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The Economics of HIV/AIDS

Barun Kanjilal

The emergence and consequent spread of HIV/AIDS has generated a huge volume of food for thought for a section of economists to survive on, at least for a couple of decades. In other words, the uniqueness of the spread of the disease and its enormous burden, most of which are still hidden, has offered several serious research challenges to health economists across the world.

The most important among these research questions is: how and to what extent will HIV/AIDS affect our economies? In other words, how serious is the threat of an AIDS epidemic to a national, sectoral or household economic well-being? The answer to this question is extremely crucial for policy making since knowledge on the severity of impact at different levels enormously helps prioritise interventions.

Issues related to economics of HIV/AIDS are concisely capsuled by *The Economics of HIV/AIDS: The Case of South and South East Asia*, a book published for and on behalf of the United Nations Development Programme (UNDP) (Bloom and Godwin 1997). The volume includes a collection of studies commissioned by the UNDP's Regional HIV Project for Asia and the Pacific in 1990s. The introductory statements of the first article precisely reflects the principal theme of the book:

AIDS is first and foremost a public health problem, but it is a problem with deep economic roots and potentially devastating economic consequences. The main purpose . . . is to document this assertion. (p. 9)

Like any other diseases, the economic consequences manifest in severe economic costs, which can be classified into two main categories: (a)

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direct (such as personal medical care costs associated with the disease and costs associated with prevention of the disease); and (b) indirect (including lost opportunities to earn or to produce goods and services). AIDS surpasses others in degree; its costs (both direct and indirect) are exorbitantly high. The high level may be explained by two main reasons: (a) many of the opportunistic infections associated with AIDS (such as, tuberculosis and pneumonia) are comparatively costlier to treat; and (b) AIDS disproportionately affects individuals in their prime productive years, thereby implying a huge potential loss of income to them, their families and to the nation.

How high are these costs? The direct medical care costs per AIDS case in India, Indonesia and Thailand, as estimated by Bloom and Glied (1993), are \$738, \$1,490, and \$987–1,524 respectively. In India this works out to almost double the per capita GDP. Add indirect costs, which are more than 10 times the direct costs, and there is the extremely high estimate of \$10,838, \$16,170 and \$35,000 respectively for India, Indonesia and Thailand. For India, with an projected 1 million AIDS cases by 2000 AD, this easily translates into a whopping \$11 billion additional burden on the national economy (Bloom and Glied, 1993, p. 164).

The evidence on macroeconomic impact is, however, ambiguous. While several studies predict a substantial impact of AIDS on the macroeconomics of developing countries (Over 1992; Cuddington 1993), a preliminary study incorporated in *The Economics of HIV and AIDS* (Bloom and Godwin 1997: 9–52) advised a cautious step in reaching such sweeping conclusion. The study, on the basis of preliminary calculations based on data for 51 countries, reveals that the AIDS epidemic has had only a small and statistically insignificant negative effect on income per person. A logical conclusion from the viewpoint of policy research therefore is to put less stress on assessing the macroeconomic impact more on microeconomic consequences.

The microeconomic impacts may be assessed at household or sectoral levels. In case of the former the disease may have a disastrous effect on the welfare of the household, especially when the principal earner is infected at his/her prime working age. The impact is disproportionately heavier on a low-income family since such families possess lesser resources to cope with increased medical care costs and other associated expenses in addition to foregone income. Given the prohibitively high direct cost of AIDS and lack of social security benefits, the consequences can easily be conceived. The family of the deceased has its savings quickly drained, starts borrowing from relatives and moneylenders and falls

into a debt trap; children drop out of schools and join the workforce, usually in informal sector; and, finally, the family disintegrates (and often disappears) when both the parents succumb to the disease.

Is this reality or a carefully concocted nightmare to highlight the importance of AIDS? Those economists and social scientists who believe that AIDS is one of the most formidable killers in this century have been putting their pennyworth to collect evidences in order to prove that this is the reality. This is not so easy because, although there are rough estimates of the number of people infected in developing countries, little is known about how many of them are seeking medical treatment for opportunistic illnesses associated with AIDS or for terminal care. Many of these opportunistic ailments were already prevalent in these countries before the onset of the AIDS epidemic, making the connection with AIDS more difficult to identify.

The Economics of HIV and AIDS includes three country studies that offer some evidences of household impacts. The Thailand study (Bloom and Godwin 1997: 53–101) attempts to measure and analyse the economic impact of adult AIDS deaths on rural households in Chiangmai province of Thailand, investigate the link between AIDS mortality and poverty in rural areas, and analyse the coping ability of households of different economic status. The study found little difference in direct costs between AIDS-related deaths and non-AIDS-related deaths. Interestingly, the direct cost of the non-AIDS-related deaths was found slightly higher than the AIDS-related deaths, partly because households in the former category spent more on funeral rites than the latter. On the contrary, the indirect costs of AIDS-related diseases were found to be significantly higher than those of the non-AIDS-related deaths. Based on regular work income alone, the foregone income of those deceased from AIDS worked out to US\$ 28,592, which was approximately 30 per cent more than that of an individual who died from a non-AIDS-related disease. The study also found significant impact on children. About 40 per cent of the households were found to have at least a child who lost one of their parents to AIDS. While more than half of them were being cared for by the surviving parent, about one-third of them were being taken care of by their relatives, such as grandparents, and about 6 per cent ended up in an orphanage or temple.

How did the households cope with the disaster? At the initial level the more common strategy was to adjust household resources through savingless, selling assets, reducing consumption expenditure and reallocating the time household members spent on different activities. The last

two strategies have long-term devastating effects on poorer families since curtailing consumption expenditure has a direct effect on the health and nutritional status of members, and reallocating time often implies withdrawal of children from schools or additional burden on women and elderly people. The second line of strategies include borrowing, transfers-in (from relatives or friends), and receiving financial support, free health care or social security benefits from non-family institutions such as the government and private employers.

Another set of evidences comes from the country study on India (Bloom and Godwin 1997: 102–54). The study used major illness and death in general as a proxy for AIDS-related morbidity and conducted a quantitative survey on a representative sample of men in Delhi. In addition, a series of case studies of households that had experienced an adult death in the last two years were done. The results unambiguously supported the hypothesis that not only were the costs of adult illness and death lower for the better off, they were also better at availing of measures provided by the state or their employers to help meet these costs. The poorer section is not only more vulnerable to the disease, but also more likely to share a disproportionately higher burden of the disease. Also, not so surprising is the finding that households made up of joint families were the best able to meet the burden of disease.

From a researcher's view point the household impact studies offer greater scope and challenges than macroeconomic impact studies. The results are also more meaningful from a policy angle. However, recent researches on impact of HIV/AIDS on various economic sectors reveal that sectoral impact studies also can provide policy makers with important policy clues, especially when there are significant variations across various sectors in susceptibility and vulnerability to HIV/AIDS. The issues related to sectoral impacts, however, remain largely untouched in *The Economics of HIV and AIDS*. The only sector that receives some attention, albeit implicitly, is the health care sector. The present discussion attempts to reprocess these implicit references in a more explicit terms.

The spread of HIV/AIDS has a potentially huge impact on the health care industry, especially in developing countries. The impact is expected to primarily manifest in two ways: (a) diagnosing and treating HIV infection; and (b) treating opportunistic infections such as tuberculosis or chronic diarrhoea. The existing infrastructure would have to create additional space for providing such (additional) services if the spread is not controlled through immediate intervention.

How serious is the threat? Let us consider the case of India. Even if one takes the current estimate of HIV-positive people in India (say, 3.5 million), the load is substantial. From the viewpoint of the health system, this means repeated episodes of illness for an additional population of 3.5 million. Almost all of these persons would in due course require hospitalisation for HIV-related illness, especially during the last year or two of their lives. According to one estimate, if a patient of HIV infection leading to AIDS needs six admissions for HIV-related illness during the last stages of the disease, and each admission is of about two weeks with a longer terminal admission, then each person with AIDS would need about 100 hospital bed-days. This implies an additional demand of 350 million bed-days, which works out between 15 and 30 per cent of currently available bed-days in the country. Since it is unlikely that the present health care infrastructure would be able to generate this additional capacity within the near future, one major effect of the epidemic may be to displace other types of patients who could need hospitalisation. The alternative scenario, which is equally gloomy, is the failure of AIDS patients to receive required hospital care in time. The cost of the epidemic, in this case, would manifest in the lost value of time that is spent seeking medical care.

The impact is serious when one considers the following two facts: (a) the treatment of AIDS and opportunistic infections is exorbitantly high; and (b) the highly subsidised public health care system, which could cater to this additional need, especially of the poorer section, is already overburdened and faces an acute resource crunch. The estimated direct medical care cost (per case) of AIDS in India, as already mentioned above, goes as high as \$738. For the 3.5 million people with AIDS total medical care cost thus would be more than \$2 billion. The relevant question is: who will bear this cost?

Given the fact that the burden of the disease is disproportionately higher on the poorer sections, who can hardly afford to pay even a small fraction of the estimated amount, one can expect that a major proportion of the above-estimated burden of treatment will be borne by the public health infrastructure. It is highly unlikely that this expectation will be met. A more probable scenario is that the cost will ultimately manifest in inadequate treatment, longer waiting time, fast draining of meagre family resources and premature death.

The increasing incidence of opportunistic infections like TB is sure to pose a serious challenge to the existing health infrastructure. A large percentage of people with AIDS will add to the existing number of TB

patients, leading to a substantial increase in demand for drugs, manpower and other associated inputs. The cost of one bed per day in a typical government hospital at the district level is estimated to be about \$5. Assuming that approximately 60 per cent of AIDS patients will be affected by TB, the estimated total cost per bed per day is over \$9 million. The enormity of the burden is easily conceivable.

The disturbing fact is that the health infrastructure of developing countries has put in little effort to cope with this increasingly accumulated burden that can potentially go out of control once the epidemic sets in its full form. So far no serious effort to identify an appropriate scheme of capacity building has been visible. Given that epidemiological evidence suggests that the HIV is disproportionately affecting lower-income groups and that the capacity of existing institutions for spreading health care is limited, AIDS medical care costs are likely to further immiserisation of the poor and thus the inequality of economic status across the society. This clearly underlines the importance of significant and immediate preventive interventions and additional capacity building through innovative ways of resource mobilisation such as insurance.

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