



**Belize (2007): HIV/AIDS TRaC Study  
Evaluating Condom Use among Male Clients  
of Sex Workers**

**First Round**

**The P S I D a s h b o a r d**

**Belize City, Belize  
December, 2007**



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Research and Metrics  
Population Services International  
1120 Nineteenth Street NW, Suite 600  
Washington, D.C. 20036

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PSI Research and Metrics  
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**Contact Information:**

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Jorge Rivas, Regional Research Coordinator  
PASMO/Guatemala  
13 calle 3-40, zona 10  
Edificio Atlantis, Nivel 13, Oficina 1305.  
Guatemala  
Guatemala  
502 2366 1557  
502 2366 1567  
jrivas@pasmo-ca.org

---

Barry Whittle, Executive Director  
PASMO/Guatemala  
13 calle 3-40, zona 10  
Edificio Atlantis, Nivel 13, Oficina 1305.  
Guatemala  
Guatemala  
502 2366 1557  
502 2366 1567  
bwhittle@pasmo-ca.org

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## **Executive Summary**

**Acknowledgements** We would like to thank the donors, USAID, KfW, CARICOM and Options for their funding support for this report. We also want to acknowledge CID Gallup for their collection of data and fieldwork, as well as data processing. We thank Kim Longfield of PSI/Washington Research and Metrics for her technical assistance on this report, as well as Jorge Rivas Sierra and Giovanni Melendez (both of PSI/Guatemala), and Clare Barrington (PSI Research Consultant). Justin Buszin (PSI Research Consultant) is the author of this report.

**Background and Research Objectives** This Social Marketing Research Series (SMRS) report presents findings of the first wave of the TRaC survey for Belize Clients. TRaC surveys provide actionable evidence for social marketing decision making as well as helping to measure the impact of various project interventions and activities. The survey, which was disseminated in 2007, serves as a tool to inform programming by routinely collecting data from cross-sections of populations at risk for HIV and other adverse health outcomes. This survey aimed to 1) monitor the levels and trends evident in key behavior, risk, OAM (opportunity, ability, and motivation) constructs, and exposure to PASMO's activities among clients of FSWs over time, and 2) enable segmentation analysis to determine which OAM and population characteristics have the greatest influence on a person's decision to use condoms with FSWs.

**Description of Intervention** The Pan-American Social Marketing Organization (PASMO) is a non-profit non-governmental organization (NGO) that specializes in social marketing of AIDS prevention and family planning products and services. PASMO has been operating in Belize since 1999. PASMO is implementing program targeting clients in Belize district, Cayo, Stann Creek, Corozal, and Orange Walk, Belize. The purpose of the program is to promote safer sexual behavior through interpersonal communications (discussion groups and outreach) and mass media activities while using a high coverage social marketing (SM) strategy to increase access to and availability of condoms, measured through improvements in perceived product availability and brand appeal. The program aims to not only increase condom use among clients of FSWs, but to also increase their ability and motivation to adopt key safer behaviors.

**Methodology** This baseline study consisted of a representative sample of the target population living in priority program areas drawn in 2007. A multi-stage cluster sampling approach was employed. In total 500 clients were recruited. The study sample was distributed proportionally across the five study cities according to population size. The questionnaire included modules in the following areas: population characteristics, OAM determinants of

behavior including output level logframe indicators, behavior as specified by purpose-level logframe indicators, and exposure to PASMO interventions. The PASMO questionnaire was pre-tested in Belize City, using about 25 cognitive interviews with members of the target group who did not participate in the larger study. Odds ratio of involvement in the behavior of interest are reported for each significant explanatory variable. Analysis of variance (ANOVA) is employed to estimate the adjusted means or proportions of each explanatory variable by the behavior of interest. Each explanatory variable is assessed in ANOVA with the behavior of interest serving as the group variable and other significant explanatory variables serving as covariates.

**Results and Programmatic Recommendations** Consistent condom use with an FSW in the last 30 days was high at 92%. Only half of the clients who have had an STI sought medical treatment for their last episode. Nearly equal numbers of clients agree and disagree that *Vive* condoms smell bad, condoms usually break, the use of water-based lubricants reduces HIV transmission, or are nervous about buying condoms near their home. Knowledge about HIV transmission was quite high. Many clients were willing to pay a higher price for a pack of condoms. Not even half of the clients had seen at least two PASMO mass media messages in the last 12 months, and just over one in ten had participated in at least one PASMO IPC in the last 12 months.

Several indicators differentiate users (used a condom at last sex) from non-users. Users tended to disagree that *Vive* condoms have a bad smell or condoms usually break, were more knowledgeable about HIV transmission, were more willing to pay a higher price for condoms, and less likely to seek medical treatment for STIs. Users were also more likely to have children, not be religious, and have higher incomes than non-users.

**Monitoring Table:** Trends in behaviors and OAM determinants of condom use among clients of FSW in Belize District, Cayo, Orange Walk, Corozal, and Stann Creek, Belize 2007

**Risk: Clients of FSW** aged 18-50 who have paid for having sex with a FSW in the last year

INDICATORS	August 2007 (N=477) %
<b>Behavior</b>	
^Consistent condom use in last 30 days with FSW <sup>1</sup>	92.4
^Sought medical treatment for last STI episode <sup>2</sup>	46.8
<b>OPPORTUNITY</b>	Mean
<b>Brand Attributes</b>	
VIVE condoms have a bad smell (R)	2.63
<b>ABILITY</b>	% or Mean
<b>Knowledge</b>	3.65
^Condom use prevents the transmission of HIV/AIDS	90.4
^Partner reduction prevents the transmission of HIV/AIDS	67.1
^Abstinence prevents the transmission of HIV/AIDS	64.4
^Mutual fidelity prevents the transmission of HIV/AIDS	58.9
<b>Self-Efficacy</b>	
^I can convince any partner to use condoms	2.95
I feel nervous buying condoms near my home (R)	2.51
<b>MOTIVATION</b>	
<b>Outcome Expectations</b>	
Condoms usually break (R)	2.48
^The use of water-based lubricant along with condoms reduces the risk of HIV transmission	2.46
<b>Threat- Susceptibility</b>	
^I'm at risk of acquiring AIDS	2.34
<b>Willingness to Pay</b>	%
Willing to pay highest increase in condom price	86.9
<b>Locus of Control</b>	Mean
I'm more likely to engage in behavior that puts me at risk for HIV when I've been drinking or using drugs (R)	2.46
<b>Attitudes</b>	
^It's important to know your HIV status	3.12
It's necessary to seek medical treatment for STIs	3.10
^A person living with AIDS has the same rights as the general population for access to public places	68.3
<b>EXPOSURE</b>	% or Mean
^Has seen at least two PASMO mass media messages in last 12 months <sup>3</sup>	44.3
^Has participated in at least one PASMO IPC in last 12 months	10.9

^ Donor indicator

‡ PERFoRM indicator

Scale values range from 1 to 4: "1=strongly disagree, 2=disagree", 3=agree, 4=strongly agree"

The Knowledge Scale was comprised of the following 4 items:

- 1) Condom use prevents the transmission of HIV/AIDS
- 2) Partner reduction prevents the transmission of HIV/AIDS
- 3) Abstinence prevents the transmission of HIV/AIDS
- 4) Mutual fidelity prevents the transmission of HIV/AIDS

<sup>1</sup> Among those with an FSW in the past 30 days, N=315

<sup>2</sup> Among those who had an STI, N=109

<sup>3</sup> N=395

**Monitoring Analysis: Trends in behaviors and OAM determinants of condom use among clients of FSW in Belize District, Cayo, Orange Walk, Corozal, and Stann Creek, Belize 2007**

The preceding monitoring dashboard table presents trends in behavior and factors that are significantly associated with consistent condom use with occasional partners in the segmentation analysis, as well as logframe indicators of interest to donors and for PSI internal monitoring. The table was prepared in accordance with PSI's behavior change framework, PERForM (see appendix). The monitoring table is meant to present frequencies for opportunity, ability, and motivation (OAM).

**Behavior**

Condom use among clients of FSW is very high; 87% of clients used a condom at last sex with an FSW while 92% consistently used a condom in the last 30 days. While condom use at last sex is typically higher than consistent condom use, several checks in this dataset suggest that this is an atypical case. We suggest that measuring consistent condom use in the last 12 months rather than 30 days would yield a lower percentage of consistent use. Still condom use appears to be quite high among clients of FSW.

Clients of FSW tend not to seek medical treatment for STIs. Just under half did so during their last episode. More than a fifth of the clients had an STI, but less than half sought medical treatment, suggesting accessibility or stigma against STIs may be a barrier.

**Opportunity**

Clients of FSWs only marginally agree that *Vive* condoms do not have a bad smell. This is a reverse-coded item, meaning that the question was phrased such that people who agreed with the statement (*Vive* condoms have a bad smell) do not reflect a positive outcome. All reverse-coded statements were done so that all items on the 1-4 scale meant that scores closer to 4 represented more positive outcomes. As such, clients tended to marginally disagree that these condoms have a bad smell. The smell of these condoms could be acting as a deterrent to use, although this is not an overwhelming opinion. This was the only opportunity factor that significantly differentiated condom users from non-users in the segmentation analysis.

**Ability**

Clients of FSW are quite knowledgeable when it comes to preventing the transmission of AIDS. On a 1-4 scale where 4 means all four knowledge questions were answered correctly, the average score was 3.65. Clients overwhelmingly understand that condom use prevents the transmission of HIV/AIDS although far fewer knew that mutual fidelity prevents transmission (58.9%).

While clients may know that condom use prevents the transmission of HIV/AIDS, they feel nervous about buying condoms near their homes. On a 1-4 scale, this indicator was only 2.51, suggesting an equal amount agree and disagree about levels of nervousness buying condoms near their home. More clients were confident that they could convince any type of partner to use condoms (2.95 on a 1-4 scale), although their confidence was higher when with an FSW rather than a regular partner (results not shown).

**Motivation**

Clients of FSW equally agree and disagree about condom breakage, which means this is something PASMO messaging should focus on. Clients who believe that condoms break easily are less likely to use them since breakage renders them useless. Meanwhile, clients of FSW also equally agreed and disagreed about whether the uses of water-based lubricant along with condoms reduce the risk of HIV transmission. Both of these indicators suggest that PASMO messaging about condom breakage and water-based lubricants need to be more targeted towards this population.

PASMO messaging also should display more messaging about the risk of acquiring AIDS, as clients tend to disagree that they are at risk (2.34 on a 1-4 scale). Clients do believe that condoms are more than affordable, though; 87% of those interviewed said they would be willing to pay for a pack of three condoms even if the price increased 1 BZD (the highest price increase suggested on the questionnaire).

While less than half of clients who had an STI sought medical treatment, clients tend to agree that it is necessary to seek medical treatment for STIs, suggesting a willingness to do so (3.10). They also agree that it is important to know one's HIV status (3.12). However, only 68% agreed that people living with AIDS should have the same rights as the general population for access to public places.

**Exposure**

Only 44% of clients of FSW have seen at least two PASMO mass media messages in the last 12 months. Far fewer (11%) have participated in at least one PASMO IPC (inter-personal communication) in the last 12 months. PASMO IPC is typically the most intense and effective exposure levels that help promote consistent condom use.

**Segmentation Table**

Determinants of condom use at last sex among Clients of FSW in Belize District, Cayo, Orange Walk, Corozal, and Stann Creek, Belize 2007

**Risk: Clients of FSW** aged 18-50 who have paid for having sex with a FSW in the last year

**Behavior: Condom use at last sex with a FSW**

INDICATORS	Condom Use at Last Sex (N=476)		OR	Sig.
	Used Condom (N=417) 87.6%	Did not Use Condom (N=59) 12.4%		
<b>OPPORTUNITY</b>	Mean	Mean	OR	
<i>Brand Attributes</i>				
VIVE condoms have a bad smell.	2.67	2.38	1.67	*
<b>ABILITY</b>				
<i>Knowledge</i>	3.67	3.20	1.41	**
<b>MOTIVATION</b>	% or Mean	% or Mean		
<i>Outcome Expectations</i>				
Condoms usually break (R)	2.53	2.30	1.68	*
<i>Willingness to Pay</i>				
Willing to pay highest increase in condom price	89.8	68.3	4.44	***
<i>Locus of Control</i>				
I'm more likely to engage in behavior that puts me at risk for HIV when I've been drinking or using drugs (R)	2.39	2.70	.63	*
<i>Attitudes</i>				
It's necessary to seek medical treatment for STIs	3.05	3.39	.41	***
<b>POPULATION CHARACTERISTICS</b>	%	%		
Has children	66.7	49.9	2.44	**
Not religious (vs. somewhat or highly religious)	79.4	64.6	2.15	*
Monthly income of 900 or more Belizean dollars (vs. monthly income less than 900 Belizean dollars)	61.2	41.4	2.14	*

\*p<.05, \*\*p<.01, \*\*\*p<.001

Scale values range from 1 to 4: "1=strongly disagree, 2=disagree", 3=agree, 4=strongly agree"

Hosmer-Lemeshow goodness-of-fit:  $\chi^2$  (df=8) = 3.12, p=.93

Omnibus goodness-of-fit:  $\chi^2$  (df=9) = 75.86, p<.0001

Cox & Snell R<sup>2</sup>=.16

(R)=reverse-coded item

The Knowledge Scale was comprised of the following 4 items:

- 5) Condom use prevents the transmission of HIV/AIDS
- 6) Partner reduction prevents the transmission of HIV/AIDS
- 7) Abstinence prevents the transmission of HIV/AIDS
- 8) Mutual fidelity prevents the transmission of HIV/AIDS

**Segmentation Analysis: Determinants of condom use at last sex among Clients of FSW in Belize District, Cayo, Orange Walk, Corozal, and Stann Creek, Belize 2007**

The segmentation table measures the independent variables that differentiate those who used a condom at last sex with an FSW (users) with those who did not (non-users). In this sample, 88% fell in the user category. Several notable differentiations are worth mentioning.

First, those who used a condom at last sex were two-third more likely (OR: 1.67) to agree that *Vive* condoms do not have a bad smell compared to those who did not use a condom at last sex. Condom users were also more likely to agree that condoms do not usually break compared to non-users. These items suggest that people may not be using condoms because they do not like the smell of them, or they attribute a bad smell to this particular brand of condom. Non-users may also not be using condoms because they perceive that condoms break easily (this is a reverse-coded item).

Second, condom users were more knowledgeable about HIV/AIDS prevention methods such as abstinence, mutual fidelity, condom use, and partner reduction than non-users. They were also far more willing to pay for condoms at a higher price than non-users (90% to 68%,  $p < .001$ ). We asked people if they would be willing to pay as much as a dollar more per three-pack of condoms and 90% of users said they were while only 68% of non-users were willing. This suggests that a rise in price may dissuade even more the few people in the sample who did not use a condom at last sex.

Next, users were 37% less likely to say they would not engage in behavior that puts them at risk for HIV when they have been drinking or using drugs compared to non-users. However, they were also less likely to agree that it is necessary to seek medical treatment for STIs. One potential reason for this is condom non-users are more likely to have had STIs and therefore are more familiar with the discomfort associated with them. In this case, aware of the discomfort, they are more willing to seek medical treatment. Condom users might be less willing to seek medical treatment for an STI because they have not had one yet and thus unaware of the side effects of having an STI.

Condom users were more likely to have children and not be religious. Condom users were also more likely to have a monthly income of 900 Belizean dollars or more compared to non-users. This might explain why they were willing to also pay more for packs of condoms.

**Programmatic Recommendations**

1. To reinforce the importance to seek for a medical attention in case of STI episodes. It will be necessary to develop a list of centers, doctors, clinics, etc. as part of the permanent references made by PASMO.
2. To develop social skills in clients in self efficacy topics, to reduce the embarrassment of buy condoms anywhere they needed, as well to convince to all the partners (FSW or not) to use condoms with them.
3. To incorporate permanently in IPC activities with this population, different proves of the resistance and effectiveness of condoms, to increase the perception of quality and reduce the belief that condoms breaks easily.
4. To increase knowledge of the water based lubricant use with condoms, as part of the prevention methods, as also to reinforce all the prevention methods.
5. To increase discussions about risk to get HIV, making emphasize not just in sexual activity with FSW but with all type of partners.
6. To increase the coverage of mass media targeted to this population also the IPC activities among this group.
7. To discuss the effects of price in terms to access to condoms and use, because even when users report are more likely to pay more for a package of 3 condoms, also the users are more likely to have a higher income. Further analysis in order to determine if lower income populations are not using condoms for a price condoms factor.
8. To include a wide discussion about the use of alcohol and drugs, as drivers of not use condoms consistently.
9. To incorporate discussions about social norms or beliefs related to condom use, considering the importance of religious factor as determinant to use it.

## Population Characteristics

POPULATION CHARACTERISTICS	2007 (Percentages)
<b>Age<sup>4</sup></b>	
18-27	48.0
28-50	52.0
<b>Level of education</b>	
<i>Some Secondary or Lower</i>	30.7
<i>Completed Secondary or Higher</i>	69.3
<b>Marital Status</b>	
<i>Single</i>	67.8
<i>Married</i>	32.2
<b>Monthly Income</b>	
<i>900 Belizean Dollars or Less</i>	42.6
<i>More than 900 Belizean Dollars</i>	57.4
<b>Religiosity</b>	
<i>Not Religious</i>	23.4
<i>Somewhat or Highly Religious</i>	76.6
<b>Has Children</b>	35.0
<b>Circumcised</b>	13.9
<b>Mean Number of Economic Dependents<sup>5</sup></b>	2.04
<b>N</b>	488

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<sup>4</sup> N=483

<sup>5</sup> N=477

## Methodology

**Sampling and participants:** The study population for this tracking survey is sexually active clients of female sex workers in Belize District, Cayo, Orange Walk, Corozal, and Stann Creek, Belize, aged 18-50. We targeted 500 clients. For the purposes of this analysis where the dependent variable was condom use at last sex with a female sex worker, 88% had used a condom at last sex.

A representative sample of this target population living in priority program areas was drawn. Sample size calculations were made for all purpose level logical framework indicators. This study design called for a time location sampling approach. The study sample was distributed proportionally across the five study cities according to the number of bars where clients are potentially gathered in each city.

**Survey Instrument(s):** A structured questionnaire was used to collect data on concepts in PERForM that are relevant for identifying determinants of behavior, monitoring logframe indicators and assessing program impact. This questionnaire included modules in the following areas: population characteristics, OAM determinants of behavior including output level logframe indicators, behavior as specified by purpose level logframe indicators, and exposure PASMO interventions. This questionnaire was eight pages long.

A new questionnaire had been developed for this study based on PSI's standard HIV/AIDS questionnaire and PASMO questionnaires used throughout Central America for other groups at high risk for HIV/AIDS (MSM, FSW, and youth). The determinants measured in this model questionnaire are based on the PSI Behavior Change Framework and a literature review of quantitative and/or qualitative studies. Input from country program researchers and programmers was used to modify scaled questions and other context specific questions. If additional determinants not currently covered in the model questionnaire were discovered during formative research or suggested by program or research staff, multi-item scales were developed to measure these items.

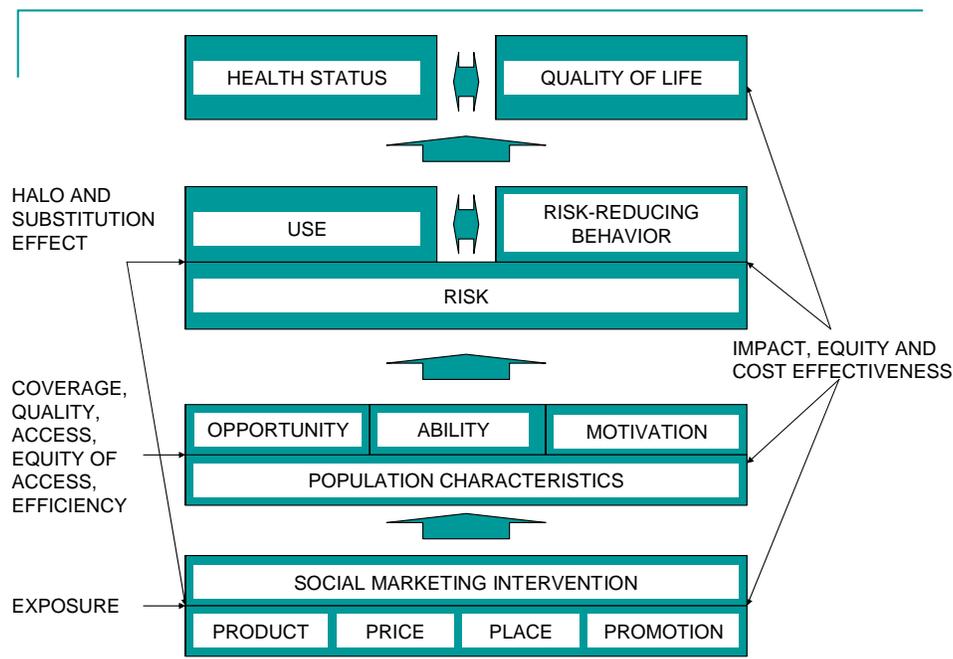
The PASMO questionnaire was pre-tested in Belize City, using about 25 cognitive interviews with members of the target group who will not participate in the larger study. The pre-test was used to gather information on the following points: ease or difficulty of statement,

comprehension, confidence in response, level of discomfort and social desirability. The PASMO questionnaire was revised based on findings from the pre-testing activities described above. Modifications to question structure and language were made accordingly.

**Analytic Technique:** A segmentation table was produced based on multiple logistic regression analyses. Explanatory variables (i.e., OAM perceptions, demographic characteristics) which significantly contribute to the explanation of the variance in the behavior of interest (i.e., condom use at last sex) were identified. Odds ratio of involvement in the behavior of interest were reported for each significant explanatory variable. Analysis of variance (ANOVA) was employed to estimate the adjusted means or proportions of each explanatory variable by the behavior of interest. Each explanatory variable was assessed in ANOVA with the behavior of interest serving as the group variable and other significant explanatory variables serving as covariates.

The monitoring table tracked trends in behavior, OAM indicators, and project exposure. It portrayed frequencies of indicators for 2007 figures for the baseline TRaC in 2007 will be simple percentages. All analysis was performed using SPSS software.

### Performance Framework for Social Marketing



This study design is guided by PSI's PERForM framework. PERForM describes the social marketing research process, identifies key concepts important for designing and evaluating social marketing interventions and mirrors the four levels and concepts in the logical framework.

The top level consists of the goal of social marketing for any health promotion intervention, namely improved health status and/or for interventions relating to coping with sickness or disability, quality of life.

The second level consists of the objectives of social marketing stated as product or service use on the left side and/or other risk-reducing behaviours that do not involve the use of a product or service on the right side. The adoption or maintenance of these behaviours in the presence of a given risk or need for health services is causally antecedent to improving or maintaining health and or quality of life.

The third level consists of the determinants of PSI Behaviour Change framework summarised in terms of opportunity, ability and motivation that may differ by population characteristics such as age and sex. The fourth level consists of the characteristics of the social marketing intervention.

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