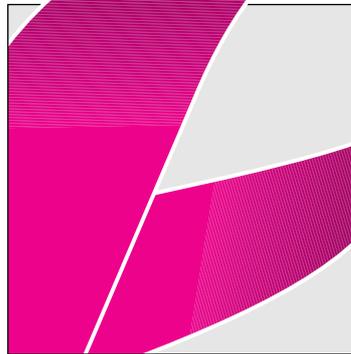
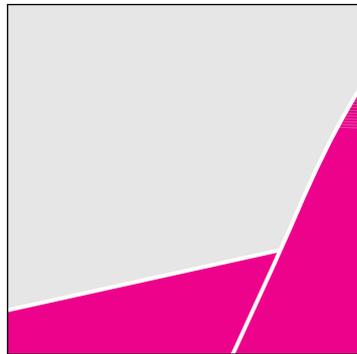


# Peer education and HIV/AIDS:

*Concepts, uses  
and challenges*



Joint United Nations Programme on HIV/AIDS

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# PEER EDUCATION AND HIV/AIDS:

Concepts, uses  
and challenges

Report of a consultation  
cosponsored by

UNAIDS  
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FHI  
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PSI/AIDSMark  
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***ACRONYMS/ABBREVIATIONS***

AIDS	Acquired immunodeficiency syndrome
AIDSCAP	AIDS Control and Prevention Program
BCC	Behaviour change communication
CSW	Commercial sex worker
FHI	Family Health International
HIV	Human immunodeficiency virus
ICRW	International Council for Research on Women
IEC	Information, education and communication
IMPACT	Implementing AIDS Prevention and Care Project
KAP	Knowledge, attitude and practice
NGO	Nongovernmental organization
PATH	Program for Appropriate Technology in Health
PSI	Population Services International
STD/STI	Sexually transmitted disease/Sexually transmitted infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

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## PEER EDUCATION AND HIV/AIDS:

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### I. INTRODUCTION

This paper provided background information to planners and participants involved in the International Consultation on Peer Education and HIV/AIDS which took place in Kingston, Jamaica, 18-21 April 1999. The consultation was sponsored by UNAIDS and Horizons/Population Council. In preparing for the consultation, the planning committee commissioned a needs assessment with peer education programme managers from around the world in order to draw up an agenda responsive to the needs of the field. A literature review was conducted on the major topics of interest that emerged from the needs assessment.

This paper introduces the goals and objectives of the consultation, discusses the definition of and the theory behind peer education, and presents the findings of prior efforts to analyse HIV/AIDS peer education programmes. The paper also presents the results of the needs assessment and the literature review, and concludes with recommendations aimed at further defining a set of best practices in the area of HIV/AIDS peer education.

#### *Consultation goal and objectives*

The overall goal of the consultation was to improve the quality of peer education programmes and their contribution to HIV/AIDS/STI prevention, care, and support. Specific consultation objectives included the identification of:

- programme components, best practices and principles of peer education programmes that are effective in modifying knowledge, attitudes, communication, and risk behaviours related to HIV/AIDS/STI and/or reducing the incidence of HIV/STI;
- gaps in knowledge and priority areas for operations research related to HIV/AIDS peer education;
- mechanisms for disseminating consultation findings and for continued exchange of information and resources on HIV/AIDS peer education.

#### *Defining peer education*

Peer education is a popular concept that implies an approach, a communication channel, a methodology, a philosophy, and a strategy. The English term 'peer' refers to "one that is of equal standing with another; one belonging to the same societal group especially based on age, grade or status". The term 'education' (v. educate) refers to the "development", "training", or "persuasion" of a given person or thing, or the "knowledge" resulting from the educational process (*Merriam Webster's Dictionary*, 1985). In practice, peer education has taken on a range of definitions and interpretations concerning who is a peer and what is education (e.g. advocacy, counselling, facilitating discussions, drama, lecturing, distributing materials, making referrals to services, providing support, etc.) (Shoemaker et al., 1998; Flanagan et al., 1996). Peer education typically involves the use of members of a given group to effect change among other members of

the same group. Peer education is often used to effect change at the individual level by attempting to modify a person's knowledge, attitudes, beliefs, or behaviours. However, peer education may also effect change at the group or societal level by modifying norms and stimulating collective action that leads to changes in programmes and policies.

## *Behavioural theory and peer education*

Peer education as a behavioural change strategy draws on several well known behavioural theories. For example, Social Learning Theory asserts that people serve as models of human behaviour and that some people (significant others) are capable of eliciting behavioural change in certain individuals, based on the individual's value and interpretation system (Bandura, 1986). The Theory of Reasoned Action states that one of the influential elements for behavioural change is an individual's perception of social norms or beliefs about what people who are important to the individual do or think about a particular behaviour (Fishbein & Ajzen, 1975). The Diffusion of Innovation Theory posits that certain individuals (opinion leaders) from a given population act as agents of behavioural change by disseminating information and influencing group norms in their community (Rogers, 1983). Peer education draws from elements of each of these behavioural theories as it implicitly asserts that certain members of a given peer group (peer educators) can be influential in eliciting behavioural change among their peers.

The Theory of Participatory Education has also been important in the development of peer education (Freire, 1970). "Participatory or empowerment models of education posit that powerlessness at the community or group level, and the economic and social conditions inherent to the lack of power are major risk factors for poor health" (Amaro, 1995). Empowerment in the Freirian sense results through the full participation of the people affected by a given problem or health condition; through such dialogue the affected community collectively plans and implements a response to the problem or health condition in question. Many advocates of peer education claim that this horizontal process of peers (equals) talking among themselves and determining a course of action is key to peer education's influence on behavioural change.

## *Findings from prior efforts to understand and improve HIV/AIDS peer education*

Peer education has been used in many areas of public health, including nutrition education, family planning, substance use, and violence prevention. However, HIV/AIDS peer education stands out owing to the number of examples of its use in the recent international public health literature. Because of this popularity, global efforts to further understand and improve the process and impact of peer education in the area of HIV/AIDS prevention, care, and support have also increased. A few examples of such efforts are presented below.

During the implementation of the AIDS Control and Prevention Program (AIDSCAP) of Family Health International/USAID, 116 of the 195 Behaviour Change Communication (BCC) projects employed peer education. Because of this wide application, AIDSCAP sponsored a study of 21 peer education and HIV/AIDS prevention and care projects in 10 countries in Africa, Asia, Latin America, and the Caribbean. The research was conducted with 223 project managers, peer educators, and peer beneficiaries from programmes that reached a variety of population groups including factory workers, university students, commercial sex workers, men who have sex with men, and farmers. The objectives of the study were “to examine peer-education strategies in AIDSCAP-supported projects and clarify their definition and scope, to identify and describe factors that are essential to sustainable peer education, and to establish a set of guidelines and standards by which to design future projects using peer education”. Study findings documented the need for: initial and reinforcement training; ongoing follow-up, support, and supervision; clearly understood expectations of the peer educator’s role; and continued incentives and motivation techniques. Findings also suggested the need for HIV/AIDS peer educators to broaden their base to other related health fields such as family planning and care for people living with HIV/AIDS. The final output of the review was a handbook of guidelines from which future peer education programmes can be designed, entitled *How to Create an Effective Peer Education Project* (Flanagan & Mahler, 1996).

The purpose of the World Health Organization’s Global Programme on AIDS document entitled *Young People, AIDS and STD Prevention: Experiences of Peer Approaches in Developing Countries* is to “assist those involved or interested in working with young people in AIDS prevention (including nongovernmental youth organizations and National AIDS Programmes) to understand the basis and experience of peer approaches”. The paper reviews the theoretical and practical rationales for using peer approaches, examines research and field experience of peer programmes, and identifies key lessons and remaining questions in the field. Recommendations for future action found in the paper include the need to: (1) review, document, and evaluate peer approaches in developing countries in order to identify effective programme practices; (2) provide technical support to youth organizations in project conceptualization and design; (3) improve coverage and intensity of peer education projects by scaling up and replicating existing projects, as well as combining peer education with other approaches such as using mass and small media; and (4) ensure that young people are active participants in project planning implementation, management, and assessment (Fee & Youssef, 1993).

In Europe a joint action plan on AIDS peer education called “Europeer” was established to reach young people both within and outside the school system. The Europeer project conducted a literature review on HIV/AIDS peer education as well as qualitative interviews with 24 AIDS peer education projects in 11 European Union member states representing different cultures, languages, and target audiences. Interviews were conducted with peer educators, project coordinators, trainers, policy-makers, and evaluators. At an expert meeting, peer education policy-makers, researchers, and young people from 14 European Union countries drafted a final version of the “European Guidelines for Youth Peer Education”. The guidelines are based on the literature review and interviews and are intended to provide programme planners with assistance in “setting up,

running and evaluating AIDS peer education project for young people". The guidelines focus on four key areas: policy-making and planning, project design and set up, training and implementation, and monitoring and evaluation. Apart from the guidelines in eight languages, a descriptive bibliography is available and there is an interactive website at <http://www.europeer.lu.se> (Svenson, 1998).

A comprehensive and participatory assessment of HIV/AIDS peer education programmes was recently conducted in several clusters (regional HIV/AIDS NGO networks) in Tanzania. The results of this assessment signalled a series of programmatic recommendations, including: (1) further enhancement of community involvement and ownership in order to facilitate programme continuity and sustainability; (2) ongoing capacity-building, such as continuing supervision and follow-up with peer educators to ensure programme quality; (3) capitalizing on and using the knowledge, creativity, and energy of peer educators in programme planning; (4) extension of the reach of peer education by conducting more training of trainers and peer educator training in other geographical areas; (5) provision of both non-monetary (e.g. bicycles, T-shirts, materials) and financial incentives (e.g. access to credit and compensation for expenses) to motivate peer educators; and (6) integration of reproductive health and other topical areas, as identified by communities, into the scope of peer educators (Hooks et al., 1998).

Each of these examples has contributed to the identification of critical discussion topics and knowledge gaps in the area of HIV/AIDS peer education in distinct geographical areas and among specific population groups. The International Consultation on Peer Education and HIV/AIDS sought to build on these efforts in order to strengthen and provide direction to HIV/AIDS peer education programmes working with a variety of population groups around the world.

## II. NEEDS ASSESSMENT

In preparation for the consultation, a needs assessment was conducted with peer education programme managers from around the world in order to develop a consultation agenda that would respond to the needs of the field. The needs assessment process also helped to identify potential consultation participants. The needs assessment methods, results, and conclusions are described below.

### *Methods*

Interviews were conducted with 30 programme managers from Africa, Asia, Latin America, and the Caribbean regarding the use of peer education in HIV/AIDS prevention, care, and support interventions. This sample of key informants was obtained using a nomination method of recruitment. Peer education programme managers were nominated by members of the consultation planning committee and other professionals working in HIV/AIDS prevention, care, and support. Nominated informants were contacted by e-mail, phone, or fax. Programme managers who agreed to participate were asked to respond to a brief questionnaire that asked them about:

- selection of peer education as a programme strategy;
- integration of peer education with other intervention strategies;
- challenges faced in the implementation of peer education;
- changes they would like to make to their peer education programme;
- resources needed to strengthen their peer education programme;
- research questions to be addressed in order to improve their peer education programme;
- suggested agenda topics for the consultation.

A set of analysis codes was developed on the basis of field guide topics and interview results. Interview text was then coded and analysed using the qualitative analysis programme ATLAS.ti.®

### *Results*

#### **Characteristics of the sample**

Half the participating key informants were women and half were men. In terms of geographical distribution, almost half (14 of 30) of the informants represented programmes in Africa, 37% (11 of 30) represented programmes in Asia, and 17% (5 of 30) represented programmes in Latin America and the Caribbean. (See *Appendix A* for the list of needs assessment participants, their countries/regions of origin, and their intended audiences.) Many organizations reported reaching more than one population group. Table 1 lists the number of organizations in the sample that reported reaching specific intended audiences.

Table 1: Intended audiences of participating programmes

Intended audience	Number (out of 30)	Percentage
Youth, in and out of school	20	67%
Female sex workers as well as their clients and intermediaries	10	33%
Industrial, agricultural, transport workers and intermediaries	10	33%
Military and police	3	10%
Male sex workers as well as their clients and intermediaries	3	10%
Communities in general	3	10%
Men who have sex with men	2	7%
People living with HIV/AIDS	1	3%
Injecting drug users	1	3%
Migrant populations	1	3%
Parents	1	3%
Prisoners and ex-prisoners	1	3%

The contexts in which peer education activities were conducted varied according to intended audience and included commercial sex establishments, factories, ports, plantations, prisons, schools, sports and social clubs, and villages.

## Programme findings

### Strategy selection

When asked why their organization selected peer education, informants reported a variety of beliefs and opinions. Response categories are listed alphabetically.

- Accepted and valued

Peer education is a widely utilized HIV-prevention strategy that is accepted and valued by both programme audiences and stakeholders.

- Access

Peer educators have physical and sociocultural access to intended audiences in their natural environments without being conspicuous. This is particularly true when working with hard-to-reach populations such as sex workers, injecting drug users, and prison inmates because physical access to such populations can be difficult. Key informants also stated that peers have access to populations that have historically been stigmatized, such as men who have sex with men in southern Asia.

- Behavioural theory

Peer education is based on behavioural theory which asserts that people make changes not because of scientific evidence or testimony but because of the subjective judgment of close, trusted peers who have adopted changes and who act as persuasive role models for change.

- Communication

Peer educators are effective and credible communicators who have inside knowledge of the intended audience and use appropriate language/terminology as well as non-verbal gestures to allow their peers to feel comfortable when talking about issues of sexuality and HIV/AIDS.

- Effective

Peer education is effective in promoting the adoption of preventive behaviour with regard to HIV/AIDS. Peer education is also a cost-effective intervention strategy because its use of volunteers makes it inexpensive to implement and/or expand.

- Identification

Peer educators and programme beneficiaries can mutually identify with each other as individuals and as members of a specific sociocultural reality. Because of this identification, peer educators make strong role models for promoting the adoption of HIV-preventive behaviour.

- Needs assessment study

Peer education was selected on the basis of a needs assessment and/or pilot study with the target population that indicated that peer education would be an effective intervention strategy.

- Participatory nature

Peer education facilitates the involvement of the intended audience in programme planning, implementation, and evaluation. It is empowering for both the educator and the beneficiary because of its horizontal and participatory approach to learning.

## **Integration**

Key informants were asked if peer education activities constitute a programme in and of themselves or if they are integrated into a larger HIV/AIDS prevention, care, and support programme within their institution. Only a small number of institutions (4 of 27) reported that peer education activities represented their institution's entire HIV-prevention strategy. The majority (23 of 27) reported that their institution had integrated peer education with other activities in an effort to prevent HIV infection and to care for people living with HIV/AIDS. Complementary programme components included: condom distribution/social marketing; psychological counselling; STI/HIV testing and support services; information, education, and communication (IEC) campaigns and materials; drama/theatre; policy advocacy; home/hospice care; and orphan support programmes. While the majority of programmes stated that their peer education activities were integrated with other HIV-prevention programme strategies, several informants stressed that it was their peer educators who linked these programme activities and services together. The following quote demonstrates this

sentiment: *“ Besides peer education, we have other programmatic elements such as STD services and social marketing of condoms. However, the peer programme cuts through all these programmatic elements in the sense that it is the peer educators who promote the clinical services provided by medical personnel and sell the condoms of the social marketing component. They act as the link to all the other programmatic elements, as the idea of sharing information horizontally through equals is a philosophic vision held by the institution.”*

Several informants also reported that their institution had integrated its HIV/AIDS peer education activities with other health and development programme areas such as reproductive health, community development and social mobilization, life skills training, and micro-finance/micro-credit programmes.

Unfortunately the activities conducted by peer educators, as distinct from those of other professionals within the institution, were not clarified in all interviews. The following activities were mentioned by informants as being conducted either by peer educators or by others within the institution, but targeted to the populations reached by the peer educators: counselling, discussions, drama/theatre, exercises/games and other participatory activities, fairs, house visits, IEC material development and distribution, community mobilization, networking, parties, policy advocacy, role-plays, talks/lectures, testimonies, tournaments, videos, village meetings, and workshops.

## **Challenges, changes, needs, research gaps, and agenda items**

Key informants were asked to comment on five areas other than those involving strategy selection and integration with other services. These areas included:

- challenges faced by the institution in utilizing peer education in its HIV-prevention programming;
- changes the institution would make to its peer education programme if it were to begin again today;
- institutional needs in terms of resources, materials, technical assistance, etc;
- research questions that, if answered, would help improve peer education programming;
- suggestions for the consultation’s agenda in terms of topics, panellists, and/or discussion formats.

Key informant responses to these topics overlapped substantially and the results are synthesized by topic. Response categories are listed in alphabetical order.

- Design and methodology

Informants expressed interest in learning about different types of programme design and methodology. For example, several informants asked how a peer education intervention might vary with demographic differences (i.e. class, ethnicity, religion, and/or education) for a given population. Informants also discussed what the role of the peer educator/facilitator should be in terms of “stimulating group discussion and learning how to allow the group to come to its own conclusions and decisions, while still getting across key prevention messages”.

Key informants expressed interest in learning about innovative and participatory techniques for maintaining and motivating the interest of unpaid or low-paid peer educators as well as their intended audiences. Several informants suggested that the intended audience should be more involved in the development of educational curricula and IEC materials so that these might better reflect the audience's cultural background and educational level.

- Evaluation research

Key informants were generally interested in evaluation research to assess the effectiveness or impact of peer education programmes on the adoption of HIV-prevention behaviours. Specific examples included examining the effect of peer education on the health-seeking behaviours of men who have sex with men in South Asia or the effect of peer education on women's power to negotiate the use of condoms. Informants also expressed a strong interest in comparative studies to measure the effect of peer education in combination with, or as compared to, other complementary HIV-prevention strategies such as condom promotion and STI services. For example, one informant asked whether a peer education/solidarity approach or a more authoritative/policy-based approach would be most effective in increasing HIV-prevention behaviours among commercial sex workers in Bangladesh. In addition to overall programme effectiveness, key informants also expressed strong interest in research related to programme cost-effectiveness and cost-benefit analysis.

Other research gaps related to programme effectiveness were operational "how to" questions such as: how best to influence policy-makers/stakeholders; how best to select, train, and/or supervise peer educators; how to address gender and cultural factors; how to scale up programmes; and how to sustain peer education activities. A few key informants spoke of the need for longitudinal studies to evaluate behavioural change over longer periods of time. Issues of measurement with regard to communication within couples and actual condom use were also discussed by informants as research challenges and needs.

Many key informants discussed the need (and challenge) to organize and implement an adequate monitoring and evaluation system that could measure both programme progress and impact. Informants felt that donors often did not provide adequate funds for the evaluation of programmes and that asking peer educators to "keep accurate information and records is sometimes seen as an additional burden on an already underpaid/overworked civil servant". Informants discussed the need for training, funding, and technical assistance in the area of monitoring and evaluation design, implementation, and analysis. Other informants discussed the challenges of coordinating with hospitals and health centres that collect, or could collect, clinical outcome indicators. One informant stated that his organization would like to "place more emphasis on rigorous biomedical impact measurement and sound design" in future programming. Many informants discussed their desire to see the issue of programme evaluation, and specifically effectiveness and impact evaluation, addressed within the conference agenda in terms of both case studies and skill-building sessions.

- Exchange and networking

Informants discussed the need for more communication and interaction with other peer programmes in order to learn from their experiences. Informants

welcomed the opportunity to attend conferences and seminars and visit other programme sites. Several informants expressed interest in learning about best practices or success stories related to peer education methodologies used by other programmes that would enable them to improve their own programme. Key informants also expressed interest in hearing about the challenges other programmes have faced in relation to recruitment, training, supervision, monitoring and evaluation, and scaling-up/expansion. Several informants referred to sharing “lessons learned” with other peer education programmes in order to clarify those programme elements that have worked and those that have not. While some informants were particularly interested in case studies specific to their own intended audience – such as youth, commercial sex workers, or prison inmates – others were interested in hearing more broad-based perspectives from different groups using peer education with a variety of populations.

Programme managers also discussed the need for more networking opportunities for peer educators both within and between programmes. Informants viewed networking for peer educators as important for facilitating the exchange of ideas and techniques, for building motivation, solidarity, and social support, and for ensuring mobilization and collective action among peer educators.

Several informants cited access to the Internet and e-mail, the development of an institutional website to promote exchange and help with fundraising, and access to journals and publications as the current needs of their programme.

- Gender, sexuality and the sociocultural context

Several key informants discussed their desire to “integrate gender” into their organization’s HIV/AIDS peer education programmes. The issue of how to address gender roles and relations that undermine communication and the practice of safer sexual behaviour was mentioned as a challenge, a need, a desired change, and a suggested agenda item for the consultation. Informants questioned how to integrate gender theory and analysis into peer educator training and educational activities. One key informant questioned why more male peer educators were being trained when women were also deeply affected by HIV/AIDS, while another wondered why peer education seemed to work better with boys than with girls.

Informants spoke of the challenge of communicating about issues such as sex and sexuality that are taboo in a given culture and the subsequent fears of the community, parents, and/or religious groups that an open discussion of such topics may lead to “promiscuous behaviour”. Some informants mentioned that prejudice against sex workers and men who have sex with men were programmatic challenges. In general, informants recognized the influence of sociocultural issues on the success of peer education programmes and stated that future programming should give more importance and consideration to factors such as gender, sexuality, and stigma in terms of research, programme planning, and advocacy.

- Integration

Several key informants suggested that if they were to begin again they would integrate other programme components such as condom promotion, IEC mate-

rials, counselling, drama/theatre, STD services, needle exchange, legislative and policy advocacy, and care for people living with HIV/AIDS. Informants discussed which of these programme components best complements peer education in order to increase programme effectiveness in preventing HIV infections. Many key informants were particularly interested in legislative and policy advocacy, as the illegal status of target population behaviour (such as that of commercial sex workers, injecting drug users, and men who have sex with men) in some settings is a significant challenge to programme implementation. Informants discussed the need for future policy and advocacy work to function in tandem with traditional peer education approaches in order to create or modify the legal and social systems that influence HIV behaviour in these groups as well as to increase community understanding of these complicated social issues.

Informants also expressed interest in finding out lessons learned from non-HIV/AIDS peer education programmes in areas such as reproductive health, drug and alcohol education, violence prevention, and life skills, in order to incorporate them into their own programmes.

- Mobility

Implementing and evaluating peer education with a highly mobile target population such as certain types of sex workers and/or migrant workers were challenges mentioned by several key informants. Closely related to the issue of mobility was the independence and/or competition within such populations, which can create a lack of the very bonding and solidarity that is often thought to be necessary for effective peer education programmes. Informants also expressed interest in mapping techniques to further understand the location and mobility of the target populations.

- Needs assessment and strategic planning

Several informants stated that they would like to learn how to conduct a community needs assessment, with specific attention to sociocultural and ethnographic assessments, with a given population in order to better respond to target population and community needs as well as to create strategic plans based on assessment results.

- Participation of the intended audience

Informants emphasized the need to work more horizontally with the target population, local clubs, and organizations from the beginning of the project in areas such as programme planning, materials development and evaluation. As one informant stated, "We would be less directive and more horizontal with the women. This is something that we have had to learn in the process. We would allow for more participation of the women at the level of decision-making. Everyone talks about participation, but allowing the population to sincerely make their own decisions is sometimes difficult, as the technical staff of the institution often believes that they know what is best and are trained to make decisions about the direction of the programme or policies that will affect the programme. If we were to start over, we should trust more in the people and their experiences and try and strengthen a more horizontal process for programmatic input and decision-making." Informants expressed interest

in learning about other organizational experiences in this area.

- Personal growth and programme evolution

Several key informants mentioned that dealing with the ramifications of increased personal growth among the peer educators and the intended audience was a critical challenge. For example, one informant who works with sex workers in Africa stated that, after seeing the positive changes in the peer educators, “Many sex workers wanted to become professional peer educators; however, our project did not have the capacity to accommodate them all.” Another key informant who works with sex workers in Latin America stated that the “professional” staff of his organization were not prepared, in terms of technical training and personal development, to respond to the needs of both the peer educators and the intended audience. This informant said: “Using peer education has stimulated the sex workers so much that they want more services, education, and resources. They began to recognize their self-worth, their rights, and that they have other economic alternatives. For our institution this has been a huge challenge in terms of how to work with these women assisting them to grow emotionally and professionally.” Another informant stated that their programme began to grow rapidly as critical issues that they originally had not contemplated became apparent such as “...people becoming sick with AIDS, children becoming orphans, home-based care, and orphan counselling. Issues such as gender inequality and the integration of HIV/AIDS with socioeconomic, political, educational, and cultural factors also became one of our highest-ranking factors.”

- Scaling-up

The issue of how to expand or “scale up” peer education activities from the local to the regional or to national level was discussed by several key informants. Informants were interested in hearing the experience of other programmes in this area and discussed the need for the financial and political backing of local government in order to make such a transition more feasible.

- Selection

Several key informants remarked that developing clear criteria for selecting peer educators who are mutually acceptable to programme organizers and community members is a challenge. Informants also wanted to learn how to better assess peer educator skills and talents so that they might better utilize peer educators in dealing with the diversity of educational levels and backgrounds within a given population. One informant stated that it was difficult to find peer educators with a minimum education requirement and skills background who were available and willing to work as volunteers.

- Stakeholders

Respondents discussed the issue of stakeholders and/or interest groups such as police, organized crime, teachers, and/or industry managers creating obstacles to programme implementation. As one key informant stated, “The main challenge of utilizing peer education with factory workers is the ability to make the factory administrators accept the process and foresee the advantages of peer education activities in the long run, as restrictions make it difficult for outsiders to

arrange activities for factory workers.” Several key informants described their frustration in working and cooperating with government agencies. They spoke of ill-defined or non-existent policies regarding their target population, as well as bureaucracy and/or lack of funding for programming, but also recognized the importance of government support in helping to make a programme successful. Other informants spoke of the challenge of developing a rapport both with the community in general and with community stakeholders who can facilitate the effective implementation and acceptance of programme activities.

Several informants suggested that stakeholders could be prevented from creating obstacles to programme implementation if they were involved in the programme from the design stage onwards. This would help to integrate their needs and priorities as well as capitalize on their potential contributions to the project, such as financial or human resources and workspace. Informants emphasized the need for stakeholders to join in both programme partnership and ownership with the target population and the implementing agency. Several informants recommended that techniques on how to involve and negotiate with stakeholders (governmental and nongovernmental actors and institutions) should be included in the consultation agenda.

- Sustainability

The lack of financial resources was cited by many of the key informants as a challenge. Informants mentioned ways in which they would utilize additional programme funds, such as for more peer educators to cover expanding programme areas, more supervisory/technical staff to provide follow-up and supervision to peer educators, additional introductory and refresher training, transportation, IEC materials, condoms, STD services, and counselling.

Several informants discussed the need for programmes to generate income, thereby contributing to their financial sustainability. One programme in Africa stated that it had already begun income-generation activities in coordination with its Anti-AIDS clubs in universities. Several other informants expressed interest in learning how to develop complementary income-generation programmes to help sustain their own peer programmes.

In addition to financial sustainability, the issue of how to provide incentives to peer educators who are generally unpaid volunteers was discussed by several informants as a major challenge. One informant stated: “Peer educators are found to be very helpful and cooperative, but how long can they just volunteer? They have to earn a living too. Giving time to the project means they have to take time away from their earning time. People are poor and they need to earn a living. They cannot be expected to use their own money to travel to places or feed themselves when they have no money. If peer educators do give staff free time and are willing to help, then we at least have to feed them and pay their expenses.” In terms of making programme changes in the future, several informants said that they would add more opportunities for recognition and compensation of peer educators. Some said that they would add monetary incentives while other said that they would stick with non-monetary incentives such as T-shirts and badges. Several informants expressed interest in other ideas for incentives as a consultation agenda item. Key issues/questions posed by informants on this topic included: whether or not to give incentives, what types of incentives

should be given (monetary or non-monetary), to whom incentives should be given (peer educator volunteers, leaders, supervisors) and whether incentives create programme sustainability and/or accountability.

- Theory

A few informants expressed an interest in further discussing behavioural theory, assumptions, and conceptual models associated with peer education.

- Time

Informants spoke of the need for more time, such as 5-year programme time frames, in order to promote long-lasting behavioural changes in the target population(s). A few informants said that current donor-imposed project time limits constrained the full implementation of the project and the process of behavioural change. Several key informants also suggested that more preparation time should be allotted for materials development so that peer educators were not sent into the field without the necessary support materials.

- Training and supervision

Many key informants spoke of the challenges of training both peer educators and technical/supervisory staff. Many stated that funds were insufficient to provide continuing education (refresher training) and updated information to peer educators after their initial training, as well as training sessions for new peer educators as old educators graduate or move away from the programme area. Several informants said that the low educational levels of peer educators necessitated additional training that was often not carried out. According to other informants, peer educator training needed to be more practical and participatory in nature, and structured curricula and support materials were necessary. For example; "The nature of training that is given to these peer educators is abstract. They are trained in hotels with flip charts but when they go to the community they find a totally different scenario. They are unable to fully put into practice what they have been taught for they don't have the teaching aids for demonstration and materials to distribute." Informants were specifically interested in participatory training methods (exercises, games, dynamics) and communication skills-building to sustain the motivation of peer educators, as well as in topics such as care and support for people living with HIV/AIDS, data collection, and training of trainers for technical/supervisory staff.

In terms of the needed training for supervisory and/or technical staff, one key informant stated: "Training of technical staff for persons involved in peer education programmes is not as simple as ensuring that they know how to teach people about knowledge, attitudes, and practices. Peer education implies a philosophical vision in terms of respect for the population and trying to see things from their cultural perspective, in our case from the lens of the poor and marginalized woman who lives with issues of violence and dependency. This process often raises issues of race, gender, and class. We need to facilitate this process of consciousness in our staff so that they can manage not only the methodology and the content of the peer education programme but also the theoretical concepts behind it, and this may involve reviewing and potentially changing some their own attitudes. If we do not work on these issues within ourselves as a staff, the whole educational process can be distorted."

In terms of follow-up and supervision, one key informant described peer education as a “high-maintenance” intervention strategy requiring “high-quality coordination, leadership, and supervision.” Other informants agreed, stating that the peer education approach relies heavily on part-time peer educators and coordinators. Experience has shown that very close supervision is necessary with these part-time volunteer workers. Several informants expressed the need for resources to train more head office staff who could supervise peer educator activities in the field.

## *Conclusions*

To a large extent, the results of the needs assessment paralleled the findings of prior research conducted to identify the challenges and best practices of HIV/AIDS peer education programmes. For example, both this needs assessment and prior AIDSCAP research found that peer educators are perceived as credible teachers and facilitators who possess critical and unique access to their intended audiences. Several challenges to the design and implementation of HIV/AIDS peer education programmes were also identified, such as the selection, training, supervision, and motivation of peer educators as well as stakeholder/community involvement and acceptance of the programme (Flanagan et al., 1996; AIDSCAP/FHI, 1997a; AIDSCAP/FHI, 1997b). The current needs assessment also underscores the need for funding and technical assistance in the areas of effectiveness/impact evaluation and programme sustainability.

The following topics were mentioned most frequently by respondents as priority areas for further exploration and analysis in the literature review and for further discussion in the consultation agenda:

- evaluation research;
- stakeholder involvement;
- sustainability (including income generation, scaling-up, and incentives for peer educators).

Other topics that were frequently raised by informants included:

- selection of peer educators;
- training and supervision;
- programme methodology and content (including participatory techniques);
- gender, sexuality, and the sociocultural context;
- programme integration (including policy advocacy and collective action).

### III. LITERATURE REVIEW

A literature review was conducted to complement the needs assessment, focusing specifically on topics of interest identified by informants. The studies cited in the literature review come from peer-reviewed literature (e.g. journal articles) as well as non-peer-reviewed literature (e.g. conference abstracts and programme reports).

#### *Evaluation research*

Programme planners who participated in the needs assessment were interested in the findings of programme effectiveness studies as well as in examples of innovative and feasible methodologies that could be used to evaluate HIV/AIDS peer education programmes.

#### **Assessing programme effectiveness/impact**

The terms *effectiveness* and *impact* are often used interchangeably with regard to evaluation research. Programme effectiveness or impact refers to “whether and to what extent a programme causes changes in the desired direction among a target population” (Rossi & Freeman, 1993). Review of the HIV/AIDS peer education literature shows that many evaluation studies document programme outputs or process indicators such as the number of peer educators trained, the number of persons in the target population contacted, and/or the number of condoms distributed by peer educators. While measurement of programme outputs is an important part of the evaluation process, it is not sufficient for understanding whether a programme has reduced vulnerability to HIV in a particular intended audience. Although they recognized the importance of conducting an impact evaluation, programme managers participating in the needs assessment cited lack of time, funding, and technical expertise as barriers to measuring behavioural and biological outcomes. In view of this, it was not surprising that only a limited number of studies were found that document programme effectiveness, as defined above, by evaluating HIV-related risk behaviours and/or STI or HIV incidence among the intended audience.

The credibility of an estimate of programme effectiveness depends on various factors, such as the evaluation research design and the validity of its outcome measures. These factors are part of what is often referred to as the rigour of the effectiveness evaluation. In terms of research design, the “true” experimental design where the intended audience is randomly assigned to either the intervention group or the control group is often thought of as the most rigorous because it eliminates bias that could confound questions of causation. In terms of HIV-related outcome measures, HIV incidence is often thought of as the most rigorous outcome measure because of its ability to predict the ultimate desired outcome (reduction of HIV). However, most evaluation studies found in the current literature neither used an experimental research design nor measured HIV incidence as an outcome measure. For example, when the AIDSLINE database (covering 1980 to the present) was searched for peer education, 1232 records were found. When the same database was searched for peer education and evaluation, 286 records were found. When the database was searched for randomized

controlled trials and peer education, 15 records were found (search performed 22 December 1998). Only one of these randomized controlled trials relating to peer education used HIV incidence as an outcome measure (Katzenstein et al., 1998). Instead, most evaluation studies found in the current literature on HIV/AIDS peer education used a pre-test/post-test or post-test only research design without a control group and HIV risk behaviour and/or HIV-related knowledge and attitudes as outcome measures.

### Findings from evaluations of HIV/AIDS peer education programmes

Table 2 presents findings from some of the more rigorous studies found in both the peer-reviewed and non-peer-reviewed public health literature. These examples represent only studies that have used HIV risk behaviour or STI/HIV incidence as outcome measures and that have used experimental or quasi-experimental evaluation designs. It is important to point out that the table is illustrative but does not present an exhaustive list of studies that fulfil such requirements.

Of the studies cited in Table 2, all but one found that the interventions that included HIV/AIDS peer education had a positive impact on STI or HIV incidence and/or risk behaviour. Results are presented by intended audience, including commercial sex workers, communities, industrial workers, men who have sex with men, injecting drug users, people living with HIV/AIDS, and youth.

**Table 2:**  
Key results from evaluations using control or comparison groups

Study authors, location, and sample size	Study design	Key results
<b>Commercial sex workers (CSWs)</b>		
(Morisky et al., 1998)  Philippines  (n=1394)	Quasi-experimental trial with four arms: (1) peer education with CSWs (2) manager and supervisor condom use support/policies (no peer education) (3) combination of (1) & (2) (4) usual care control group  <b>Outcome indicators:</b> HIV knowledge and attitudes, self-efficacy, sexual risk behaviour, STI and HIV incidence	Results indicate significant changes in knowledge, attitudes, and self-efficacy of CSWs and managers. Significant improvement in STI clinic attendance and reductions in STIs were observed in intervention sites as compared to the control site. HIV test results indicated zero infections in the intervention sites and four seropositives in the control site.  *Intervention/analysis is ongoing; there are no findings yet regarding the relative effectiveness of the different intervention groups.

Study authors, location, and sample size	Study design	Key results
<b>Communities</b>		
(Kathuria et al., 1998)  Zambia	Quasi-experimental controlled trial with two arms: (1) peer education, condom distribution, and STI care in three communities (intervention) (2) no intervention in two communities (control)  <b>Outcome measures:</b> STI (syphilis) rates	Syphilis rates in community STD clinics fell 47–77% in the three intervention sites from 1993 to 1997, despite a 40% growth in the urban population. Declines in the syphilis rate were observed only in intervention sites, suggesting a secular trend attributable to the intervention.
<b>Factory workers</b>		
(Katzenstein et al., 1998)  Zimbabwe  (n=2000)	Randomized controlled trial with two arms: (1) HIV counselling and testing (control) (2) HIV counselling and testing plus peer education (intervention)  Access to condoms and STI management was offered to both groups.  <b>Outcome indicators:</b> HIV sexual risk behaviour, STI and HIV incidence	HIV incidence in the intervention arm was 34% lower than in workers from the control arm (2.21 vs. 3.20 per 100 person-years, $P = .36$ ).  *Study represents the only randomized controlled trial in the published literature to test a health promotion intervention that includes peer education using HIV incidence as an outcome measure.
<b>Injecting drug users</b>		
(Rietmeijer et al., 1996)  USA  (n=1997)	Controlled trial with two arms: (1) peer volunteers who distribute and discuss intervention kits containing condoms, bleach bottles and role model stories (intervention) (2) no intervention (control)  <b>Outcome measures:</b> Consistent bleach use and condom use	In contrast to those from the control site, participants from the intervention site reported significant increases in consistent bleach use (OR 2.6; $P < 0.001$ ) and consistent condom use with occasional partners (OR 13.6; $P < 0.001$ ).

Study authors, location, and sample size	Study design	Key results
<b>Men who have sex with men</b>		
(Kelly et al., 1993) USA (n=2000 per survey)	Controlled trial with two arms: (1) peer education by popular opinion leaders (intervention) in 8 cities (2) no intervention (control) in 8 cities  <b>Outcome indicators:</b> HIV sexual risk behaviour (unprotected anal intercourse)	In the 8 intervention cities, population members reportedly reduced their frequency of unprotected anal intercourse by 50% from baseline levels.
<b>People living with HIV/AIDS</b>		
(Gifford et al., 1998) USA (n=71)	Randomized controlled trial with two arms: (1) peer-led group sessions to improve disease self-management in patients with symptomatic HIV/AIDS (2) usual care group (control)  <b>Outcome indicators:</b> HIV/AIDS-related symptom status	The symptom severity index decreased among members of the intervention group and increased among members of the control group ( $P<0.03$ ).
<b>Youth</b>		
(Kirby et al., 1997) USA (n=1657)	Randomized controlled trial with two arms: (1) peer-led interactive HIV/AIDS and pregnancy-prevention curriculum emphasizing skills-building plus existing middle school sexual health curriculum (intervention) (2) existing middle school sexual health curriculum (control)  <b>Outcome indicators:</b> Onset of intercourse and condom use	The intervention curriculum significantly increased HIV/AIDS-related and reproductive health-related knowledge in the intervention classrooms versus control classrooms. However, the intervention significantly improved only 2 out of 21 sexual attitudes and beliefs related to HIV prevention and pregnancy and did not significantly change sexual or contraceptive behaviours.

A 5-year community-randomized reproductive health and HIV-prevention trial among a cohort of 8000 adolescents (15-19 years of age) recruited from schools is currently under way in rural Tanzania. The trial will include peer education as one of its intervention components and will be the first randomized controlled trial in adolescents to assess the impact of such an intervention using STI and HIV incidence as outcome measures (Mabey et al., 1998).

## Cost-effectiveness

Cost-effectiveness analysis enables HIV/AIDS programme managers and policy-makers to make informed decisions about the allocation of limited resources by measuring and comparing the costs and effectiveness of different intervention options (UNAIDS, 1998). For example, peer education would be deemed more cost-effective than counselling and testing if it cost less to implement in a given population and location and produced the same or better HIV-related outcomes. Issues of rigour that arise when discussing cost-effectiveness are similar to those that arise when discussing programme effectiveness alone. For example, while many studies may measure the cost of activities, such as the cost per peer contact or the cost per condom distributed, far fewer studies collect the behavioural (e.g. condom use) or clinical (STI/HIV incidence) outcome measures needed to calculate the cost per HIV infection averted. However, within the subset of studies that do collect HIV-related outcome measures, the use of cost-effectiveness analysis is increasing rapidly.

For example, from 1993 to 1995 the number of HIV/AIDS-related cost-effectiveness studies found in the published literature doubled, growing from 47 to 93 citations (Holtgrave, Valdeserri & West, 1993; Holtgrave, Qualls & Graham, 1995, both cited in Sweat, 1996). However, in a 1995 review, 78% of all cost-effectiveness studies found in the literature were conducted with US-based HIV interventions, with only 9 cost-effectiveness studies found to be related to HIV interventions in developing countries since 1979 (Holtgrave, Qualls & Graham, 1995, in Sweat, 1996). In the past few years, HIV-related cost-effectiveness studies in both developed and developing countries have increased. However, so far the number of cost-effectiveness studies conducted specifically with peer education interventions is still relatively small. Examples of cost-effectiveness analysis conducted on peer education interventions related to HIV/AIDS are presented below.

For instance, a study of HIV/AIDS peer education programmes among commercial sex workers in Latin America found that annual programme costs ranged from US\$17,000 to US\$71,000 to reach between 170 and 1600 commercial sex workers and to distribute condoms to the value of between \$50,000 and \$180,000 per year. The discounted cost per primary and secondary HIV infection averted by the interventions ranged between \$400 and \$1000 (Forsythe et al., 1992). A peer education trial among factory workers in Zimbabwe reported similar figures with an estimated cost of \$1000 per HIV infection averted (Katzenstein et al., 1998).

Cost-effectiveness analysis was conducted on an HIV-prevention intervention involving peer education with young gay and bisexual men in Minnesota, USA. The number of HIV infections averted and the quality-adjusted life years (QALYs)\*

\*QALYs are often preferred to direct measures of cost per HIV infection averted as they account for the quality and duration of the life saved due to the intervention.

saved by the intervention were projected to be 13 and 180 respectively. Thus, the cost per HIV infection averted by the intervention was estimated to be approximately \$85,000 and \$6000 per QALY saved (Tao & Remafedi, 1998). Study authors stated that the intervention was found to be cost-effective from the societal perspective. The cost-effectiveness of a community-level HIV risk reduction intervention using peer education among adult gay men in the USA found that the intervention cost was \$65,000 per HIV infection averted; according to the study authors, this was cost-effective despite the conservative modelling assumptions used in the analysis (Pinkerton et al., 1998).

A study from a Connecticut needle-exchange programme for injecting drug users compared the programmatic effectiveness and cost-effectiveness of a professional outreach model with a peer-driven model of needle exchange over a two-year period. While both intervention types produced significant reductions in HIV risk behaviours among the intended audience, the study found that the peer-driven model reached a larger and more diverse set of injecting drug users and did so at one-thirtieth of the cost (Broadhead et al., 1998). Other interventions that have traditionally utilized drop-in centres or health clinics as a base for their reproductive health/HIV/AIDS education have also begun to adopt the use of community-based peer educators because of the reported cost savings of the peer model. For example, in a study conducted by the Population Council in Mexico, the programme *Prosuperación Familiar Neolonesa* (PSFN) was able to provide sexual health education through a peer outreach model for one-third the cost of a fixed youth centre model (Townsend et al., cited in Senderowitz, 1997).

The results of the cost-effectiveness analyses described above demonstrate a wide range of variation in the cost per HIV infection averted for the distinct interventions. This variation in cost depends not only on the effectiveness of the intervention in terms of HIV risk behaviour, but also on other variables such as the prevalence of HIV, the rate infectivity of HIV, and the effectiveness of condoms in the given intervention area and/or population group.

Comparative reviews of the cost-effectiveness of HIV/AIDS peer education versus other types of HIV/AIDS intervention strategies are not currently found in the public health literature. An ongoing study is currently conducting cost-effectiveness analysis with several HIV-prevention projects that have used a variety of strategies (peer education, STI management, and condom distribution) with different populations (sex workers, men who have sex with men, factory workers, and young women) in countries such as the Dominican Republic, the United Republic of Tanzania, and Thailand. The results of this research will help to identify the relative cost-effectiveness of HIV/AIDS peer education compared to other prevention strategies (Sweat, 1996).

## Evaluation methodology

The most common evaluation methodology for HIV/AIDS peer education programmes is some form of a pre-test/post-test knowledge, attitude, and practice (KAP) survey or interview with the intended audience. However, programme managers expressed interest in other types of innovative evaluation methodologies. One such example found in the literature comes from the Southern African Training (SAT) network where more than 50 peer education

HIV-prevention projects throughout southern Africa have designed a comprehensive planning, monitoring, and evaluation framework that is used to track inputs, outputs, unit costs, coverage, and the behavioural and biomedical impact of peer education programmes. The framework has been applied to over 40 peer education projects in the region, enabling process and impact indicators to be demonstrated in the participating projects (Dube et al., 1998). The use of social network analysis in the evaluation of peer education programmes is another example of an innovative methodology; it has been applied in youth programmes in Ghana and Thailand that address process issues such as recruitment, supervision, retention, initiation and intensity of contacts, quality/accuracy of information, referrals to other services, and coverage/range of efforts (Bond & Wolf, 1998; Wolf, 1998). The lack of published information on different types of innovative and feasible evaluation methodologies that can be used with HIV/AIDS peer education programmes is an important gap to be addressed in future programme planning and research efforts.

## *Stakeholders*

Both the needs assessment and literature review highlight the importance of stakeholder involvement in HIV/AIDS peer education in order to ensure both programmatic and financial continuity. Stakeholders such as brothel owners, company supervisors/managers, police, and teachers have been documented in the literature as critical for influencing HIV-related risk behaviour in different population groups. Stakeholder involvement is closely linked with policy advocacy in many instances. Government officials and clinic personnel have also been documented in the literature as key stakeholders who wield power in terms of allocating financial resources, setting laws and policies, and providing access to health services and important outcome data (e.g. clinic records).

The literature contains several examples of HIV/AIDS peer education programmes that integrate stakeholders into programme activities in order to increase effectiveness. For example, sex worker peer education programmes have begun to involve the owners and managers of sex establishments in their programme strategies in order to address the power dynamics of establishments and the influence of these stakeholders on sex worker behaviour. The 'Superstar' and 'Model Brothel' programmes of Chiang Mai, Thailand, trained sex workers as peer educator 'superstars' and encouraged brothel owners to insist on mandatory condom use through a 'model brothel' programme component, while the Thai government provided condoms. The proportion of sex workers refusing sex with clients who did not want to use a condom (even when the client offered more money) increased from 42% before the intervention to 78% one year afterwards (Visrutaratna et al., 1995). A sex worker intervention trial in the Philippines has also integrated peer education and brothel owner/manager support and policies in order to decrease STI/HIV in that population (Morisky et al., 1998). Both these studies have documented the need for NGO/government collaboration in order to effectively enlist the support of brothel owners/managers in sex industry settings.

A Zimbabwe peer education intervention trial conducted with factory workers also documented the importance of stakeholder involvement. The study cited the commitment, support, and cooperation of senior factory management as critical

factors that contributed to the effectiveness of the intervention and documented the need for a government policy urging the private sector to adopt HIV-prevention programmes such as peer education. The study discovered that factory owners were willing to bear much of the cost of sustaining peer education once they realized the cost-saving benefits of decreasing HIV in their workplaces (Katzenstein et al., 1998). A review of lessons learned from other worksite prevention programmes in Kenya and Tanzania also discussed the need for stakeholder involvement (upper-level management, supervisors, shop floor leaders, as well as business or union associations) in workplace interventions in order to ensure programme effectiveness (Hayman et al., 1996).

In order to strengthen project management and stakeholder participation, a "stakeholder analysis" was conducted in an STI/HIV project in South Africa where a randomized controlled intervention trial is currently under way in the gold mining industry. The research trial compares STD and HIV incidence among 1000 miners in an intervention arm and 1000 in a control arm. The intervention has two major components: comprehensive STI care and peer education to promote behaviour change and promote and distribute condoms. The intervention is based on a collaborative effort of government, corporate, union, community, and research partners (Moema et al., 1998). Stakeholder analysis results have documented how different types of project stakeholders such as mine owners, government officials, community members, sex workers, and health care providers approach the issue of STI/HIV in the mining industry from distinct perspectives. According to the results of the stakeholder analysis, programmatic recommendations have been made regarding how this diversity in perspectives must be addressed in order to improve programme coordination and effectiveness (R. Williams, Carletonville STD/HIV Intervention Project: stakeholder evaluation, personal communication, 1998). Similarly, AIDSCAP guidelines on HIV/AIDS peer education recommend meeting with or interviewing stakeholders in the formative research/situation analysis phase of the project's design and development in order to facilitate project implementation and continuity (Flanagan & Mahler, 1996).

## *Sustainability*

Despite the fact that HIV/AIDS peer education programmes rely heavily on unpaid or low-paid field staff, they nevertheless need to continue generating funds for peer educator incentives, professional/supervisory salaries, materials, training costs, and office space and equipment. Limited examples of how to achieve long-term financial sustainability exist in the literature. Organizational methods of income generation, such as clinic fees and condom sales, have been used to provide income from which HIV/AIDS peer education programmes can draw support (Rosario, 1998). Programme managers expressed interest in micro-credit activities because community funds could be created from the interest on small loans, thereby sustaining programme activities, as in many village banking programmes. Programmes have also tried to promote their sustainability by integrating peer education training and education into the curriculum of existing institutions such as the military or schools (Upadhyay et al., 1998).

Additionally, the issue of "scaling-up" or expanding peer education programming once a programme has been shown to be effective was also discussed by consultation participants. Some asked how one should work with and/or lever-

age stakeholders in order to secure additional funding for the expansion of programme activities. However, limited information is available in the published literature on the process by which HIV/AIDS peer education programmes have scaled up from local to regional programmes or have been replicated on a regional or national level.

Related issues are whether and how to provide incentives or compensation to peer educators in order to facilitate their recruitment and/or continuation. Prior research has documented the importance of incentives to peer educators. Of the 21 programmes participating in the AIDSCAP study, 3 provided “salaries” to peer educators. More than three-fourths of the peer educators who participated in the study reported receiving some type of compensation in the form of travel or food allowances. However, 59% of the peer educators surveyed stated that financial incentives would make their job easier. In addition to financial incentives, peer educators asked for: official community acceptance, recognition, and respect; T-shirts, caps, or badges to identify them as trained peer educators; ample supply of educational materials and condoms; and additional information and training (Flanagan et al., 1996).

### *Selection of peer educators*

The selection of peer educators is documented in the literature as an element that is critical to programme success. The European guidelines for youth AIDS peer education suggest that peer educators must be acceptable to the target group and that their personality must be both conducive to training and suited to the work they will be doing (Svenson, 1998). Prior AIDSCAP research called the selection of ‘true peers’ of the intended audience one of the key principles of peer education (AIDSCAP/Zimbabwe, 1997). A selection strategy that is becoming more popular in the published literature is the use of social network analysis and nomination techniques to identify and select peer educators. For example, a peer education programme in the USA for injecting drug users selected peer educators on the basis of nominations by peers through a social network interview. Peer educators among the injecting drug users were then trained in needle hygiene and the reduction of sexual risk. Post-intervention interviews with members of the injecting drug user peer educator networks showed that they were significantly more likely than controls to clean their needles with bleach and significantly less likely than controls to share needles (Latkin et al., 1996). A similar social network/nomination technique was utilized to select popular opinion leaders among gay men in an HIV/AIDS peer education programme in eight US cities; the programme reduced unprotected anal intercourse by 50% among members of peer educator networks over the course of one year (Kelly et al., 1993).

Several programmes also discussed the need to tailor messages, materials, and peer educators to fit the needs of a diversity of peer groups within a larger population. For example, within the larger peer group of people living with HIV/AIDS there may be many different subpopulations (or sub-peer groups) such as men, women, injecting drug users, gay men, and specific ethnic/linguistic groups each with their own HIV-related attitudes, beliefs, social norms, communication patterns, and behaviours (Davids et al., 1998). This issue was brought to light by a study of men who have sex with men in the Dominican Republic. The study

found five main self-reported sexual identity groups within the community of men who have sex with men in that context, since these men distinguished themselves as “cross-dressers, homosexuals, gigolos, bisexuals and heterosexuals”. Results of the study demonstrated the need for peer educators from, and special HIV-prevention messages for, each of the self-identified groups (Sanchez et al., 1996).

### *Training and supervision*

Programme managers expressed interest in learning more about effective training methodologies as well as about how to integrate additional training topics such as care and support for people living with HIV/AIDS. AIDSCAP research has documented the need for comprehensive training of HIV/AIDS peer educators. AIDSCAP implementing agencies found that it was “less expensive to implement peer education programmes if the initial training (provided to educators) was very thorough” (Flanagan & Mahler, 1996). In its peer education guidelines, AIDSCAP suggests that there should be an assessment of the participants’ background and experience in HIV/AIDS education before the content of the training is decided. Critical elements of peer educator training will include: clarification of the educator’s expected role(s); sufficient opportunities to practise presentations on key topics such as STI/HIV/AIDS, gender and sexuality, and care and support for people living with HIV/AIDS; and time to practise skills-building exercises such as correct condom use or needle hygiene. Training should end with a written or oral examination in order to assess competency before fieldwork begins. The level of support and supervision extended to peer educators should depend on the type of activities they are doing and the amount of training they have had. In general, regular meetings with peer educators both individually and in groups are recommended, as are observations of peer educators during their work, progress reports submitted by them, and evaluations of their performance by supervisory staff. In terms of additional support, refresher training, updated information and materials, and staff retreats are also recommended (Flanagan & Mahler, 1996).

The European guidelines for youth AIDS peer education suggest that all training programmes should include the following elements: a preparatory meeting and retreat to enable peer educators to get to know each other and start working with project staff; imparting of formal knowledge on topics related to STIs and HIV/AIDS; a focus on personal development and cultural issues and biases; skills training; and continuing support, supplementary training, and assistance (Svenson, 1998).

Needs assessment participants were also interested in how to integrate the care and support for people living with HIV/AIDS into their current peer educator training programmes. Many examples of peer education training programmes for people living with HIV/AIDS exist in the literature. For example, a programme in Calgary, Canada, developed a training course to enable people living with HIV/AIDS to become peer educators in the area of HIV/AIDS counselling, support, and treatment. Course participants reported being “profoundly affected” by the training experience and suggested that future courses should include family members who wanted to support a relative living with HIV/AIDS (Maclaren-Ross & Baker, 1998). A peer education programme in New York State,

USA, has begun to train people living with HIV/AIDS to participate more consistently and effectively in leadership roles in HIV/AIDS policy advocacy, service planning and decision-making bodies. The programme uses a 5-day skills-based training run by people living with HIV/AIDS and for them. Qualitative feedback from training evaluations “indicate increases of as much as 50% in the number of people living with HIV/AIDS participating in local AIDS service planning bodies resulting from the training” (Tietz et al., 1998). A recent community-based programme in Viet Nam has trained people living with HIV/AIDS on issues of care, support, and stigma reduction. The trained volunteers provide peer education to other infected individuals as well as to family and community members and caregivers (Figueroa et al., 1998). The Tanzania AIDS Support Organisation (TASO) has used peer education by people living with HIV/AIDS to promote risk reduction among those already infected, to prevent further infections, and to sensitize both peers and community members to the need for stigma reduction (Nakawunde et al., 1998).

### *Programme methodology and content*

Programme managers were particularly interested in participatory methods of communicating HIV/AIDS prevention and care information to their intended audiences and of fostering a critical analysis of gender and sociocultural norms that influence sexual risk. While many programmes document the use of “participatory approaches,” the specific elements of those approaches are often not clearly described in the published literature. Projects that have provided specific examples of participatory approaches described techniques such as community mapping, picture codes, role-playing, and interactive exercises (Kathuria et al., 1998; Schapink et al., 1998; Rietmeijer et al., 1996).

Another important issue is the building of skills. For example, a randomized controlled trial in the USA involving men who have sex with men tested the differences in HIV-risk behaviour among men who received peer-led ‘safer sex’ educational sessions plus skills building and negotiation practice (intervention) as compared to those who received only peer-led ‘safer sex’ educational sessions (control). Participants from the intervention group increased their use of condoms in anal intercourse over a 12-month period by 44% as compared to 11% in the control group (Valdiserri, 1989).

### *Gender, sexuality and the sociocultural context*

Gender refers to the social construction of roles, responsibilities, and decision-making authority associated with being a woman or a man. A “gender-based approach” to HIV/AIDS programming takes into account the ways in which gender norms influence vulnerability to HIV, the ability to adopt HIV-protective behaviour, and care of people living with HIV/AIDS (UNAIDS, 1998; Weiss & Gupta, 1998). The International Centre for Research on Women supported the development and evaluation of several peer education interventions in Brazil, Sri Lanka, and Thailand that incorporated a gender perspective. These studies high-

lighted the importance of addressing gender and sexuality and found that culturally defined gender roles affect peer educator and participant recruitment, retention, and ability to communicate about sex with same-sex and opposite-sex peers (Weiss & Gupta, 1998).

In Brazil, female peer educators helped to develop a booklet entitled *The Story of Maria* for use with female adolescent peer groups during a series of nine weekly sessions, each facilitated by a team of two peer educators. The booklet addressed family and community pressure to maintain virginity, male pressure to have sex, and a girl's own internal pressure and desire for autonomy. The booklet also modelled boyfriend-girlfriend communication and mother-daughter communication, focusing on how to overcome barriers so that girls can talk to their partners, peers, and families about sex. By addressing these issues, the curriculum sought to "help young women make informed decisions about becoming sexually active outside of marriage and to question traditional gender roles about virginity, and its relationship to sexual risk" (Vasconcelos et al., in Weiss & Gupta, 1998). In Sri Lanka, young male and female peer educators facilitated discussions with their peer groups about virginity, sexual behaviour, and decision-making in both single-sex and mixed-sex group sessions. Findings showed that single-sex group sessions helped young women to develop a public voice and enabled them to participate actively in subsequent group discussions with males. Interestingly, the study also found that the recruitment and retention of participants in group sessions was greater for females than for males (Silva et al., cited in Weiss & Gupta, 1998).

In Thailand, both female and male peer educators were trained to facilitate single-sex and mixed-sex group sessions with unmarried factory workers. Findings from formative research were used to "create comics and storybooks that included male and female characters whose attitudes and behaviours reflected prevailing gender norms about communication, sex and HIV prevention." Pre-intervention and post-intervention interviews with participants demonstrated increased understanding of how traditional gender roles inhibit HIV-related communication, as well as increased peer and partner communication on HIV/AIDS and sexual risk reduction (Cash et al., in Weiss & Gupta, 1998). The study also found that young women were more able to "express an opinion and ask questions in girls-only HIV/AIDS peer education groups as compared to mixed-gender groups," a finding that highlights the importance of special learning environments and messages for women (Busayawong et al., 1996).

Sociocultural constructions, values, and stigmas related to sexual orientation, line of work (sex work), or behaviour (drug use) may also impact the ability of HIV/AIDS programme planners to design and implement effective HIV/AIDS peer education programmes in many contexts. For example, deep-rooted sociocultural biases against men who have sex with men have had a profound impact on prevention and services for these men in South Asia. "...Because of cultural, religious, and social reasons, male-to-male sexual behaviours are to a great extent invisible, often difficult to access and not framed within heterosexual and/or homosexual dichotomized constructions. Because of (such) social stigmatization, invisibility, and denial there are almost no STD/HIV services focused on the issues of males who have sex with males and/or anal sex behaviours...with there being almost no effective or appropriate research conducted on the subject." It is within this context that the Naz Foundation has assisted local NGOs

to develop peer-led “buddy systems” based on the natural social networks of men who have sex with men in South Asian countries such as Bangladesh and India. This approach has facilitated the identification, education, and mobilization of distinct subpopulations within the larger community of men who have sex with men (Khan, 1998).

### *Programme integration*

The educational activities of peer educators are almost always integrated with other programme elements such as access to condoms and/or STI testing and treatment services. There is a growing recognition of the complexity of the causal determinants of HIV incidence and of the need for interventions that address HIV-related behaviour change on multiple levels. The literature reflects this shift towards multilevel prevention strategies; a growing number of papers call for the design and evaluation of interventions that address environmental and structural constraints to HIV-related preventive behaviour (Sweat & Denison, 1995; Lurie et al., 1995; Tawil et al., 1995; T. Coates & P. Collins, personal communication, 1997).

Programme managers expressed particular interest in linking peer education with collective action and policy advocacy. Sex worker peer education programmes in the Dominican Republic, India, and Nigeria have used collective action strategies as part of their HIV prevention. Sonagachi, a local NGO in Calcutta, India, has facilitated the mobilization of sex workers and the formation of their own organization called the Durbar Mahila Samanwaya Committee. This organization uses conferences, outreach, and policy advocacy to fight for the rights of sex workers, protection from organized violence, and the legalization of prostitution in India. The organization has also formed a cooperative society to support savings and provide loans to sex workers (All India Institute of Hygiene & Public Health, 1998). Similarly, in the Dominican Republic a local NGO, called Centro de Orientación e Investigación Integral (COIN), has facilitated the organization of sex workers in a collective action union called MODEMU (Movimiento de Mujeres Unidas). The union’s mission is to improve the quality of life of sex workers by protecting their health and their human and democratic rights. Sex workers are currently marginalized and discriminated against in Dominican society. The union facilitates legal, emotional, educational, health, and vocational training for its members. The union is also in the process of forming a micro-credit cooperative to assist sex workers to develop their own businesses and savings (MODEMU, 1997). In Nigeria, the Calabar sex worker project has also documented the use of collective action to protect women from HIV infection. Together the women from the Calabar project decided to raise their fee for sex collectively so that they could afford to refuse clients who would not agree to use condoms (Heise & Elias, 1996).

## IV. CONCLUSIONS

The current literature suggests that peer education is a widely used component of HIV prevention programmes across population groups and geographical areas. The literature also indicates that peer education is seldom implemented alone. Rather, it is often part of a larger, more comprehensive approach to HIV prevention that includes condom distribution, STI management, counselling, drama, and/or advocacy.

Very few of the evaluations of HIV/AIDS peer education programmes found in the literature use rigorous research designs such as randomized controlled trials or STI/HIV incidence as outcome measures. Instead, many programmes collect only proxies of outcome measures, such as HIV-related knowledge, self-efficacy, and/or attitudes and beliefs, through the use of uncontrolled pre-test/post-test or post-test only research designs. Review of some of the studies that have evaluated HIV/AIDS peer education programmes using experimental or quasi-experimental designs, with outcome indicators such as reduction of HIV-related risk behaviour and/or STI/HIV incidence, shows that peer education (in combination with other prevention strategies) is very effective in several populations and geographical areas. However, researchers and programme planners are still faced with the task of determining what the critical elements of peer education are within the context of a comprehensive HIV-prevention strategy that will reduce HIV risk behaviour and incidence in a given population and context. The current review of the literature cannot definitively answer this question because many programmes do not explain in depth: how they select, train, and supervise peer educators; what incentives they provide for peer educators; how stakeholders are involved; what attention they give to gender and sexuality; and how sustainable they are. Apart from a review of the literature, there are several steps that may be taken to help answer this question. These include:

- development of case studies of existing HIV/AIDS peer education programmes that have been shown to be effective using rigorous evaluation designs and outcome measures;
- consult with programme coordinators and researchers to identify the critical elements or best practices related to programme implementation;
- operations research to test the applicability and impact of HIV/AIDS peer education best practices in other contexts and on a larger scale.

Other questions that need to be addressed include: Are more efficacy data needed in order to justify the allocation of resources for peer education in HIV prevention programming? If so, in what contexts and population groups are such data needed? Are more data needed to compare the effectiveness of peer educators with other communication channels such as health professionals or the mass media? Is research needed to compare the effectiveness/cost-effectiveness of peer education to other strategies, such as voluntary HIV testing and counselling or policy-level interventions?

Participants of the International Consultation on Peer Education and HIV/AIDS discussed the above issues, as well as others, as they sought to establish programmatic recommendations and operations research priorities within the context of a comprehensive strategy for HIV prevention and care. The results of the consultation will be forthcoming.

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## APPENDIX A

### Needs Assessment Participants

Key informant name and institution	Country (ies)	Region	Intended audience(s)
Pedzisani Motlhabane, University of Botswana	Botswana	Africa	Female sex workers, truck drivers, unemployed and out-of-school youth
Angeline Tennah, Family Health International	Kenya	Africa	Youth
Muriithi Kinyua, Family Planning Private Sector	Kenya	Africa	Youth
Jennifer Liku, Kenyatta National Hospital	Kenya	Africa	Youth
Richard Odindo, Futures Group International	Kenya	Africa	Youth
Edith Mkawa, Peace Corps	Malawi	Africa	Youth
Hubert Ogar, Society Against the Spread of AIDS	Nigeria	Africa	Transport workers (truck and boat) and their intermediaries, female sex workers
G.E. Delano, West African Youth Initiative-Advocates for Youth	Nigeria and Ghana	Africa	In-school youth
Codou Ndiaye Cisse, Ministry of Education	Senegal	Africa	In-school youth
Richard Bauer, PASADA-CRS	Tanzania	Africa	Communities and youth
Lediana Mafuru, Iringa NGO Cluster	Tanzania	Africa	Communities
Richard Kirya, Youth Alive-CRS	Uganda	Africa	Youth
Liz Mataka, Family Health Trust	Zambia	Africa	In-school and out-of-school youth
David Wilson, Project Support Group and University of Zimbabwe	Zimbabwe	Africa	Female sex workers and their clients, truckers, fishermen, mine workers, plantation workers, military, youth
Carol Jenkins, CARE	Bangladesh	Asia	Female sex workers
Shivnanda Khan, Naz Foundation	India and Bangladesh	Asia	Men who have sex with men, and male sex workers
S. Jana, Sonagachi	India	Asia	Female sex workers, their clients and other related intermediaries
Rieny Hardjono, Population Council	Indonesia	Asia	Youth and parents

Key informant name and institution	Country (ies)	Region	Intended audience(s)
Asha Basnyat, Family Health International	Nepal	Asia	Female sex workers and their clients, transport workers, factory workers, police and army
Mahesh Dev Bhattarai, General Welfare Pratisthan	Nepal	Asia	Female sex workers, truck drivers, migrant populations, army, police and youth
Pornpip Chuamanochan, Chiang Mai University	Thailand	Asia	Factory workers
Amporn Bootan, Thai Youth AIDS Program	Thailand	Asia	Youth
Greg Carl, Thai Red Cross Research Centre	Thailand	Asia	Out-of-school and vocational school youth, slum community youth and street children, male sex workers, and people living with HIV/AIDS
Ngo Thi Khanh, CARE	Vietnam	Asia	Female sex workers, injecting drug users, young men, and industrial workers
Nguyen Thanh Son, AIDS Committee of Ho Chi Minh City	Vietnam	Asia	Female sex workers
Antonio Bustamante, Instituto Latinoamericano de Prevención y Educación de Salud	Costa Rica	Latin America	Prisoners and ex-prisoners and male sex workers
Ana Vasconcelos, Casa de Passagem	Brazil	Latin America	Low-income young women
Richard Parker and Veriano Terto, Brazilian Interdisciplinary AIDS Association	Brazil	Latin America	Men who have sex with men and the Afro-Brazilian community
Luis Moreno, Centro de Orientación e Investigación Integral	Dominican Republic	Latin America	Female sex workers, their clients, other related intermediaries, and factory workers
Bethania Betances, Coordinador de Animación Socio-Cultural	Dominican Republic	Latin America	Youth

The Joint United Nations Programme on HIV/AIDS (UNAIDS) is the leading advocate for global action on HIV/AIDS. It brings together seven UN agencies in a common effort to fight the epidemic: the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the United Nations International Drug Control Programme (UNDCP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Health Organization (WHO) and the World Bank.

UNAIDS both mobilizes the responses to the epidemic of its seven cosponsoring organizations and supplements these efforts with special initiatives. Its purpose is to lead and assist an expansion of the international response to HIV on all fronts: medical, public health, social, economic, cultural, political and human rights. UNAIDS works with a broad range of partners – governmental and NGO, business, scientific and lay – to share knowledge, skills and best practice across boundaries.



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