Exploring the role of economic empowerment in HIV prevention

Julia Kim[a,b], Paul Pronyk[a,b], Tony Barnett[b,c] and Charlotte Watts[b]

It has been argued that women's economic vulnerability and dependence on men increases their vulnerability to HIV by constraining their ability to negotiate the conditions, including sexual abstinence, condom use and multiple partnerships, which shape their risk of infection. In the face of escalating infection rates among women, and particularly young women, many have pointed to the potential importance of economic empowerment strategies for HIV prevention responses. Global evidence suggests that the relationship between poverty and HIV risk is complex, and that poverty on its own cannot be viewed simplistically as a driver of the HIV epidemic. Rather, its role appears to be multidimensional and to interact with a range of other factors, including mobility, social and economic inequalities and social capital, which converge in a particularly potent way for young women living in southern Africa. To date, there have been few interventions that have explicitly attempted to combine economic empowerment with the goal of HIV prevention, and even fewer that have been rigorously evaluated. This paper explores how programmes such as microfinance, livelihood training and efforts to safeguard women's food security and access to property have begun to incorporate an HIV prevention focus. Although such circumscribed interventions, by themselves, are unlikely to lead to significant impacts on a national or regional scale, they are useful for testing cross-sectoral partnership models, generating practical lessons and providing a metaphor for what might be possible in promoting women's economic empowerment more broadly. Despite numerous calls to 'mainstream AIDS' in economic development, cross-sectoral responses have not been widely taken up by government or other stakeholders. We suggest potential reasons for limited progress to date and conclude by presenting programme and policy recommendations for further exploring and harnessing linkages between economic empowerment and HIV prevention in Southern Africa.

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Introduction

Globally, poverty, gender inequalities and social marginalization continue to pose major challenges to HIV prevention efforts [1]. Infection rates are highest among poor countries, with sub-Saharan Africa home to over 60% of cases [2]. Although transmission in the region was initially concentrated among more affluent, educated and mobile individuals [3–5], emerging data suggest this pattern may be shifting, with higher rates of infection borne by socially disadvantaged groups, particularly young women [6–11]. A fundamental difference between AIDS and other diseases generally linked with poverty in sub-Saharan Africa, such as tuberculosis or malaria, is its primarily sexual route of transmission. This has highlighted the importance of relational dynamics such as economic and power imbalances, which in turn influence the extent to which individuals are able to assert choices about sexual behaviour [1]. Recent evidence thus suggests that AIDS is a disease of inequality, often associated with social or economic transition, rather than a disease of poverty itself [1,12]. The scale and worsening impacts of the epidemic

[a]School of Public Health, University of the Witwatersrand, Johannesburg, South Africa, [b]London School of Hygiene and Tropical Medicine, London, UK, and [c]London School of Economics, London, UK.

Correspondence to.

E-mail: jkim@agincourt.co.za or pronyk@agincourt.co.za

suggest the limited impact of prevention approaches to date, and the need to begin addressing the deeper social and economic realities that put current prevention strategies out of reach for so many. One such reality relates to women's economic vulnerability.

Approximately one billion people in the world live in extreme poverty, have household incomes of less than US$1 per day and have difficulty meeting their basic needs for survival [13–15]. Women shoulder a disproportionate share of this burden [16]. They comprise almost two-thirds of the world's illiterate people and are often denied property rights or access to credit. They earn 30–40% less than men for the same work, and most of those who are working are employed outside the formal sector in jobs characterized by income insecurity and poor working conditions [16]. It has been argued that this economic vulnerability increases their vulnerability to HIV by furthering their dependence on men and constraining their ability to refuse sex, negotiate the use of a condom, discuss fidelity with their partners, or leave risky relationships [17].

In this paper, we begin by reviewing global evidence surrounding the complex relationship between poverty and HIV risk. [There are clearly areas of overlap between this paper and others prepared for this meeting (Biological risk and vulnerability; Secondary education and HIV; Sexual violence and HIV; Intergenerational and age-disparate sex, and empowerment), highlighting the cross-cutting nature of economic vulnerability and economic empowerment.]

We then highlight experience with interventions that have attempted to combine economic empowerment with the goal of HIV prevention. In keeping with the goals of the UNAIDS meeting, this paper focuses on exploring the relationship between economic empowerment interventions and HIV prevention. Although economic empowerment undoubtedly carries important implications for HIV treatment, care and support (and vice versa), these are beyond the scope of the paper, and are not discussed here.

Finally, we conclude by presenting programme and policy recommendations for further exploring and harnessing linkages between economic empowerment and HIV prevention.

Examining the evidence: understanding the links between poverty and vulnerability to HIV infection

The relationship between poverty and HIV risk

Although there is general agreement that poverty plays an important role in relation to HIV transmission, research suggests that this role is complex [1,12]. In general, epidemiological studies examining the relationship between poverty and HIV risk have been constrained by important methodological limitations, including primarily cross-sectional designs, making it difficult to uncover the nature and complexity of associations and causal pathways. The measurement of poverty itself is not straightforward and has varied greatly between studies, which for the most part have compared gradations of poverty among chronically deprived populations, rather than comparing those who are poor against those who are economically secure [12]. At the country level in sub-Saharan Africa, there is a poor correlation between wealth (as measured by gross domestic product) and HIV prevalence, with higher rates seen in the wealthier countries of southern Africa. This is probably the result of strong urban–rural economic linkages, good transport links and high professional mobility, which can translate into higher incomes as well as higher HIV incidence [12]. More striking, however, is the strong relationship between national-level income inequality in sub-Saharan Africa and HIV prevalence. Greater inequality is associated with higher HIV prevalence rates, a relationship that is also seen in Latin America and Asia [1,12]. The complex and reciprocal relations between macroeconomic policies and HIV/AIDS are, however, only beginning to be explored [18]. Such policies impact on health and development by altering absolute poverty levels or inequalities in the distribution of wealth [19], thereby affecting household economies and health systems investment [20]. Some have argued that World Bank structural adjustment programmes designed to stimulate private sector growth and exports in debtor countries have had a negative impact on the HIV/AIDS pandemic by undermining rural subsistence economies, expanding transportation infrastructure, increasing migration and urbanization, and reducing investment in the health and social services sectors [21]. Questions remain as to how macroeconomic policies can be designed to contribute to reductions in HIV/AIDS internationally [18].

In general, most analyses of the links between poverty and HIV/AIDS have focused on examining direct links between income and levels of HIV infection. In the discussion below, we present a more nuanced picture of the many ways in which risk environment and wider circumstances that surround poverty are equally relevant in shaping vulnerability to HIV [22].

Socioeconomic status, education and HIV risk

In addition to material wellbeing, education is also considered a critical component of socioeconomic status, and numerous studies have investigated the relationship between educational status and HIV risk. In 2002, a systematic review of data predominantly collected before 1996 found that increased schooling was either not associated with HIV infection or was associated with an increased risk of HIV infection among men and women from both rural and urban communities in Africa [3]. A

more recent systematic review from sub-Saharan Africa showed that since 1996, as the epidemic has advanced, there has been a shift towards a reduced relative risk of HIV infection among those who are more educated, especially younger women who have a secondary education [11]. For example, a cross-sectional study in Botswana and Swaziland found that better educated women were less likely to report a lack of control in sexual relationships, inconsistent condom use and intergenerational sex [23]. In relation to education, a relatively clear picture emerges, whereby the majority of studies suggest that education is increasingly protective against HIV infection, particularly for women. Although education and economic resources are often jointly determined, empirical evidence has shown that education predicts health independently of income [24].

How might poverty increase young women's risk of HIV?

Qualitative and quantitative research suggests that material poverty increases the risk of contracting HIV mainly through the channel of increasing high-risk behaviours, particularly for women. In an ethnographic study in Zambia, for example, frequent droughts and limited wage job opportunities after the post-economic liberalization closure of companies were identified as the 'push' factors for women increasingly resorting to transactional sex [25]. Recent quantitative studies such as the Cape Area Panel Study, lend some support to these observations. Researchers surveyed youths aged 14–22 years in Cape Town, South Africa (2002–2005) and found that for girls, sexual debut was earlier in poor households, and that multiple partnerships were more common among girls living in households that had experienced a recent economic shock (e.g. death or job loss) [26]. Similarly, a prospective cohort study of youth in rural South Africa (2001–2004) found that condom use was lower among young women from poorer households [8]. In Botswana and Swaziland, food insufficiency among women was found to be significantly associated with inconsistent condom use with a non-primary partner, exchange of sex for resources, intergenerational sexual relationships and lack of control in sexual relationships. For men, food insufficiency was associated with only a 14% increase in the odds of reporting unprotected sex, and was not associated with other risky sexual behaviours [23]. The links between poverty and vulnerability to HIV infection are thus clearly multi-dimensional and not easily explained by the more straightforward associations characteristically tested through epidemiological studies. It is increasingly apparent that other factors, including gender inequalities, condition the manner and circumstances in which poverty interacts with the risk of infection [12,27].

Poverty, gender inequalities and HIV

It is well recognized that gender inequalities play a key role in the HIV epidemic through their effects on sexual relationships [28–33]. Women's dependence on men's economic support throughout much of the developing world has meant that women's personal resources, including their sexuality, have taken on heightened economic potential [1,12]. Economic asymmetries between men and women are reinforced by various contextual factors, such as family and peer pressures, social and economic institutions and pervasive and deeply entrenched gender inequalities. Social norms in many sub-Saharan African contexts permit and even encourage men to engage in sex with multiple partners, with much younger partners, and to dominate sexual decision-making [12,33]. Particularly for younger women, a host of economic vulnerabilities reinforce their inability to challenge this sexual status quo. In the context of poverty, young women speak of money as the driving force for sex and relationship formation [34,35]. Partnerships with men who can provide financially are essential, transactional relationships (in which sex is exchanged for material goods or other support) are common, and relationships with older men are the norm [25,36–40]. Moreover, evidence points to significant positive associations between larger partner age differences, the value of economic transactions and unsafe sexual behaviours [40,41]. In South Africa, low socioeconomic status has been found not only to increase female odds of exchanging sex for money or goods, but also to raise female chances of experiencing coerced sex, and male and female odds of having multiple sexual partners. It also lowers female chances of abstinence, female and male age at sexual debut, condom use at last sex, and communication with most recent sexual partner about sensitive topics. Low socioeconomic status has more consistent negative effects on female than on male sexual behaviours and also raises the female risk of early pregnancy [41]. A study in Gabarone, Botswana, found that women's negotiating power and economic independence were the factors most strongly related to their condom use. Because education level was only one of the elements directly related to women's negotiating power, the authors suggest that providing women with greater access not only to education, but also to income-generating opportunities and negotiating skills may help empower them to protect themselves against HIV through greater condom use [42].

Poverty, gender-based violence and HIV

The most extreme manifestation of the unequal power balance between women and men is violence against women. Violence by an intimate partner is one of the most common forms of gender-based violence, and globally population surveys indicate that between 15% and 71% of women have been physically or sexually assaulted by an intimate partner at some time in their lives [43]. Moreover, intimate partner violence has been shown to affect women's health adversely [44], and has been identified as an important risk factor for HIV infection [45,46]. Studies have noted that refusing sex or attempting to negotiate condom use with a partner can

raise suspicions of infidelity and carry the risk of violent outcomes [34,47]. Younger women are likely to be particularly vulnerable, as documented by a growing body of qualitative research [47–49]. A study of youth in a South African township, for example, showed 'pervasive male control over almost every aspect of (women's) early sexual experiences', enacted partly through violent and coercive sexual practices [47]. Another study, based on a nationally representative sample of 15–24-year-old women in South Africa, found that those with low relationship control were twice as likely to use condoms inconsistently, which in turn was significantly associated with HIV infection. Moreover, women experiencing forced sex were more than five times more likely to use condoms inconsistently [50]. Although gender-based violence occurs across all socioeconomic groups, studies indicate that women who live in poverty are more likely to experience such violence [51,52]. In addition to absolute levels of poverty, economic inequality within an intimate relationship may also increase the risk of violence [52]. The relationship between women's empowerment and the risk of intimate partner violence is complex. However, a recent systematic review of published studies from 41 sites exploring whether individual and household economic empowerment is associated with lower levels of intimate partner violence found that household assets and women's higher education were both generally protective against intimate partner violence [53]. Emerging evidence thus suggests that intervening to reduce the vulnerability of young women to HIV infection will necessitate understanding and addressing the interrelationships between poverty, gender-based violence, and HIV/AIDS.

Poverty, social capital and HIV

Recognizing the collective and interdependent nature of human interactions, social capital has been defined as the 'features of social organization, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated action' [54]. In relation to HIV, there is some evidence to suggest that the lack of social capital within communities may limit the effectiveness of HIV prevention efforts and heighten vulnerability to HIV infection [55]. An evaluation of an intensive HIV prevention programme in a mining community in South Africa noted how the absence of community cohesion or the transformation of social and sexual norms associated with chronic poverty played a major role in limiting the impact of an ambitious and well-conceived intervention programme [56]. Similarly, a qualitative study in Malawi found that some social groups persisted in engaging in high-risk sex despite knowing the risks, because doing so affirmed their social identity and served to deny that 'anything they do makes a difference to what they perceive as a life of powerlessness and despair' [57]. The 'culture of poverty' [58] and its attendant loss of hope and sense of agency may thus be as significant as material poverty in motivating high-risk behaviours [12,59]. When subjected to conditions of chronic deprivation and social exclusion, individuals may tend to take decisions, including sexual decisions, which are concerned with immediate gratification or survival rather than with longer-term goals [41,59]. This may be particularly true for young people living in settings of closely juxtaposed social and economic inequality, such as urban slums, where the disparity between one's aspirations and one's realistic opportunities may be especially stark. Research indicates that in South Africa, living in urban and peri-urban areas increases the risk of HIV seroconversion [60]. Similarly, in Kenya the urban poor are significantly more likely than their rural counterparts to have an early sexual debut and multiple sexual partnerships [61], and those residing in slums may be particularly vulnerable [62]. Therefore, when both economic resources and hope are absent, HIV behaviour change messages are less likely to be effective [59].

There are a number of ways in which increased social capital might impact on the prevalence and distribution of HIV in populations, and the results of observational and cross-sectional studies have been mixed [55,63–67]. At a very basic level, non-random mixing within high-risk 'core groups', such as intravenous drug users or sex workers, contributed to much of HIV transmission early on in the epidemic [68]. Well-functioning community networks and the social and material resources that flow between them may, however, also carry protective effects. Strong social networks may exert social or cultural pressure in ways that deter high-risk sexual activity. In addition to providing avenues for the exchange of information, these networks may shape community norms around sexual relations, communication and sexual negotiation. They may provide role modelling opportunities for health-promoting behaviours such as condom use or access to HIV testing. Individuals with wider networks and deeper trust relationships may have a stronger sense of self-confidence, self-esteem and hope, and may be better able to exert greater control over decision-making. The emotional support generated around these networks may reduce discrimination around HIV and create a more accepting environment for those living with the disease [55]. Finally, as experience from Uganda suggests, more cohesive social and geographical communities may be better able to take collective action and respond to common priority issues such as HIV/AIDS. As some observers have noted, effective social mobilization, particularly through women's peer networks, critically underpinned the dramatic reductions in prevalence, and largely preceded widespread implementation of conventional prevention measures such as condom distribution, HIV testing services and the syndromic management of STI [29,69]. Although the emerging discourse on social capital is complex, and it is not always an unequivocal good [70,71], few studies have empirically examined social capital as an explicit component of the HIV risk environment, and even fewer

interventions have attempted to strengthen social capital, particularly in developing countries [55].

Conclusions and implications for HIV prevention interventions

In summary, poverty on its own cannot be seen simplistically as a driver of the HIV epidemic. Rather its role is multidimensional and appears to interact with a range of other forces having to do with economic, social, and in particular, gender inequalities, as much as with stark impoverishment [72]. Moreover, the pathways by which poverty influences risk is shaped by broader contextual factors such as location, the mobility of individuals, age asymmetries, and the broader social ecology of HIV transmission [12]. These multiple factors appear to converge in a particularly potent and dangerous way for young women living in southern Africa.

Therefore, HIV prevention interventions need to urgently and explicitly address the multifaceted economic vulnerability of young women. In this respect, research suggests that such interventions cannot be simplistically conceptualized with the goal of 'poverty alleviation', but rather must embrace the broader dynamic of 'economic empowerment'. Empowerment has been defined as 'the process of increasing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes' [73]. Therefore, given the multiple factors that interact to heighten women's vulnerability to infection, HIV prevention interventions should aim not only to increase economic resources and opportunities, but also prioritize young women's education, address gender inequalities and gender-based violence, and engage the broader social norms and networks that collectively shape the risk environment.

Economic empowerment and HIV prevention: experience with interventions

Addressing issues such as poverty, gender inequality or social exclusion may initially seem an abstract or unapproachable goal to programme managers and policy makers used to a primarily health sector-driven response to HIV/AIDS. Interventions targeting these areas are, however, increasingly recognized as an important, although underdeveloped, component of the public health response to HIV/AIDS [74–76]. In contrast to interventions focusing on individual behaviour or biology, such 'structural interventions' are directed towards social environments and populations [77,78], and therefore have the potential to affect the broader 'context in which health is produced or reproduced' [74]. In addition to implementing programmes, structural interventions consider how strategic shifts in laws, policies, or institutional frameworks can influence more 'upstream' factors such as poverty, social norms and social capital in ways that might generate more effective community responses to public health problems such as HIV/AIDS. In contrast to more conventional health sector interventions, structural interventions by their nature deliberately bring a range of cross-sectoral perspectives and expertise to bear on the epidemic.

The following section describes a range of interventions that have attempted to combine women's economic empowerment strategies with the goal of HIV prevention. To date, most documented experience relating to the intersections between economic empowerment and HIV/AIDS has emanated from the microfinance sector. Pockets of innovation have also arisen within the context of other economic interventions such as village banks, vocational training and other livelihood strategies; however, these have developed on a more modest scale, and as a result, are not as well documented or evaluated. For these reasons, it is useful to begin by reviewing experience from the microfinance sector in order to gain a deeper understanding of the potential areas for synergy between economic empowerment interventions and HIV prevention. By highlighting practical lessons, challenges and opportunities, these experiences may point the way for further innovation in other areas.

Microfinance as a potential economic empowerment strategy to reduce women's vulnerability to HIV

In order to understand the potential impacts of microfinance on reducing women's vulnerability to HIV infection, it is important to consider the evidence relating to its broader impacts on poverty, women's empowerment and gender-based violence, in addition to what is known regarding its impacts on health outcomes, including sexual behaviour and HIV risk.

Impacts on poverty

Over the past four decades, microfinance institutions have received increasing attention for their success in expanding credit and savings services to over 100 million poor clients, most of whom are women [79]. Because commercial banks rarely provide loans to poor households, and as women often have less access to education, credit, and skills training, these small loans are often one of few options for poor women to start income-generating activities, develop marketable skills and secure a modicum of economic independence. As the poor often lack financial collateral, microfinance institutions facilitate repayment through 'solidarity groups', in which members repay together before repeat loans are granted. Whereas these programmes address the needs of the poor, the 'very poor' and the 'chronically poor' often remain excluded as they are perceived to be a credit risk even by those in their community [80]. Recognizing the different dimensions and gradations of poverty has been the subject of much discussion in the microfinance literature, with

many institutions developing innovations to expand their reach among the poorest [81–83].

Targeting women in microfinance programmes has been shown both to increase cost efficiency (as a result of women's higher loan repayment rates) and to deliver more effective poverty alleviation (because of their prioritizing expenditure on family welfare) [84]. Substantial evidence from a range of settings has shown that microfinance has the potential to play an important role in reducing poverty and making progress towards meeting the Millennium Development Goals [85–87]. A number of studies have demonstrated significant impacts of microfinance in reducing household poverty and in improving livelihood security among those living at the margins of extreme poverty [85,86,88–94]. Access to small-scale credit and savings services has been demonstrated to help low income clients improve household and enterprise management, increase productivity and food security, smooth income flows, enlarge and diversify businesses and increase incomes [88].

Impacts on women's empowerment and gender-based violence

Beyond these economic benefits, there is also evidence to suggest that microfinance may be an effective vehicle for empowering women, and that newly acquired business skills can be accompanied by improvements in self-esteem and self-confidence, the ability to resolve conflicts, household decision-making power and expanded social networks [84,95,96]. Critics of microfinance have, however, questioned whether, in the absence of efforts to address broader gender inequalities and traditional cultural beliefs, simply providing financial services to women can be truly empowering. They note that offering credit to women does not necessarily guarantee their control over its use, and that the pressure to pay back loans can add to the already heavy burden of responsibilities borne by poor women [97–99].

Similarly, in relation to gender-based violence, whereas some studies have suggested that participation in microfinance can reduce the risk of intimate partner violence [99–102], others have noted that attempting to empower women might potentially exacerbate this risk by challenging established gender norms and provoking conflict within the household [52,96,103,104]. Evidence regarding the impact of microfinance on intimate partner violence has been mixed, with some settings noting a protective association and others documenting increased risk [53]. Such studies have been constrained by a range of methodological limitations, including predominantly retrospective designs, the absence of control groups and the lack of prespecified or clearly defined indicators of empowerment or violence [98,99,105,106]. Many have relied on cross-sectional surveys, raising problems with temporal ordering, causality, and selection bias. For example, when microfinance programmes have reported an association with increased levels of violence, such findings could be observed if women in violent relationships were more likely to join such programmes, rather than microfinance itself impacting on the risk of violence [105,107]. In this regard, two studies have reported that women in abusive relationships were more likely to join microfinance programmes [108,109]. It is possible that although many poor women may qualify for loans according to established programme parameters (such as poverty criteria), those who actually choose to join may be those in violent or controlling relationships, and who are consequently more drawn to or in need of the services offered. Taken together, these findings suggest that, beyond participation in income-generating activities, additional context-specific factors may influence whether women's financial autonomy is protective or associated with an increased risk of such violence. In this light, many development practitioners have suggested that adding a gender-focused training component to the financial dimension of microfinance programmes could catalyse broader empowerment benefits for women, while potentially diminishing their risk of gender-related conflict in the household [98,101,104,110,111].

Impacts on health

Microfinance also has the potential to catalyse wider health benefits. At the most basic level, higher and steadier incomes make it easier to put food on the table each day. When health problems emerge, access to reliable ways to borrow and save can make it easier to pay for medicines and clinic visits. Financial access can also help individuals to cope with unemployment caused by illness and forestall their need to sell off valuable assets [112]. Interventions to improve financial access can thus complement interventions to improve health. Microfinance programmes have been associated with multiple health gains, including impacts on child mortality, nutrition, immunization coverage and contraceptive use [93,95,113,114].

Combining microfinance with gender and HIV education

Taken together, these potentially synergistic impacts on poverty, women's empowerment, intimate partner violence, and broader health outcomes have sparked growing interest in the potential of microfinance to impact on HIV/AIDS [110,112,115,116]. The concept of 'tie-ins' that link credit with skills building and education as core components of the development package has been around for a long time [93], and in the face of HIV has been receiving increasing support [117]. A survey of 22 microfinance institutions in 14 African countries noted that 43% provide some form of health information to clients [118]. Although programmatic experience in addressing HIV prevention is still at an early stage, a growing number of organizations have begun to develop innovative HIV education and prevention components [119,120]. Most commonly, HIV

training is added to regular client meetings, although the content and duration of training modules is quite variable, with 15–30-minute sessions being a common standard. In some cases, the training is also made available to microfinance institution staff and clients' families. Most frequently, it is provided through a partnership with a health-based non-governmental organization or local hospital, although in some cases the information is provided by the microfinance loan officers themselves [119].

Few such programmes have been evaluated using experimental designs. In rural South Africa, however, the Intervention with Microfinance for AIDS and Gender Equity (IMAGE) Study used a cluster-randomized trial to evaluate the impact of a combined microfinance and training intervention on poverty, gender inequalities, intimate partner violence and HIV/AIDS. The programme combined group-based microfinance with a gender and HIV training programme, which was delivered to women during fortnightly loan repayment meetings. The participatory learning programme comprised two phases [121]. The first phase consisted of 10 one-hour training sessions, and covered topics including gender roles, cultural beliefs, relationships, communication, domestic violence and HIV. The second phase encouraged wider community mobilization to engage both youth and men in the intervention villages. The minimum age of participants was 18 years, and the median age was 42 years. Loan repayment rates were high (99.7%) and the training programme was integrated without compromising core microfinance uptake or delivery.

The IMAGE study found that after 2 years, improvements in economic wellbeing and nine indicators of women's empowerment (self confidence, financial confidence, challenging gender norms, autonomy in decision-making, perceived contributions to the household, communication within the household, relationship with partner, social group membership and participation in collective action) were observed among IMAGE participants [122]. Furthermore, their risk of past year physical and sexual intimate partner violence was reduced by 55% [100]. In relation to HIV risk (assessed among those under 35 years of age), the greatest impacts were seen among those directly exposed to the intervention. Young women participants reported higher levels of HIV-related communication, HIV testing, and greater condom use with non-spousal partners [123]. The study also assessed indirect impacts on 14–35-year-old men and women living within IMAGE households and villages. Although changes in sexual behaviour were not observed among these groups within the 2–3 year timeframe of the study, significant improvements in openness and communication about sex and HIV were documented among youth living in IMAGE households [100]. One of the central hypotheses of the IMAGE study was that the optimal way to address the complex HIV risk environment around adolescent girls may be to target them indirectly. Older microfinance clients, although not themselves at highest risk, have the potential to be important brokers for change in their households and communities. In terms of addressing economic vulnerability, providing credit to such women helps to meet basic needs for the entire household, including adolescent girls [84]. Moreover, in relation to challenging traditional gender norms, in many communities older women play a key role in shaping and sustaining such social and cultural norms [51]. Efforts to reach indirect target groups, although potentially taking longer to achieve, thus provide an interesting alternative to programmes attempting to work directly with high-risk youth [123].

Targeting microfinance and life skills training to adolescent girls

In spite of their heightened vulnerability to HIV infection, young women, and especially adolescents, are noticeably absent from the services provided by microfinance institutions [116]. Those that include younger women often do so by chance rather than design. For many microfinance institutions, young people are seen as a credit risk, with little enterprise experience, and liable to migrate for school, job-seeking, or marriage [116,124]. The Shaping the Health of Adolescents in Zimbabwe (SHAZ) programme is one of few that have deliberately targeted poor adolescent girls with the goal of reducing transactional sex, particularly with older men, known regionally as 'sugar daddies'. Started in 2001 by public health researchers at the University of California, San Francisco, the programme was set up to test whether linking microfinance with life skills and business training could result in improved knowledge, increased control over economic resources, and ultimately reductions in HIV infection. SHAZ targeted 16–19-year-old out-of-school, orphaned and poor girls living in two slum areas outside Harare. The project failed to reach these goals, however, largely as a result of poor microfinance repayment rates. Only 20% of girls managed to repay their first instalment and only 5% repaid their loan in full. Additional mentorship and social support mechanisms did not address these problems. Moreover, once loans were repaid, participants were generally not interested in returning for further peer group meetings [29]. Reflecting on these findings, the researchers concluded that the economic intervention proved too removed from the realities of the young women. Participants who received business training, microcredit loans and mentoring overall were thwarted by multiple forces, in terms of both agency and structure, which reflect their age and gender status as well as Zimbabwe's weakened political economy. Based on these lessons, SHAZ has moved away from microcredit and business skills and towards vocational training as the core livelihood component of the project [116].

Similarly, Tap and Reposition Youth (TRY), a multiphase initiative undertaken by the Population Council and the Kenyan microfinance institution, K-Rep Development

Agency, aimed to reduce adolescents' vulnerabilities to adverse social and reproductive health outcomes, including HIV infection, by improving their livelihood options. The project introduced a modified group-based microfinance model in order to extend savings, credit, business support and mentorship to adolescent girls and young women aged 16–22 years living in the low-income and slum areas of Nairobi [125]. Although most participants were exposed to the training, savings, and mentorship components of the programme, only half of participants managed to qualify for a microfinance loan, and repayment rates among these were low. Younger participants were more interested in savings than loans, and those who did appear to benefit from the microfinance were a subset of older participants, who were in general less vulnerable than the adolescents primarily targeted [116]. The programme was evaluated as a longitudinal study; however, most respondents had dropped out by the time of end-line surveys, limiting the ability to assess programme impacts [126]. TRY went through a protracted and frank process of trial and error to identify issues relevant to young women and adolescents, and to adapt their approach to serve this age group better [116,126]. In the end, their experience indicated that microfinance was not the most appropriate economic empowerment model for their target group, for whom entrepreneurship and repeated borrowing were not primary interests. Rather, their fundamental needs related to acquiring social capital, including social support groups, friendships, mentorships, physical safety, and the opportunity to save their money in a safe, accessible place [125].

As with the SHAZ experience in Zimbabwe, the TRY programme raises a number of questions relating to the advisability of targeting microfinance to impoverished adolescent girls, who are often out of school, more mobile, less socially rooted, and less experienced in establishing income-generating enterprises than the usual profile of older microfinance clients. Taken together, these experiences raise a cautionary note about the risks of altering traditional microfinance target groups in order to align more directly with HIV-related goals. The economic viability of these pilot initiatives suffered, and in such settings, introducing HIV-related inputs can be a tremendous challenge. When viewed alongside the experience of the IMAGE study, addressing HIV risk through microfinance may be better achieved as a result of partnerships with well-established microfinance programmes working with diverse age groups in vulnerable communities, rather than specifically tailoring novel interventions to reach high-risk groups [123].

Beyond microfinance: exploring other economic empowerment strategies and HIV prevention

Given the diversity of the experiences described above, it is likely that in order to be most effective, efforts to promote women's economic empowerment should embrace a broad range of strategies. In addition to microfinance, these might include livelihood training, such as vocational training, financial education or literacy programmes, as well as efforts to strengthen women's food security and property and inheritance rights [120]. Although programmatic experience in these areas is not as well-developed or well-documented as the microfinance sector, emerging lessons suggest that these areas offer promising platforms for intervention, which should be explored further.

Combining livelihood training and HIV life skills for youth

As experience from both the SHAZ and TRY programmes illustrate, socially vulnerable adolescent girls may need a place apart from their families for dialogue, support, the protection of savings, and the development of rudimentary livelihood skills. The shift in the SHAZ programme's focus from microfinance to vocational training for young women reflects a growing interest in the area of livelihood training and the potential for linking this to sexual and reproductive health goals. Because such training can be carried out on a regular basis with groups of participants, such programmes could provide potential opportunities for integrating HIV-related education and life skills in order to empower young women. Moreover, it has been suggested that by gradually building social and financial skills in an environment that is less pressured than microfinance programmes, such initiatives might be more suitable for younger participants, while providing a basis for later participation in credit programmes [116,125]. To date, however, reviews of such programmes reveal mixed results, with uneven and inconclusive findings as to whether such approaches can impact on changing sexual behaviour and HIV risk among young women and adolescents. One review surveyed nine programmes in Africa, Asia and Latin America, which aimed to link youth livelihoods (primarily job training) with reproductive health information or training, in order to enhance outcomes in both areas [127]. Some programmes were able to achieve short-term results by enabling some young women to find employment once they completed the training course. Others indicated some progress in increasing women's agency and self-esteem, but only two could be seen potentially to address empowerment issues over a longer term. For the most part the link between reproductive health services and livelihood was inconclusive, and no inferences could be drawn about the potential for supporting empowerment processes within the programmes. The review concluded that currently most programmes are not implementing linked strategies in an optimal fashion, often achieving only marginal effectiveness in meeting both the reproductive health and livelihood needs of young people [116,127].

In South Africa, the Population Council has recently introduced a programme that aims to combine safe social

spaces, financial literacy, and HIV life skills for youth. Small groups of youth meet regularly with community mentors, and in addition to receiving education about sexuality and HIV, are taught basic financial skills such as how to budget, save, plan for the future, identify income-generating opportunities and access social benefits [128]. Preliminary assessments of the programme's acceptability and feasibility appear promising, and the next phase includes a more detailed impact evaluation [129]. Taken together, it appears that innovative attempts to link livelihood training and HIV life skills for youth are still in their own 'adolescence'. Although these are not yet intervention models for replication, this is an area that can provide fertile ground for further research and application [116,127].

Improving women's food security

As described earlier, recent research in southern Africa suggests that protecting and promoting access to basic needs including food may decrease vulnerability to HIV, especially among women [23]. Although further research is needed, such findings suggest that, in addition to broader efforts to improve women's economic security, interventions that target food assistance and support women's subsistence farming and other means of food production should be considered as potentially important HIV prevention strategies for women in sub-Saharan Africa. Such programmes should also address equity of food distribution within the household, as a number of African studies have shown that women may be less food secure than men as a result of unequal household food allocation, a situation exacerbated by their lack of control over decisions related to food production, consumption and sale [23,130,131]. At the same time, HIV prevention programmes might consider ways of improving access to basic needs among vulnerable groups, as failure to do so may limit the effectiveness of other prevention efforts [132]. Addressing issues such as food insecurity is a complex undertaking, and to date integrated approaches combining food security programmes with efforts to strengthen HIV prevention for women have not been well developed or evaluated.

Securing women's property and inheritance rights

Access to, ownership of, and control over property such as land or housing are fundamental determinants of secure livelihoods: they provide a secure place to live, a site for economic and social activity, and collateral for credit and other resources and services. All are essential to household efforts to prevent and mitigate HIV/AIDS. Worldwide, however, women remain a minority of owners of land and housing and often face discriminatory customs, religious laws, and institutional practices that severely restrict their ability to gain and control such property [133]. Coupled with this, women often lose control over assets upon the dissolution of a marriage or death of a spouse, a situation that may be exacerbated when these events are linked to AIDS-related illness or death [134]. In sub-Saharan Africa, where poverty and HIV infection rates are highest, property matters are determined by a combination of residual colonial law, current constitutional law, and ongoing customary law, the complexities of which often allow for loopholes or legal gaps that undermine women's property and inheritance rights [133]. Research and intervention strategies are only beginning to explore the relationship between property ownership and inheritance and HIV prevention. There is growing evidence to suggest that upholding women's property and inheritance rights can promote women's economic security and empowerment, in turn reducing their vulnerability to domestic violence, unsafe sex and other AIDS-related risk factors. Securing women's property and inheritance rights can thus potentially contribute to the prevention of HIV infection [120,133,135].

Efforts to promote such rights can be broken down into three main categories: ensuring gender-sensitive legislation; promoting judicial capacity and effective litigation; and advancing public awareness and understanding. An example of the first area is the Legal Assistance Centre in Namibia, which has addressed women's rights to communal and commercial land as well as laws pertaining to marriage, divorce and inheritance, (which in turn affect women's ownership of and control over property). In the second area, Women and Law in Southern Africa, a regional educational and research trust, has been operating in seven southern African countries to promote the judicial sector's capacity to uphold women's rights and provide for effective litigation. In rural Zambia, they have been working with chiefs and local policy makers as well as providing legal aid clinics, in order to resolve land and property disputes; many related to women recently widowed through AIDS-related deaths. Finally, as an example of advancing public awareness and application of women's rights, Women's Voice in Malawi has conducted community sensitization and 'will-writing campaigns' in rural communities. Working with both women and men, they have aimed to raise awareness regarding women's rights, advocate for fair and equitable dispensation of property at the community level (including reform of discriminatory customary inheritance practices), and teach community members how to write a valid will and observe its provisions. By actively collaborating with chiefs and traditional authorities, they have found that local norms concerning property and inheritance are beginning to transform [133].

Many such programmes do not yet involve specific activities that feature a direct link between HIV/AIDS and women's property and inheritance rights. As with the microfinance sector, however, they nevertheless highlight strategic intervention points through which that link might be more fully developed. Such intervention points could be maximized by developing cross-sectoral partnerships across a range of organizations and institutions, whether oriented

primarily towards promoting human rights or providing HIV/AIDS-related education or services. Currently, few organizations systematically integrate these two spheres of activity in their programmes, and even fewer have explicitly addressed women's property ownership and inheritance as factors to be considered in national responses to HIV/AIDS [133].

Economic empowerment and HIV prevention: programme and policy recommendations

In this review, we suggest that correlation between an individual's income and their HIV status only tells part of the story. Poverty shapes the risk environment for HIV in ways that are complex and multidimensional: by limiting educational opportunities, exacerbating gender inequalities and perpetuating social norms that subordinate women, by putting women at risk of physical and sexual violence, and by social fragmentation and the erosion of systems of norms and networks that might foster resilience in communities and support HIV risk reduction.

We also highlight a range of interventions that have attempted to address economic empowerment at the micro and macro levels, from microfinance, to livelihoods, literacy and vocational training, to broader interventions that secure women's property and inheritance rights. However, what is immediately apparent from this review is that despite over two decades of experience with HIV/AIDS, there remains an extraordinary dearth of experience in the design, implementation and evaluation of such strategies [75]. Public health, with its traditional focus on epidemiology and disease control models has often lacked the tools to conceptualize and mount broader social and economic interventions [137,138]. Our understanding of how to work together with communities to promote participation and sustainable development remains limited [139–142]. Interventions at this level are not as circumscribed (in goal or process), as more conventional health sector initiatives such as the prevention of mother-to-child transmission or antiretroviral therapy programmes, and require new collaborations across multiple sectors and disciplines. Furthermore, they do not lend themselves easily to experimental evaluation, and may require longer timeframes to demonstrate effects. [75,143,144].

Given the limited progress of HIV prevention efforts within southern Africa many experts suggest that it is time to get back to the basics and to stick to 'what works' [136]. Others have suggested that the recent setbacks in developing technical interventions, including microbicide and vaccine trials, provide an opportunity to re-examine global HIV prevention efforts. The intervention strategies presented here highlight strategic entry points for addressing women's economic vulnerability as a critical component of such prevention efforts. Admittedly, we have a far better understanding of existing gaps, than we have a clear grasp of programmes, strategies, and evidence to guide the way forward. Nonetheless, we propose that there are a number of important lessons arising from experience to date, which can potentially invigorate global policy debates around HIV prevention. We argue that innovations that support women's economic empowerment are not efforts that should be pursued at the expense of technical, health sector approaches. Rather, they should be approached in unison, harnessing their potential for complementary and synergistic impacts. In this context, we put forward the following policy and programme recommedations.

Policies and programmes that promote the economic empowerment of women and girls should be included as core components of national HIV prevention strategies: Research suggests that addressing women's basic economic needs through programmes such as microfinance, youth livelihood and life skills training, and initiatives to protect women's food security and property and inheritance rights not only targets women's economic vulnerability directly, but can also offer a strategic opportunity for attracting sustained group-based participation in HIV prevention activities among the poor. Experience with combined economic empowerment and HIV interventions suggests that it is feasible to address structural factors such as poverty, gender inequalities and gender-based violence as part of HIV prevention programmes, and these goals should be explicitly included within national HIV/AIDS strategies. Adequate resources, technical expertise, and monitoring and evaluation mechanisms relating to these goals need to be included to support effective implementation.

Increase financial support to community organizations that promote economic empowerment of women, and ensure that these organizations are represented on National AIDS Councils, country coordinating mechanisms and in other relevant national and local decision-making and consultative bodies: Currently, most national and local bodies focusing on HIV/AIDS tend to reflect the participation of stakeholders and advisors primarily representing clinical and public health expertise. Given the need to encourage greater cross-sectoral collaboration, these should be expanded to include a more diverse range of expertise, including groups working on poverty alleviation, food security, gender-based violence and women's rights.

Support the development of cross-sectoral partnership models and encourage programmatic innovation to develop combined economic empowerment and HIV prevention interventions: Although there have been increasing calls for a 'cross-sectoral response' to the HIV pandemic, there are few

concrete examples of programmes that work, particularly in high-prevalence African settings. Emerging evidence suggests that adding a gender and HIV training component to economic interventions such as microfinance can expand their health and social impacts. Without specific funding to support the development of combined economic and health interventions, however, it is likely that further innovation will remain limited. Technical and financial support to develop cross-sectoral intervention programmes, and the sharing of expertise required to initiate and sustain these, should be encouraged.

Support the scale-up of promising cross-sectoral intervention models: When promising interventions combining economic empowerment and HIV prevention have been developed, they should be supported to scale-up where appropriate. Further research would help to identify how such programmes might be replicated or adapted in different contexts. Many programmes currently include an HIV training component, and best practice guidelines should be developed in relation to the content, delivery and intensity of such training. Technical support may be required for including newer elements such as content relating to gender norms, gender-based violence or community mobilization activities. Such support should also consider what kind of capacity-building might be required for programme implementers themselves, and what kind of institutional structures need to be developed in order to support and manage expanded activities and mandates. When there are pockets of innovation, lessons should be shared regionally, through the development of learning centres and exchange programmes.

Explore a broad range of economic empowerment strategies for women and adolescent girls as a platform for reducing vulnerability to HIV infection: To date, most experience with combining interventions aimed at women's economic empowerment and HIV prevention has arisen within the microfinance sector. There is a need to explore additional economic empowerment strategies that may carry important opportunities for cross-sectoral interventions. Programmes such as vocational training, literacy programmes, or other livelihood strategies may present relative advantages or disadvantages for different target groups and settings. Initiatives aimed at improving women's food security and safeguarding their property and inheritance rights have yet to develop strategic linkages with HIV training or service organizations. Lessons and partnership models from the microfinance sector should be further elaborated and expanded to include these other areas.

Evaluate interventions using realistic and relevant indicators, methods and timeframes: There is a need for further research in order to guide programme and policy development for linking economic empowerment strategies and HIV/AIDS interventions in a range of settings. Few economic empowerment strategies, with or without an additional HIV-related component, have been well evaluated and it is rarely feasible to implement a randomized controlled trial. Experience suggests, however, that strong and informative evaluations are possible. To date, economic programmes have tended to focus on measuring conventional financial indicators, such as poverty targets or financial sustainability measures. Broader impacts on dimensions such as women's empowerment, gender-based violence, sexual behaviour, and other HIV-related outcomes should be more systematically evaluated, and consideration given to the longer timeframes that may be required in order to observe change. In some areas, there is a need to address information gaps, for example, by developing sex-disaggregated national and local-level indicators that can measure progress toward women's equality in land and property inheritance rights. More research on such outcomes within different intervention models is needed, as well as operational research that evaluates the most effective institutional strategies for creating partnerships between economic empowerment and HIV prevention programmes.

Ensure that broader country-level policies support and sustain the impact of individual programmes: There are clearly limitations to what individual intervention programmes can achieve. Often, the impact of scaling-up or replicating locally successful models is constrained by a lack of realistic engagement with broader policies and structures that can curtail or expand their scope. Therefore, in order to be effective, intervention programmes need to be supported by country-level policies that carry the potential for far more sustained and systemic changes in women's status and health. Therefore, in addition to supporting programmes that strengthen combined approaches to economic empowerment and HIV prevention, countries should ensure that domestic legislation is consistent with international human rights norms, and that it is effective in protecting women's rights within marriage, securing their right to own and inherit property, ensuring equality in the workplace, and strengthening laws against domestic violence and sexual violence.

Ensure that economic development plans (whether involving the development of productive sectors or the provision of social safety nets) pass an 'AIDS impact assessment': Given the range of factors known to interact with poverty and increase vulnerability to HIV infection, economic development plans should be viewed with an 'HIV lens' in order to determine whether they may inadvertently increase the population risk of infection, and if so, whether deliberate measures can be taken to reduce this risk. Just as governments currently require private and public sector development projects to include an 'environmental impact assessment', such projects should also be required to pass an 'AIDS impact assessment'. Relevant criteria might include: whether hiring practices critically examine the demographic profile of the workforce and

strive to reduce dependency on migrant labour; industry standards that seek to provide alternatives to congregate, single-sex dwellings at work sites; transportation alternatives to long distance truck routes; the inclusion of workplace AIDS policies and policies promoting gender equity; and programmes that provide educational or economic alternatives to sex work for women living in communities surrounding high-risk areas. As with environmental impact assessments, good practices can be encouraged through preferential consideration for contracts, as well as tax and other financial incentives for programmes which can demonstrate that such HIV-related considerations have been taken into account. Such structural-level interventions have the potential to make important contributions to addressing the broader contextual factors that may be beyond the reach of individual economic empowerment programmes.

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References

1. Piot P, Greener R, Russell S. **Squaring the circle: AIDS, poverty and human development.** *PLoS Med* 2007; **4**:1571–1575.
2. UNAIDS. *AIDS epidemic update*. Geneva: UNAIDS; 2006.
3. Hargreaves JR, Glynn JR. **Educational attainment and HIV infection in developing countries: a systematic review.** *Trop Med Int Health* 2002; **7**:489–498.
4. Lurie M, Williams BG, Zuma K, *et al*. **Who infects whom? HIV-1 concordance and discordance** among migrant and non-migrant couples in South Africa. *AIDS* 2003; **17**:2245–2252.
5. Shelton JD, Cassell MM, Adetunji J. **Is poverty or wealth at the root of HIV?** *Lancet* 2005; **366**:1057–1058.
6. Human Sciences Research Council. *Nelson Mandela/HSRC Study of HIV/AIDS: South African national HIV prevalence, behavioural risks and mass media*. Household Survey. Cape Town: Human Sciences Research Council (HSRC); 2002.
7. Hargreaves JR, Morison LA, Chege J, *et al*. **Socioeconomic status and risk of HIV infection in an urban population in Kenya.** *Trop Med Int Health* 2002; **7**:1–10.
8. Hargreaves JR, Morison LA, Bonell C, *et al*. **Explaining persistently high HIV incidence in rural South Africa: a cohort study, 2001–2004.** *AIDS* 2007; **21**:s39–s48.
9. Hargreaves JR, Morison LA, Kim JC, *et al*. **The association between school attendance, HIV infection and sexual behaviour among young people in rural South Africa.** *J Epidemiol Commun Health* 2007; **62**:113–119.
10. Weiser SD, Leiter K, Bangsburg DR, *et al*. **Food insufficiency is associated with HIV-risk sexual behaviour among women in Botswana and Swaziland.** *PLoS Med* 2007; **4**:1589–1598.
11. Hargreaves JR, Bonell CP, Boler T, *et al*. **Systematic review exploring time trends in the association between educational attainment and risk of HIV infection in sub-Saharan Africa.** *AIDS* 2008; **22**:403–414.
12. Gillespie S, Kadiyala S, *et al*. **Is poverty or wealth driving HIV transmission?** *AIDS* 2007; **21**:s5–s16.
13. World Bank. *Attacking poverty: opportunity, empowerment and security*. Washington: World Bank; 2001.
14. Sachs J. *The end of poverty*. London: Penguin Books; 2005.
15. Chen S, Ravallion M. *How have the world's poorest fared since the early 1980s*? Policy research working paper 3341. Washington, DC: World Bank; 2004.
16. UNIFEM. *Progress of the world's women 2000*. New York: UNIFEM; 2000.
17. Rao Gupta G. **How men's power over women fuels the HIV epidemic.** *BMJ* 2002; **324**:183–184.
18. Poundstone KE, Strathdee SA, DD C. **The social epidemiology of human immunodeficiency virus/acquired immunodeficiency syndrome**. *Epidemiol Rev* 2004; **26**:22–35.
19. Subramanian SV, Belli P, I K. **The macroeconomic determinants of health**. *Annu Rev Public Health* 2002; **23**:287–302.
20. Woodward D, Drager N, Beaglehole R, *et al*. **Globalization and health: a framework for analysis and action.** *Bull WHO* 2001; **79**:875–881.
21. Lurie P, Hintzen P, RA L. **Socioeconomic obstacles to HIV prevention and treatment in developing countries: the roles of the International Monetary Fund and the World Bank**. *AIDS* 1995; **9**:539–546.
22. Bernays S, Rhodes T, Barnett T. **Hope: a new way to look at the HIV epidemic.** *AIDS* 2007; **21**:s5–s11.
23. Weiser SD, Leiter K, *et al*. **Food insufficiency is associated with HIV-risk sexual behaviour among women in Botswana and Swaziland.** *PLoS Med* 2007; **4**:1589–1598.
24. Deaton A. **Health, inequality, and economic development.** *J Econ Lit* 2003; **41**:113–158.
25. Byron E, Gillespie SR, P H. *Local perceptions of risk and HIV prevention in southern Zambia*. RENEWAL working paper; 2006. Available at: http://www.ifpri.org/renewal/pdf/Zambia-Perception.pdf. Accessed: 21 June 2008.
26. Dinkelman T, Lam D, M L. **Household and community income, economic shocks and risky sexual behavior of young adults: evidence from the Cape Area Panel Study 2002 and 2005**. *AIDS* 2007; **21**:s49–s56.
27. van der Borne F. *'I am not a prostitute': Discords in targeted HIV/AIDS prevention interventions in urban and trading centres in Malawi*. Boston: Harvard University; 2003. Available at: http://www.hsph.harvard.edu/takemi/RP214.pdf. Accessed 21 June 2008.
28. UNAIDS. *Gender and HIV/AIDS: taking stock of research and programmes. Best practice collection*. Geneva: UNAIDS; 1999.
29. Epstein H. *The invisible cure: Africa, the west and the fight against AIDS*. London: Viking/Penguin Publishers; 2007.
30. UNAIDS. *UNGASS Declaration of Commitment*. 2001. Available at: http://www.unaids.org/UNGASS/docs/AIDSDeclaration_en.pdf. Accessed: 21 June 2008.
31. Gilbert L, Walker L. **Treading the path of least resistance: HIV/AIDS and social inequalities – a South African case study.** *Soc Sci Med* 2002; **54**:1093–1110.
32. Weiss E, Whelan D, Rao Gupta G. **Gender, sexuality and HIV: making a difference in the lives of young women in developing countries**. *Sex Relationship Ther* 2000; **15**:
33. Rao Gupta G. **Gender, sexuality, and HIV/AIDS: the what, the why, and the how**. Plenary address. In: *XIIIth International AIDS Conference*, Durban, South Africa, 2000.
34. MacPhail C, Campbell C. **'I think condoms are good but, aai, I hate those things': condom use among adolescents and young people in a southern African township.** *Soc Sci Med* 2001; **52**:1613–1627.
35. Swart-Kruger J, L R. **AIDS-related knowledge, attitudes and behavior among South African street youth: reflections on power, sexuality and the autonomous self**. *Soc Sci Med* 1997; **45**:957–966.
36. MacPhail C, William B, C C. **Relative risk of HIV infection among young men and women in a South African township**. *Int J STD AIDS* 2002; **13**:331–342.
37. Kaufman CE, SE S. *''Bus fare, please'': the economics of sex and gifts among adolescents in urban South Africa*. Policy research division working paper. New York: Population Council; 2002.
38. Luke N. **Exchange and condom use in informal sexual relationships in urban Kenya.** *Econ Dev Cult Change* 2006; **54**:319–348.

39. Luke N. **Confronting the 'sugar daddy' stereotype: age and economic asymmetries and risky sexual behavior in urban Kenya.** *Int Fam Plann Perspect* 2005; **31**:6–14.
40. Luke N. **Age and economic asymmetries in the sexual relationships of adolescent girls in sub-Saharan Africa.** *Stud Family Plann* 2003; **34**:67–86.
41. Hallman K. *Socioeconomic disadvantage and unsafe sexual behaviors among young women and men in South Africa*. Policy research division working paper no. 190. New York: Population Council; 2004.
42. Greig F, C K. **Multilevel analysis of women's empowerment and HIV prevention: quantitative survey results from a preliminary study in Botswana**. *AIDS Behav* 2003; **7**:195–208.
43. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH. **Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence.** *Lancet* 2006; **368**:1260–1269.
44. Campbell J. **Health consequences of intimate partner violence.** *Lancet* 2002; **359**:1331–1336.
45. Dunkle KL, Jewkes R, Nduna M, *et al*. **Perpetration of partner violence and HIV risk behaviour among young men in the rural Eastern Cape, South Africa.** *AIDS* 2006; **20**:2107–2114.
46. Dunkle K, Jewkes RK, Brown HC, Gray GE, McIntyre JA, Harlow SD. **Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinis in South Africa.** *Lancet* 2004; **363**:1415–1421.
47. Wood K, Maforah F, Jewkes R. **'He forced me to love him': putting violence on adolescent sexual health agendas.** *Soc Sci Med* 1998; **47**:233–242.
48. Varga C. **How gender roles influence sexual and reproductive health among South African adolescents.** *Stud Fam Plann* 2003; **34**:160–172.
49. Wood K, Jewkes R. **'Dangerous' love: reflections on violence among Xhosa township youth.** In: *Changing men in southern Africa*. Edited by Morrell R. Pietermaritzburg: University of Natal Press; 2001. pp. 317–336.
50. Pettifor AE, Measham DM, Rees HV, Padian NS. **Sexual power and HIV risk, South Africa.** *Emerg Infect Dis* 2004; **10**:1996–2004.
51. Heise L, Ellsberg M, Gottemoeller M. *Ending violence against women*. Population reports. Baltimore: Johns Hopkins University School of Public Health; 1999.
52. Jewkes R. **Intimate partner violence: causes and prevention.** *Lancet* 2002; **359**:1423–1429.
53. Vyas S, Watts C. **How does economic empowerment affect women's risk of intimate partner violence in low and middle income countries? A systematic review of published evidence**. *J Infect Dis* 2008; in press.
54. Putnam R, Leonardi R, Nanetti R. *Making democracy work: civic traditions in modern Italy*. Princeton, NJ: Princeton University Press; 1993.
55. Pronyk PM, Harpham T, Morison LA, *et al*. **Is social capital associated with HIV risk in rural South Africa?** *Soc Sci Med* 2008; **66**:1999–2010.
56. Campbell C. *Letting them die: how HIV/AIDS prevention programmes often fail*. Cape Town: Double Storey Books; 2003.
57. Bryceson D, J F. **An enduring or dying peasantry: interactive impact of famine and HIV/AIDS in rural Malawi**. In: SR G, editor. *AIDS, poverty and hunger: challenges and responses*. Washington DC: IFPRI; 2006.
58. Lewis O. *Five families: Mexican case studies in the culture of poverty*. New York: Basic Books; 1976.
59. Barnett T. **HIV/AIDS prevention: hope for a new paradigm?** *Development* 2007; **50**:70–75.
60. Barnighausen T, Hosegood V, Timaeus IM, ML N. **The socioeconomic determinants of HIV incidence: evidence from a longitudinal, population-based study in rural South Africa**. *AIDS* 2007; **21**:s29–s38.
61. Nii-Amoo Dodoo F, Zulu EM, AC E. **Urban–rural differences in the socioeconomic deprivation – sexual behavior link in Kenya**. *Soc Sci Med* 2007; **64**:1019–1031.
62. Zulu EM, Dodoo FN, AC E. **Sexual risk taking in the slums of Nairobi, Kenya, 1993–98**. *Popul Stud* 2002; **56**:311–323.
63. Berkman LF, Kawachi I. *Social epidemiology*. Oxford: Oxford University Press; 2001.
64. Campbell C, MacPhail C. **Peer education, gender and the development of critical consciousness: participatory HIV prevention by South African youth.** *Soc Sci Med* 2002; **55**:331–345.
65. Campbell C, Williams B, Gilgen D. **Is social capital a useful conceptual tool for exploring community level influences on HIV infection? An exploratory case study from South Africa.** *AIDS Care* 2002; **14**:41–54.
66. Gregson S, Terceira N, Mushati P, Nyamukapa C, Campbell C. **Community group participation: can it help young women to avoid HIV? An exploratory study of social capital and school education in rural Zimbabwe.** *Soc Sci Med* 2004; **58**:2119–2132.
67. Veenstra G. **Social capital, SES and health: an individual level analysis.** *Soc Sci Med* 2000; **50**:619.
68. Mann J, Tarantola D. *AIDS and the world II: global dimensions, social roots, and responses*. New York: Oxford University; 1996.
69. Stoneburner R, Low-Beer D. **Population-level HIV decline and behaviorual risk avoidance in Uganda.** *Science* 2004; **304**:714–718.
70. Wood G. **Staying secure, staying poor: the 'Faustian Bargain'.** *World Dev* 2003; **31**:455–471.
71. Fine B. *Social capital versus social theory*. London: Routledge; 2001.
72. Shelton JD, Cassell MM, *et al*. **Is poverty or wealth at the root of HIV?** *Lancet* 2005; **366**:1057–1058.
73. Alsop R, Heinsohn N. *Measuring empowerment in practice: structuring analysis and framing indicators*. Policy research working paper 3510. Washington, DC: World Bank; 2005.
74. Blankenship KM, Friedman SR, Dworkin S, Mantell JE. **Structural interventions: concepts, challenges and opportunities for research.** *J Urban Health* 2006; **83**:59–72.
75. Parker RG, Easton D, Klein CH. **Structural barriers and facilitators in HIV prevention: a review of international research.** *AIDS* 2000; **14 (Suppl. 1)**:S22–S32.
76. Sumartojo E, Doll L, Holtgrave D, Gayle HD, Merson MH. **Enriching the mix: incorporating structural factors into HIV prevention.** *AIDS* 2000; **14 (Suppl. 1)**:S1–S2.
77. Hawe P, Shiell A. **Social capital and health promotion: a review.** *Soc Sci Med* 2000; **51**:871–885.
78. Lochner K, Kawachi I, Kennedy B. **Social capital: a guide to its measurement.** *Soc Sci Med* 1999; **5**:259–270.
79. Daley-Harris S. *State of the microcredit summit campaign: report 2006*. Washington DC: Microcredit Summit Campaign; 2006.
80. Carter M, Ikegami M. *Looking forward: theory-based measured of chronic poverty and vulnerability*. Manchester: Chronic Poverty Research Centre; 2007.
81. Matin I, Sulaiman M, R M. *Crafting a graduation pathway for the ultra poor: lessons and evidence from a BRAC programme*. Manchester: Chronic Poverty Research Centre; 2008.
82. Simanowitz A, Walter A. **Ensuring impact: reaching the poorest while building financially self-sufficient institutions, and showing improvement in the lives of the poorest women and their families.** In: *Pathways out of poverty: innovations in microfinance for the poorest families*. Edited by Daley-Harris S. Bloomfield, Connecticut: Kumarian Press; 2002. pp. 1–74.
83. Hatch JK, Levine SR, Penn A. **Innovations from the field.** In: *Pathways out of poverty: innovations in microfinance for the poorest families*. Edited by Daley-Harris S. Bloomfield, Connecticut: Kumarian Press; 2002.
84. Cheston S, Kuhn L. **Empowering women through microfinance.** In: *Pathways out of poverty: innovations in microfinance for the poorest families*. Edited by Daley-Harris S. Bloomfield, Connecticut: Kumarian Press; 2002. pp. 167–228.
85. Morduch J, Haley B. *Analysis of the effects of microfinance on poverty reduction*. Ottawa: Canadian International Development Agency; 2001.
86. Wright GAN. *Microfinance systems: designing quality financial services for the poor*. London and New York: Zed Books Ltd; and Dhaka: The University Press Limited; 2000.
87. Khandker SR. **Microfinance and poverty: evidence using panel data from Bangladesh.** *World Bank Econ Rev* 2005; **19**:263–286.
88. Robinson M. *The microfinance revolution: sustainable finance for the poor*. Washington, DC: World Bank; 2001.

89. Zaman H. *Assessing the poverty and vulnerability impact of micro-credit in Bangladesh: a case study of BRAC*. New York: World Bank; 2000.
90. Barnes C, Keogh E. *An assessment of the impact of Zambuko's microenterprise program in Zimbabwe: baseline findings*. Washington: Management Systems International (MSI); 1999.
91. Chen MA, Snodgrass D. *An assessment of the impact of SEWA Bank in India: baseline findings*. Boston: Harvard Institute for International Development; 1999.
92. Marcus R, Porter B, Harper C. *Money matters: understanding microfinance*. London: Save the Children; 1999.
93. Khandker SR. *Fighting poverty with microcredit: experience in Bangladesh*. New York: Oxford University Press; 1998.
94. Johnson S, Rogaly B. *Microfinance and poverty reduction*. London: Oxfam UK and Ireland; 1997.
95. Schuler SR, Hashemi SM. **Credit programmes, women's empowerment and contraceptive use in rural Bangladesh.** *Stud Family Plann* 1994; **25**:65–76.
96. Hashemi S, Schuler S, Riley I. **Rural credit programmes and women's empowerment in Bangladesh.** *World Dev* 1996; **24**:635–653.
97. Goetz AM, Sen Gupta R. **Who takes credit? Power and control over loan use in rural credit programmes in Bangladesh.** *World Dev* 1996; **24**:45–63.
98. Mayoux L. **Women's empowerment and micro-finance programmes: strategies for increasing impact.** *Dev Pract* 1998; **8**:235–241.
99. Kabeer N. **Conflicts over credit: re-evaluating the empowerment potential of loans to women in rural Bangladesh.** *World Dev* 2001; **29**:63–84.
100. Pronyk PM, Hargreaves JR, Kim JC, *et al*. **Effect of a structural intervention for the prevention of intimate partner violence and HIV in rural South Africa: a cluster randomized trial.** *Lancet* 2006; **368**:1973–1983.
101. Schuler SR, Hashemi SM, Riley AP, Akhter S. **Credit programs, patriarchy, and men's violence against women in rural Bangladesh.** *Soc Sci Med* 1996; **43**:1729–1742.
102. Jejeebhoy SJ, Cook RJ. **State accountability for wife-beating: the Indian challenge.** *Lancet* 1997; **349**:S110–S112.
103. Bott S, Morrison A, Ellsberg M. *Preventing and responding to gender-based violence in middle and low-income countries: a global review and analysis*. Policy research working paper 3618. Washington, DC: World Bank; 2005.
104. Schuler SR, Hashemi SM, Badal SH. **Men's violence against women in rural Bangladesh: Undermined or exacerbated by microcredit programmes?** *Dev Pract* 1998; **8**:148–157.
105. Naved RT, Persson LA. **Factors associated with spousal physical violence against women in Bangladesh.** *Stud Family Plann* 2005; **36**:289–300.
106. Mosedale S. **Assessing women's empowerment: towards a conceptual framework.** *J Int Dev* 2005; **17**:243–257.
107. Bates LM, Schuler SR, Islam F, Islam MK. **Socioeconomic factors and processes associated with domestic violence in rural Bangladesh.** *Int Family Plann Perspect* 2004; **30**:190–199.
108. Steele F, Amin S, Naved R. **Savings/credit group formation and change in contraception.** *Demography* 2001; **32**:267–282.
109. Mahmud S. **The gender dimensions of programme participation: who joins a microcredit programme and why?** *Bangladesh Dev Studies* 2000; **26**:79–101.
110. UNFPA, Microcredit Summit Campaign. *From microfinance to macro change: integrating health education and microfinance to empower women and reduce poverty*. New York: Microcredit Summit Campaign and the United Nations Population Fund; 2006.
111. Ahmed SM. **Intimate partner violence against women: experiences from a woman-focused development programme in Matlab, Bangladesh.** *J Health Popul Nutr* 2005; **23**:95–101.
112. Pronyk PM, Hargreaves JR, Morduch J. **Microfinance programs and better health: prospects for sub-Saharan Africa.** *JAMA* 2007; **298**:1925–1927.
113. Hashemi S, Syed M, Schuler S, Sydney R, *et al*. **Rural credit programmes and women's empowerment in Bangladesh.** *World Dev* 1996; **24**:635–653.
114. Schuler S, Hashemi S, Riley A. **The influence of women's changing roles and status in Bangladesh's fertility transition: evidence from a study of credit programmes and contraceptive use.** *World Dev* 1997; **25**:563–575.
115. Dunford C. **Building better lives: sustainable integration of microfinance with education in child survival, reproductive health, and HIV/AIDS prevention for the poorest entrepreneurs.** In: *Pathways out of poverty: innovations in microfinance for the poorest families*. Edited by Daley-Harris S. Bloomfield, Connecticut: Kumarian Press; 2002.
116. IPPF, UNFPA, Young Positives. *Change, choice and power: young women, livelihoods and HIV prevention. literature review and case study analysis*. International Planned Parenthood Foundation, United Nations Population Fund, and Young Positives; 2007.
117. Dunford C. *Building better lives: sustainable integration of microfinance with education in health, family planning and HIV/AIDS prevention for the poorest entrepreneurs*. Freedom from Hunger; 2001.
118. Parker J. **Microfinance best practices: initial survey results. The intersection of Microfinance and HIV/AIDS – glimmers from Africa.** In: *The MBP reader on microfinance and HIV/AIDS: first steps in speaking out*. Edited by Parker J. Bethesda, Maryland: Microenterprise Best Practices; 2000.
119. Parker J, Singh I, Hattel K. *The role of microfinance in the fight against HIV/AIDS: a report to UNAIDS*. Bethesda, MD: Development Alternatives Inc.; 2000.
120. GCWA. *Economic security for women fights AIDS*. Geneva: The Global Coalition on Women and AIDS, UNAIDS.
121. RADAR. *Social interventions for HIV/AIDS: intervention with microfinance for AIDS and gender equity*. IMAGE Study Intervention Monograph no. 2. Rural AIDS and Development Action Research Programme, School of Public Health, University of the Witwatersrand; 2002. Available at: http://web.wits.ac.za/NR/rdonlyres/3C2A3B30-DE20-40E0-8A0AA14C98D0AB38/0/Intervention_monograph_picspdf.pdf. Accessed: 21 June 2008.
122. Kim JC, Watts C, Hargreaves JR, *et al*. **Understanding the impact of a microfinance-based intervention on women's empowerment and the reduction of intimate partner violence in South Africa.** *Am J Public Health* 2007; **97**:1794–1802.
123. Pronyk PM, Kim J, Abramsky T, *et al*. **A combined microfinance and training intervention can reduce HIV risk behaviour among young female participants: results from the IMAGE Study.** *AIDS* 2008; **22**:1659–1665.
124. Pronyk PM, Kim JC, Hargreaves JR, *et al*. **Microfinance and HIV prevention – perspectives and emerging lessons from a community randomized trial in rural South Africa.** *Small Enterprise Dev* 2005; **16**:26–38.
125. Erulkar A, Bruce J, Dondo A, *et al*. *Tap and Reposition Youth (TRY): Providing social support, savings, and microcredit opportunities for young women in areas with high HIV prevalence. SEEDS*. New York: Population Council; 2006. Available at: http://www.popcouncil.org/pdfs/seeds/SEEDS23.pdf. Accessed: 21 June 2008.
126. Erulkar AS, E C. *Evaluation of a savings and micro-credit program for vulnerable young women in Nairobi*. Nairobi: Population Council and K-Rep Development Agency; 2005. Available at: www.popcouncil.org/pdfs/TRY_evaluation.pdf. Accessed: August 2008.
127. ICRW. *Making it work: linking youth reproductive health and livelihoods*. Washington, DC: International Center for Research on Women; 2001.
128. Hallman K, Govender K, Roca E, Pattman R, Mbatha E, Bhana D. *Enhancing financial literacy, HIV/AIDS skills, and safe social spaces among vulnerable South African youth*. Transitions to Adulthood, Brief no. 4. New York: The Population Council; 2007.
129. Hallman K. **Building the social, economic, and health capabilities of highly vulnerable youth.** In: *Youth Microenterprise Conference*. Washington, DC, 2007.
130. Kerr R. **Food security in northern Malawi: gender, kinship relations and entitlements in historical context.** *J South Afr Stud* 2005; **31**:53–74.
131. Hyder AA, Maman S, Nyoni JE, Khasiani SA, Teoh N, *et al*. **The pervasive triad of food security, gender inequity and women's health: exploratory research from sub-Saharan Africa.** *Afr Health Sci* 2005; **5**:328–334.
132. Rollins N. **Food insecurity – a risk factor for HIV infection**. *PLoS Med* 2007; **4**:e301. doi: 310.1371/journal.pmed.0040301.

133. Strickland R. *To have and to hold:women's property and inheritance rights in the context of HIV/AIDS in sub-Saharan Africa. ICRW Working Paper*. Washington, DC: International Center for Research on Women; 2004.
134. COHRE. **Placing women's inheritance rights on the agenda in sub-Saharan Africa**. *COHRE Newsletter* 2003; **6**.
135. ICRW. *Property ownership for women enriches, empowers and protects*. ICRW and Millennium Project; 2005.
136. Pisani E, Garnett GP, Brown T, *et al*. **Back to basics in HIV prevention: focus on exposure.** *BMJ* 2003; **326**:1384–1387.
137. Pearce N. **Traditional epidemiology, modern epidemiology, and public health.** *Am J Public Health* 1996; **86**:678–683.
138. Mane P, Aggleton P, Dowsett G. **Summary of track D: social science: research, policy and action.** *AIDS* 1996; **10 (Suppl. III)**:s123–s132.
139. Israel B, Checkoway B, Schultz A, Zimmerman M. **Health education and community empowerment: Conceptualising and measuring perceptions of individual, organisational, and community control.** *Health Educ Quart* 1994; **21**:149–170.
140. Asthana S, Oostvogels R. **Community participation in HIV prevention: Problems and prospects for community-based strategies among female sex workers in Madras.** *Soc Sci Med* 1996; **43**:133–148.
141. Busza J, Schunter BT. **From competition to community: participatory learning and action among young, debt-bonded Vietnamese sex workers in Cambodia.** *Reprod Health Matt* 2001; **9**:72–81.
142. Campbell C, Mzaidume Y. **How can HIV be prevented in South Africa? A social perspective.** *BMJ* 2002; **324**:229–232.
143. Waldo CR, Coates TJ. **Multiple levels of analysis and intervention in HIV prevention science: exemplars and directions for new research.** *AIDS* 2000; **14 (Suppl. 2)**:s18–s26.
144. Sumartojo E. **Structural factors in HIV prevention: concepts, examples, and implications for research.** *AIDS* 2000; **14 (Suppl. 1)**:s3–s10.