. HIV/AIDS prevalence data for the years 2009 and 2011 were obtained from the World Health Statistics 2011^[17] and the World Health Statistics 2013^[18] respectively. We augmented the prevalence data for two countries—Ethiopia and India—with data from the 2005 and 2011^[19,20] Ethiopia Demographic and Health Surveys, and the 2005 India Demographic Health Surveys respectively.^[21] The World Health Statistics and the Demographic Health Surveys are major sources of global epidemiological and demographic data with well-described methodologies. Percentage, positive or negative changes, in national HIV/AIDS prevalence between 2009 and 2011 in the 14 countries were computed and correlation coefficients between donor presence and changes in prevalence were calculated using Microsoft Excel.^[22]

Data on External Resources for Health. We obtained data on the external resources for health from the World Health Organization’s National Health Account database published by the World Bank. The external resources for health captures the totality of funds or in-kind services that a nation receives from

external entities.^[22] We computed the comparison data for the two most recent years of available data within the periods 2009 and 2011.

Global Health Conceptual Framework: Existing global health conceptual frameworks have not examined the relationship between donor presence and change in health outcomes.^[23, 24, 25] To address this gap and to guide our analyses, we conceptualized a global health donor-presence and disease outcome conceptual framework (Figure 1) for understanding the proximal and distal relationships between donor presence and disease outcomes in developing countries. In our conceptual framework, we theorize that, at any given time, there is a collection of different global health donor organizations in a given developing country. These include unilateral, multilateral, and non-governmental donor organizations. We acknowledge in our framework that the intensity of donor presence in any developing country at any given time is dictated by the politico-economic situation at the donor agency’s home country but more so at the donor-recipient nation lending credence to some countries being described as “donor havens.”^[26]

Figure 1. Global Health Donor Presence and Disease Outcome Conceptual Framework



According to our conceptual framework, direct donor funding are disbursed at the recipient level via the highest national levels through government

agencies namely, national governments, state governments, local governments, and national-level non-governmental or civil society organizations. Using these funds, national governments and/or non-government actors can address disease outcomes. Although donors disburse funds directly to national governments, the impact on disease outcomes is indirect. Some experts argue that disbursing funds through national governments provides the best potential for large-scale roll-out and national/population level impact therefore affecting outcome.^[27, 28]

Our global health framework shows that some global health donors disburse funds in developing countries through direct disbursement to specific diseases, programs, or system improvement projects at the national level. Through this mechanism, donors directly fund their priorities without going through government agencies. These types of direct disbursements have shorter latency and impact on disease outcomes because the recipients can affect outcomes more directly than they would if they had gone through government agencies. However, this type of indirect global health donor disbursements that do not go through government agencies have been frowned upon as a veiled method for averting national bureaucracy.^[27] This type of funding mechanism is very fluid and are less utilized. Finally, our framework posits that, regardless of the donor disbursement pathway, the association between donor intensity can be empirically tested by evaluating the degree to which donor presence affects morbidity (incidence and prevalence) or reduces mortality (at individual, group, or population-level) in any given LMIC.

Results

HIV/AIDS Prevalence. All but two of the 14 developing countries with the highest donor presence were from sub-Saharan Africa. The two exceptions were Vietnam and India from South East Asia. Altogether, 332 donors provided development assistance for HIV/AIDS in the 14 countries included in this analysis. Ethiopia has the highest number of donor presence of 27, followed by Kenya with 26 donors. Each of Tanzania, Malawi, Zimbabwe and

Mozambique had 25 donors. Our analyses showed that within the two-year period, HIV/AIDS prevalence decreased in all but one of the 14 developing countries with the presence of 20 or more global health donors (see Table 1). In 2009, there was a combined HIV/AIDS prevalence (unweighted average) burden of 6.7% in the 14 countries. In 2011, this burden dropped to 4.0%. Overall, there was about 40% reduction in HIV/AIDS prevalence across the 14 developing countries in our analysis. South Africa recorded the most reduction in HIV/AIDS prevalence (-6.7%) followed by Zambia (-6.3%), and Mozambique (-5.7%). The HIV/AIDS prevalence in Malawi dropped from 11% in 2009 to 6% in 2011, a 5.1% reduction in HIV prevalence. With the highest number of donor presence among the 14 countries, Ethiopia was the only country that did not achieve a reduction in HIV/AIDS prevalence (+0.1%) between the two periods. The correlation coefficient between donor presence and changes in HIV/AIDS prevalence for 12 countries (excluding Ethiopia and India) was estimated to be 0.43, implying that the higher the number of donors present, the greater the reduction in HIV/AIDS prevalence.

External Sources of Funding. External resources for health account for part of a nation's health expenditure and for developing countries, these are from multiple mechanisms including foreign governments, bilateral organizations, or foreign nonprofit organizations.^[22] Conceptually, external resources for health should mirror the magnitude of donor presence in developing countries and should increase with increasing donor presence. We found that between 2009 and 2010, external resources for health accounted for greater than 20% of the total health expenditures in 10 of the 14 developing countries in this analysis (see Table 2). In Mozambique, Malawi, Rwanda, and Zambia, external resources for health accounted for 62%, 58%, 48% and 44% of the total national expenditure on health. External resources for health increased in all but five of the 14 countries between 2009 and 2010 demonstrating that donor contributions provide substantial cushion to donor-recipient countries.

Table 1. Donor Presence and Changes in HIV/AIDS Prevalence in Developing Countries, 2009-2011

Country	No. of Donors Present, 2013	HIV/AIDS Prevalence, 2009 ^{a,b}	HIV/AIDS Prevalence, 2011 ^{a,b}	Change in HIV/AIDS Prevalence, 2009-2011	Absolute Decrease in HIV/AIDS Prevalence, 2009-2011	% Decrease in HIV/AIDS Prevalence, 2009-2011
Ethiopia	27	1.4	1.5	0.1	-0.1	-7.1
Kenya	26	6.3	3.9	-2.4	2.4	38.1
Tanzania	25	5.6	3.4	-2.2	2.2	39.3
Malawi	25	11.0	5.9	-5.1	5.1	46.4
Zimbabwe	25	14.3	9.7	-4.6	4.6	32.2
Mozambique	25	11.5	5.8	-5.7	5.7	49.6
Rwanda	23	2.9	1.9	-1.0	1.0	34.5
South Africa	23	17.8	11.1	-6.7	6.7	37.6
Uganda	23	6.5	4.0	-2.5	2.5	38.5
Vietnam	23	0.4	0.3	-0.1	0.1	25.0
Zambia	23	13.5	7.2	-6.3	6.3	46.7
India	22	0.3	0.3	0.0	0.0	0.0
Burkina Faso	21	1.2	0.7	-0.5	0.5	41.7
Mali	21	1.0	0.7	-0.3	0.3	30.0

^a HIV/AIDS Prevalence per 100,000 Population.

^b HIV/AIDS Prevalence are Reported for Adults 15-49 Years.

Figure 2. Percent Decrease in HIV/AIDS Prevalence from 2009-2011 in Developing Countries

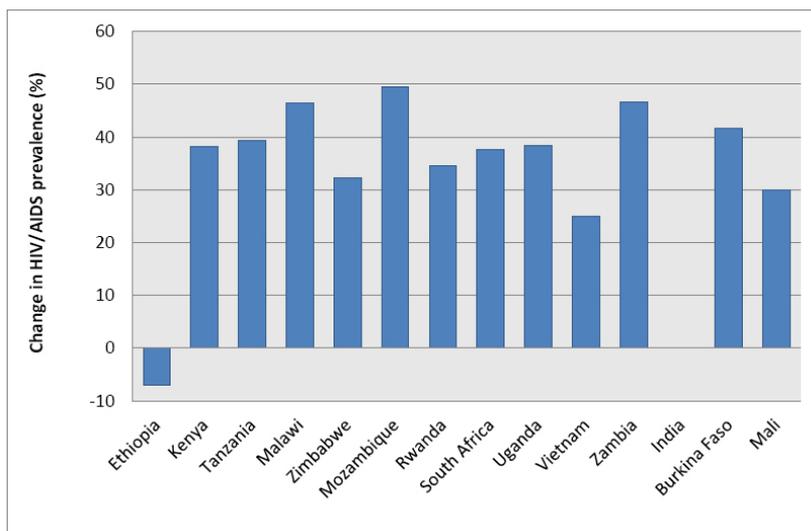
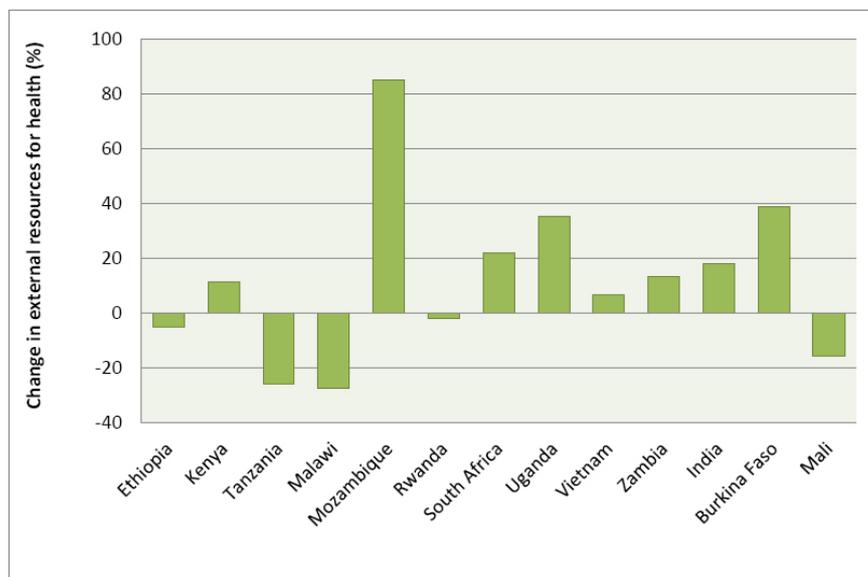


Table 2. Donor Presence and Changes in External Resources for Health in Developing Countries, 2009-2010

Country	No. of Donors Present, 2013	External Resources for Health, 2009	External Resources for Health, 2010 ^a	Change in External Resources for Health, 2009-2010	% Change in External Resources for Health	Type of Change
Ethiopia	27	38.0	36.1	-1.9	-5.0	Decrease
Kenya	26	34.0	37.9	3.9	11.5	Increase
Tanzania	25	53.4	39.6	-13.8	-25.8	Decrease
Malawi	25	80.0	58.1	-21.9	-27.4	Decrease
Zimbabwe	25	N/A	N/A	N/A	N/A	N/A
Mozambique	25	33.6	62.2	28.6	85.1	Increase
Rwanda	23	49.0	48.0	-1.0	-2.0	Decrease
South Africa	23	1.8	2.2	0.4	22.2	Increase
Uganda	23	20.4	27.6	7.2	35.3	Increase
Vietnam	23	3.0	3.2	0.2	6.7	Increase
Zambia	23	38.5	43.7	5.2	13.5	Increase
India	22	1.1	1.3	0.2	18.2	Increase
Burkina Faso	21	26.0	36.1	10.1	38.8	Increase
Mali	21	26.3	22.2	-4.1	-15.6	Decrease

^a Data are provided for the latest year for which data are available.

Figure 3. Percent Decrease in External Resources for Health from 2009-2010 in Developing Countries

Discussion

Calls for more donor coordination have gained increasing traction due to the global economic downturn of the last few years.^[13] More funding organizations and countries are demanding for empirical evidence that their aids donations change lives and making the desired impact in the lives of average people in the developing world. Almost four years ago, before the global economic downturn, McCoy and colleagues lamented that the fragmented, complicated, messy and inadequate tracking of the state of global health finance require immediate attention.^[2] They opined that it was particularly necessary to track and monitor global health finance that is channeled by and through private sources, and to critically examine who benefitted from the rise in global health spending. Our study begins to address this need and provides one of the few empirical data on the impact of global health aids in developing world. We must emphasize that the data we present in this analysis represent associations, albeit correlations. We are cognizant of the many nationally driven programs and expenditure for HIV/AIDS that are taking place in these countries and do not intend to minimize these efforts. Further studies might be needed to explore the national expenditure/spending on overall health and HIV/AIDS specifically in each of these countries and find to what extent can the benefits of the fight against HIV/AIDS could have been substantially driven by international aid. More studies are needed to empirically support the relationships presented in our debutant conceptual frame work presented given the paucity of conceptual frameworks exploring donor presence and global health disease burden.^[29, 30]

Conclusion and Global Health Implications

HIV/AIDS prevalence remains unacceptably high in developing countries. However, results from this study show that the global health investments are yielding fruit in addressing the epidemic in these poor countries of the world. Given the increasing scrutiny and often criticisms facing global health donor organizations, findings from this study could provide some evidence to demonstrate that pop-

ulations in developing countries obtain improved health outcomes from donor organizations. Making the connection between aid and improved health outcome is at the center of global health and international development. Many donor organizations conduct impact evaluations of their programs to make this point. However, results of these evaluations are not widely disseminated firstly because some of the results were not what the sponsors intended or secondly because these reports did not garner enough support by both sponsors and evaluators that dissemination becomes challenging. Our study provides important information for global health officials in the countries included in this country to examine benefits from donor organizations. For managers of global health organizations, our study provides solace that aids work especially in countries where they are directed at need and to the affected populations.

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