

# *Construction Workplace Interventions for Prevention, Care, Support and Treatment of HIV/AIDS*

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## *Abstract*

This paper identifies eight interventions for HIV/AIDS prevention, care, and treatment of construction workers. Where prevalence is low, cost of the eight interventions is 0.14% of the cost of a major construction project. With high prevalence levels of 10% of the workforce, costs of the package of interventions would still fall below 1% of total project costs. These percentages are low enough to permit contractors to include the costs of such services among the indirect costs for worker injury protection, insurance and emergency care without substantially increasing total project costs.

Sustained contracting agency financing of the package could provide a model for local sustainability of HIV/AIDS services. Contract agreements, labor legislation, and regulation of this industry could lead the way toward reducing stigma, financing essential interventions on a sustainable basis independent of general taxation, and generating new attitudes toward HIV/AIDS as a multi-sectoral issue.

## **Résumé**

*Ce papier identifie huit interventions en matière de prévention, de prise en charge et de traitement du VIH/sida dans le secteur économique de la*

*construction. Lorsque la prévalence est faible, le coût de ces huit interventions représente 0,14 % du coût d'un programme de construction. Avec des niveaux de prévalence de l'ordre de 10 % au sein du personnel, le coût de ces interventions resterait largement inférieur à 1 % du coût total des programmes de construction. Ces pourcentages sont suffisamment faibles pour que les contractants puissent intégrer le coût de ces interventions dans les coûts indirects de protection contre les accidents du travail, d'assurances, et de soins d'urgence sans accroître substantiellement le coût total des programmes.*

*Ainsi, à travers les accords contractuels, la législation du travail et les mécanismes de régulation, la voie serait ouverte, dans ce secteur industriel, à la réduction du stigma, au financement d'interventions éventuelles sur une base continue, indépendante de l'impôt, et à la création de nouvelles attitudes vis-à-vis du VIH/sida au niveau local.*

## *Introduction*

There is now broad recognition that HIV/AIDS poses a generalized global health threat of unparalleled proportions. Over forty million persons are HIV positive; the percentage of adults aged 15-49 infected exceeds 10% in much of southern and eastern Africa. Infection rates are lower in other parts of the developing world, but the risks of further spread of the disease continue to grow.

The fight against HIV/AIDS will most likely be won or lost among the young. Persons between ages thirteen and thirty are those most vulnerable to contract HIV/AIDS. Thanks to improvements in blood supply management and control, risks of infection through contaminated transfusions in medical settings are greatly diminished compared to a decade ago. In contrast, risky sexual behavior, the use of intravenous drugs and related habits that may begin in youth continue to risk transmission of this disease. For that reason, many preventive interventions focus on behavior change among youth. This approach merits high priority in any multi-sectoral strategy to confront HIV/AIDS.

Among key groups at high risk of contracting HIV/AIDS are mobile populations. These are persons who travel away from their residences to seek work in unfamiliar environments. International workers in Bangladesh and Philippines, for example, exhibit far higher rates of HIV/AIDS infection than do similar groups from which they have departed in their home countries.

There are significant mobile populations within countries as well, usually from rural to urban areas. Young men seeking work away from limited farming

opportunities go to mining and construction – both occupations with limited skill requirements at the entry level.

Across time and space, construction trades employ more young workers at lower skill levels than all sectors except agriculture. These young workers, perhaps leaving families at home, may be among the mobile populations most at risk for contracting HIV/AIDS. They may be drawn to sex workers, or they may engage in other risky behavior heightening the chance they will join the ranks of the HIV positives.

7% of a country's labor force typically work in construction of housing, commercial buildings, and physical infrastructure, such as ports, roads, and bridges, that make life and commerce feasible<sup>1</sup>. An estimated thirty million persons work in construction in India. Most construction workers in low- and middle-income countries lack permanent employment contracts. They may have few, if any, non-wage benefits, such as protection in case of job-related injury, much less health insurance coverage for themselves or their families. They are key parts of the informal sector of the labor force and of the economy. Neither labor legislation nor employer-employee bargaining rights do much to protect them.

Still other construction workers, both more fortunate and probably more productive, have specified contract rights, non-wage benefits, protection in the case of illness and injury, rights to housing, childcare, and retirement benefits. They are properly designated as formal-sector workers, and they enjoy protection provided by labor legislation and bargaining rights.

There is no hard and fast dividing line between these two groups, formal and informal. Their relative shares vary substantially between countries depending on the success of labor movements to advocate for and win worker rights. Generally speaking, the richer and more homogeneous the country's population, the greater is the share of labor in the formal sector. Poor countries, marked by substantial immigrant groups, or even of interregional migrants coming from poor rural areas, have a larger share of their labor force in the informal sector. Low skilled construction workers are those most likely to be locked into informal, low-paying work that yields limited non-wage benefits.

1. The share of workers in construction varies with the business cycle, rising during periods of high net investment, falling during periods of slower economic growth. Among low-income countries, only a small share of construction workers, perhaps as little as 10%, has access to any non-wage benefits, such as retirement or disability security, or job-related safety protection beyond minimal training and supervision.

Formal-sector construction workers, those protected by national legislation and highly specific rights, are particularly likely to be found on major infrastructure projects financed by governments in low-income countries with the benefit of donor financial assistance. Major ports, highways, airports, and metropolitan railways are particularly likely to assure that labor legislation protects workers on such projects.

In countries with vigorous social security systems, construction workers may qualify for access to excellent health care services. In the Latin America and Caribbean (LAC) region, for example, a large share of HIV/AIDS programs are financed through social security: Argentina, 18%, Brazil, 21%, Chile, 26%, and Mexico, 72% [1]. Countries outside the LAC region generally do not have extensive social security system financing for HIV/AIDS. India, for example, has the Employee State Insurance Company (ESIC), but it has no HIV/AIDS assistance program in place. It could be engaged in assuring provision of services, including prevention, as part of its remit for protection of labor force members. Similarly, other countries of Asia and Africa can be expected gradually to strengthen social health insurance to include HIV/AIDS interventions.

### *Three options*

#### *for construction workplace interventions to combat HIV/AIDS*

The growing threat of HIV/AIDS in the construction workplace can induce any of three possible responses: (I) Contractors can be paid to do the right thing, usually sub-contracting to effective NGOs to provide an essential package of eight services. (II) Governments and donors can intervene and provide services directly. Performance to date has been mixed and uneven at best. (III) All parties may act irresponsibly and do nothing. In the poorest countries, neither prevention nor care and treatment programs are well developed. But in most of sub-Saharan Africa, South and Southeast Asia, Latin American and the Caribbean, there are NGOs and national AIDS control programs ready to implement effective interventions if means can be found to finance them. The following paragraphs seek to demonstrate that option 1 is best; option 3 runs the risk of ever-higher infection rates and costly future consequences. Option 2, preferable to Option 3, may impose a financial burden the state cannot bear.

*Option 1*

*Require contractor(s) to sub-contract to an NGO group to provide eight basic workplace prevention, care, and support interventions to all on-site workers at construction sites*

When a government agency undertakes a major infrastructure project, it initially invites potential bidders to respond to a general statement of the project with an expression of interest. The general statement does not now, but could include notice that HIV/AIDS prevention, care, and treatment for all project workers will be a required service to be provided as part of the task. The statement could even include a list of NGOs or government agencies for potential bidders to contact as potential sub-contractors for the provision of those services. A condition of qualifying as a bidder could be an adequate statement of how the HIV/AIDS interventions would be provided [2, 3].

The Request for Proposals (RFP) sent to potential bidders could build on UNAIDS and WHO guidance and hence include four prevention interventions (Table 1):

- condom distribution to all workers;
- treatment of sexually transmitted infections;
- peer counseling for safe behavior;
- voluntary counseling and testing (VCT) for those who seek tests to learn if they are HIV + and, if so, to be counseled on best health maintenance strategies.

The package would also include four care and treatment interventions:

- palliative care for HIV + persons showing symptoms of AIDS;
- treatment of Opportunistic Infections associated with HIV/AIDS;
- Opportunistic Illness prophylaxis (especially TB);
- Highly Active Anti-Retroviral Therapy (HAART) and related lab services to reduce risk of death from AIDS.

The cost of the eight-intervention package, when prevalence = 1%, is US\$6,970 per annum per thousand workers. Cost data on prevention services, as well as treatment and prophylaxis for opportunistic infections, derive from a comprehensive review of case studies and pilot studies [4, 5]. Much of the task of assessment and compilation of the studies was done at the London School of Hygiene and Tropical Medicine by L. Kumaranayake and C. Watts. These same analysts prepared a background paper on scaling up interventions for the WHO Commission on Macroeconomics and Health.

Table 1. Selected construction workplace interventions for prevention, care, and treatment; coverage, unit costs, and annual cost per 1,000 workers in two HIV/AIDS environments, low prevalence (1%) and high prevalence (10%).

Intervention	Coverage	Unit Cost	Annual Cost \$ per 1,000 Workers, 1% prevalence	Annual Cost \$ per 1,000 Workers, 10% prevalence
Condom promotion and distribution	Distribute 10 condoms per month per worker	\$0.05 per male condom distributed	600	600
Treatment of sexually transmitted infections	All employees with symptomatic STIs treated (estimated 20% of all employees annually)	\$10 per STI case treated	2,000	2,000
Peer Counseling on Safe Behavior	All employees counseled by peers (unskilled workers); providing 1 peer counselor for every 500 employees at 1% prevalence, 1 counselor for every 100 employees at 10% prevalence	Wage cost of each peer counselor is US\$2/day, US\$500/annum	1,000	5,000
Voluntary counseling and testing (VCT) for those who seek it	VCT annually for 3% of all workers where 1% prevalence prevails; 30% of all workers when 10% prevalence prevails, but always on entirely voluntary basis	\$10 per person counseled and tested	300	3,000
<i>Sub-Total, four basic construction workplace prevention interventions</i>				
Palliative Care	Symptomatic care and support provided to estimated 1% of workers nearing death at prevalence = 1%; 10% of workers nearing death at prevalence = 10%	\$40 per person per annum but care continuing over a two-year period	400	3,750
Treatment of Opportunistic Infections	Medications and care for 1% of all employees with prevalence = 1%; 10% of all employees with prevalence = 10%; costs usually spread over two years	\$400 per treated worker for last two years of life, \$200/yr	2,000	20,000
Opportunistic illness prophylaxis (especially TB)	Isoniazid and cotrimoxazole prophylaxis treatments for 1% of all employees where prevalence = 1%, 10% of all employees where prevalence = 10%	\$32 per treated worker per annum	320	3,200
HAART and related lab services	Provide HAART for 0.1% of all employees where prevalence = 1%, 1.0% of all employees where prevalence = 10%	\$350 per treated worker per annum	350	3,500
<i>Sub-Total, four additional care and treatment interventions</i>				
<i>Total package of prevention, care, and treatment, cost per 1,000 workers</i>				
			3,070	30,450
			6,970	41,050

Source: Cost estimates referenced in [4], adjusted. For details see the website, [www.futuresgroup.com](http://www.futuresgroup.com).

The most controversial estimates concern likely costs of HAART. Cipla, an Indian producer of generics, states that its HAART combination can be sold for about US\$350. A Thai report points to a daily dosage combination of three drugs that can be made available for about US\$0,50 per day. The downward trend in costs may depend on successful negotiation of intellectual property rights (TRIPS) under the current Doha round of trade negotiations. A new drug introduced recently in Switzerland may, in contrast to this downward trend, cost more than US\$20,000 per person per year.

The pertinence of unit cost estimates drawn from pilot and case studies is of course a matter of contention when considering scaling up to coverage of larger groups. However, until additional empirical results can be assembled, these estimates are the best available.

With HIV prevalence at 10% of the adult population, the estimated cost of providing the eight interventions is far higher than it is when prevalence is only 1% of adults (Table 1, last column). In the high-prevalence case, the cost of prevention alone is US\$10,600 per thousand workers. This higher cost is attributable to more intensive peer counseling, with one counselor for each 100 employees in a high prevalence setting, compared to one counselor for each 500 employees in the low prevalence setting. Similarly, a far higher use of VCT would be appropriate in the high than in the low prevalence setting. The high prevalence setting requires about two and a half times more prevention spending than the low-prevalence setting.

The four care, support, and treatment interventions cost US\$30,450 per thousand workers in the high-prevalence setting. This amount is ten times the resource requirement level of the low-prevalence setting. Treatment of opportunistic infections and provision of HAART both cost much more in the high-prevalence setting. The total cost of all eight interventions in the high prevalence setting is US\$41,050 per thousand workers. Where there is substantial worker turnover, costs would be higher. These intervention costs also abstract from additional costs imposed on employers by losing workers to AIDS deaths and hence having to bear costs of retraining. Analysis of these contingencies would require study of specific case studies, a task for future analysts.

It is an important and useful step to learn the cost of an essential package of interventions. Strategic planning for HIV/AIDS programs requires such knowledge. A next step is to answer these subsidiary, important questions: How do these costs compare to the aggregate wage bill? How do they compare to total project costs? With answers to these questions, planners can assess the feasibility of including these services in the overall cost of implementing projects.

*HIV/AIDS intervention package cost as a share of wages*

Regardless of the infection rate, the annual wage bill for a thousand construction workers, at US\$2 per worker per day for 250 workdays per annum, is US\$500,000. The package of interventions thus adds 1.4% to the wage bill in the low prevalence setting, and 8.2% to the wage bill in the high prevalence setting. Considered as part of the wage bill, these amounts are of course considerable. And for any business in which wages are a large share of total costs, these amounts could be a major cost factor and a reason justifying resistance by employers to financing the package of interventions.

*HIV/AIDS intervention package cost as a share of total project cost*

Construction differs from many other industries in an important way. As a rule of thumb, major infrastructure projects use only 10% of total project costs in paying for direct construction labor. The reason is that much embodied capital in the form of wooden beams, nails, sand, gravel, steel, concrete, and related building materials constitute a major cost of the infrastructure project as a whole. Unlike many service trades in which direct labor may constitute half and even more of the total cost of the delivery of a product to its final consumer, construction activities use little direct labor to achieve project objectives.

Because labor is so small a share of total project costs, the burden of HIV/AIDS interventions, as a percentage of total project cost, is proportionately small for major construction infrastructure projects. The cost of the essential package of services adds only 0.14% to aggregate project costs in the low prevalence environment, and it adds 0.82% to total project costs in the high prevalence case. Three conclusions emerge:

- high profile infrastructure projects could incorporate the essential package of HIV/AIDS services at relatively modest cost when compared to the total project effort; this is true because of the low ratio of labor input costs to total project costs, a feature not common to other production sectors;
- stopping the spread of the disease before it reaches a large share of workers can yield very substantial long-term savings in the costs of prevention, care, and treatment;
- even at high prevalence rates, the costs of adding this package of interventions into a construction workplace setting is not so expensive as to pose an insurmountable cost problem.



The provision of these services does not affect the profit of the firm. Bidders and eventual winning contractors will all have been instructed to include the cost of these services in their total bid. The anticipated addition of a profit rate would not be affected by inclusion of this cost. The cost of providing these services thus falls not upon the construction company but rather on the public agency that issues a contract for the whole body of services, including such non-wage benefits as worker health care, which now would specifically include these eight HIV/AIDS interventions.

Would inclusion of required HIV/AIDS interventions unfairly favor multi-national construction companies over smaller, local firms? There is a risk that multi-nationals learn how to comply with such regulations in one country and then transfer skills easily to another, winning contracts that might have gone to local firms. A solution may be for the government agency to short-list qualified local NGOs that can deliver the services. These NGOs would have an incentive to work closely with local firms in designing specific approaches to the required interventions. Informal conversations with construction firms in India, both local and international, revealed no sense of disadvantage among the locals. They believe they may better understand how to work effectively with sub-contractors and unskilled workers in this sensitive area. The risk that multi-nationals might gain unfair advantage can be corrected with carefully designed requests for proposals.

### *NGOs and government clinics as sub-contractors*

In most major infrastructure projects, a prime contractor engages many sub-contractors. Some sub-contractors in turn employ workers who specialize in moving materials, others in erecting structures, still others for security. Public and private health clinics are engaged to receive and treat injured workers, either on a contingency or flat rate basis depending on local custom. At isolated construction sites, as for construction of dams, long distance highways or electrical lines, sub-contractors may be engaged to provide housing, canteen services, even mobile creches and schooling arrangements for the children of workers and their families. Adding the package of HIV/AIDS services to a varied menu of non-wage benefits would imply few or no additional complications for such projects.

Interviews with infrastructure project managers indicate that it is normal practice to estimate the cost of the required non-wage services to be provided as part of the project. That cost is then compared to direct project costs for

labor, materials, and capital and interest charges. That percentage, which may be in the order of 20 to 25% of direct costs, is then added to the bid price that is offered to the contracting government agency. Since the HIV/AIDS package could be added to this overhead charge, it could be included in total project costs without being identified, except as a required contractor obligation. This arrangement can work if the cost of the HIV/AIDS package is sufficiently small to be accommodated along with the other overheads identified above. The costs identified in Table 1 show that this condition is almost certainly met when prevalence is low. The HIV/AIDS package might add no more than one percentage point to the 20-percentage point overhead rate.

At higher levels of prevalence, the HIV/AIDS package cost adds a higher share to the overhead rate.

### *Who pays for the HIV/AIDS package?*

The government agency that asked for expressions of interest, that issued an RFP, and that signed a contract agreement with a private construction company is ultimately paying for all the goods and services included in the contract. That agency does so on behalf of its government, and that government has undertaken the project on behalf of its citizens, the presumed major beneficiaries of the implementation of the project. In many low-income countries, a donor, such as one of the international financial institutions, shares the cost and reduces the burden on taxpayers. The HIV/AIDS package is a 'good buy' if the benefits, received by the workers and the larger community of citizens in which they live, in the form of a lowered risk of disease, exceed the costs of providing the package. Since reducing the risks of HIV/AIDS is a global public good, the intangible benefits of such spending may spill over an even larger geographical area to a global population.

The government agency may incur additional costs to monitor performance by contractors to assure that they implement the agreed interventions. Alternatively, the agency may delegate this responsibility to a department of the Ministry of Health or National AIDS Control Program. Compliance with contracts, laws and regulations varies between countries; poorer countries and those more affected by HIV/AIDS may pose serious challenges in the public effort to monitor and enforce compliance. The costs presented in Table 1 make no effort to estimate such costs.

*Option 2**Seek government or donor technical support**to provide the basic or expanded package at no cost to the project*

Despite the advantages that accrue from pursuit of Option 1, there may be resistance to associating a “health objective” so closely with a “hard sector” activity in infrastructure improvement. In that circumstance, a multi-sectoral approach by a National AIDS committee or health ministry could guarantee provision of the HIV/AIDS package at its own expense. The government agency building the project would then not bear the burden of these added services. The national AIDS committee might secure donor support to finance the package. In India, for example, the Bill and Melinda Gates Foundation has earmarked US\$100 million to be applied to prevention activities among mobile populations. Some of these funds could finance interventions with construction workers. NGOs could use their own resources to offer services at construction work sites without the support of the government contracting agency. Implementation may be uncertain. In the World Bank assisted Chad/Cameroon pipeline project, most HIV/AIDS services were financed and provided under terms of a separate International Development Association (IDA) loan to the governments in question [6]. Another example is the port rehabilitation project in Cambodia financed by Japan Bank for International Cooperation (JBIC), in which technical assistance interventions for HIV/AIDS prevention were provided for construction workers.

Supervision of service delivery by a national AIDS control agency might also help avoid the serious risk that private contractors might attempt to use HIV/AIDS testing as a means to avoid employment of HIV positive persons, or even to dismiss them. Such actions are unlawful in almost all countries facing the HIV/AIDS pandemic. Without public supervision by authorities determined to protect workers’ rights, the risks of violation may be great. Thus this second approach may merit special consideration in environments that could fail to protect workers’ rights.

*Option 3**No change from current practice*

Construction workers will incur larger incidence of HIV/AIDS than would occur if the HIV/AIDS package were to be provided at their workplace. These workers will eventually require higher medical treatment costs. They

may also risk transmitting the disease to a spouse or other partner when they return home (this mode of transmission has been a major cause of the spread of the disease in sub-Saharan Africa). These costs may be a burden on the workers' own families or on governments in the geographical areas to which they return after concluding construction work.

In the course of informal discussions with representatives of governments receiving loans, contractors implementing projects, and interested bilateral donors, UN agencies and NGOs, one finds few knowledgeable people satisfied with the status quo (Option 3). Most would agree with these points:

- the costs expected from these interventions are modest when compared to contractor obligations to provide safety, insurance against work-related injury, housing, safe water and waste removal, and basic first aid in case of injury, as well as referral to appropriate medical services for all on-site workers; and,
- the rate of return from implementation of these actions yields a high ratio of benefits to costs by lowering medical costs and increasing the working life of those who avoid illness and death from AIDS.

Contractors will accept inclusion of such services in bidding documents if they do not detract from the focus on productive work and provided that they do not reduce expected profit.

*Would the net benefits  
of these eight interventions compensate for the added costs?*

This key question is difficult to answer. The benefits from avoiding the spread of HIV/AIDS lie in the future. What may transpire with and without the proposed interventions to prevent, care for and treat the results of this disease requires some degree of speculation. Studies in Thailand and Brazil suggest that the internal rates of return on HIV/AIDS prevention investments range from at least 12 percent to more likely near 50 percent because of savings in medical costs and increased output generated by workers who do not otherwise become disabled and die [7]. There have been no comparable cost-benefit analyses for the specific interventions proposed here. It may be safe to say, however, that the low cost, compared to both aggregate wages and to the total project cost, supports the conclusion that making these investments has a high probability of yielding a very positive return.

*Advantages of financing by contractors*

Success in the fight against HIV/AIDS will ultimately depend on securing sustainable means of financing essential interventions. For families that can afford to pay, the purchase of condoms for prevention and medical care in the event of infection and onset of illness can proceed without a role for government or employers. For low-income workers, however, some alternative means of financing services needs to be secured. Public financing of health care services through social security systems has worked well in Latin America but is far less developed in other low- and middle-income regions of the world. Contracts for infrastructure construction can be written to be inclusive of HIV/AIDS services. Workers then need not face an out-of-pocket expense for those services.

*Sources of resistance*

Contractors in the informal sector may be reluctant to include HIV/AIDS prevention and care in a non-wage benefits package. Such interventions can raise costs. Managers may argue that HIV/AIDS prevention must be handled as part of overall Government labor legislation and policy. In no case, some argue, should specific requirements of this kind be specified by international donors or financing organizations.

The workforce may be uncomfortable with any open discussions of HIV/AIDS. They might reject any interventions on grounds that they violate privacy and cause discrimination and stigma. Managers express concern about sensitivity of workers who may be uneducated and unaccustomed to discuss matters concerning HIV/AIDS prevention.

On balance, however, changes in labor (and other) legislation to incorporate HIV/AIDS interventions for prevention and care, or inclusion of HIV/AIDS related clauses in bidding documents for major public infrastructure projects, could be acceptable to contractors. Contractors on major publicly financed projects must already provide a range of non-wage benefits and services for workers and their families.

*How important is the construction workplace in the fight against HIV/AIDS?*

UNAIDS estimates that the cost of workplace interventions constitutes eight percent of required prevention spending [4]. Construction workers, even if all formal and informal sector participants could be covered by contract-funded HIV/AIDS services, would use only one to two percent of total HIV/AIDS resources<sup>2</sup>. The amounts actually covered would be considerably less in most countries because so many informal sector construction workers are not covered by contracts or labor legislation requiring provision of HIV/AIDS (or any other non-wage benefits) services.

Despite this small quantitative impact, financing by contract requirement could nonetheless serve as the cutting edge for new, enlightened policies. Major infrastructure projects affect many more people than the workers who build them. They often have a high profile, particularly when implemented in major population centers as with urban road construction, ports, and underground railways. Experience with such projects can serve to demonstrate the feasibility of this alternative mode of financing. That experience can also demonstrate that workers may react positively to free-to-the-user services if properly integrated in a larger context of worker safety and health.

*Advantages of financing by social health insurance*

Where there are adequate labor legislation and social security systems, contractor financing of HIV/AIDS services could be covered automatically as part of legislation. Ministries of labor may need to revise regulations to assure inclusion of HIV/AIDS services. They may also need to assure compliance with laws and regulations. Generally, such overarching legal provisions would be preferable to specific terms and conditions written into contract agreements that cover only specific projects and interventions. The experience of major countries in the LAC region that have funded HIV/AIDS prevention, care, and treatment through social security, deserves

2. Calculated as follows: 0.07 of workers x 0.08 of prevention spending x 0.67 of combined prevention, care and treatment spending = 0.004 of all HIV/AIDS spending allocated to worker prevention spending. Spending on care and treatment is three-quarters of prevention spending at low prevalence levels and three times prevention spending at high prevalence levels. The share of all required HIV/AIDS spending allocated to all construction workers would thus sum to under 0.5% in low prevalence settings, and 2% in high prevalence settings.

study, and possible adoption, by countries in other regions. In governments with Ministries of Finance barely able to balance their budgets, any source of financing aside from tax-based revenues can help ease the sense of fiscal crisis.

### *Summary comments*

The infrastructure construction workplace offers several strategic advantages as a place to offer a full range of HIV/AIDS prevention, care, and treatment interventions. This mobile population of workers constitutes a key group of young, at-risk candidates for peer counseling, voluntary testing and counseling, treatment of STIs, and condom distribution. For those in need of care and treatment, the workplace also offers an environment that can be free of stigma, provided that the HIV/AIDS health services are integrated into the health care and emergency medical support contracted with an NGO or government health service provider. Financing can occur as a component of total project costs and need not exceed a modest share includable among general overheads. Where social health insurance prevails, public policy need only assure that HIV/AIDS prevention, care and treatment are part of services available to all.

Major infrastructure projects employ a fraction of the seven percent of all workers employed in construction trades. Money spent on this group would constitute less than two percent of all required HIV/AIDS spending. But because such projects have high visibility, and are often associated with major donor assistance, they can constitute the cutting edge opening the way for sustainable financing of essential HIV/AIDS interventions across all groups.

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