

Assessment of Epidemiological and HIV/AIDS Publications in Africa

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To assess the quantity of epidemiological publications emanating from Africa, three international epidemiology journals were examined. In addition, a separate MEDLINE search was undertaken for 1987 and 1989-1990 to assess AIDS/HIV prevalence and incidence publications. Of 361 general epidemiological articles examined for 1974-1975, 49.3% were from the US, 20.5% from the UK, 11.1% from Europe, 10.2% from the rest of America, 4.4% from Asia, 3.9% from Australasia and 0.06% (only two) from Africa. The overall proportion from the USA declined to 44.0% by 1989-1990; from the UK to 11.1% while from South America and Australasia the proportion remained similar. Striking increases occurred in Europe and to a lesser extent in Asia. By 1989-1990 African articles contributed 3.6% (31) of the total. While over 90% of first authors came from the study region in the US, UK, Europe and Australasia; 85.7% in Asia; 70.8% in South America in 1989-1990, in Africa only 32.2% were authors from their continent. Of the 220 published articles on AIDS/HIV epidemiology 6.8% emanated from Africa in 1987 and 12% of 606 articles in 1989-1990. African scientists were first authors in 46.7% of articles from the continent in 1987 and only 35.5% in 1989 and 1990. In 1987, 60% of the articles were co-authored by overseas scientists of various nationalities while collaborative publications increased to 78.4% in 1989-1990. Only 15% of these articles were published in African Journals. This study stresses the urgent need for improving all aspects of epidemiological research and training in Africa with particular need with respect to AIDS/HIV research capacity.

The production by a country of scientific publications in peer-reviewed journals requires a certain level of research capacity and infrastructure in that country. International epidemiology journals have tended to focus on both applications of epidemiology to major public health problems as well as methodological issues in undertaking epidemiological research. In this respect, it is reasonable to assume that in countries and regions where the capacity to carry out indigenous epidemiological research is well developed, it is likely that epidemiological practice at health service level is better than in countries and regions not publishing in peer-reviewed journals.

Concurrent with the need for epidemiological skills as a means to improve public health, has been the need in industrialized countries, particularly the US, for researchers and doctoral students to carry out appropriate epidemiological research in areas which are under-researched. Concerns have been expressed that this could lead to 'epidemiological imperialism'

whereby researchers from the industrialized countries work in poorer regions on problems that are not the highest priority for the region.

The overall aim of this study therefore was to investigate: i) the extent to which publications from Africa appear in the international epidemiological literature; ii) to determine what proportion of articles over a 15-year period have as their first and second authors, researchers from the same region as the project site; and iii) to examine trends with respect to AIDS/HIV publications in particular. The last subject-specific aim was included since AIDS remains an unprecedented public health problem in Africa.

METHODS

Two separate searches were carried out. The first focused on all epidemiology articles. Three major internationally recognized epidemiological journals that have been in existence for at least 15 years, (International Journal of Epidemiology, American Journal of Epidemiology and Journal of Epidemiology and Community Health [previously the British Journal of Social Medicine]), were selected. For each journal all editions for 1974, 1975, 1989 and 1990 were reviewed. Full-length scientific articles (excluding editorials and

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letters) were classified according to the site of the study, the address of the first and second author and whether it was a methodological review or a content-orientated paper. Animal studies, international collaborative studies and editorials were excluded. Countries were crudely grouped into the following global regions for further analysis: US; rest of America (North, Central and South); Europe; Asia; Australasia and Africa.

The second search used MEDLINE for the years 1987 and 1989 and 1990 to study the trend of publications on the subject of AIDS and HIV coming from the African continent. To facilitate the comparison of trends, publications coming from other regions were also reviewed. All types of publications were included in the search including letters to the editors, as these usually relate to scientific issues of importance and relevant to scientific activity. Authorship and origin of journals in which the material was published were also studied.

RESULTS

General Epidemiology Articles

The US accounted for the highest proportion of articles in all editions overall, both in 1974–1975 and in 1989–1990 (Table 1). Major changes over the time period included a decline in the proportion of articles from the UK and relative increases in articles from Europe and Asia.

TABLE 1 *Distribution (%) of full length articles in international epidemiology journals (1974–1975 and 1989–1990) by region of the world*

Region	1974–1975	1989–1990
	No. = 361	No. = 859
US	49.3	44.0
Rest of America	10.2	9.5
UK	20.5	11.1
Europe	11.1	21.3
Asia	4.4	7.3
Australasia	3.9	3.1
Africa	0.6	3.6

Journal-specific analyses indicate that for the American Journal of Epidemiology, 74.1% of articles in 1974–1975 and 73.8% in 1989–1990 were from the US. There were none from the UK in 1974–1975 and only three in 1989–1990. There was an increase in articles from Europe (from 10.1% of all articles in 1974–1975 to 14.1% in 1989–1990). Importantly, the

number of articles from Africa only rose from two to seven over the period.

In the Journal of Epidemiology and Community Health, 80.5% of the articles in 1974–1975 came from the UK compared to 53.3% in 1989–1990. A dramatic increase in the proportion from Europe was seen in the time period rising from 7.8% to 30.8%. In 1989–1990 Africa contributed two articles.

In the International Journal of Epidemiology the proportion from the US in 1974 and 1989 remained relatively stable (27.8% versus 24.6%), while the proportion from the UK dropped from 16.7% to 9.1%. The proportion from Asia increased from 4.2% to 14.6%; in Africa from 0 to 7.1% and declined from 18.1% to 4.5% in Australasia.

An assessment of the percentage of full length articles where the first author is from the same region as the study site is shown in Table 2. Further analysis of second authors reveals a similar picture where for example in Africa, in 1989–1990 only 15 of the 31 second authors came from Africa.

TABLE 2 *Percentage of full-length articles in international epidemiology journals (1974–1975 and 1989–1990) where the first author is from the same region where the study is based*

Region of study	1974–1975		1989–1990	
	No.	%	No.	%
US	148	98.0	338	99.4
Rest of America	34	53.9	72	70.8
UK	67	98.5	82	97.6
Europe	38	97.4	170	97.0
Asia	16	50.0	63	85.7
Australasia	13	100	22	90.9
Africa	2	50	31	32.2

For methodological reviews there were relative increases in the proportion from the Americas (particularly Canada and Europe) with a decline in the proportion from the US. Of the 125 reviews from 4 years of journals none came from Africa.

Non-African researchers active in Africa whose articles appeared in 1989–1990 were mainly from the US, Europe and the UK. The countries they tended to work in included Zaire, Mozambique, Sudan and Malawi. Epidemiologists from South Africa, Algeria, Ethiopia and Kenya tended to publish their own work.

AIDS/HIV Articles

Of the 220 articles in AIDS/HIV catalogued in the MEDLINE index for 1987, 6.8% came from Africa,

mainly Sub-Saharan Africa. The US accounted for 46.3%, UK 9%, the rest of Europe 30.5%, Canada 0.4%, Asia 2.3%, Australasia 1.4% and the rest of Americas 3.2% of all the publications.

There were 606 publications from 1989 to 1990 (an annual average of 303). The proportion of publications from Africa almost doubled from 1987 to 1989–1990, to account for 12% of the total articles. From the US there was a decline to only 37.4%. The rest of Europe remained stable at 28% with Australasia at 1.5%, Asia at 2.5%, Canada at 0.8%, UK at 11.7%, the rest of Americas 5.6% and three publications by the World Health Organization staff.

The analyses of authorship indicate that though publications from Africa increased from 1987 to 1989–1990 by 5.2%, first authorship dropped from 46.7% to 35.5%. At the same time co-authorship decreased from 60% to 40%, a substantial number of these being authored by overseas scientists without their African counterparts.

The African articles were published in various and varied journals and only 15% appeared in African journals. The major journals in Africa were the South African Medical Journal and East African Medical Journal respectively.

DISCUSSION

This study indicates that regional capacity for epidemiological research as measured by publications in international epidemiology journals is found in all regions to a reasonable extent with the exception of Africa.

In recent years, considerable attention has been given to strengthening epidemiological capacity on a global basis as a means of improving primary health care.^{1–5} Certain regions of the world (particularly the Pan American Health Organization⁶ and European regions⁷) have systematically examined the need to upgrade epidemiology training research and practice. In contrast, for some time the International Epidemiological Association has recognized that epidemiological research is inadequate in many developing countries, particularly those in Africa. Further, African epidemiologists have emphasized the need to develop epidemiological skills as a means of improving all aspects of health service delivery.⁸

In addition, there is a need for African governments to give higher priority to developing their scientific manpower by providing them with competitive structures for job satisfaction and stability. Unfortunately this cannot be achieved by individual African countries, particularly when most economies on the continent have collapsed. African scientists are demoralized socially and economically. This has been amply demon-

strated during the AIDS epidemic by the demand for increased allowances by those who were attached to work on their National AIDS Control Programmes.

Due to some of these conditions the African epidemiologist has fared less than satisfactorily in a number of situations and in particular, in publishing his research findings. It is already known that a number of presentations by African researchers in major international meetings on AIDS do not reach the scientific literature. Reasons for this are twofold. Firstly, the research findings are usually hurriedly analysed to take the opportunity of overseas visits. These findings rarely appear in journals. Secondly, due to the limited number of journals in African countries and the irregularity with which several appear, publishable findings necessarily take too long to be printed. There is thus a need for more sustainable scientific journals to be established in Africa.

A recent survey in Africa, part of which is published,⁹ found that close to 600 AIDS-related studies were underway in Africa. Just over half of them involved collaboration with researchers from outside the continent. This survey has confirmed this phenomenon. This is both good and bad; good because this collaboration is necessary not only for exchange of ideas across cultural backgrounds but also it is particularly useful for African scientists to gain some technical expertise and experience in areas where local training is not available. It is also important for other reasons, in particular, African researchers would not be able to conduct some studies which may require substantial financial inputs without economic assistance. However, collaboration can be disadvantageous, particularly when there is no mutual respect of one another and an absence of equality among collaborators.

The growing international interest in Africa prompted WHO and the US Public Health Service (USPHS) to prepare a draft consensus statement that places great emphasis on ensuring that any research in Africa involving foreign scientists be undertaken in close collaboration with indigenous researchers.¹⁰ (This has not always been the case according to the report of WHO and confirmed by this literature survey.) Though many AIDS-related research activities have been collaborative, the statement concluded that others were directed solely by the interests of the sponsoring country.¹⁰ In fact, the report disclosed that only about half of the AIDS control studies now being undertaken in Africa were known to National AIDS Control bodies when they were begun. This they said, made it highly unlikely that the results would be rapidly utilized in local prevention and control programmes.

CONCLUSION

There is an urgent need to harness all available international epidemiological expertise to target African countries in the future. These could include extending the success of CDC's Field Epidemiology Training Programme¹¹ in other (non-African) countries; enhancing opportunities for collaboration between academic centres of excellence in countries with good resources and accelerating existing programmes like WHO's TDR programme in Africa.

In South Africa, there is acceptance of the need to upgrade all aspects of epidemiology as a means of improving public health.^{12,13} As sociopolitical changes in South Africa in particular and Africa in general unfold, it is likely that the quality and appropriateness of epidemiology in Southern Africa will improve. For this to happen, and for other parts of Africa to benefit it will be crucial for Schools of Public Health in developed countries and international health agencies to target capacity development in epidemiology as an urgent priority.

Other countries, on a subregional basis need to urgently undertake a review of their own subregional epidemiological capacity and plan to maximize the use of available resources. The International Epidemiological Association could play a key facilitative role in this respect.

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