In the first two decades of the HIV epidemic, the parallel efforts of activists, scientists and clinicians resulted in a largely successful paradigm and practice for confronting the epidemic in the rich regions of the world. This was structured around prevention of HIV infection and treatment of AIDS. In resource rich countries in the North, these two key modalities have reduced the rate of growth of the epidemic as well as mortality, morbidity and health care costs. By contrast, for the vast majority (95%) of the estimated 42 million HIV-infected persons who live in developing countries, surveillance, prevention and the development of future vaccines were thought to be the only feasible modalities to combat the epidemic. Although the success of Highly Active Antiretroviral Therapies (HAART) in reducing HIV-related mortality and morbidity became evident soon as 1996, at the 11th World Aids Conference in Vancouver, access to Anti-Retroviral Treatment (ART) was not considered a feasible technical and economic option for developing countries by most experts in the field [1-3].

Since then, the experience of the Brazilian National AIDS Program, presented in the first part of this book by Teixeira, Vitória & Barcarolo, has proved that the medium term goal of providing universal coverage for ART can be realistically achieved in middle income countries through appropriate public policies. Other middle income countries, such as Thailand [4] or Chile, whose experience is presented here by Morales, Cid & Souteyrand, are also implementing policies to reach this goal. Pilot projects sponsored by the governments of Côte d’Ivoire, Senegal and Uganda with the support of UN organisations have
proved the technical feasibility of Antiretroviral (ARV) delivery in sub-Saharan Africa. Although limited in size, these latter experiences have established that similar virological and immunological outcomes, probability of an adverse event, and estimated survival, levels of patients’ adherence, while maintaining limited viral resistance, have been obtained with patients enrolled in these African Drug Access Initiatives (DAIs) than with ART treated patients in the USA and Europe [5-8]. An additional lesson, that emerges from the evaluations of the DAIs in these three African countries, is that strong public control is key for a successful diffusion of ART. In the African context of scarce resources and the huge unmet demands for HIV care, efficient programmes clearly necessitate that ARV drugs be properly delivered through organised channels which imply a strong involvement of governments to either promote access to ART in the public health sector or to regulate their delivery in the whole health care system (including the private not for profit and private sectors) or a mix of these policies. In the absence of organised efforts by public health authorities to improve access to ART, the alternative that will inevitably occur in developing countries is “antiretroviral anarchy” [9-11] that will restrict availability of ARV drugs to the most privileged, and maximise the risks of diversion to “black market” sales, of irrational prescriptions and consequently of dissemination of resistant viral strains. The efficiency of government systems – including national health-service systems – has gradually declined over the past decades in many developing countries, especially in Africa. It is obvious that scaling up access to ART will often take place in a context of failing government systems with limited absorption capacity [12, 13]. Legitimate concerns about the risk of bureaucratic inertia due to government intervention, however, fail to realize that even in the best cases, the market will simply not provide adequate delivery of ART especially to the poorest, and that it is market failures of this kind that prompt government action in the first place.

Although it is obvious that inequality between rich and poor nations regarding access to HIV care and treatment constitutes a “moral scandal” [14], many experts and policy-makers continue to argue that improved access to ART is not a good investment choice in developing countries [3, 15-17]. Most current arguments against devoting international and national efforts for scaling up access to ART in the South make an implicit or explicit reference to some forms of economic rationale. Because money targeted to improving public health in developing countries has to be spent, as elsewhere, where it can yield the highest returns, it is either argued that alternative use of resources (to prevention or treatment of opportunistic infections for fighting the HIV epidemic or to
other health improvements) would bring more social benefit for these societies; or that existing institutional, behavioural and cultural barriers, as well as tight constraints on government funds, would impede any efficient use and equitable diffusion of ART in the developing world. Papers in the second part of this book critically review these major “economic” arguments that have been raised against bridging the North/South gap in access to HIV treatment. They show that these arguments are indeed based on a very limited rationale based on a small range of costs defined by particular versions of “economic” discourse and excluding the larger costs associated with lost capacity for social and economic reproduction, non-traded goods and services in the economy and other goods such as “happiness” and “well-being” posited by welfare economics. Although they may differ on specific issues, all papers in this book take a radically opposite view to that of economists and public health experts who oppose access to ART as one of the priorities for HIV/AIDS policies in developing countries. They rather bring evidence to support the idea that scaling up access to ART and other effective treatments for HIV can be a rational and well-thought economic choice for developing countries, and they discuss the conditions to be met and the policies to be implemented in order to maximise the benefits that these countries can achieve from such access. The message that the second part of this book tries to convey is that denying expanded access to ART is not only bad ethics and bad public health, but also bad economic policy.

The mistaken use of the “cost-effectiveness” argument

A frequent argument raised by some health economists [16, 17], and that is often uncritically accepted by decision-makers and health care professionals, is that even with more affordable drugs, ART would still not be “cost-effective” compared with alternative uses of resources for improving public health. In their paper reviewing the published cost-effectiveness literature in various areas of HIV care and prevention, Freedberg and Yazdanpanah show that this argument is based on scarce empirical evidence in developing countries with only limited comparability between studies and ignores the well-known pitfalls of utilizing cost-effectiveness studies for allocating resources to health-care programs that differ in scope. In addition, it ignores the fact that, in the absence of an effective AIDS vaccine, all prevention and care interventions will follow the law of diminishing returns, i.e., that successive equal unit-additions of inputs will result, from some point on, in additions of output at a diminishing
rate [18]. For example, although the unit cost of condoms is low, increased efforts are needed to promote their use in groups where people, particularly women, are not in a position to adopt such risk avoiding strategies or where social and cultural barriers are difficult to overcome, to the extent that the cost-per-averted-infection increases exponentially. Indeed, the notion that ART will never be cost-effective in developing countries is based on the implied assumption that implementation of other strategies for HIV care and prevention, whatever their diminishing returns, will always dominate even the most cost-effective strategies using ARVs. In fact, it is more likely that, compared to alternative types of care, ART will prove to be more cost-effective, at least under certain conditions. As will be discussed below, in some extreme cases of countries like Swaziland with more than one out of three adults already infected, ART may even be the only feasible response if the nation is to survive.

In rich countries, the total cost of care for adults with HIV infection has declined since HAART was introduced [19]. The extent to which the cost of purchasing ARVs is totally, or partially, offset by savings through the reduced number of hospitalizations and episodes of HIV-related opportunistic infections remains unclear. However, once indirect costs (i.e., productivity losses associated with morbidity in HIV-infected persons) are taken into account, HAART is clearly cost-saving in developed societies. This may also be the case among many population groups in developing countries and is suggested by the increasing number of private companies in Africa, including corporations with large workforces such as Anglo American, De Beers and Debswana, that have moved to provide ART for their employees at company expense, and, in some cases, their families [20]. The paper by Eholie et al. evaluates the health and economic impact of a comprehensive HIV care programme, including ART delivery, within one of the main private companies in Côte d’Ivoire, whereas the paper by Mc Greevey, Alkenbrack and Stover discusses various interventions for HIV/AIDS prevention, care, and treatment targeted at construction workers who account for a significant share of total employment in developing countries. Both papers illustrate how HIV/AIDS has a major impact on private business in terms of reduced labor supply, especially the loss of experienced workers in their most productive years, increased absenteeism, reduced profitability, loss of international competitiveness, and other financial impacts. They also confirm the fact that private companies currently embark on initiatives to provide ART because they estimate that their investment will, at a minimum, be cost-saving from the company’s own perspective. Because non traded socially reproductive labor and other goods and services are of prime importance
in the economy of the developing world in ways which are not the case in “rich
countries”, ART may also be cost-saving in other productive groups of society
outside the “formal” private sector.

Moreover, many health interventions that are considered cost-effective in
the North do not save money *per se*. They involve net additional costs which
are considered worth incurring to the extent that they “buy” additional health
benefits. In high-income OECD countries (Organization for Economic Co-
operation and Development), it is usually considered that medical innovations
should be adopted if the marginal costs per additional life-year saved are
below US$50,000 (circa twice the Gross Domestic Product [GDP] per capita),
whereas those above US$150,000 (six times the GDP per capita) are judged
too expensive for general use [21]. The implicit rationale for this pragmatic
rule is that for values below the lower bound, one can be quite sure that the
extra costs for the health care system will be more than compensated by the
economic benefits deriving from increased life expectancy; whereas devoting
resources to a specific intervention for saving one lifeyear “at the margin”, at a cost
above the upper threshold, will necessarily “kill a greater number of statistical
life-years” through the global impact on the economy of such allocation. When
applying this criterion to the data from the literature presented by Freedberg
and Yazdanpanah, ART is clearly justified on cost-effectiveness grounds in
OECD countries, and compares favorably with prophylaxis of opportunistic
infections and a number of HIV-prevention interventions.

By applying a similar criterion developing countries with lower GDPs, the use
of ARVs for the prevention of mother-to-child transmission (MTCT) of HIV is
clearly cost-effective [22], and should be implemented on a large scale every-
where, including in the 49 Least-Developed countries of the world with a GDP
per capita circa US$300. Continuing ART for the mother and child after delivery,
if indicated, is also likely to meet this criterion, especially in situations where
breastfeeding remains the norm [23], and is the focus of a new multi-country
initiative, MTCT-Plus, which will provide continuing, life-long ART for HIV-
positive mothers, their children and other family members at 40 sites in eight
African and Asian countries. In the developing world an estimated 3.2 million
children and adolescents under 15 years of age are living with HIV or AIDS, the
vast majority of them in sub-Saharan Africa. Many of these children are orphans.
Although it has also been proved in the North that HAART markedly reduces
mortality among HIV-infected children and adolescents [24], access to treatment
is virtually nil for these age groups in the South. The paper by Laguide *et al.*
reports one of the preliminary studies on the feasibility of expanding ART to
children in Africa, that is carried out in Abidjan in the context of the Côte d’Ivoire DAI. It shows that the introduction of HAART logically increases the cost of pediatric treatment, but this has to be balanced with the two to three fold decrease in morbidity that is observed among HAART-treated children.

The paper by Boulle, Kenyon and Abdullah provides estimates of the additional net health care cost per life-year saved with HAART in the adult population of South Africa. These estimates (between US$700 –$1,400 per life-year saved) suggest that HAART can already be considered to be cost-effective in middle-income countries, such as Brazil and South Africa, which have GDPs per capita above US$3,000. Preliminary results from a World Bank study in India suggests even lower health care costs per additional life-year with ART (in the range of US$150-300) with further decreases to only US$30-50 per additional life-year in the “optimistic scenarios” in which access to ART has a positive impact on prevention by reducing the incidence on new infections [25]. As strongly pointed out by both papers of Boulle, Kenyon and Abdullah, and Freedberg and Yazdanpanah, the limited number of available studies on cost-effectiveness of ART in developing countries are based on simulation models and their results remain quite sensitive to the hypothetical assumptions they introduce in these models. These assumptions definitely need further empirical validation based on the evaluation of “true” large-scale programs for ARV delivery.

A key additional parameter for the “real” cost-effectiveness of ART will depend on what economists usually call “treatment externalities” in the case of infectious diseases, that is the future impact of access to effective treatment for those who are already HIV-infected on the rate of transmission of new infections. It has been recently argued that approaches to the prevention and control of the HIV epidemic in Africa have been too heavily based on early experiences and policies from developed countries where the disease has often affected specific risk groups, and that it is urgent to redefine HIV/AIDS in Africa and other developing regions as “a public health and infectious disease emergency” [26]. Reconsideration of policies and practices around HIV prevention and testing clearly need an increased focus on access to treatment [27]. While it is estimated that 9 out of 10 HIV-infected people in sub-Saharan Africa do not know their serostatus, it can be expected that motivations for adherence to voluntary HIV counseling and testing (VCT), which serve as a critical entry point for HIV prevention programs, would be significantly increased by prospects for access to treatment following a positive HIV test result. In addition, it is now established that HAART decreases the probability
of individual sexual transmission of HIV in the case of unprotected sexual intercourse [28]. However, at the level of the population as a whole, the preventive effect of HAART may be counteracted by the increase in life expectancy of treated patients which will predictably translate into an increased probability of sexual encounters between sero-different partners [29]. The overall impact on HIV incidence will further depend on the extent to which risk behaviors are affected by the availability of treatment. A pessimistic view will fear that access to treatment may produce a “dishinhibition effect” in both the seronegative and seropositive segments of the population and a consequent increase in HIV-related risky behaviours. In developed countries, there have been disturbing reports of an increased incidence of STDs and high-risk behaviors as HAART has become widely available [30, 31]. In Africa, there has been anecdotal reports that media announcements about the discovery of a “cure for AIDS” had translated in relapse to more risk behaviours in some groups particularly vulnerable for HIV transmission like sex workers. In contrast, an optimistic view will refer to the evidence from cohort studies in the North indicating that individuals receiving HAART tend to adopt protective behaviors more frequently than those who are not on treatment [32]. In order to facilitate their access to treatment, HIV-infected individuals may have more incentives to become aware of their serostatus and to share information about it with their “significant others”. By giving a prospect of hope, longer survival and better quality of life, ART may also facilitate secondary prevention among infected individuals. In a survey conducted in Côte d’Ivoire in a sample of HIV-infected patients seeking care in the medical centers of Abidjan, those who had access to ART were more likely to maintain sexual activity, in association with the improvement of their health status, but declared significantly more frequent condom use than non ART-treated individuals [33]. Similar studies conducted in Rio de Janeiro and Chile found that adherence to condom use also increased in the ART-treated population [34, 35]. Rather than opposing these two views on the basis of a priori ideological arguments, the only way to reach clear-cut conclusions about the consequences of access to HAART on prevention will be to empirically monitor the evolution of risk behaviors, as treatment becomes available on a larger scale in developing countries. Availability of treatment will modify what Barnett calls the “risk environment” which influence, through collective processes, individual behaviors of those who are already infected and of the segments of the seronegative population who are the most exposed to the risk of HIV transmission. Adaptation of primary and secondary prevention strategies must be based on empirical evidence rather
Another key parameter for the future “cost-effectiveness” of scaling up access to ART will depend whether delivery of treatment simply duplicates the practice and standards that have been developed in the North or are creatively adapted to the constraints of low-resource settings. In April 2002, WHO issued its first guidelines for ART in resource-limited settings that advocate the use of least expensive options for first- and second-line ART for adults and adolescents, as well as for special populations, including pregnant women, children, and persons co-infected with tuberculosis, as well as the use of simple and inexpensive laboratory tests to monitor the response to treatment [36]. In addition to policies for making drug prices more affordable, that have been discussed in the first part of this book, and for making available cheaper alternative techniques for biological monitoring of viral load and CD4 cell counts, such “adaptation” of guidelines should be driven by the goal of minimizing costs of ART delivery while maintaining its efficiency. For example, studies in rich countries have shown that because the probability of survival is the lowest in patients with AIDS, initiating HAART when the CD4 cell count is below $50/m^3$ produces a 50% increase in the cost per additional life-year saved as compared with initiating treatment at a CD4 count of $200/m^3$. In the DAI of Côte d’Ivoire and Uganda, the median CD4 counts of ARV-naïve patients at the initiation of therapy were 89 and 84 cells/mm$^3$, respectively. Implementing the current recommendations to initiate treatment at a level no lower than $200$ CD4 cells/mm$^3$ should improve the cost-effectiveness ratio.

Health economists should stop making an “authoritarian” use of a mistaken version of the cost-effectiveness argument to legitimate delays and withdrawals from governments and donor organisations in launching large-scale programs for access to ART. They should rather focus on the existing data on the experience with ARVs in developing countries to help identifying the most cost-effective conditions for their use.

Finally, it must be reminded that cost-effectiveness techniques are a simplification of the basic analytic tools of welfare economics and always leave unresolved the fundamental issue of comparing extra costs to the value of additional benefits that are obtained by society from a collective investment [21]. In addition, using the metric of GDP per capita to determine the socially acceptable threshold for the marginal cost per life year saved raises an important and thorny ethical, but also methodological in a deeper epistemological sense, issue: the differential costing of human lives across societies that have reached
different levels of economic development. In this case, the issue has to deal with the value that a society affects to the increased life expectancy and enhanced quality of life of ART-treated patients, including reduced stigma, which go far beyond their direct impact for HIV-infected individuals but should include improved social and human development for their families, communities and country as a whole. Indeed, most economic calculations fail to take into account the “real” cost of the loss of a life from the perspective of the social reproduction of a particular society and locally relevant cultural and moral evaluations of individuals’ social existence. Debating this issue is logically related to the way economics understands and measures the impact of HIV/AIDS on life expectancy and other demographic variables, as well as on macroeconomic and social development.

The underestimation of the economic impact of the epidemic

Micro-studies and sectorial approaches, such as the ones mentioned above about the impact on private business (Eholie et al., Mc Greevey, Alkenbrack and Stover) and the literature on impact in affected households reviewed by Freire, generally show that HIV/AIDS is likely to increase and deepens the level of poverty in many developing countries and in the economies in transition of Eastern Europe. Making a comparison between Botswana and the emerging epidemic in the Russian Federation, Balkans and Baltic States, Barnett shows how the superimposition of two long wave events (the HIV epidemic on the one hand, endemic poverty on the other hand) poses unique problems for development. By contrast, most existing estimates of the macroeconomic costs of HIV/AIDS, as measured by the reduction in the growth rate of GDP, are quite modest. In their review of the literature of macroeconomic modeling approaches, Drouhin, Touzé and Ventelou remind us that for Africa, the continent where the epidemic has hit the hardest, they range between 0.3% and 1.5% annually. Barnett mentions similar estimates for the impact of AIDS on the rate of growth in the Russian Federation. Of course, even a loss of circa 1% growth does matter in developing countries, as well as in economies in transition of Eastern Europe, that desperately need very high rates of growth to catch up with international competition in the current context of globalization. However, policymakers need to have some clear idea of the way the epidemic undermines their economies and public budgets, and in the absence of education about the special features of HIV/AIDS impact, politicians and policy makers may mistakenly believe that a 1% loss is similar
to exogeneous shocks, such as the economic consequences of the terrorist attacks in the United States on September 11, 2002, that are more or less easily absorbed by most countries.

Departing from these previous approaches, the three papers by Freire, Drouhin, Touzé and Ventelou, and Barnett offer refreshing new conceptual approaches that altogether bring a message of major importance: previous research has indeed strongly underestimated the long-run economic and social costs of HIV/AIDS and their detrimental impact on development; consequently, they have led to an underestimation of the true social rate of return from programs to fight the epidemic, including resources for facilitating access to ART in the most vulnerable segments of the HIV-infected population. In the absence of active policies to mitigate the impact of the epidemic, a progressive collapse of human capital and productivity may occur in some of the countries with the highest HIV prevalence, leading them to fall in what Drouhin, Touzé and Ventelou call an “involution trap”, corresponding to a catastrophic modification of the long-term growth regime of their economies. All three papers focus on a number of important potential economic ramifications of the HIV/AIDS epidemic in low-income countries that have as yet received little consideration.

In her paper, Freire shows that studies that have dealt with the impact of HIV/AIDS at the level of the households have tended to restrict themselves to the short-term consequences for those households with one or more members directly affected by the illness. She rightly argues that such approach is limited in scope and time horizon and does not take into account the impact which is very likely to be significant on other related households (extended families, communities) who are de facto involved in coping with the consequences of the illness and death of the HIV-infected as well as the related intergenerational effects. New empirical evidence about the impact of being orphaned in the context of AIDS supports Freire’s arguments: the reduction in children’s human capital following the loss of parents’ presence seems less due to the direct associated loss in income from parental death(s) than a product of associated behavioral changes (in particular, the impact of orphanage on living arrangements and school enrollment seems to depend on the degree of relatedness of the orphans to the head of the household which takes care of them) [37, 38]. Making reference to the work of Nobel Prize of economics Amartya Sen, Barnett shows how the concept of human development, reflected, although imperfectly, by the Human Development Index that has been popularized by UNDP, puts light on the fact that a widespread HIV epidemic, by curtailing
adult life spans, seriously alter the calculus of investment in higher education and technical skills, thereby undermining the local process of investment in human capital. In addition, there is already the suggestion that high HIV rates affect international decisions about direct investment, technology transfer, and personnel allocation in places perceived to be of high health risk. Both factors suggest that HIV breakout could have lasting economic consequences that could be even more significant than the constraints the epidemic directly imposes on local labor supplies or savings.

In their paper, Drouhin, Touzé and Ventelou propose an explanation why existing macroeconomic exercises have concluded in rather modest net effects on the growth rate of per-capita GDP. They strongly suggest that these “optimistic” results are indeed an artefact of the models used and an underestimation of the real negative impact of the spread of HIV infection on the economies of developing countries. These previous estimates all stem from a particular view of how the economy functions, where the AIDS-induced increase in mortality reduces the pressure of population on existing land and capital, thereby raising the productivity of labour. Even if there is a decline in savings and investment, which will be partly due to reallocation of resources toward medical care for the HIV-infected, its negative impact on GDP growth will be limited by the countervailing effect of increased labor productivity. Drouhin, Touzé and Ventelou argue that a different view of how the economy functions over the long run should be adopted, the view of endogeneous growth models which consider a multiplicity of productivity variables and emphasise the importance of human capital and transmission mechanisms across generations. By killing mostly young adults, AIDS does more than destroy the human capital embodied in them. It weakens the whole mechanism through which human capital is accumulated and transmitted across generations. Classical macroeconomic models, which have focused either on the role of quasi-fixed factors or on the historical record to date, fail to capture this major impact that will become apparent only after a long lag. Quite interestingly, approaches in the line of that proposed here tend to attract increased interest in the international community of development economics [39].

Practical consequences for public policies directly derive from the convincing arguments of these papers that in terms of the economic damage that HIV/AIDS will cause, “the worst is still to come”. As recommended by Barnett for Eastern Europe, where a “generalised” epidemic is starting to affect countries like Estonia, Russia and Ukraine, containment of the spread of infection should rank high, a lot higher than it does today, in priorities of
decision-makers. Where the epidemic is most advanced, as it is already the case in Sub-Saharan Africa, combating the disease in order to avoid catastrophic economic long-term consequences will require a massive investment effort.

*From economic rationale to operational funding of antiretroviral treatment*

When the French President Jacques Chirac made a plea, at the 10th Conference on AIDS and STDs in Africa held in Abidjan in December 1997, to promote access to ART for people living with HIV/AIDS in developing countries, and the French government subsequently initiated an International Fund for Therapeutic Solidarity (FSTI), this effort was viewed by many as a kind of naïve utopia that ignored the “harsh realities” of economic constraints. Six years later, the picture has dramatically changed. In June 2001, a watershed was reached when the United Nations General Assembly Special Session (UNGASS) on HIV/AIDS unanimously adopted a Declaration of Commitment recognising the need for implementing “national strategies, supported by regional and international strategies […], to address factors affecting the provision of HIV-related drugs, including antiretroviral drugs”. As a direct follow-up of UNGASS, the Global Fund to Fight AIDS, Tuberculosis and Malaria has been put in place and has become operational in January 2002. Ambitious targets have been publicly set. In July 2002 at the xivth International AIDS Conference in Barcelona, WHO and other UN organisations committed themselves to the goal of expanding access to ART to 3 million people in the developing world by 2005. A recent analysis of the national HIV/AIDS plans of 90 developing countries conducted by WHO indicates that about 60% of these countries have now either incorporated ART into their national strategies to fight the epidemic or have defined specific ART coverage targets.

However, practical accomplishments so far have remained modest. It is estimated that ART was initiated for only an additional 70,000 patients during 2002, leading to only 300,000 HIV-infected persons in developing countries currently receiving ARVs of any kind, nearly one half of them in Brazil alone. The first funding commitments by the Global Fund made in 2002 will allow a two-fold increase world-wide in the total number of individuals receiving ART in developing countries, and a six-fold increase in Africa. In spite of these advances, a large gap persists between the current level of funding for HIV care and treatment and the minimum required to guarantee access for the 4 million HIV-infected who are estimated to be in immediate need of ART in sub-Saharan Africa alone, and beyond that urgency to start having an effective
global impact against the pandemic. Recent estimates of the funding needs, which have taken into account the goal of increased access to ART, have been consistent in calling for an investment of between US$8 billion – $10 billion per year to be provided jointly by the international community and national resources [40-42].

This book is a modest contribution for convincing policy-makers and actors in the field that committing resources to HIV/AIDS care is strongly justified not only on ethical but also on economic grounds. However, being convinced to invest in policies for scaling up access to HIV care does not necessarily mean that operational ways of funding these activities will be available. Nearly all papers in this second part of the book give examples of how reallocation of existing resources and mobilisation of new resources can (or could) be obtained. For example, Boulle, Kenyon and Abdullah show that financial resources certainly exist for a treatment programme in South Africa in spite of the context of extreme polarisation and controversy on the role of ART that has characterised the debate about AIDS in this country. The South African case, as well as many others, also emphasize the multiple institutional, financial and political barriers that any process to scale up investment in HIV care has to face.

Two papers specifically deal with the issues raised by the establishment of practical mechanisms for funding ARV programs in the public health sector of developing countries. Vinard et al. discuss the plan recently adopted by the Senegalese health authorities and foreign donors to extend on a larger scale the successful experience of the country pilot Initiative for Access to Antiretroviral Drugs (ISAARV) that was introduced since 1998. Morales, Cid and Souteyrand analyze the funding mechanisms put in place to extend ART coverage for HIV-infected patients in the Chilean Public Health System. Although HIV prevalence is relatively low in both countries, the difficulties have been (and remain) numerous and are likely to be exacerbated in countries with higher treatment needs. Three issues are discussed in both papers that definitely need more research and investigation.

A first issue, which is a complicated matter whose practical solution may differ between countries, concerns the ideal balance between public subsidies, private insurance and other sources of private funding, and patients’ out-of-pocket participation to costs of care. Both papers suggest that current calls for strengthening “public-private partnerships” must go beyond naive rhetoric and necessitate well-designed regulations and incentives to guarantee that they are not used by one sector or the other as an excuse for escaping its own financial responsibilities. Moreover, the classical debates about the fungibility of
development funds \([43]\) will necessarily be revivified as soon as a significant increase in the level of international aid devoted to AIDS will reach a country, in particular following the approval of proposed plans to the Global Fund.

A second issue deals with the logistic capacity of existing health infrastructure and human resources to guarantee an operational and efficient delivery of ART to those in need. In their paper, Boulle, Kenyon and Abdullah clearly state that controversial debates in South Africa about affordability and universal access to ARV drugs have excessively overshadowed the practical, but critical, issues of service capacity and human skills that should be devoted to scaling up access to ART. Morales, Cid and Souteyrand describe how breakthroughs in ARV delivery have occurred several times in Chile, during the last few years, due to the quite complex organisation of the drug delivery system and how the Ministry of Health of this country has introduced organisational and managerial changes to overcome such events that may have disruptive consequences that go far beyond their immediate negative impact on ART-treated patients.

A third issue has to deal with the equity of access to HIV care. In general, equity in access to health care is far from being granted in lower-income countries \([44]\). Geographical access to health-care facilities is often limited especially in rural areas. Users of health-care services in urban areas of developing countries often have incomes far above the national average, while such services often do not reach the poorest among urban dwellers \([45]\). Therefore, the concern that the use of public funds to subsidise ART may be inequitable, or will shift health resources from the poor to those who are less poor, are legitimate \([46]\). Such concerns, however, fail to realise that even in the best cases, the market will simply not provide adequate services to the poorest, and that it is market failures of this kind that prompt government action in the first place. Obviously, constraints on government expenditures will prevent the public and private sector from establishing strict egalitarian access to ART in many developing countries. When resources are very scarce, trade-offs will be unavoidable, requiring the concentration of resources on some programs or groups at the expense of others. Analysing the difficult period of the Chilean program during which public resources were insufficient to cover all patients medically eligible for ART, Morales, Cid and Souteyrand show how such situation confront health care professionals to “tragic choices” with a risk that selection of those who benefit from treatment may be implicitly driven by social stereotypes. However, the experience of the Senegalese Drug Access Initiative, described by Vinard \textit{et al.}, demonstrates that some national consensus could be reached, in each country, for defining the population groups that can benefit from public
support for expanded access to treatment. Local experiences also suggest that it is possible to directly involve communities in defining social priorities for access to treatment – a process that is under way between the government and TASO (The AIDS Support Organization) the national community – based organisation in Uganda, and in Khayelitsha, a township in the Western Cape province of South Africa, where the project supported by Médecins Sans Frontières has directly involved community representatives in the process of defining priorities for access to treatment. Debates on the issue of equity criteria for designing public subsidies for HIV care are likely to be controversial because collective preferences may legitimately differ between groups, but there is no doubt that the alternative, that would be leaving access to ART to pure market forces, will restrict its availability to the most privileged.

In his 1967 classic [47], economist Albert Hirschman critically opposed the popular ideas among experts of his time about the virtue of “social engineering” and argued that economic and social development was highly resistant to simplification and excessive quantification. The editors of this book hope that its readers will be convinced that economics, using either quantitative or qualitative tools or both, rather than giving legitimacy to denial and inaction, can play an active role in changing the paradigm of the fight against HIV/AIDS in developing countries.
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