Are all networks created equal?
A study of participation patterns within the Transnational Advocacy Network seeking to increase access to treatments for HIV/AIDS in developing countries

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1.0 Introduction

In recent years a number of authors have argued that transnational advocacy networks (TANs), which are loose international associations of civil society organizations (CSOs) working to advance a principled cause, may be able to improve the level of democracy and accountability within the international system (e.g. Sikkink, 2002; Scholte, 2004; Bexell *et al.*, 2010). However, these hopes for the democratic potential of advocacy networks have also been tempered by concerns that networks may to a certain extent replicate the unequal power relations that exist between developed and less developed countries. For example, CSOs based in wealthier countries tend to be more numerous within international civil society and have greater resources than those from developing areas (Sikkink, 2002). Moreover, organizations in developed countries also have easier access to major global decision making centres like New York, Geneva and Washington. Given that CSOs from developing countries have been found to have different priorities than those from developed countries working in the same issue field (Rohrschneider and Dalton, 2002), these imbalances could potentially contribute to the continued marginalization of countries from the global South.

Despite these concerns, there appears to have been surprisingly little systematic research exploring how the inequalities in the international system actually shape the way that CSOs from different regions take part in TANs over time. This paper seeks to fill this gap by examining patterns of participation within the transnational advocacy network seeking to increase access to anti-retroviral therapy (ART) for HIV/AIDS in developing countries, referred to here as the Access to Treatment Network (ATN). More specifically, the paper investigates whether CSOs based in countries with higher incomes were in fact more likely to participate in the advocacy network than those from poorer countries. To provide an alternative explanatory model, the paper also examines whether levels participation were affected by HIV infection rates, with the assumption being that participation should increase as rates of infection rise.

To conduct this examination, a dataset of CSOs involved in the ATN that was compiled through an analysis of organizational endorsements to 18 sign-on statements (either letters or declarations) that were issued by the ATN between 2000 and 2004 (see Appendix I for description of the statements). While CSOs from developed countries were overrepresented in the absolute number of organizations and endorsements found, patterns of participation shifted dramatically once the results were adjusted for population size, with half of the top twenty most active countries being located in the developing world – seven in Africa and three in Latin America. Furthermore, rates of participation were found to increase with both a country's income level and its HIV infection rate. Based on these findings it would appear that the ATN does not directly replicate the broader structural inequalities within the international system. While rates of participation do increase with GDP, countries experiencing higher levels of HIV/AIDS are participating in sign-on statements at proportionately high rates. However, these results should be interpreted with some caution since the analysis also showed that all of the

twenty organizations with the highest absolute rates of participation were based in developed countries.

The next section provides a brief overview of the ATN, while section three sets out both the methodology and specific research questions that will be pursued. Given that the approach does not appear to have been employed in previous studies, particular attention is paid to the opportunities and challenges that may stem from using sign-on statements as a way to study participation in advocacy networks. The results and conclusion are then presented in sections five and six, with section seven discussing possibilities for further research into the impact of structural inequalities on transnational advocacy as well as additional questions raised by the analysis of statements.

2.0 Overview of the Access to Treatment Network

While ART are not a cure for HIV, it can slow and even reverse the effects of the disease. The introduction of ART in developed countries beginning in 1996 led to drastic declines in AIDS mortality in the region (WHO, 2003). However, international patent protection meant that ART medicines were shockingly expensive, costing up to US$12,000 per patient per year (UNAIDS, 2004). In addition, the potentially toxic side effects that accompanied most ART meant that a sophisticated medical infrastructure was needed for treatment programs to operate properly. As such, most developing countries were unable to implement ART programs for their citizens. The one notable exception was Brazil, which had threatened to override the patents and produce generic ART medications if the pharmaceutical companies did not lower the prices. The strategy was successful in reducing the annual price to just US$3,000, allowing the government to begin a mass treatment program (Teixeira, Vitória and Barcarolo, 2003).

However, when other developing countries began taking steps to implement similar programs, they were met with intense international pressure to respect the existing patents. The most dramatic example of this counter movement was the lawsuit filed in 1998 by 39 international pharmaceutical companies that sought to overturn amendments made to South Africa's *Medicines and Related Substances Control Act* in 1997 that allowed the government to order the manufacture of essential generic medications (Barnard, 2002).

In response to such developments, a network of CSOs active in the areas of international development intellectual property law, health policy, and the rights of persons living with HIV/AIDS began to form to defend the right of developing countries to manufacture generic ART medications (Sell, 2002). While the initial organizing was primarily done by organizations based in developed countries such as Médecins Sans Frontières, the Consumer Project on Technology (a US-based intellectual property advocacy organization), and Health Action International (an international health policy CSO), by early 1999 a conference was held in Geneva to forge connections between these groups and organizations from developing countries

(Ford and Berman, 1999). AIDS treatment activist CSOs from the developed world such as ACT UP New York and ACT UP Paris also soon became heavily involved and formed the Health Global Access Project (Health GAP) to coordinate their efforts (Sawyer, 2002).

Over the following years the ATN was successful not only in persuading the pharmaceutical industry to abandon its lawsuit against South Africa in 2001, but also in helping to drive the annual cost of first-line ART medications to under US$300 by 2004 and under US$150 per year by 2009 (WHO and UNAIDS, 2009). As treatment costs have fallen, the network has increasingly come to advocate for greater international funding for ART provision given that even the reduced treatment prices are still far too expensive for the budgets of many poorer countries. Much of this activism has been particularly concentrated on improving funding for the Global Fund Against AIDS, Tuberculosis and Malaria. While much work remains to be done, the network has achieved considerable progress, with the rates of ART coverage in low and middle income countries rising from 5% of those in need in 2002 to 42% in 2008 (WHO, 2003; WHO and UNAIDS, 2009). Progress has been particularly pronounced in Sub-Saharan Africa, where treatment coverage rose from 1% to 44% over the same period.

3.0 Methodology and research questions

Transnational advocacy networks are defined as "sets of actors linked across country boundaries, bound together by shared values, dense exchanges of information and services, and common discourses" (Khagram *et al*., 2002). The term network is used because they lack a hierarchical structure but instead link their members through "voluntary, reciprocal, and horizontal patterns of communications and exchange" (Keck and Sikkink, 1998). Advocacy networks tend to be made up primarily of CSOs but frequently include other actors such as interest groups, think tanks, political parties, religious groups, private corporations, domestic social movements, government agencies, and international organizations (Scholte, 2004). In addition to their informal structure, advocacy networks are also distinguished from other actors in the international system by their pursuit of principled objectives (Keck and Sikkink, 1998).

Researchers face a number of challenges when studying how advocacy networks are affected by structural inequalities. While interviews with network participants are quite helpful for identifying which organizations are involved with a particular network and how they perceive each other, they are unable to quantify the relative level of involvement of each actor. One approach to overcoming such problems can be found in Sikkink and Smith's (2002) study of how structural inequalities are reflected in the country of location and membership of transnational social movement organizations (groups like Greenpeace with more formal organizational structures than advocacy networks). While their research was able to demonstrate that more of such organizations are now based in developing countries than was the case in the past, they are not able to examine whether the country of location affected how an organization interacted with other civil society groups.

Rohrschneider and Dalton (2002) attempted to overcome this interaction problem by surveying environmental CSOs to find out what kinds of interactions they had with organizations in other countries and how frequently. This approach yielded a number of significant findings, including that CSOs based in developing countries are much less focused on addressing international issues like climate change than those from developed regions. However, they could not determine how structural inequalities affected what proportion of the total activity within the environmental advocacy network that was produced by organizations based in poorer countries.

An alternative approach to studying participation in a network is provide by Carpenter (2007), who sought to find a "systematic and replicable way" of mapping network interactions through the use of a web based application known as "Issue Crawler." The application operates by examining the extent to which the websites of organizations involved in a network contain hyperlinks to one another based on starting websites identified by the researcher. As Carpenter describes, this approach is based on the idea that "a hyperlink from one Web site to another functions as a citation, representing membership in a common ideational community as well as acknowledgement of authority" (2007: 648). However, such an approach may be biased against CSOs in less developed countries that may have fewer resources for maintaining a website. Moreover, acknowledging the work performed by another organization does not necessarily mean that two groups interact with each other on a regular basis.

In an attempt to overcome the shortcomings in the approaches above, this paper seeks to quantify interactions between network members through an analysis of the "sign-on" statements that were issued by the ATN between 2000 and 2004. Sign-on statements are letters or declarations that were developed by one or a small group of organizations and then circulated among members of a broader network in search of endorsements. Such calls for support are usually distributed via email, online newsletters and discussion groups and are time-limited, with endorsements needing to be received prior to a certain date after which the statement and the signatures received will be released to the intended recipient(s) and/or the media.

Since an organization must first have learned about a new statement before it can endorse it, the signatures to a particular statement can be assumed to be indicative of the patterns of communication within an advocacy network at a given point in time. Moreover, by providing a definite set of the organizations involved with a given action, analyzing sign-on statements makes it possible to determine what proportion of the total participation was by CSOs from less developed countries. Examining the endorsements to multiple sign-on statements should also make it possible to assess the density of the interactions within a network since organizations endorsing a larger number of statements would presumably be in more regular communication with the broader network than those endorsing only a few. Studying multiple statements should also enable the detection of network entry and exit by individual organizations.

Despite these potential benefits, the analysis of sign-on statements does have a number of potential limitations. Perhaps most crucially, the endorsement of a sign-on statement requires

very little in terms of organizational effort and generally does not involve a dialogue or meaningful communication between network members. As such, relying on sign-on statements may result in overestimating the level of interaction between organizations that in reality have little knowledge or direct exchanges with each other. A related critique is that sign-on statements may make up only a small part of the activities undertaken by network actors, meaning that trends evident in changing endorsement patterns may not necessarily reflect developments within the network as a whole. It is also possible that many of the "organizations" that support such statements are one person operations that neither represent a broader constituency nor possess meaningful expertise. Furthermore, as with web-based approaches, CSOs in developing countries may be less likely to take part in sign-on statements given the lower levels of internet access in these areas.

While these potential shortcomings are certainly valid concerns, the analysis of sign-on statements would still appear to provide a number of advantages over the other methods described above. Although the level of interaction involved in an endorsement is minimal, the need for organizations to take an active step to indicate their support means that the study of multiple statements can provide a dynamic assessment of network interaction lacking from the other methods. The other approaches would also appear to have no greater capacity to weed out unrepresentative organizations. Likewise, while survey research is able to capture information on the other activities going on within the network, it is unlikely that the CSOs surveyed could provide an exhaustive list of all other organizations that were involved. Finally, the impact of differing levels of internet access on rates of participation should be less pronounced in the analysis of sign-on statements given that organizations do not need to have their own websites but only an email account, which is much more easily obtained.

Applying this method to the subject of the paper, an analysis of the sign-on statements issued by the Access to Treatment Network should make it possible to detect whether the inequalities of wealth between countries had an effect on levels of participation in the Network. More specifically, if patterns of involvement in the Network were influenced by structural inequalities, then CSOs in wealthier countries should have endorsed a greater number of statements than those based in less developed areas. On the other hand, there are a wide variety of other factors that could have influenced patterns of participation. For example, it is reasonable to assume that organizations based in countries with a higher rate of HIV infection would endorse a greater number of statements than those based in low prevalence countries since the former would be home to more individuals who are concerned about ensuring that treatments are available to all those in need. To test these possible explanations, this paper examines whether the level of wealth or HIV infection rate in a country have an impact on:

- the average number of statements endorsed by the organizations based in that country;
- the number of organizations from that country that endorsed at least one statement; or
- the total number of endorsements made by organizations based in the country.

The information on endorsements used for this study was gathered from a review of 18 separate sign-on statements issued by the Access to Treatment Network between 2000 and 2004 (a full list of the statements analyzed is presented in Appendix I while the sources of the data are available at www.pauledwinjames.com). The statements were located as part of a previous project (Thomas, 2005) by reviewing the websites of organizations that had played a significant coordinating role within the Network, including ACT UP New York, ACT UP Paris, the Treatment Action Campaign (South Africa), and Health GAP (USA). Importantly, this approach is reliant on the accuracy of the information provided by the organizations involved. It is also possible that there may have been additional statements that were either posted on the websites of other organizations or that were not posted at all. For example, in 2003 the US-based CSO Africa Action released a statement endorsed by more than 70 organizations that called for the US government to abandon the Iraq War in favour of concentrating more resources on the global AIDS pandemic (Africa Action, 2003). However, the list of the organizations was not posted and the organization has reported that it did not keep a record of the signatories (Africa Action, 2005). Despite these potential gaps, a review of the literature on the ATN (e.g. Sell, 2002; Mowjee, 2003; Olesen, 2006; Youde, 2008) would suggest that that the bulk of the sign-on statements issued during this period are included in the analysis. Notably, statements or press releases issued by delegates attending a particular conference were not analyzed since CSOs unable to attend the event would be excluded, making it less likely that the endorsements would be reflective of the communication patterns within the network.

To build the actual dataset, the lists of organizations that had endorsed each statement were compiled into a single spreadsheet capturing the name of each organization, its country of origin and the individual statements it endorsed. This information was then aggregated by country and entered into a data file containing the total number of organizations and endorsements from each country. Notably, some difficulties were encountered in determining the country of origin for a small number of CSOs that either represented individuals in multiple countires or listed multiple main offices. For instance, the International Council of AIDS Services Organizations (ICASO) has its secretariat in Canada, but represents member organizations located worldwide. Likewise, the Kenya AIDS Intervention Prevention Project Group would often list separate endorsements from its offices in both the US and in Kenya, despite being a single organization. Ultimately international CSOs were deemed to be located where their secretariat was based, while singular CSOs with multiple offices were listed as being based in which ever country hosted the primary office. Organizations with no defined offices were listed as international and excluded from further statistical analysis. Both the spreadsheet of endorsements by each organization and the country dataset are available online at www.pauledwinjames.com.

The dataset was analyzed in SPSS using ordinary least squares regression and analysis of variance (ANOVA). Information on HIV infection rates in 2001 was obtained from UNAIDS (2002), while World Bank data on per capita gross domestic product in 2000 adjusted to

purchasing power parity was employed as a measure of relative wealth (2010). To avoid bias the data were weighted by country population in the year 2000 (World Bank, 2010) where appropriate. Control variables for each region were also added to the regression analyses.

4.0 Results

Table I provides a breakdown of the number of organizations from each region that participated in the 18 sign-on statements examined. The ATN clearly had wide spread international support, with participation from nearly 1500 organizations in 102 countries.[1] Significantly, Sub-Saharan Africa was home to far more participating organizations (over one third of the total) than would be expected by its level of income. However, other regions were noticeably underrepresented, with only 86 organizations participating from Asia and just six from North Africa and the Middle East. Additional signs of unequal patterns of participation are also evident in the average number of endorsements per organization, with the typical North American organization endorsing two statements (10.9% of the 18 total statements) as compared with just over one (6.5%) for organizations from Latin America and Caribbean and Sub-Saharan Africa. Notably, the average number of endorsements for organizations in the Middle East and North Africa is heavily skewed by Morocco's Association de lutte contre le SIDA (ALCS) which accounted for eight of the region's 15 total endorsements.

TABLE I
Total organizations and number of endorsements by region

Region	Organizations Participating	Total endorsements	Avg. endorsements per organization	Avg. endorsements per organization as % of 18 possible
Asia	86	118	1.37	7.6
Latin American and the Caribbean	162	190	1.17	6.5
North Africa and the Middle-East	6	15	2.5	13.9
North America	552	1089	1.97	10.9
Europe	275	389	1.41	7.8
Oceania	26	32	1.23	6.8
Sub-Saharan Africa	375	440	1.17	6.5
Total	1482	2273	1.53	8.5

At a broader level, the overall average endorsement rate of just 1.53 statements per organization reflects the fact that the intensity of the involvement by each organization was generally quite low, with over 80% endorsing just one statement. In fact, there were only 20

organizations (1.3%) that endorsed half or more of the statements examined, and just one (US-based Health GAP) that endorsed all 18. Of these organizations, which are listed in Table II, all but four were located in the US with the remainder based in either Canada or Europe. Importantly, this finding does not indicate that all organizations from wealthier regions had higher participation rates, but it can be said that all organizations with high participation rates (i.e. half or more of the statements analyzed) were from wealthier regions. Among organizations based in developing countries, the ALCS was the most active with eight endorsements, followed by the AIDS Law Unit of Namibia's Legal Assistance Centre with seven. No other organizations based in a developing country endorsed more than six statements (one third of the 18 analyzed).

TABLE II
Organizations endorsing at least half of the statements studied

Organization	Country	Endorsements
Health Global Access Project (Health GAP)	USA	18
ACT UP East Bay, Oakland, CA	USA	16
ACT UP Philadelphia, PA	USA	15
Africa Action, Washington DC and NYC, NY	USA	13
Global AIDS Alliance, Washington, DC	USA	13
European AIDS Treatment Group (EATG)	Belgium	12
ACT UP Paris	France	12
ACT UP New York, NY	USA	12
Student Global AIDS Campaign, Cambridge, MA	USA	11
Global Network of People Living with HIV/AIDS (GNP+)	Netherlands	10
ACT UP Cleveland, OH	USA	10
Middle East Children's Alliance, Berkeley, CA	USA	10
Title II Community AIDS National Network	USA	10
Canadian HIV/AIDS Legal Network	Canada	9
Gay Men's Health Crisis (GMHC), New York, NY	USA	9
Kenya AIDS Intervention Prevention Project Group, KAIPPG	USA	9
Project Inform, San Francisco, CA	USA	9
South Africa Development Fund, Boston, MA	USA	9
Treatment Action Group, New York, NY	USA	9

Notably, some caution is required when interpreting these organization-level findings given that several of the most active participants, including ACT UPs New York, Philadelphia and Paris, are all members of Health GAP, which is an umbrella organization (Sawyer, 2002). As such, the information in Table II may overrepresent the true activity level of certain groups. However, any overlap between these organizations does not change the fact that even the most

active CSOs from developing countries made far fewer total endorsements than the most active organizations from North America and Europe.

TABLE III
Organizations endorsing at least half of the statements studied

Country	Population 2000	2000 GDP per capita PPP US$	Adult HIV infection rate 2001	Total orgs.	Total endorsements	Avg. endorsements per organization
Morocco	28,827,115	1,270	0.1	2	9	4.5
Portugal	10,225,803	11,016	0.5	2	9	4.5
Belgium	10,252,000	22,623	0.2	7	26	3.7
Latvia	2,372,000	3,302	0.4	1	3	3.0
Costa Rica	3,930,863	4,057	0.6	5	11	2.2
Belarus	10,005,000	1,273	0.3	1	2	2.0
Egypt	70,173,793	1,423	0.05	2	4	2.0
Luxembourg	436,300	46,457	0.2	1	2	2.0
Philippines	77,689,369	977	0.05	4	8	2.0
Singapore	4,027,900	23,019	0.2	1	2	2.0
USA	282,172,000	34,606	0.6	500	995	2.0
Canada	30,769,700	23,560	0.3	46	82	1.8
Chile	15,418,704	4,878	0.3	5	9	1.8
Netherlands	15,925,431	24,180	0.2	13	24	1.8
Italy	56,948,600	19,269	0.4	17	27	1.6
Thailand	62,346,822	1,968	1.8	18	28	1.6
Zimbabwe	12,455,362	594	33.7	14	22	1.6
Greece	10,917,500	11,501	0.2	2	3	1.5
Nepal	24,431,756	225	0.5	2	3	1.5
Sudan	34,903,970	354	2.6	2	3	1.5

Aggregating the data by country revealed some surprising findings, with 26 of the 102 countries being home to just one organization that participated in the statements examined. Furthermore, over half of the countries (53) had an average number of endorsements of 1.0, meaning that there were no organizations located in those jurisdictions that took part in multiple statements. Especially striking were the results for Kenya, which had 18 separate organizations that each made only one endorsement. At the other end of the spectrum, Table III lists the 20 countries that had average rate of endorsements per organization of 1.5 or greater. It shows that those countries with the highest averages tended to be small to medium sized European and North African countries with low HIV prevalence rates. Moreover, it appears that these that each had a small group of relatively active organizations, with the ALCS once again accounting for Morocco's high rate of endorsements.

The large number of countries with a low average rate of endorsements meant that the data was not normally distributed and could not be normalized through standard transformations. As such the data for average endorsements per organization were recoded into a new variable that categorized the averages into high (greater than 1.5), medium (1.100 to 1.499) and low (1.000 to 1.099). Analysis of variation (ANOVA) was then used to examine whether the average rate of endorsements for each country was affected by either its GDP per capita or HIV/AIDS infection rate.

TABLE IV
ANOVA results for relationship between the rate of average endorsements per organization, GDP per capita and HIV infection rate

Average endorsements per organization by country	Average GDP per capita	Average HIV infection rate
1.000-1.099	4256.93	3.8300
1.100-1.499	9629.77	3.3423
1.500 and greater	11827.60	2.1600
F value	4.919**	.425

**significant at $p<0.01$, N=96

While the ANOVA tests were not able to examine the possibility of interaction between the variables, the results, which are reported in Table IV, show that the average GDP per capita of those countries in the highest average endorsements category was nearly three times greater than those in the lowest. Likewise, the average HIV infection rate for countries with averages in the lowest category was over 1.5 times larger than that for countries in the highest category. However, while both of these trends were consistent with developed countries having a higher average number of endorsements per organization, only the relationship with GDP per capita was statistically significant. This finding would appear to be somewhat contradictory given that countries with higher per capita incomes tend to have lower rates of HIV. A review of Table III, which shows all of the countries falling into the 1.500 and greater category, would suggest that the results may have been skewed by the presence of Zimbabwe, which has an HIV infection rate far greater than any other country in the group. However, while removing Zimbabwe from the calculation drops the average HIV infection rate among the countries in the highest average endorsement category from 2.16% to 0.5%, it does not move the F statistic to significance.

In terms of the number of organizations, a full quarter of the countries in the dataset were home to just one CSO that participated in the statements examined. At the other extreme, the five countries with the most participating organizations were the US (500), South Africa (154), France (89), Canada (46) and the United Kingdom (41). These countries also had the most total

endorsements at 995, 185, 113, 82 and 59 respectively. However, this pattern shifted drastically once the data was weighted by population. Table V shows the twenty countries with the highest total number of endorsements per million people. Several of the countries appear to have made the list despite having only one or two participating CSOs by virtue of their very small population size. While the purpose of controlling for population is precisely to inflate the impact of such small countries, having only one organization with which to evaluate the participation of very small, yet very wealthy countries like Iceland and Luxembourg creates the possibility of biasing the results. Consequently, the OLS regression for both the number of countries and the number of endorsements was conducted first with all of the countries in the dataset and then again excluding those having only one organization.[2]

TABLE V
Countries with the highest total organizational endorsements per million people

Country	Population 2000	2000 GDP per capita PPP US$	Adult HIV infection rate 2001	Total orgs.	Total endorsements	Endorsements per million people
Namibia	1,823,997	2,143	22.50	15	21	11.51
Luxembourg	436,300	46,457	.20	1	2	4.58
South Africa	44,000,000	3,020	20.10	154	185	4.20
Iceland	281,000	30,951	.20	1	1	3.56
USA	282,172,000	34,606	.60	500	995	3.53
Costa Rica	3,930,863	4,057	.60	5	11	2.80
Canada	30,769,700	23,560	.30	46	82	2.66
Guyana	756,259	942	2.70	2	2	2.64
Belgium	10,252,000	22,623	.20	7	26	2.54
France	58,895,517	21,914	.30	89	113	1.92
Zimbabwe	12,455,362	594	33.70	14	22	1.77
Mauritius	1,186,873	3,861	.10	2	2	1.69
Australia	19,153,000	21,151	.10	25	31	1.62
Burundi	6,472,622	110	8.30	8	10	1.54
Togo	5,247,486	253	6.00	8	8	1.52
Netherlands	15,925,431	24,180	.20	13	24	1.51
Latvia	2,372,000	3,302	.40	1	3	1.26
Switzerland	7,184,222	34,787	.50	7	9	1.25
Nicaragua	5,100,914	772	.20	6	6	1.18
Botswana	1,722,554	3,586	38.80	2	2	1.16

The results of the regression analyses are shown in Table VI. Contrary to expectations, both GDP per capita and HIV infection rates were found to be positively correlated with the number of organizations from each country as well as the total number of endorsements. Therefore, patterns of participation in the ATN were influenced by *both* income levels and rates of HIV infection. While the finding regarding income would suggest that involvement in the Network was shaped by the structural inequalities between countries, the relationship between participation and HIV infection rates would suggest that poorer countries, which tend to have higher rates of HIV, were actually better represented. This deeply counterintuitive finding may be explained by the presence of a number of relatively wealthy developing countries like South Africa, Namibia, and Botswana that had both high rates of HIV as well as high levels of network participation. However, further analysis will be necessary to know for certain.

In terms of regional controls, only the dummy variables for Asia and Sub-Saharan Africa were statistically significant. However, the Sub-Saharan Africa variable was highly correlated with HIV infection rate (Pearson's $R = 0.804$, $p<0.001$) and so was excluded from the final model. The strongly negative coefficient on the Asia variable reflects the remarkably low number of endorsements from several very populous Asian countries such as China, Indonesia and Pakistan (0.002, 0.019, and 0.014 endorsements per million people, respectively). Even India, with 30 endorsements from 21 organizations, had only 0.03 endorsements per million people. This low rate is particularly surprising given that one of the sign-on statements specifically targeted the Indian government.

TABLE VI
Regression analysis results for the relationship between GDP per capita and HIV infection rate and the number of organizations and endorsements per country[3]

	Dependent variable			
Coefficients	Organizations by country[4]	Endorsements by country	Orgs. by country excluding those with only one	Endorsements by country excl. those with only one
Constant	-7.838*** (.291)	-7.913*** (.302)	-7.574*** (.299)	-7.632*** (.283)
GDP per capita	.432*** (.086)	.488*** (.090)	.381*** (.088)	.430*** (.083)
HIV infection rate	.391*** (.083)	.389*** (.086)	.347** (.085)	.330*** (.085)
Asia	-.522** (.162)	-4.91** (.168)	-.697*** (.162)	-6.94*** (.162)
Adjusted R^2	.408	.401	.508	.515
N	94	94	74	74

*** significant at $p<0.001$; **significant at $p<0.01$; Standard error in parentheses

There was generally little difference between the results of the regressions for the number of organizations versus those for the number of endorsements, although the coefficient for the HIV infection rate is higher in the former while that for GDP per capita is higher in the latter. This pattern echoes the ANOVA results by suggesting that organizations from more developed countries (i.e. those with higher incomes and lower HIV levels) are more likely to take part in multiple actions. However, the trend is negligible, with both coefficients staying highly significant across all models. It is also notable that exclusion of those countries having only one organization reduced the size of the coefficients for both per capita GDP and the HIV infection rate, it also markedly increased the explanatory power of the model as expressed through the Adjusted R^2 value. This outcome suggests that the regressions conducted on the complete dataset were in fact have been skewed by the information from jurisdictions lacking sufficient participation to establish a distinct trend. Further expanding the dataset may help to reduce this bias by decreasing the number of countries with only a few instances of participation.

6.0 Conclusion

Based on the results obtained, it would appear that the pattern of participation in the sign-on statements issued by the Access to Treatment Network was not directly shaped by the structural inequalities in the international system. While organizations based in wealthier countries are certainly participating in the network in large numbers, on a population weighted basis there were actually more acts of participation from South Africa and Namibia than from the US or Canada (Table V). The finding that participation in sign-on statements increased with both a country's GDP per capita *and* its HIV infection rate also indicates that organizations in those countries most affected by the pandemic were taking steps to increase treatment access alongside of those based in wealthier countries (Table VI). Moreover, the importance of both variables may explain why regions like Latin America and North Africa that have higher incomes but lower HIV infection rates were underrepresented in the terms of their overall participation levels (Table I). However, further research is needed to determine to what extent these results were shaped by a small number of relatively wealthy African countries with very high levels of HIV infection.

Furthermore, despite this relatively encouraging finding, it should be stressed that only per capita GDP was associated with a higher average number of endorsements per organization (Table III). While a higher rate of HIV infection did not decrease the average number of endorsements to a statistically significant extent, organizations located in wealthier countries would appear to be making larger individual contributions to the ATN than their counterparts from lower income areas. This finding suggests that organizations in developing countries may be less closely linked to the campaign, or that they have a shorter organizational life span. Moreover, preliminary discussions with an activist previously involved with the ATN suggest that this outcome may reflect the fact that organizations based in developing countries often must

devote a greater proportion of their time to lobbying their domestic governments, leaving them with less capacity to engage in international networking.

Additionally, while this study found that organizations from developing countries participated in the ATN at rates far greater than would be predicted by global income inequalities, it must also be acknowledge that all of the organizations that endorsed at least half of the statements examined were based in North America or Europe (Table I). However, the fact that five of the 18 statements were at least partially initiated by organizations from developing countries (Appendix I) would suggest that these high endorsement rates may are more a reflection of the tendency for organizations based in developed countries to endorse multiple statements than an indication that such organizations were dominating the network. It would also be consistent with the contention that organizations in developing areas are more focused on domestic politics. Nevertheless, this potential explanation will need to be confirmed by interviews with those involved in initiating the different statements, especially since organizations based in developing countries, like South Africa's Treatment Action Campaign, tend to be financed by groups based in wealthier countries (Treatment Action Campaign, n.d.).

7.0 Discussion

The results of this paper raise a number of questions about use of sign-on statements as a way to measure levels of involvement in TANs as well as how to study the impact of structural inequalities on network participation. Perhaps most importantly, the very low number of statements endorsed by most of the organizations captured in the dataset casts some doubt on whether reviews of sign-on statements can in fact be used to quantify the patterns of interaction within a network. Additional research comparing levels participation in sign-on statements with those for other activities undertaken by the ATN is needed to verify the results obtained. Alternatively, interviews could be held with a random sample of the organizations to assess the degree to which the information captured in the dataset reflects their actual involvement. Comparison with other advocacy networks would also make it possible to determine whether the proportion of total network members that participate in sign-on statements does in fact vary in response with different patterns of network participation.

Further research is also needed to investigate the extent to which support for a given statement is influenced the characteristics of the statement itself. For example, the number of endorsements to the statements examined varied from a high of 366 to a low of 34 (Appendix II). While the amount of support received did not appear to vary based on the initiating organization (both the most and least endorsed statements were initiated by Health GAP) it is possible that the number of organizations varied with the time available for registering endorsements or the method for circulating the statement. Support may have also varied in response to the content of the statement given that some statements, such as that accompanying the Treatment Action Campaign's "Invest in Health, Not War!" protest against the Bush Administration (Treatment

Action Campaign, 2004), were much more politically confrontational than others. It is also possible that participation rates changed over time as interest in the campaign grew or diminished.

In terms of the impact of structural inequalities on participation in TANs, the analysis above would suggest that extreme care must be taken before reaching any definitive conclusions regarding the existence of inequalities within a network. Simply finding that a greater number of the CSOs active in a given TAN are based in developed countries does not necessarily mean those organizations from developing countries are marginalized, either in terms of their rates of participation or their influence on the network's activities. Moreover, there may be other factors, such as the presence of a particular social problem, which influence participation rates between countries almost as greatly as income. Overall, it would appear that a research design that incorporates both quantitative and qualitative approaches is needed to fully capture the ways that inequalities shape network participation and behaviour.

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[1]The countries captured in the dataset are: Albania, Algeria, Angola, Argentina, Australia, Austria, Bangladesh, Belarus, Belgium, Benin, Bolivia, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cameroon, Canada, Chile, China, Colombia, Congo-Brazzaville, Costa Rica, Cuba, Denmark, Dominican Republic, Democratic Republic of Congo, East Timor, Ecuador, Egypt, El Salvador, Ethiopia, France, Gabon, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Guyana, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Kenya, Latvia, Luxembourg, Malawi, Malaysia, Mali, Mauritius, Mexico, Morocco, Mozambique, Namibia, Nepal, New Zealand, Nicaragua, Niger, Nigeria, Pakistan, Panama, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, Rwanda, Senegal, Sierra Leone, Singapore, Somalia, South Africa, South Korea, Spain, Sri Lanka, Sudan, Sweden, Switzerland, Tanzania, Thailand, The Netherlands, Togo, Uganda, Ukraine, United Kingdom, Uruguay, USA, Uzbekistan, Venezuela, Zambia, and Zimbabwe.

[2] The countries excluded from the second OLS for having only one organization were: Algeria, Angola, Austria, Belarus, Bulgaria, Cuba, East Timor, Gabon, Georgia, Grenada, Honduras, Iceland, Israel, Jamaica, Latvia, Luxembourg, New Zealand, Niger, Panama, Poland, Russian Federation, Sierra Leone, Singapore, Somalia, Ukraine, and Uzbekistan.

[3] All variables in the regression analyses were logged to ensure normality.

[4] Eight countries were excluded due to a lack of GDP and/or HIV infection data: Albania, Cuba, East Timor, Gabon, Grenada, Haiti, Niger, and Somalia.

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APPENDIX ONE – LIST OF STATEMENTS INCLUDED IN THE DATA ANALYSIS

Date	Lead organizations	Type	Corresponding event	Target	Objective	Signatories
7/9/2000	Treatment Action Campaign (South Africa); Health GAP (USA)	Declaration	March at opening of the 2000 International AIDS Conference in Durban.	Conference delegates, especially governments and drug companies	Greater support for treatment access.	268
1/29/2001	Health GAP (USA); Treatment Action Group (USA)	Sign-on letter	Pharmaceutical industry lawsuit against the South African government over the parallel importing of generic medications.	Members of the Pharmaceutical Manufacturer's Association	Withdrawal of the lawsuit by the industry.	64
5/2/2001	Health GAP (USA); Treatment Action Group (USA); Gay Men's Health Crisis (USA)	Sign-on letter	Pharmaceutical industry lawsuit against the South African government; threats to sue Indian drug manufacturer Cipla.	GlaxoSmithKline	Reduction of drug prices.	101
9/5/2001	Africa AIDS Initiative (USA); Global AIDS Alliance (USA)	Sign-on letter	Discussions regarding the creation of the Global Fund to Fight AIDS.	G7 Leaders and heads of IMF, World Bank and United Nations	Inclusion of civil society in the design and operation of the Fund and exclusion of corporations.	34
10/4/2002	Health GAP (USA); ACT UP Philadelphia; ACT UP New York; Artists for a New South Africa (USA); Jubilee USA	Declaration	"Day of Hope" rally and protest at capitol building in Washington.	President and Members of Congress	$750 million in additional funding for the Global Fund Against AIDS, TB, and Malaria.	91
23/5/2002	Health GAP (USA)	Sign-on letter	Debate on emergency supplemental appropriations bill in the US Senate.	Members of the US Senate	Support amendment by US Senators Durbin and Spectre to increase global AIDS spending.	76

Date	Lead organizations	Type	Corresponding event	Target	Objective	Signatories
17/10/2002	Treatment Action Campaign (South Africa); Pan-African Treatment Access Movement; Health GAP (USA); ACT UP New York; ACT UP Philadelphia; ACT UP Paris; ACT UP East Bay; Global AIDS Alliance (USA); European AIDS Treatment Group (Belgium); Association de Lutte Contre le Sida (Morocco); Africa-Japan Forum; Thai Network of People Living with HIV; Student Global AIDS Campaign (USA)	Declaration	Rally at Coca-Cola headquarters in New York and other protests worldwide.	Coca-Cola	Improved access to antiretroviral treatments for Coca-Cola employees in Africa.	91
11/1/2002	Health GAP (USA)	Sign-on proposal	Suggestions of a US Presidential Global AIDS Initiative.	US President	The initiative should ensure access to treatment, provide prevention and support services, and include adequate finances.	285
12/22/2002	Health GAP (USA)	Sign-on letter	Release of the draft US-Chile Free Trade Agreement.	US Trade Representative Robert Zoellick	Remove clauses from the Agreement that would restrict the use of generic medicines.	53
2/14/2003	Treatment Action Campaign (South Africa)	Sign-on letter	Protest march at opening of the South African Parliament.	Government of South Africa	Implementation of a national HIV/AIDS treatment plan in South Africa.	110

Date	Lead organizations	Type	Corresponding event	Target	Objective	Signatories
30/5/2003	Fund the Fund[1]	Sign-on letter	2003 G8 Summit in Evian, France.	G7 leaders	Proper funding of the Global Fund Against AIDS, TB, and Malaria.	131
1/6/2003	Coalition of 8 French NGOs: Act Up-Paris, Centre Recherche et d'Information pour le Developpement, Ensemble contre le Sida, France Libertés, Groupe de recherche et de réalisations pour le développement rural, Médecins du Monde, Mouvement Français pour le Planning Familial, Solidarité Sida	Declaration	2003 G8 Summit in Evian, France.	G7 Leaders	Provision of treatment and prevention services for HIV/AIDS in all countries and the removal of restrictions on the use of generic medications in developing countries.	171
9/22/2003	Health GAP (USA)	Sign-on letter	Meeting of UN General Assembly on September 22, 2003 to review progress on the 2001 UN Declaration of Commitment on HIV/AIDS.	Heads of state of OECD countries	Adoption of an "Equitable Contributions Framework" to provide adequate resources for the Global Fund.	52
10/1/2003	Unknown – published by Health GAP (USA)	Sign-on letter	Announcement that Canada would amend its Patent Act to allow the export of generic medications to developing countries as per the August 30, 2003 decision of the WTO.	Government of Canada	That Canada not include any unnecessary restrictions in the amendments to the Act.	72

[1] Fund the Fund is a coalition that was formed in March 2003 at meeting to encourage activism in support of the Global Fund that was cohosted by AIDES (France), Health GAP (USA) and ACT UP Paris. As of June 2003 the coalition had 118 members from 40 countries (Fund the Fund, 2003).

Date	Lead organizations	Type	Corresponding event	Target	Objective	Signatories
12/1/2003	A joint project by "dozens of the [USA]'s leading HIV/AIDS service, advocacy and research organizations."	Declaration	2004 Presidential election in the USA	Presidential candidates	For Presidential candidates to adopt a 9 point plan to stop the global AIDS pandemic.	171
3/26/2004	Health GAP (USA)	Sign-on letter	The USA led "Conference on Fixed-Dose Combination (FDC) Drug Products: Scientific and Technical Issues related to Safety, Quality, and Effectiveness," 29-30 March 2004 in Botswana.	USA Global AIDS Coordinator Randall Tobias	For the government of the USA to stop raising doubts about the quality of generic medications and accept the WHO's Drug Prequalification Program.	366
6/24/2004	Treatment Action Campaign (South Africa)	Declaration	"Invest in Health, Not War!" international day of action on 24 June 2004 to protest the policies of the Bush Administration.	Bush administration	Reduced military spending in favour of providing adequate resources to programs like the Global Fund.	92
12/16/2004	Organized by Health GAP (USA) in response to call for action by the Affordable Medicines and Treatment Campaign; Focus on the Global South, Mumbai; Peoples Health Movement-Mumbai Chapter; Lawyers Collective HIV/AIDS Unit; National Alliance of Peoples Movements, Mumbai; and Mumbai Grahak Panchayat	Sign-on letter	The adoption of a new Patent Act in India.	Indian government	Revision of the Patent Act to allow the full use of the rights available under the WTO declaration on TRIPS and Public Health.	61