

# Mobile populations and HIV/AIDS in Central America and Mexico: research for action

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**Objective:** To present a multi-centre study that analyses the socioeconomic, cultural and political contexts that give rise to population mobility, and its relationship to vulnerability to sexually transmitted infections (STI)/HIV/AIDS, in order to provide information that can be used to design appropriate and focused interventions.

**Methods:** In each of 11 transit stations (border towns, port cities, areas where mobile populations congregate) in Central America and Mexico, a household survey of the local population was conducted to analyse demographic, socioeconomic characteristics, and information known and opinions held about HIV/AIDS and mobile populations. In-depth interviews with key informants, community members and mobile populations were held to ascertain knowledge about prevention and transmission of STI/HIV/AIDS. Likewise, an ethnographic study was undertaken to identify interactions between local and mobile populations.

**Results:** The transit stations share low educational levels among the local population, few public services, repeated human rights violations, violence, poverty and corrupt authorities. Within this social context, transactional sex, sex for survival, rape and non-professional commercial sex happen in conditions that increase the risk of the transmission of STI/HIV, such as infrequent condom use. Migrant women and sex workers are particularly vulnerable in this context. A wide gap exists between information about STI/HIV transmission and reported prevention practices.

**Conclusion:** Given the conditions that exist in these transit stations, interventions should be multisectoral, sustainable, and should defend the human rights of various groups, including women and people living with HIV/AIDS.

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## Introduction

Migration and HIV/AIDS have been described as associated phenomena since the early stages of studies of HIV/AIDS [1,2]. The reasons why migration should be considered an important element in relation to AIDS have been analysed. They include the extensive mobilizations from one country to another, where these countries present differences in HIV profiles and prevention efforts, and the persistence of social inequal-

ities in health that are frequently reflected in the health of migrants, where the spread of HIV is closely related to social inequalities [3–5].

Although they differ in some respects, all societies share one common characteristic: those individuals who before the advent of HIV/AIDS were already marginalized, stigmatized and discriminated, became those most vulnerable to HIV infection [6–9]. The epidemic affects more those whose dignity and human rights are

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less respected. One response directed to vulnerable groups such as migrants has been formulated by the International Organization for Migration, which together with UNAIDS has subscribed to a cooperation agreement to promote a greater awareness about the relationship between migration and HIV/AIDS [10].

The challenge currently faced by public health is how directly to confront the social conditions that increase vulnerability to HIV/AIDS with actions that involve joint technical and political cooperation by different countries in the various regions of the world for a more efficient use and greater equality in the distribution of the few resources available.

This study is part of the technical cooperation between countries in the region, and its aim is to identify, develop and evaluate strategies and interventions that influence social, cultural, political and health service actions aimed at reducing the vulnerability of mobile populations to sexually transmitted infections (STI)/HIV/AIDS in each of the transit stations studied.

### Migration, vulnerability and HIV/AIDS

The traditional concept of migration is insufficient for the analysis and comprehension of the role played by population mobility in the transmission of diseases such as those transmitted through sexual practices (STI/HIV/AIDS). Therefore, we should refer to the dynamics of population mobility in its diverse forms rather than to the standard concepts of permanent migration (change of place of residence) and temporary migration (such as migration for work purposes: cyclical, seasonal or temporary jobs).

Social vulnerability is the relative lack of protection in which a group of individuals might find themselves (migrants, the poor, large numbers of young people and women, sexual minorities, individuals with lower educational levels and others) when faced with a potential threat to their health or to the satisfaction of their basic needs. They tend to command less respect for their human rights, as a result of their fewer economic, social and legal resources [11, p. 221]. The difference between risk and vulnerability is far from being a semantic sophistication. Whereas risk indicates probability and evokes a reference to individual conduct, vulnerability is an indicator of social inequity and demands responses at social and political levels [12–14].

In the case of mobile populations, these groups are vulnerable because their most elemental rights are very often denied in their homelands, in the countries they travel through, and in their final destination. In Latin America, both documented and undocumented migrants face a variety of human rights violations throughout their journey, whereas those who are undocumented certainly suffer the most and are often

the least able to approach human rights organizations for protection [15–17].

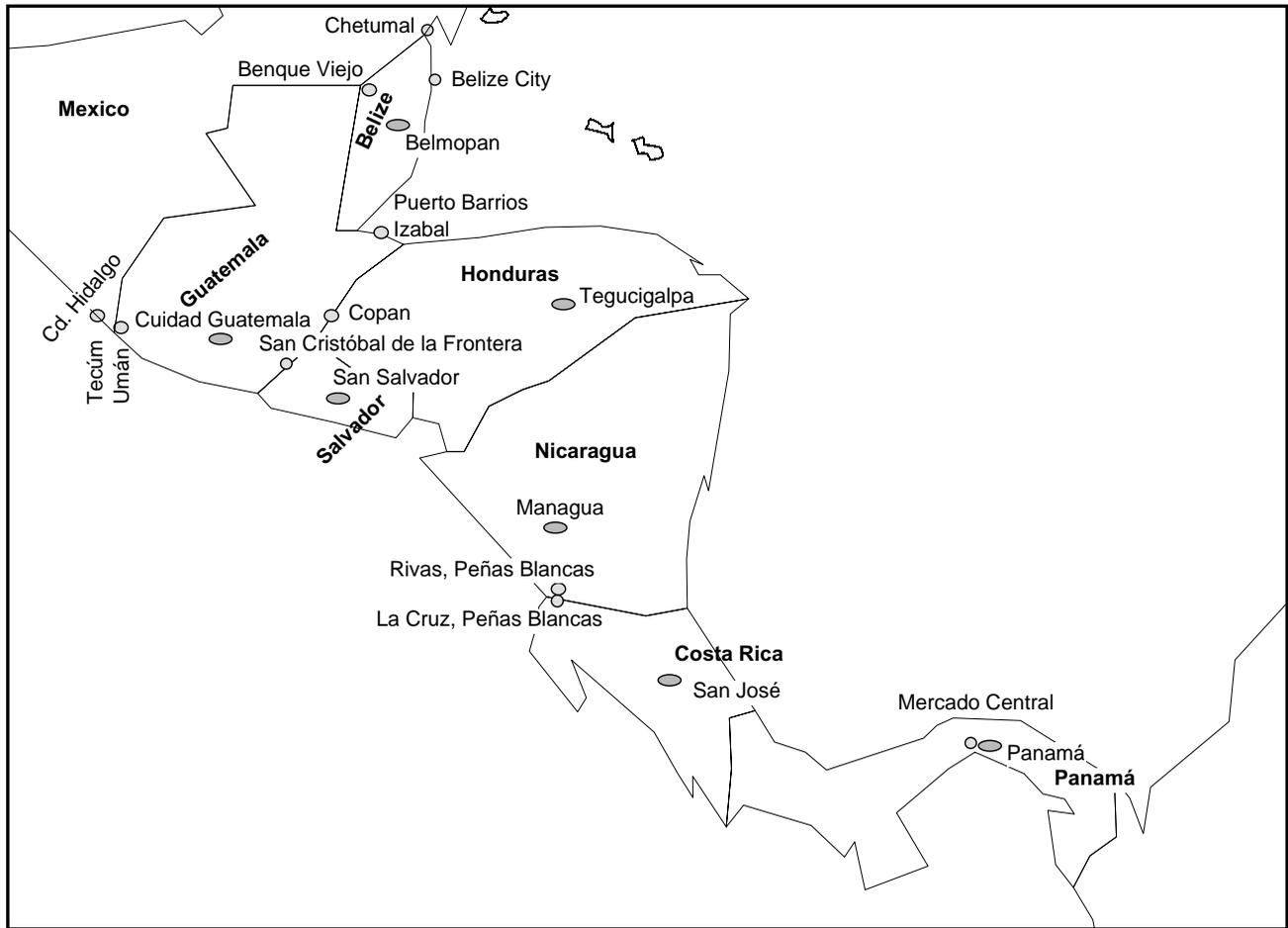
This research presents part of the results of a study aimed at gathering information about the knowledge regarding HIV prevention and transmission among mobile and local populations, as well as the role that various governmental and non-governmental organizations (NGO) play in reducing the vulnerability of local and mobile populations to STI/HIV/AIDS.

### Methods

This study took place in 11 transit stations in Mexico and Central America chosen by the National AIDS Programmes in each country (see Fig. 1). The following criteria were used to select the transit stations: a high rate of cross-border movements; a permanent flow of cross-border populations; a high density of bars and brothels; and the presence of NGO involved in the prevention of HIV/AIDS or in providing attention to mobile populations. Each transit station represents a somewhat different risk context, and so we consider that each station constitutes a separate case study.

STI/HIV/AIDS and migration surveys were conducted in households chosen through a two-stage cluster sampling procedure in each transit station. Geographical maps of each station were used in the first stage of the sampling procedure to select geographical clusters; in the second stage the households were chosen systematically with equal probabilities proportional to the number of households in each geographic cluster [18]. The sample size, 750 households, was determined using a confidence level of 95%. The informant in each household was an individual older than 16 years of age, preferably the head of the household. A set questionnaire was used to obtain information about the social-demographic characteristics of the household members and the informant's knowledge and opinion about STI/HIV/AIDS and mobile populations.

In-depth interviews were conducted with key informants (school teachers, priests, doctors, bar owners and transport workers) and common informants (individuals residing in the locality who hold no official position in an NGO or governmental organization) of the locality, to uncover information about their opinions with respect to HIV/AIDS and to migration, and their interactions with migrants and other mobile populations. Commercial sex workers (CSW) were interviewed as a special subset of this group of key informants, whose information regarding the sexual practices of mobile populations was of particular importance. Sex workers were selected according to the types existing in each transit station. In some transit



**Fig. 1.** Map of the selected transit stations.

stations it was important to interview those working in bars, as well as in the street and in brothels. In some sites the nationality of the sex worker was important because undocumented status made them particularly vulnerable to HIV transmission. Sex workers from other countries are often treated differently by local authorities.

In-depth interviews were carried out with migrants and other mobile populations in the process of migrating or being deported to understand their migratory experience and their relationship with STI/HIV/AIDS, both selected according to their age and sex. Qualitative research interviews are conducted until theoretical saturation is reached, that is until stories begin to repeat themselves and no new information is collected in subsequent interviews. Age and sex were thought to be important variables and efforts were made to interview men and women from different age brackets so as to insure that stories were collected from each of these groups

Semi-structured in-depth interviews and ethnographic research were carried out over a period of 2 weeks

before the start of the study. The latter included registering the material conditions and way of life prevailing in the localities, daily interactions between local and migrant populations, different methods used to cross borders and the interactions between CSW and their clients. Information was gathered about the sexual experiences of mobile populations, CSW and men who have sex with men (MSM) when these were identified to interact with migrants. The first phase of analysis was based on variables identified before the data collection. As new topics emerged from the testimonies, additional variables were created. The theoretical basis used for the qualitative analysis was thus grounded theory, which postulates that theory generation results through the development of categories derived directly from the empirical data [19].

The numbers of ethnographies, interviews and surveys completed in the 11 transit stations appear in Table 1.

The research teams in each country were selected taking into account their experience in public health research in HIV/AIDS or migration. The principal investigator for each country and the institution in

**Table 1.** Field work.

Country	Ethnographic observation	Household survey of local population	In-depth interviews				
			Sex workers	Mobile population	Key and common informants	NGO and GO	MSM
Belize	2	430	18	58	25	18	N/D
Costa Rica	1	363	4	13	9	29	N/D
El Salvador	1	248	12	57	9	6	N/D
Guatemala	2	1118	35	42	68	44	12
Honduras	1	400	7	31	16	21	N/D
Mexico	2	1461	20	43	54	43	N/D
Nicaragua	1	300	17	29	34	15	4
Panama	1	400	2	12	16	6	4
Total	11	4720	115	285	231	182	20

GO, Governmental organizations; MSM, men who have sex with men; NGO, non-governmental organizations; N/D, no data available.

which they worked during the research process appears in the appendix. The teams were multidisciplinary (including physicians, anthropologists, sociologists and epidemiologists), and included individuals from academic institutions, NGO and governmental organizations.

## Results

### Social contexts

The transit stations in this study belong to three main groups. Those that are cross border include: Tecún Umán, Guatemala; Ciudad Hidalgo, Mexico; Rivas, Nicaragua; and Peñas Blancas, Costa Rica. Those that are border posts include: Chetumal, Mexico; San Cristóbal de la Frontera, El Salvador; Entrada a Copan, Honduras; and Benque Viejo, Belize; and those that are ports include: Mercado Central, Panama; Puerto Barrios, Guatemala; and Belize City, Belize. These three different contexts have different mobile populations. In the cross-border points the bulk of the mobile population is composed of undocumented migrants, in the border posts undocumented migrants are joined by documented migrants and merchants, and the ports have soldiers and sailors as well as merchants. Each of these groups has different social contexts and individual abilities for interactions with their vulnerability context. Sailors and transport workers, for example, have the economic resources to purchase goods and services, and are often seen as a benefit to the community into which they arrive. Undocumented migrants who have been deported, on the other hand, lack economic resources, and need support in fighting human rights violations or in defending themselves against other types of aggression. Women in this group are often forced to have 'survival' sex in which condom negotiation is impossible. The transit stations also have CSW, 70% of them in some stations come from countries

other than that in which they work, and most of them are undocumented.

In the contexts studied, low levels of education predominate among the resident population, with a mean of 6 years of schooling of all those surveyed with a mean age of 39 years (no-one under 16 years of age was surveyed). Few public services are available, in particular health services. Services targeting the needs of mobile populations, including the defence of their often-violated human rights, are lacking in all but one of the transit stations (Casa del Migrante in Tecún Umán). Violence, poverty and corruption by border authorities and police are common to all the transit stations. Deportees reported mistreatment and violence more frequently, whereas those in process of migrating were more likely to comment on their migration experience and expectations. Women are often forced to exchange sex in order to cross borders, and these same authorities demand cash from others attempting to cross. In this environment, transactional sex, survival sex and non-consensual sex are carried out in conditions that place individuals at risk of HIV infection; condom use is infrequent. These situations tend to affect migrant women who are already vulnerable for other reasons.

Those interviewed often mentioned the role of religion and religious discourse (Protestant, Catholic and others) as relevant, because it can help or hinder the development of prevention strategies. In some instances Catholic religious orders offer HIV prevention information and sometimes even condoms, whereas in other instances Catholic and Protestant officials condemn condom use. Information about the power of religion and religious concepts was also evident in the ethnographic studies, in which individuals often cited that their refusal to use condoms was based on religious beliefs, or when they declared that HIV infection was a matter of God's will not their individual behaviour.

During many of the in-depth interviews, particular groups such as messengers, taxi drivers, tricyclists, truck drivers and sex workers were identified as potential multipliers of information about HIV prevention. In some of the transit stations, such as Mercado Central (Panama), Puerto Barrios (Guatemala) and Chetumal (Mexico), MSM were identified as an important target group for interventions because of their frequent interactions with mobile populations. Such interactions often took place under conditions in which safe sex is difficult to maintain, including heavy drinking. Also MSM often reported at least internal migration within countries to places where sexual experimentation can take place away from close familial ties. In the case of Chetumal, men cross over from Belize in order to do so.

The local population in some of the transit stations perceive mobile populations as the cause of their social ills: violence, prostitution, drug addiction and AIDS 'come from the migrants' (11INFCLTECUN, 2001). The local media publish, on a daily basis, accounts of violence, murder, and assault, reinforcing the rejection of mobile populations. As is evident in Table 2, in these transit stations mobile populations are perceived as troublemakers, who bring few benefits to the local community. It is important to note that the economy of all the transit stations depends heavily on these mobile populations. It is this economic dependence that colours, for example, the difference in perception

**Table 2.** Local populations' perception of mobile populations.

Country transit stations	Are mobile populations seen as problem makers?	Are mobile populations seen as a benefit to the community?
	Yes %	Yes %
Belize		
Benque Viejo (n = 147)	42.1	31.9
Belize City (n = 242)	22.7	42.1
Costa Rica (n = 355)		
La Cruz, Peñas Blancas	41.4	26.4
El Salvador (n = 248)		
San Cristóbal, La Frontera	29.0	41.1
Guatemala		
Puerto Barrios, Izabal (n = 265)	30.5	49.4
Tecún Umán (n = 703)	54.3	12.5
Honduras (n = 398)		
Entrada a Copán	9.5	26.8
Mexico		
Chetumal (n = 531)	25.4	49.3
Ciudad Hidalgo (n = 710)	61.1	19.3
Nicaragua (n = 300)		
Rivas, Peñas Blancas	20.0	31.0
Panama (n = 400)		
Mercado Central	6.2	19.0

Source: Mobile Population and HIV/AIDS Project Household Survey, 2001.

between the two Mexican sites. In Chetumal, where Belizeans are an important boom to the economy, mobile populations are seen as benefits to the community, whereas in Ciudad Hidalgo, where most individuals passing through consist of undocumented migrants on their way to the United States with few economic resources, mobile populations are seen as troublemakers.

### Information about HIV prevention and transmission

There is a lack of relationship between the information individuals have about HIV transmission and their own reported behaviours. As is shown in Table 3, high percentages of the population surveyed knew that HIV is transmitted sexually. However, as is shown in Table 3, despite having clear information about the sexual transmission of HIV, in only two of the transit stations, La Cruz, Costa Rica and Belize City, Belize, was the condom clearly identified as a means of prevention.

Information about HIV transmission co-exists with myths and beliefs about HIV that lead to attitudes of rejection of individuals who are living with HIV/AIDS. As is shown in Table 4 the majority of those surveyed would not consult a doctor who had AIDS, hire someone who had AIDS, or allow their children to play with the children of someone who had AIDS.

CSW often report that they do not use condoms with their lovers because they are not clients, this despite the fact that they know their lovers are not monogamous.

**Table 3.** Information about HIV/AIDS transmission and prevention.

Country transit stations	Sexual Transmission Only %	Reported condom use %
	Belize	
Benque Viejo (n = 142)	94.3	50.3
Belize City (n = 241)	89.6	81.1
Costa Rica (n = 356)		
La Cruz, Peñas Blancas	87.0	74.5
El Salvador (n = 242)		
San Cristóbal, La Frontera	83.8	27.6
Guatemala		
Puerto Barrios, Izabal (n = 357)	85.4	57.8
Tecún Umán (n = 680)	58.2	32.4
Honduras (n = 376)		
Entrada a Copán	59.3	30.7
Mexico		
Chetumal (n = 517)	23.6	26.1
Ciudad Hidalgo (n = 686)	52.0	32.3
Nicaragua (n = 297)		
Rivas, Peñas Blancas	50.5	29.0
Panama (n = 400)		
Mercado Central	47.7	52.0

Source: Mobile Population and HIV/AIDS Project Household Survey, 2001.

**Table 4.** Perceptions about people living with HIV/AIDS.

Country transit stations	Would consult with doctor with AIDS	Would hire someone with AIDS	Would allow children to play with children of someone with AIDS
	No %	No %	No %
Belize			
Benque Viejo (n = 147)	72.1	75.5	50.3
Belize city (n = 244)	64.3	65.1	40.1
Costa Rica (n = 358)			
La Cruz, Peñas Blancas	61.4	89.9	72.3
El Salvador (n = 248)			
San Cristóbal, La Frontera	73.3	77.8	66.5
Guatemala			
Puerto Barrios, Izabal (n = 364)	61.2	63.7	51.1
Tecún Umán (n = 703)	84.5	89.6	86.7
Honduras (n = 396)			
Entrada a Copán	58.0	81.5	73.9
Mexico			
Ciudad Hidalgo (n = 710)	70.9	84.6	80.0
Chetumal (n = 531)	46.7	57.2	43.3
Nicaragua (n = 300)			
Rivas, Peñas Blancas	64.3	77.6	66.3
Panama (n = 400)			
Mercado Central	70.5	86.2	63.2

Source: Mobile Population and HIV/AIDS Project Household Survey, 2001.

Often HIV and AIDS are connected with 'others': individuals think that 'HIV will not affect me; it only happens to other people'. Some agricultural workers reported that they believe alcohol and perfume applied to the penis will prevent HIV transmission (03MIG-CHETMEX). Finally, there are those who have accepted HIV and AIDS as a part of their life and refuse to do anything because they feel it is futile.

### Social response

Various organizations present in the different transit stations have developed experience in cross-border collaboration, both formal and informal, for the prevention and control of various health problems (malaria, cholera, dengue, among others). However, they are relatively inexperienced in regional AIDS prevention work. Despite this situation, NGOs were identified in Tecún Umán that are reducing social vulnerability, have experience in human rights, and work with CSW and MSM, among others. Many of the transit stations have few if any NGOs, and those that have NGOs report that there is little coordination of activities, and that few if any are recognized for doing AIDS prevention work. It became clear, however, that in places where government health services are lacking, NGOs activity could be very important in HIV/AIDS prevention efforts. This is especially the case because mobile populations are also unlikely to approach government services for fear of deportation.

### Discussion

One of the central elements in the Mobile Populations and AIDS Project is the search for responses to the HIV/AIDS pandemic that are appropriate to the social, political and cultural conditions of the countries in the Mesoamerican region. The intensity of population mobility within and between countries, and the knowledge that HIV/AIDS is not a problem that can be confined to political borders, gave the project its regional orientation.

Our research highlights, as other research [20,21] has done, that information about HIV transmission does not necessarily lead to changes in behaviour. The researchers in each of the transit stations found that individuals have a mixture of information about HIV transmission, some of it accurate and some erroneous. All of the researchers agreed that the process of migration increases vulnerability. In some transit stations, reports indicate that over 60% of the women who migrate have forced sexual intercourse at some point in their journey [16].

Coordination and collaboration among governmental organizations and NGOs present in each transit station will play a key role in the success of the next phase of the project. In many of the transit stations, few NGOs were present. When they were present, there was little coordination among them. To aid in the process of designing the intervention, each of the research teams has given a presentation of the results of the study to a

community gathering so that they, along with the National AIDS Programmes, can participate in the definition and design of intervention strategies for each specific vulnerability context.

In terms of potential interventions the cross-border transit stations propose the following: creating a local, integrated, multi-user information system to allow for data collection for decision making and integrated action in particular with regards to STI/HIV/AIDS; the formation of cross-border systems for health services; and campaigns and human rights training for border authorities. The port cities in Panama and Guatemala propose that STI prevention and health promotion campaigns must be more participatory in nature, because the population and the groups interviewed do not feel included in these initiatives. Programmes should target sex workers, MSM and mobile populations currently receiving little or no information on HIV transmission. In Honduras, interventions must stress that HIV infection can affect anyone engaging in high-risk sexual behaviour because the image of the epidemic continues to be linked to so-called 'risk groups'. Interventions must include religious leaders willing to deal with HIV/AIDS within their own settings. In border posts, such as Chetumal, Belize City and El Salvador, interventions could support the formation of NGO, and strengthen the levels of primary healthcare to develop STI/HIV/AIDS prevention programmes.

Throughout the development of this project – from formulation to implementation – there has been strong collaboration between governmental and non-governmental healthcare agencies, academic institutions and technical cooperation agencies. Permanent communication and interaction among the diverse organizations have been constant throughout the project, and can be considered to be a lesson learned about cooperation for equity in health. The technical cooperation model developed by this project is an innovative way for countries to collaborate, in which the scientific, operational and technical capacities available can be used to develop appropriate responses to national and regional contexts. Researchers from diverse professional backgrounds were able to work effectively on the project as a result of the willingness of everyone involved both to teach and to learn.

The participation of the National Institute for Public Health in Mexico, a UNAIDS Collaborative Centre, in the direction and coordination of the first phase of this project, has allowed for the identification and participation of institutions in all of the countries in the region in order to generate quality information for decision making and programme planning.

The need to have quality information about the

structural conditions and the social interactions in the various transit stations was an important concern for such a project, which aims to generate information for decision making regarding HIV/AIDS in the region. The information gathered will be utilized in the second phase of the project, which will involve the design and implementation of intervention strategies appropriate to each of the 11 transit stations. A third phase will monitor and evaluate these interventions, so that successful interventions may be replicated in a similar context of vulnerability for STI/HIV/AIDS.

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## Appendix

Other participants in this analysis include: Roy Young and Michael Rosberg from the University of Belize; Luis Bernardo Villalobos, Horacio Chamizo, Mario Piedra and Sylvia Mora from the University of Costa Rica; Eliseo Orellana and Víctor Mejía from the University of El Salvador; Manuel Solís and Fernando Cano, from Asociación Salud Integral, and Antonietta Rodríguez from OASIS in Guatemala; Mariela Cortés, Juan M. Ciudad and Claudia Guerrero in Honduras; Daniel Hernández, Sylvia M. Cuadra, Anahi Dreser, Galielo Vargas and Raúl Ortiz from the National Institute for Public Health in Mexico; Rosario Cuadra and Graciella Marsal from Centro de Estudios y Promoción Social in Nicaragua; Rubén O. González from the Centro de Estudios y Acción Social Panameños in Panama.