

interviewed. Research was conducted in two languages: Portuguese with the Brazilian population and Spanish with truckers from other countries in Latin America (such as Paraguay, Argentina, and Chile).

Analysis of the formative research suggested that truck drivers should optimally be reached and offered services at the customs station. Truckers were reluctant to leave their vehicles, which were often required to remain in the customs area for two to three days until documentation was completed. Condoms were not easily available despite the existence of a booming commercial sex area directly in front of the station.

Truckers reported having a very complex network of sexual and social relationships while traveling, including those that involve paying for sex, sexual friendships in which sex is exchanged for favors, and permanent girlfriends (sometimes in more than one city). On occasion truckers traveled with women and/or their families on the road. Condom use was highly dependent on the relationship in question and was variable. Truckers also reported societal prejudice against truck drivers and expressed sensitivity to being labeled as vectors of disease, suggesting that when approaching them for health services, sensitivity is necessary.

The Intervention Study

Based on the formative research, the multi-faceted intervention consisted of individual and group education, condom promotion and free distribution, access to HIV and STI counseling and testing, syndromic management of STIs, and distribution of educational materials. Health services were provided in a mobile health unit located inside the customs area.

During the 18-month intervention period (September 2003 to March 2005), two educators gave educational materials to truckers waiting to complete administrative procedures to cross the border and invited them to the mobile trailer to receive health services, including being tested and counseled for HIV and syphilis. Those who agreed to access VCT, received pre-test counseling, gave a blood sample for HIV and syphilis testing, and were given a follow-up visit in 15 days to receive test results and post-test counseling. In addition, all truckers were offered an STI syndromic management consultation, STI/HIV education, and preventive health services, such as blood pressure and diabetes screening. The services were available to truckers of all nationalities.



Truckers participating in a condom use demonstration.

In the last six months of the intervention period a computerized educational program that provided information on nutrition, alcohol and drugs, and HIV/STIs was available for use by truckers in the trailer.

Methods

The intervention is being evaluated by comparing cross-sectional data collected from truckers passing through the customs station in Foz do Iguacu with truckers crossing a comparison border town (Urugaiana) before and after the intervention. Interviews were held with a randomly selected sample of 1,775 truckers (779 in Foz do Iguacu and 996 in Urugaiana) before the intervention and 2,408 truckers (1,201 in Foz do Iguacu and 1,207 in Urugaiana) 18 months later. The samples were recruited systematically, with every fourth truck driver entering the customs stations invited to participate. Truckers who did not present for interviews were sought by field staff at their trucks up to seven times (mean 2.4).

In addition, a qualitative evaluation including five focus group discussions and in-depth interviews with 54 respondents (truckers and sex workers) were conducted at the end of the intervention in Foz do Iguacu. Convenience samples were used for the focus groups and in-depth interviews. Also, truckers who came to the trailer for HIV and syphilis testing and counseling completed a questionnaire, which asked about the quality of the services received. Program staff monitored intervention activities and tracked trailer service statistics.

Study Population

Data from the baseline survey showed that the sample of truckers from both locations had similar demographic and behavioral characteristics. The median age was 40, ranging from 32 to 47 years; the median years of schooling was 8, with a range of 5 to 10 years. Most truckers had held their jobs for many years (median time period 15 years, ranging from 8 to 23 years). Almost three out of four truckers interviewed were Brazilian (73 percent). All the truckers reported traveling very frequently and spending most of their time on the road. The median time spent at home per year was two months.

The data confirmed that a sizeable proportion of the truckers had sexual risk behaviors. For example, over 45 percent of respondents had more than one sexual partner in the past six months. Reported condom use at last sex varied widely by partner and type of sex (Table 1).

Table 1 Reported condom use at last vaginal and anal sex by type of partner

	%
Condom used during last vaginal sex	
With principal partner (n = 1,667)	14
With commercial partner (n = 565)	94
With non-regular not-paid partner (n = 428)	72
Condom used during last anal sex	
With principal partner (n = 170)	24
With commercial partner (n = 48)	85
With non-regular not-paid partner (n = 56)	64

Results of the Intervention

Educator reports and inventories indicate that the intervention reached thousands of truckers with educational activities, materials, and condoms (Table 2).

Table 2 Process indicators

	Number
Number of truckers who participated in educational activities	5,489
Number of educational pamphlets distributed	9,831
Number of condoms distributed	35,613

A large number of truckers took advantage of VCT services; 1,944 truckers received pre-test counseling for HIV and syphilis and 1,795 gave a blood sample. Of these, 1,492 truckers (83 percent) returned 15 days later for test results and post-test counseling. One hundred and four participants came a second time for additional counseling and three truckers were re-tested because they were potentially in the window period at the time of their first counseling session.

Only five truckers tested positive for HIV (0.3 percent), and three of them were referred to the municipal STI/HIV program for follow-up. One did not consent to come back to be referred, and the fifth could not be reached. Those individuals who tested positive for syphilis (4.7 percent) were treated and referred to a STI clinic. Eight hundred blood samples were also anonymously tested for hepatitis B and herpes. Table 3 shows the results from the different blood tests.

Table 3 Test results

Test type	% positive
HIV (n = 1,795)	0.3
Syphilis (n = 1,795)	
Active	1.5
Total	4.7
Hepatitis B (n = 800)	
Active	2.3
Immune	29.9
Herpes – HSV-2 (n = 800)	27.8

Truckers were highly receptive to the intervention, based on both qualitative interviews and survey responses. Focus groups revealed that truckers strongly recommended the services to their peers because there were no long waits, services were clean, the staff was attentive and nonjudgmental, and condoms and other medications were available free of charge. Among the few negative aspects truckers mentioned was the time spent waiting for test results and the lack of other services such as cholesterol tests and dental services.

<p><i>“This service was the best thing in this region. Now, you have a problem and you have all you want here, not needing to go to other places and you use the time when you are waiting the liberation of your truck.”</i></p>	Brazilian
<p><i>“I really loved the way I was treated...the nurses and all the health workers are very helpful and kind...they know how to treat people.”</i></p>	Paraguayan
<p><i>“What I liked most was that all the staff was very kind, they explained everything, and the cleanliness of everything...all my friends also comment about that. I like to talk about and discuss those issues.”</i></p>	Argentine

Overall, truckers found the computerized education tool very interesting and useful, but they suggested that its content be broadened to include other health areas.

