Downloaded from bmj.com on 5 July 2005

Public policies and the orphans of AIDS in Africa

Alok Bhargava and Betty Bigombe

BMJ 2003;326;1387-1389
doi:10.1136/bmj.326.7403.1387

Updated information and services can be found at:
http://bmj.com/cgi/content/full/326/7403/1387

These include:

References This article cites 12 articles, 2 of which can be accessed free at:
http://bmj.com/cgi/content/full/326/7403/1387#BIBL

Rapid responses You can respond to this article at:
http://bmj.com/cgi/eletter-submit/326/7403/1387

Email alerting service Receive free email alerts when new articles cite this article - sign up in the box at the top right corner of the article

Topic collections Articles on similar topics can be found in the following collections

HIV Infection/AIDS (1055 articles)
Other Public Health (2307 articles)
Global health (1381 articles)
Health education (including prevention and promotion) (619 articles)
Adolescents (365 articles)
Infants (483 articles)
Children (1342 articles)

Notes

To order reprints of this article go to:
http://www.bmjjournals.com/cgi/reprintform

To subscribe to *BMJ* go to:
http://bmj.bmjjournals.com/subscriptions/subscribe.shtml

Downloaded from bmj.com on 5 July 2005

lation groups in Nairobi in the period 1989 to 1991. VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4018.
9 National Council for Population and Development. *Kenya demographic and health survey, 1998.* Nairobi: Central Bureau of Statistics and Macro International, 1999.
10 *National estimates of HIV infection 2002.* Jakarta: Republic of Indonesia, Directorate of Communicable Disease Control and Environmental Health, 2002.
11 *Behavioural surveillance among populations at risk for HIV, 2002.* Jakarta: Republic of Indonesia, Directorate of Communicable Disease Control and Environmental Health, and Central Bureau of Statistics, 2002.
12 Rhodes T, Platt L, Filatov KA, Sarang A, Davis M, Renton A. *Behavioural risk factors for HIV transmission in eastern Europe and central Asia: a review.* Report prepared for UNAIDS and UNICEF, 2002.
13 Soto RJ, Padilla IS, Ghee A, Astete S, Alvarenga MA, Hughes JP, et al. Prevalence of HIV/STD and behavior in Honduran female sex workers—the Central American multicenter study of HIV/STD and behavior. XIV International AIDS Conference, Barcelona, July 2002. Abstract WePeC6133.
14 Ghee AE, Soto RJ, Padilla I, Alvarenga MA, Astete S, Hughes JP, et al. Prevalence of HIV/STD and behavior in Honduran men who have sex with men—the Central American multicenter study of HIV/STD and behavior. XIV International AIDS Conference, Barcelona, July 2002. Abstract WePeC6132.
15 Leng HB, Wantha SS, Sun LP, Sopheap S, Natpratan C, Stuer F, et al. *Low prevalence of sexually transmitted infections in Cambodia supports recent behavioral and HIV seroprevalence trends: 2001 Cambodia STI prevalence survey final report.* Phnom Penh, Cambodia: National Center for HIV/AIDS, Dermatology and STDs, Ministry of Health, 2002.
16 Leng HB. HIV Sentinel Surveillance 2002. Presented on 10 September 2002, Phnom Penh, Cambodia, National Center for HIV/AIDS, Dermatology and STDs, Ministry of Health.
17 *Estimasi HIV di Indonesia, 2002: Laporan kegiatan estimasi populasi rawan terinfeksi HIV.* Jakarta: Ministry of Health, Republic of Indonesia, in press.
18 Joint United Nations Programme on HIV/AIDS (UNAIDS). *Report on the global HIV/AIDS epidemic 2002.* Geneva: UNAIDS, 2002.
19 Joint United Nations Programme on HIV/AIDS (UNAIDS), World Health Organization. *Guidelines for second generation HIV surveillance.* Geneva: UNAIDS/WHO, 2000.

(Accepted 27 March 2003)

Public policies and the orphans of AIDS in Africa

Alok Bhargava, Betty Bigombe

International help to care for Africa's orphans is essential not only for their immediate welfare but also to protect the long term prosperity of these countries. A researcher in child health and former Ugandan government peace minister assess how to make the best use of resources

See also editorial by Ammann

Department of Economics, University of Houston, Houston TX 77204, USA
Alok Bhargava *professor*
World Bank, 1818 H Street NW, Washington, DC 20433, USA
Betty Bigombe *consultant*
Correspondence to: A Bhargava bhargava@uh.edu

BMJ 2003;326:1387–9

The AIDS epidemic is wreaking havoc in sub-Saharan Africa. The HIV seroprevalence among young adults is nearly 40% in some countries,[1] and millions of children have lost their parents. Although the extended family can alleviate these children's plight, it is unrealistic to assume that the children can escape from poverty without massive support from agencies such as the World Bank and the United States Agency for International Development. We visited Ethiopia, Malawi, and Tanzania in March 2002 as consultants to the World Bank to assess the ongoing programmes and to suggest strategies for improving child welfare. This article outlines our findings from visiting over 20 non-governmental organisations and national ministries responsible for caring for orphans of AIDS.

GIACOMO PIROZZI/PANOS PICTURES

Grandparents (and other relatives) often need help with funding education of orphans

Maternal and infant health

Although maternal nutrition, access to antenatal care, and vaccination programmes are important for improving infant health,[2–4] the high prevalence of HIV among women in sub-Saharan Africa is a more urgent problem. The median survival time for HIV positive infants in Rwanda was 12.4 months.[5] Antiretroviral drugs can reduce transmission from mother to infant, but so far only a tiny proportion of African women in pilot programmes have had access to these drugs.[6]

Several approaches are important for reducing the birth of HIV positive infants. The first is counselling about size of families. Demographic surveys in Ethiopia found that the ideal number of children was 5.6.[7] However, couples' preferences depend on factors such as the need for children to generate income. When there is a drastic shock, such as parental death, to the households, parental attitudes may change. The five mothers receiving supplemental foods for their infants that we interviewed at the Abebetche Gobena orphanage in Addis Ababa, for example, wanted only two healthy children. This was presumably a result of clinical staff talking to the mothers about fertility and healthcare issues. The annual cost of caring for an infant in Abebetche Gobena was $471 (£314); the corresponding costs in Malawi ranged from $250 to $1700. These are very high for countries with gross domestic products of $110-$250 per capita.[8]

Secondly, the use of condoms has been emphasised in campaigns to reduce HIV transmission.[9] In situations where women's low negotiating power makes using condoms unfeasible, it is important to provide other methods of contraception, especially if couples have surpassed their fertility goals. Improvements in the quality of family planning services will encourage their use. Recent figures show that the percentages of married women using standard Western family planning methods are 14% in Ethiopia, 45% in Malawi, and 33% in Tanzania.[7 10 11] These figures are low and would increase with greater investments in the healthcare infrastructure.

Downloaded from bmj.com on 5 July 2005

Fostering of orphaned infants by the extended family is important, but relatives often cannot afford to support them. Without subsidies, many of the infants will end up in orphanages. The non-governmental organisation Wamata in Dar es Salaam provides food and supplies worth $9 a month to households fostering orphans. However, it can afford to help only 40 families. An annual subsidy of $100 to fostering households would cover the additional expenses of caring for infants and be cheaper than care in an orphanage.

Distribution of such funds is another issue. The Tanzanian Commission for AIDS estimates that the country has 1.5 million orphans. Funds need to be directed to fostering households through governmental agencies as well as non-governmental organisations, and these should also monitor children's welfare.

Preschool and school aged children

The effect of parental death on education is likely to vary. School enrolment rates in sub-Saharan Africa are already low, often below 50%. When a parent dies, older children may be expected to take up paid employment and care for younger siblings. The ability of bereaved children to continue in school depends on households' resources and the public support for education. Enrolment increased by 30% after school fees were abolished in Uganda,[12] showing that poverty is an important factor.

Economic incentives are needed to achieve universal primary education. In Ethiopia, Malawi, and Tanzania, about $40 per year per child would be sufficient to cover the costs of tuition, uniform, supplies, and transport. Thus, fostering households and households where a parent is dying of AIDS should be guaranteed an annual subsidy of $40 per child provided that they send the child to school.

Currently, much of the care for school aged children in sub-Saharan Africa is delivered by non-governmental organisations. As there are so many orphaned children, the operational costs of these organisations need to be taken into account. For example, the annual administrative cost per child was $64 for SOS Kinderdorf International Village in Lilongwe, Malawi, and this was more than the $53 spent on food and shelter. Transferring funds directly from donor agencies to schools or the responsible ministries would reduce administrative costs.

Educational subsidies could be funded from debt relief programmes. The "estimated total nominal debt service relief" in 2002 was $1.93bn for Ethiopia and $1bn for Malawi.[13] Because there are about 1.2 million orphans in Ethiopia, an annual subsidy of $40 per child would amount to $48m a year.

Lastly, the educational infrastructure is critical for learning, and teacher training is an important component. Teaching about strategies for reducing HIV transmission, such as promoting abstinence, should begin when children are young.[14] As the first step, HIV positive school teachers should be given priority for antiretroviral drugs. Many African children would benefit from lower absenteeism among school teachers.

Adolescents

The policies for adolescents merit attention since HIV prevalence increases rapidly in this group. For example, young people in Zambia and Kenya experience peer pressure to seek multiple sex partners.[15 16] Similarly, girls from low income groups in Mozambique may be forced into relationships to receive material benefits.[17] Pilot studies by the International Labour Organization in Addis Ababa suggest vocational training programmes such as sewing, cooking, and knitting can help young women quit commercial sex. In two non-governmental organisations in Addis Ababa, the annual costs of providing such skills to adolescents were about $100 per person; the corresponding cost in Tanzania was $327. Organisations providing training could also promote use of condoms.

Premature death can result in shortage of skilled labour. This is important for productivity because life expectancy affects economic growth.[18] Vocational training programmes should ideally be matched to demand in the labour markets. The World Bank has sponsored surveys of firms in Africa to investigate the determinants of productivity.[19] Surveys of businesses employing blue collar workers such as electricians, carpenters, and plumbers are essential to assess the demand for labour. The non-governmental organisation Kiwohede in Dar es Salaam trains around 100 adolescents a year for mechanical, carpentry, and electrical jobs. Adolescents stay in the programme for 3-6 months at a cost of about $500.

Loans for vocational training programmes are likely to bring quick returns if the programmes are guided by the demand for labour. The World Bank has experience in lending for vocational training.[20] However, small scale programmes run by non-governmental organisations are hampered by factors such as high licensing fees. Because AIDS is reducing the labour force, organisations providing vocational training merit subsidies of $100-$500 per adolescent. It would be useful for the World Bank to set up national coordinating centres that facilitate access to and evaluation of vocational training programmes.

Conclusions

The AIDS epidemic in sub-Saharan Africa cannot be tackled without a concerted effort from international and national agencies. It requires a combination of pragmatic approaches. We advocate channelling funds

Summary points

Maternal and infant healthcare programmes need scaling up and households fostering infants should be given annual subsidies of $100

Annual subsidies of $40 per fostered child are needed to increase attendance at school

Subsidies of $100-$500 per adolescent could provide vocational training and increase productivity

Subsidies could be largely funded by channelling money from debt relief programmes and other sources

Downloaded from bmj.com on 5 July 2005

from debt relief programmes directly to schools to increase enrolment and minimise transaction costs. Moreover, it would be cost effective to direct funds from the newly established Global Fund to Fight AIDS, Tuberculosis, and Malaria to maternal and infant healthcare programmes and to education. Young children without both parents should be given the highest priority. If children are cared for by their adolescent siblings, then such adolescents should be the first to qualify for vocational training. In the absence of a cure for AIDS, international agencies have an important role in providing technical advice as well as funds for maintaining the current levels of economic activity in sub-Saharan African countries.

Funding: The authors' field trip was supported by the World Bank. The opinions expressed here are those of the authors and should not be attributed to any organisation.

Competing interests: None declared.

1 Buve A, Carael M, Hayes RJ, Auvert B, Ferry B, Robinson NJ, et al. Multicentre study on factors determining differences in rate of spread of HIV in sub-Saharan Africa: methods, and prevalence of HIV infection. *AIDS* 2001;15:S5-14.
2 Falkner F, Holzgreve W, Schloo TH. Parental influences on postnatal growth: overview and pointers for research. *Eur J Clin Nutr* 1994;48:15-24.
3 Bhargava A. Modelling the effects of maternal nutritional status and socioeconomic variables on the anthropometric and psychological indicators of Kenyan infants from age 0-6 months. *Am J Phys Anthropol* 2000;110:89-104.
4 Bhargava, A. Family planning, gender differences and infant mortality: evidence from Uttar Pradesh, India. *J Econometrics* 2003;112:225-40.
5 Spira R, Lepage P, Msellati P, Van de Perre P, Leroy V, Simonon A, et al. Natural history of human immunodeficiency virus type 1 infection in children: a five-year prospective study in Rwanda. *Pediatrics* 1999;104:1-9.
6 Wiktor S, Ekpini E, Karon J, Nkengasong J, Maurice C, Severin S, et al. Short course oral zidovudine for prevention of mother-to-child transmission of HIV-1 in Abidjian, Cote d'Ivoire: a randomised trial. *Lancet* 1999;353:781-5.
7 Demographic and Health Survey *Demographic and health survey, Ethiopia 2000.* Washington, DC.: Macrointernational, 2000.
8 World Bank. *World development indicators.* Washington, DC: World Bank, 2001.
9 Meekers D. Going underground and going after women: Trends in sexual risk behavior among gold miners in South Africa. *Int J STD AIDS* 2000;11:21-6.
10 Demographic and Health Survey. *Demographic and health survey, Malawi 2000.* Washington, DC: Macrointernational, 2000.
11 Demographic and Health Survey. *Demographic and health survey, Tanzania 1999.* Washington, DC: Macrointernational, 1999.
12 Deininger K. *Does cost of schooling affect enrolment by the poor? Universal primary education in Uganda.* Washington, DC: World Bank, 2001.
13 Ter-Minassian T, Gupta S, Clements B, Guin-Siu MT, de Mello L. *Debt relief in HIPCs: fiscal policy issues.* Washington, DC: International Monetary Fund: 2001.
14 Kinsman J, Nakiyingi J, Kamali A, Carpenter L, Quigley M, Pool R, et al. Evaluation of a comprehensive school-based AIDS education programme in rural Mawaka, Uganda. *Health Educ Res* 2001;16:85-100.
15 Ndubani P, Hojer B. Sexual behavior and sexually transmitted diseases among young men in Zambia. *Heal Pol Plan* 2001;16:107-12.
16 Nzoika C. Perspectives of adolescent boys on the risks of unwanted pregnancy and sexually transmitted infections: Kenya. *Reprod Health Matters* 2001;9:108-17.
17 Machel JZ. Unsafe sexual behavior among school girls in Mozambique: a matter of gender and class. *Reprod Health Matters* 2001;9:82-90.
18 Bhargava A, Jamison D, Lau L, Murray C. Modeling the effects of health on economic growth. *J Health Econ* 2001;20:423-40.
19 Marchat JM, Nasir J, Ramachandran V, Shah MK, Tyler G, Zhao L. *Results of the Nigeria firm survey.* Washington, DC: World Bank, 2001.
20 World Bank Madagascar: *Education and training in Madagascar.* Washington, DC: World Bank, 2001.

(Accepted 17 March 2003)

Tackling India's HIV epidemic: lessons from Africa

Malcolm Potts, Julia Walsh

India stands on the brink of a major HIV epidemic. However, by examining where public health initiatives went wrong in Africa, the international community may be able to help India avoid the devastating effects seen in Africa

See also editorial by Ammann

Bay Area International Group, School of Public Health, University of California, Berkeley, CA 94720-7360, USA

Malcolm Potts *Bixby professor, population and family planning*

continued over

BMJ 2003;326:1389–92

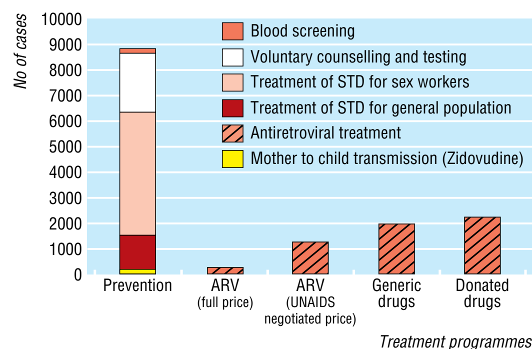
The rapid spread of HIV in sub-Saharan Africa is one of the greatest failures in the history of public health. Given our detailed understanding of HIV and the natural course of AIDS, the virus should have been controllable. Yet in some African countries 20% of people aged over 15 are HIV positive and 70% of them will eventually die from AIDS.[1] India shares some of the same risk factors as Africa, including a similar pattern of health expenditure, an uneven health infrastructure, and prevalent high risk sexual behaviours (table A, bmj.com).[2] By 2010 the number of HIV infections in India is predicted to rise from 4 million to 20-25 million[1–3] We discuss 10 important lessons from Africa that could limit the spread of HIV in India.

Methods

The views expressed in this paper are based on current literature reviews, economic analyses of the Berkeley International Group (http://big.berkeley.edu), and extensive personal experience working on HIV, reproductive health, programme management, and international finance.

Involve high risk groups in all phases of programmes

HIV infection begins in the core groups of commercial sex workers, intravenous drug users, and men who have sex with men (table B, bmj.com). Mathematical models show both the benefits of early intervention and the



Number of cases of HIV infection that could be averted with $2m AIDS budget spent on preventive measures or antiretroviral drugs (ARV) from different sources[5]

Further tables and figures giving HIV statistics are available on bmj.com