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RESEARCH OR TREATMENT: PRIORITIES IN SOUTH AFRICA'S HIV/AIDS FUNDING

BY JURGENS DE LANGE

SUMMARY

- Worldwide, South Africa is the only country that makes a significant contribution to AIDS-related research while also having a high HIV prevalence rate.
- Following the discovery of anti-retroviral drugs, HIV/AIDS-related research is stabilizing in developed countries in favour of other health-related outputs. Conversely, South Africa has been increasing its HIV/AIDS research over the last decade.
- As it grapples with treating its infected population and advancing scientific research, South Africa could benefit from international scientific collaboration and new multinational science centres.

BACKGROUND

South Africa is unique on the African continent for its ability to stand alongside developed countries in some areas while grappling with the challenges of a developing country in others. Despite being the economic powerhouse of Africa – accounting for almost 25 percent of the continent's GDP – South Africa suffers from extreme poverty, high unemployment, large inequalities and a high crime rate (MBendi Information Services Ltd, 2011; World Bank, 2010).

This unique duality is also apparent in South Africa's experience with the HIV/AIDS epidemic. While the country has been severely affected by the disease, it is also a leader in treatment, prevention, research and awareness programs (UNAIDS, 2010). Although it follows that the country which suffers most should also be the one with the largest response, it is not clear to whom the expensive burden of scientific research should fall. Other developing African countries with high HIV/AIDS infection rates spend most of their resources on prevention

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and treatment while developed countries spend proportionally more on research. South Africa seems to be trying to do both equally well. This backgrounder reviews South African and global trends in epidemiological data and examines the research focus of specific countries to shed light on the conduct of AIDS-related research.

THE LARGEST SHARE OF THE BURDEN

South Africa has the largest number of HIV-infected citizens in the world. An estimated 5.7 million people (17.8 percent of the population) were living with HIV in the country in 2009, accounting for 17 percent of the global HIV/AIDS population. In the same year, 310,000 South Africans died due to AIDS-related complications and nearly 500,000 people were newly infected with HIV (UNAIDS, 2010).

In addition to the direct health consequences of the epidemic, South Africa has experienced a host of problems which are exacerbated by HIV/AIDS. Studies have linked HIV prevalence with increasing levels of domestic violence, personal risk to healthcare workers, mental illness and HIV/TB co-infection, as well as the appearance of drug-resistant tuberculosis strains (Dunkle, et al., 2004; Shisana, et al., 2004; Freeman, et al., 2007; Corbett, et al., 2003). There are also economic challenges created by higher infection rates among lower-income citizens, coupled with the high cost of anti-retroviral therapy.

This bleak picture shows that South Africa is carrying a significant burden due to the epidemic. A review of current trends, however, is appropriate: annual new infections in South Africa peaked at just over 600,000 in 1999 and have since been decreasing. Prevalence has stabilized at 30 percent and the policy response from the national government has improved (CEGAA and Results for Development Institute, 2010; UNAIDS, 2010). It is safe to say that the general trend in South Africa is positive; anti-retroviral drugs are increasingly available and prevention programs are growing. Though it clearly remains a significant socioeconomic challenge, South Africa is headed towards a stable equilibrium on HIV/AIDS.

SCIENTOMETRICS: SCIENTIFIC OUTPUT IN AIDS-RELATED FIELDS

Scientific inquiry at all levels, from clinical to social and political research, is vital to combating the HIV/AIDS epidemic. Since the discovery of anti-retrovirals in 1996, HIV/AIDS epidemiological statistics have been improving in countries that have effective and accessible programs (Centres for Disease Control and Prevention, 1996). More steps must be taken, however, in a variety of integrated fields to overcome the disease. Unfortunately, countries that carry the largest infection burden often do not have the capital to conduct high-quality research. Most of the scientific research on HIV/AIDS is conducted in developed countries.

A recent study in the *Scientometrics* journal analyzed the relative contributions of South Africa and the rest of the world to HIV/AIDS related research. From 2005 to 2007, 41,490 documents were cumulatively published worldwide. The US produced 47.1 percent of this research, followed by the UK and France with 9.9 and 6.6 percent respectively. South Africa produced 3.15 percent: more than countries such as Japan and China (Pouris and Pouris, 2011). Compared to the period between 2002 and 2006 when South Africa produced just 0.52 percent of global research, the country's relative contribution is clearly growing.

Looking at the question of scientific output more generally, the number of HIV/AIDS-related research publications peaked in 1995 and has stabilized as other fields grow in its place. Globally, cancer research now produces four times as many articles as does HIV/AIDS research (Pouris, et al., 2011). The research output peak in 1995 coincides with the discovery of anti-retrovirals in 1996, which opened up the possibility of supporting treatment over research as a HIV/AIDS strategy. This has led to the current state of affairs, where only 2.2 percent of research from the US is on HIV/AIDS, compared to 5.5 percent in South Africa: a significant gap in relative terms. This demonstrates that developed countries with low infection rates are shifting research focus away from HIV/AIDS, whereas South Africa, with its high infection rate, has increased research output to complement its anti-retroviral treatment program.

While encouraging from a South African perspective, these numbers also mask a worrying trend in the country's research capacity. A recent report from Kwa-Zulu Natal province shows that, over the

past few years, South Africa has been faced with rising costs for its epidemiological response to HIV/AIDS. This has forced the government to reduce the amount spent on research to bolster its treatment response capacity (CEGAA and KwaZulu Natal Provincial Government, 2011). Research also appears to be falling by the wayside in the government's long term planning. The new and much-heralded plan to guide South Africa through the next two decades, 'aids2031,' does not mention scientific research as a strategic priority (CEGAA and the Results for Development Institute, 2010). This means that the last remaining country with both the capacity and the need for new HIV/AIDS-research is moving away from the laboratory in order to focus its resources on prevention, treatment and other immediate ways of responding to the ongoing crisis.

THE WAY FORWARD

The trends in HIV/AIDS-related research cannot be blamed on any country or government. It is understandable that South Africa would maximize its treatment response to serve its citizens living with HIV/AIDS. It is equally legitimate that developed countries would focus research on areas more relevant to their populations, as US has done with cancer. If these trends persist, however, in time the world will find itself where it is today: without a preventative vaccine and with millions living with HIV and relying on expensive treatment. In order to avoid this scenario, research must remain a viable component of the global strategy to combat HIV/AIDS.

South Africa is an ideal country for HIV/AIDS research due to its excellent institutions and direct access to research opportunities, from innovative treatment trials to social and economical impact studies. It is necessary to conduct this work in a country with a high infection burden, as the solutions, treatments and diagnosis kits from a developed country may not be applicable to the needs of a developing country.

But South Africa cannot fight the battle on short-term treatment and long-term research alone. It needs international support in forms other than direct funding, such as increased scientific collaboration, exchange programs and multi-national research facilities centred in South Africa. Only in this way can South Africa truly grow to become a world leader in AIDS research whilst still maximizing its expenditure on treatment and prevention programmes.

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The Africa Portal is an online knowledge resource for policy-related issues on Africa. An undertaking by the Centre for International Governance Innovation (CIGI), Makerere University (MAK), and the South African Institute of International Affairs (SAIIA), the Africa Portal offers open access to a suite of features including an online library collection; a resource for opinion and analysis; an experts directory; an international events calendar; and a mobile technology component—all aimed to equip users with research and information on Africa’s current policy issues.

A key feature to the Africa Portal is the online library collection holding over 3,500 books, journals, and digital documents related to African policy issues. The entire online repository is open access and available for free full-text download. A portion of the digital documents housed in the library have been digitized for the first time as an undertaking of the Africa Portal project. Facilitating new digitization projects is a core feature of the Africa Portal, which aims to improve access and visibility for African research.

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AFRICA INITIATIVE

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