



**Romania (2005): HIV/AIDS TRaC Study  
among Roma Males (15-30 Years).**

**Second Round**

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

**Bucharest, Romania  
November, 2005**

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## **Summary**

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**Background & Research Objectives** The objective of this research was two-fold: (1) to evaluate the Interpersonal Communication (IPC) intervention on sexual health implemented among young Roma males (aged 15-30) in selected neighborhood of Bucharest between 2004 and 2005; and (2) to provide a baseline for future interventions with this population. The intervention and research was funded by USAID through the RiskNet Regional Project implemented by PSI Romania. The purpose was to test an STI/HIV edutainment intervention for replicability in other communities in Romania or in other Balkan countries with NGO partners.

**Description of Intervention** The IPC intervention was implemented through an edutainment model, which consisted of two games (a bingo-type game and a cards-type game), during which messages about safe sexuality and contraceptive use were disseminated. The objectives were to increase knowledge about safe sexuality and contraceptives, to promote positive attitudes about these issues, and to give participants a chance to practice skills of correct condom use, all in a small-group, friendly environment. Within this paper, the “treatment community” is defined as the neighborhood which was targeted with the intervention; the “exposed group” is the sub-set of individuals in the treatment community that were actually exposed to the PSI intervention.

**Methodology** The study employed a pre-post case-comparison design. The intervention and comparison neighborhoods were chosen a priori, based on PSI’s activities in certain areas, and selection of similar neighborhoods. The baseline and follow-up survey methodologies differed somewhat, primarily in the selection of participants (further described in Annex 2, Methodology). The questionnaire was conducted with trained interviewers, and consisted of 41 items covering

selected behaviors, their determinants, and at follow-up, also exposure to the intervention. Analyses were conducted using STATA 8.2 statistical package.

**Main Findings** The data suggest that positive changes in condom use behavior, as well as determinants of condom use (knowledge and motivation-related determinants) have occurred over time in the target population. At follow-up, respondents were more likely to use condoms (although not with all types of partners), were more knowledgeable on the transmission and signs of STI and HIV, and held more positive beliefs toward condom use with all partners. However, the evaluation table shows that the PSI IPC Edutainment intervention targeting young Roma males can be linked to only some of the observed changes in determinants. In addition to selection bias, there may be other factors, not explained in this data, to which the positive changes observed can be attributed.

**Programmatic Recommendations** Based on the main findings, this type of IPC intervention can be successfully implemented to increase correct knowledge about sexuality-related topics, and to promote positive beliefs about condom use; however, it is unclear how effective it is in changing behavior. For expansion into other Roma communities or working with other organizations to better target behavior change, it is recommended that other, perhaps complementary, types of intervention strategies are explored to achieve this target.

Trends in condom use in the past month with various partners, and related determinants, among young Roma males in Bucharest, Romania, from baseline to follow-up (2004 to 2005), treatment and comparison communities.

**Risk Group: Young Roma males in Bucharest, Romania (age 15-29)**

**Behaviors: Condom use with wife or stable girlfriend in the past month; condom use with lover or trusted girl in the past month; condom use with occasional girls or sex worker in the past month; ever used health services for an STI concern (latter asked at follow-up only).**

INDICATORS	TREATMENT			COMPARISON		
	Baseline 2004 N=224	Follow- up 2005 N=369	Sig.	Baseline 2004 N=229	Follow- up 2005 N=236	Sig.
<b>BEHAVIOR/USE</b>	% or mean	% or mean		% or mean	% or mean	
- Used condom with wife or stable girlfriend in the past month	22.4	27.3		9.9	27.3	***
- Used condom with lover or mistress in the past month	53.1	72.4	*	56.7	76.2	
- Used condom with occasional girl or sex worker in the past month	73.9	94.5	***	75.8	92.2	***
- Ever used health services for an STI concern	--	24.4		--	37.3	
<b>RISK</b>						
- Ever had an STI	7.2	9.5		15.8	16.6	
- Has had more than 1 partner in the last month	54.0	43.9	*	63.7	56.5	
<b>OPPORTUNITY</b>						
<i>Availability</i>						
- Has bought condoms in the past month	--	62.7		--	67.3	
- Has received condoms for free in the past month	--	28.1		--	15.4	
<i>Brand appeal</i>						
- Has bought Love Plus condoms in the past month (of those that have bought any condoms)	--	43.7		--	49.7	
<i>Social Norm</i>						
- Friends have had an STI	25.8	24.4		26.7	34.7	
- Many or all friends use condoms	--	35.5		--	18.5	
<b>ABILITY</b>						
<i>Knowledge</i>						
- Knowing different types of sexual diseases (score 0-8)	5.0 (m)	4.9 (m)		5.2 (m)	4.4 (m)	***
- Correctly identifies ways of transmitting an STI	3.9	54.3	***	2.6	56.5	***
- Correctly identifies signs of an STI (score 0-3)	0.4 (m)	1.8 (m)	***	0.7 (m)	1.3 (m)	***
- Correctly identifies ways of transmitting HIV	51.8	73.2	***	59.9	79.5	***
- Knows physical consequences of an STI	6.3	54.4	***	5.7	44.1	***
- High <i>incorrect</i> knowledge of HIV transmission (score 0-7)	2.0 (m)	0.9 (m)	***	2.4 (m)	1.6 (m)	***
- <i>Incorrectly</i> believes that HIV can be recognized by looking at someone	39.7	18.8	***	65.4	24.7	***
- Knows that condoms protect against STI	91.0	97.2	**	98.7	92.1	***
- Knows that condoms protect against HIV	75.3	96.1	***	89.4	93.2	***
- Knows that condoms protect against pregnancy	75.2	93.5	***	91.9	89.7	
- Knows other modern contraceptives to protect against pregnancy	66.2	64.5		64.3	55.5	
- Correct knowledge of proper use of condoms (score 0-10)	--	2.1 (m)		--	2.2 (m)	
<b>MOTIVATION</b>						

**Monitoring Table: Population**
**Romania, 2005**

<b>Belief</b>						
- Believes that condoms should be used with all sexual partners	6.6	28.1	***	11.6	24.6	***
<b>Intention</b>						
- Intends to go to a doctor if had an STI	93.8	94.3		99.1	88.9	***
<b>Threat</b>						
- Perceives to be somewhat or very much at risk for STI	--	59.4		--	64.1	
- Perceives to be at somewhat or very much risk of HIV	--	57.5		--	61.9	
<b>EXPOSURE</b>						
- Participated in IPC about safe sexuality in the past year	--	36.8		--	5.2	
- Received IEC material on safe sexuality in the past year	--	44.1		--	17.8	
- Exposed to both IPC and IEC in the past year	--	29.1		--	3.0	
<b>POPULATION CHARACTERISTICS</b>						
<b>Mean age</b>	20.7	19.5	***	22.4	20.5	***
<b>Completed more than primary school (more than grade 8)</b>	27.3	38.6	**	22.4	29.9	
<b>Currently studying or attending school</b>	--	30.3		--	22.1	
<b>Currently working</b>	33.5	56.7	***	38.2	62.5	***
<b>Married (or living together)</b>	10.4	15.7		22.2	32.5	*

(m) = mean score

\*=p&lt;0.05; \*\*=p&lt;0.01; \*\*\*p&lt;0.001

All behavior, risk, and determinant variables are adjusted by the following population characteristics: age, completed education, currently working, and married. Not adjusted by "currently studying" as this variable was asked only at follow-up.

**Monitoring Analysis: Trends in condom use in the past month with various partners, and related determinants, among young Roma males in Bucharest, Romania, from baseline to follow-up (2004 to 2005), treatment and comparison communities.**

Within the treatment community, two key condom use behaviors increased from baseline to follow-up: condom use with a mistress or lover increased from 53.1% to 72.4%, and condom use with a prostitute or casual girl increased from 73.9% to 94.5%. In the comparison community, a significant change was observed for use of condom with a prostitute or casual girl, but not with a mistress or lover. However, condom use with a wife or stable girlfriend also increased significantly, from 9.9% at baseline to 27.3 at follow-up in the comparison community, whereas this behavior did not change significantly in the treatment community. It should be noted that the questionnaire did not specify whether condom use is defined as “consistent use” or “any/ever use” in the past month. Therefore, the findings are best interpreted as “any/ever” use of condom with a particular partner, which is not the same as consistent condom use.

Regarding risk factors, there was a statistically significant decrease in the treatment community in the proportion of respondents who reported having more than one partner in the past month (54% to 43.9%). There was no change observed in the comparison communities.

The majority of opportunity-related factors were measured only at follow-up, and therefore a comparison with baseline is not possible. One factor relating to social norms was measured at both points in time (relating to the respondent’s estimation whether any of his friends have had sexual diseases); however no change was observed in this indicator either in the treatment or control communities.

Ability was measured by variables relating to knowledge, and significant changes were detected in most items in the treatment as well as in the comparison community. At follow-up, a higher proportion of respondents in the treatment community correctly identified ways of transmitting an STI, ways of transmitting HIV, the common physical signs or symptoms of an STI, and the physical consequences of an STI. At follow-up, respondents in the treatment community also scored lower on the common *incorrect* ways of transmitting HIV, and fewer of them incorrectly believed that HIV can be recognized by looking at someone. Furthermore, respondents at follow-up also recorded higher knowledge about condoms (that condoms protect against STI, HIV and

pregnancy). There were also a number of significant changes between baseline and follow-up in the comparison community. Many of them were positive, and mirror the changes shown in the treatment community; however, it is important to note that in two indicators, respondents in the comparison community scored *lower* at follow-up than at baseline. The mean score of knowing different types of STI decreased between the two waves of data collection (from 5.2 to 4.4), and a lower proportion of the respondents knew at follow-up that condoms protect against STIs, although the overall proportion in the comparison community remained high (from 98.7% to 92.1%).

Motivational factors were measured by items relating to beliefs, intention, and threat (latter only assessed at follow-up). Regarding beliefs, a significantly higher proportion of respondents in the treatment community believed at follow-up that condoms should be used with all sexual partners (from 6.6% to 28.1%). A similar increase was also detected in the comparison community (from 11.6% to 24.6%). There were no differences between baseline and follow-up in the treatment community regarding intentions to go to a doctor in case of an STI. On the other hand, the proportion of people who reported such an intention significantly *decreased* between the two waves of data collection in the comparison community.

All of the variables relating to behaviors, risk and determinants in these analyses were adjusted by available socio-demographic characteristics: age, educational level achieved, currently working and being married. This is important, as it reduces the confounding effect of socio-demographic characteristics on behaviors, risk and determinants reported in the table. In addition, it is informative to look at the socio-demographic characteristics on their own, to consider how the baseline and follow-up samples changed over time. In both the treatment and comparison communities the samples at follow-up were significantly younger than the baseline samples, although the absolute difference in age for both communities was only about one year. Also in both communities, a significantly and considerably higher proportion of respondents was working (i.e., earning money) at the time of the survey in the follow-up sample. In the treatment community, the follow-up sample was better educated, with 38.6% completing more than primary school, as compared to 27.3% of the baseline sample. In the comparison community, a higher proportion of respondents was married or living together with a partner at follow-up (22.2% vs. 32.5%); there was also an increase in the proportion of married or living with a partner respondents in the treatment community, although this change was not statistically significant.

The significant changes in the control community which often mirror the significant changes in the treatment community are important to note: they suggest that there were significant positive changes in behaviors, as well as in ability and motivational factors in a community which *did not* receive the PSI intervention. More information is needed to establish what could have accounted for these changes – for example, there may have been another organization implementing an outreach intervention in the comparison communities at the same time.

**Determinants of condom use in last month with wife or stable girlfriend among young Roma males, Bucharest, Romania, 2005 (N=138), treatment and comparison communities combined, follow-up survey**

**Risk Group: Young Roma males who report having a wife or stable girlfriend, Bucharest, Romania (age 15-29)**

**Behavior: Condom use in last month with wife or stable girlfriend**

INDICATORS	Condom users (69.1%)	Non-users (30.9%)	Sig.
<b>OPPORTUNITY</b>	% or mean	% or mean	
<i>Availability</i>			
- Has bought condoms in the past month	73.1	67.4	
- Has received condoms for free in the past month	31.0	18.4	
<i>Brand appeal</i>			
- Has bought Love Plus condoms in the past month (of those that have bought any condoms)	57.7	41.8	
<i>Social Norm</i>			
- Friends have had an STI	21.5	36.8	
- Many or all friends use condoms	20.1	24.8	
<b>ABILITY</b>			
<i>Knowledge</i>			
- Knowing different types of sexual diseases (score 0-8)	5.53 (m)	4.79 (m)	*
- Correctly identifies ways of transmitting an STI	66.7	53.2	
- Correctly identifies signs of an STI (score 0-3)	1.9 (m)	1.8 (m)	
- Knows physical consequences of an STI	63.3	52.2	
- High <i>incorrect</i> knowledge of HIV transmission (score 0-7)	0.64 (m)	1.10 (m)	***
- Incorrectly believes that HIV can be recognized by looking at someone	19.0	17.7	
- Knowing that condoms protect against HIV	71.2	57.1	***
- Knowing that condoms protect against pregnancy	96.7	93.5	
- Knows other modern contraceptive means to protect against pregnancy	67.8	71.5	
- Correct knowledge of proper use of condoms (score 0-10)	4.78 (m)	3.23 (m)	
<b>MOTIVATION</b>			
<i>Belief</i>			
- Believe that condoms should be used with all sexual partners	58.4	6.1	***
<i>Intention</i>			
- Intends to go to a doctor if had an STI	98.9	92.5	
<i>Threat</i>			
- Ever had an STI	13.1	12.1	
- Perceives to be somewhat or very much at risk for STI	94.5	67.3	
- Perceives to be at somewhat or very much risk of HIV	52.8	58.2	
- Has had more than 1 partner in the last month	47.8	53.2	
<b>POPULATION CHARACTERISTICS</b>			
<i>Mean age</i>	20.5	21.9	*

## Segmentation Table: Population

Romania, 2005

<i>Completed more than primary school (more than grade 8)</i>	38.9	37.8	
<i>Currently studying or attending school</i>	31.5	12.6	***
<i>Currently working</i>	64.4	65.2	

(m) = mean score

All behavior, risk, and determinant variables are adjusted by the following population characteristics: age, completed education, currently working, and currently studying.

**Segmentation Analysis 1: Determinants of condom use in last month with wife or stable girlfriend among young Roma males, Bucharest, Romania, 2005**

The analysis presented in the segmentation table is based on combined treatment and comparison communities, as the sample size for each community separately would have been too small to conduct the analysis.

Individuals who used condoms with wife or girlfriend in the past month did not differ from individuals who did not use a condom in any of the opportunity factors measured. However, there were significant differences in ability factors, as measured by knowledge: condom users were more likely to know of different types of sexual diseases (mean score of 5.5 vs. mean score of 4.7, out of possible 8); were less likely to hold incorrect beliefs about HIV transmission (mean score of 0.6 vs. 1.1, out of 7); and were more likely to know that condoms protect against HIV (71.2% vs 57.1%). Users also greatly differed from non-users in motivation, as measured by the belief that condoms should be used with all sexual partners (58.4 % to 6.1%). It is interesting to note that users and non-users did not differ in terms of risk behavior (as measured by having more than one partner in the past month), nor in terms of perceived threat (as measured by thinking oneself at somewhat or high risk for STI or HIV). Finally, it is worth noting that condom users were slightly younger than non-users (mean age 20.5 vs 21.9), and were more likely to still be studying or attending school (31.5 % vs 12.6%).

Condom use with a lover or mistress could not be analyzed in a segmentation table due to the small sample size. Condom use with a sex worker could also not be analyzed, due to the fact that 96% of the respondents reported using condoms with sex workers (therefore there was not sufficient variability in the sample for segmentation analysis).

**Determinants of having ever used health services for an STI concern, among young Roma males, Bucharest, Romania, 2005 (N=351), treatment and comparison communities combined, follow-up survey**

**Risk Group: Young Roma males who are sexually active, Bucharest, Romania (age 15-29)**

**Behavior: Ever use of health services for an STI concern**

INDICATORS	Ever used service (30.3%)	Has not used (69.7%)	Sig.
<b>OPPORTUNITY</b>			
<i>Social Norm</i>			
- Believes friends have had an STI	37.1	22.9	***
<b>ABILITY</b>			
<i>Knowledge</i>			
- Knowing different types of sexual diseases (score 0-8)	5.11 (m)	4.85 (m)	*
- Correctly identifies ways of transmitting an STI	62.5	70.9	**
- Correctly identifies signs of an STI (score 0-3)	1.78 (m)	1.68 (m)	
- Knows physical consequences of an STI	49.3	56.9	
- High <i>incorrect</i> knowledge of HIV transmission (score 0-7)	1.23 (m)	0.98 (m)	
- Incorrectly believes that HIV can be recognized by looking at someone	29.4	15.2	**
<b>MOTIVATION</b>			
<i>Intention</i>			
- Intends to go to a doctor if had an STI	92.8	91.4	
<i>Threat</i>			
- Ever had an STI	29.6	4.2	***
- Perceives to be somewhat or very much at risk for STI	62.4	61.0	
- Perceives to be at somewhat or very much risk of HIV	70.4	60.5	*
- Has had more than 1 partner in the last month	68.0	44.6	***
<b>POPULATION CHARACTERISTICS</b>			
<i>Mean age</i>	21.9	19.8	
<i>Completed more than primary school (more than grade 8)</i>	36.2	38.0	
<i>Currently studying or attending school</i>	16.0	28.4	***
<i>Currently working</i>	64.5	57.6	**
<i>Married (or living together)</i>	40.0	24.9	

(m) = mean score

All behavior, risk, and determinant variables are adjusted by the following population characteristics: age, completed education, currently working, and currently studying.

**Segmentation Analysis 2: Determinants of having ever used health services for an STI concern, among young Roma males, Bucharest, Romania, 2005**

The analysis presented in the segmentation table is based on combined treatment and comparison communities, as the sample size for each community separately would have been too small to conduct the analysis.

Respondents who had ever used health services for an STI concern were significantly different from those who have not used health services for an STI, in terms of opportunity, ability and motivational factors.

In terms of opportunity factors as measured by social norms, health service users were more likely to believe that their friends have also had STIs than non-users (37.1% vs 22.9%). Regarding ability factors, as measured through knowledge items, health service users were more knowledgeable about different types of STIs but less knowledgeable about different ways of transmitting an STI. Health service users were also more likely to incorrectly believe that HIV can be recognized by looking at someone, as compared to non-users. There were also significant differences between service users and non-users in terms of motivational factors, as measured by items relating to threat (or risk). Nearly one third (29.4%) of service users had ever had an STI, as compared to only 4.2% of non-users. In addition, respondents who had used services perceived themselves at higher risk for HIV in comparison to those who had not used services; also, 68% of service users reported having more than one sexual partner in the past month, as compared to 44.6% of non-users. Finally, in terms of population characteristics, service users were less likely to be studying or attending school, and more likely to be working than non-users.

While interpreting these results, it should be kept in mind that the PSI intervention did not, at the time of the follow-up survey, focus on increasing health service utilization. However, this could be the intended focus of future interventions. Therefore this segmentation table presents a profile of a health services user which, in absence of an intervention, is bound to be a higher-risk profile than that of non-users – for the simple fact that users *have had* to seek medical services due to being, or fear of being, infected with an STI. This data can serve as baseline for future PSI interventions focusing on increasing health service utilization.

**Evaluation Table: Effect for those exposed within the intervention group, and effect of the overall program between the intervention and comparison groups**

**Risk Group: Young Roma males, Bucharest, Romania (age 15-29)**

INDICATORS	N	Comparison community			Treatment community			Program effect	
		Baseline % or mean	Follow up % or mean	Diff in % pts or means	Baseline % or mean	Follow up % or mean	Diff in % pts or means	Overall program effect (comparing the difference in % pts or means between two overall groups)	Program effect for those exposed within intervention group (follow-up % or mean, comparing to all others)†
BEHAVIOR/USE		a	b	c	d	e	f	g	h
- Used condom with wife or stable girlfriend in the past month	517	10.6	27.4	16.8	20.9	27.3	6.5	0.4* (OR)	37.6*
- Used condom with lover or mistress in the past month	209	59.4	76.4	17.0	49.7	71.8	22.1	NS	79.3
- Used condom with occasional girl or sex worker in the past month	441	75.8	91.9	16.1	72.8	94.4	21.8	NS	95.7
RISK									
- Has had more than 1 partner in the last month	845	63.1	57.3	-5.8	54.3	43.6	-10.7	NS	44.6
ABILITY									
<i>Knowledge</i>									
- Knowing different types of sexual diseases (score 0-8)	1030	5.2(m)	4.4(m)	-0.8(m)	5.0(m)	4.9(m)	-0.1(m)	NS	5.5(m)***
- Correctly identifies ways of transmitting an STI	1030	2.7	51.5	48.8	3.8	54.7	50.9	NS	65.2***
- Correctly identifies signs of an STI (score 0-3)	1030	0.7(m)	1.3(m)	0.6(m)	0.4(m)	1.8(m)	1.4(m)	0.79*** (linear reg coef)	2.2(m)***
- Correctly identifies ways of transmitting HIV	1030	53.3	60.1	6.8	57.5	66.0	8.3	NS	79.1***
- Knows physical consequences of an STI	1030	5.7	44.3	38.6	6.3	54.2	47.9	NS	65.9***
- High incorrect knowledge of HIV transmission (score 0-7)	1030	2.3(m)	1.6(m)	-0.7(m)	2.0(m)	0.9(m)	-1.1(m)	NS	0.9(m)
- Reduction in incorrectly believing that HIV can be recognized by looking at someone	1030	64.2	23.3	-40.9	40.4	19.7	-20.7	2.1** (OR)	16.2
- Knows that condoms protect against STI	1030	98.7	92.4	-6.3	90.9	97.0	6.1	20.3*** (OR)	99.4
- Knows that condoms protect against HIV	1030	89.8	93.4	3.6	74.9	95.9	21.0	4.8** (OR)	97.8
- Knows that condoms protect against pregnancy	1030	91.7	89.2	-2.5	74.4	93.3	18.9	6.4*** (OR)	92.9
- Knows other modern contraceptives	1030	64.2	54.7	-9.5	66.0	64.9	-1.1	NS	74.9**
MOTIVATION									
<i>Belief</i>								NS	
- Believes condoms should be used with all sexual partners	1030	13.0	24.9	11.9	5.9	27.9	22.0	2.8* (OR)	33.5*
<i>Intention</i>									
- Intends to go to a doctor if had an STI	1030	99.1	88.8	-10.3	93.9	94.3	0.4	14.4*** (OR)	95.9

(m) = mean score

\*=p<0.05; \*\*=p<0.01; \*\*\*=p<0.001.

All variables are adjusted by the following population characteristics: age, completed education, currently working, and being married.

† = The baseline comparison for column (h) is column (d) – i.e., the baseline for the treatment community; changes in the comparison community (baseline to follow-up) are also controlled for.

**Evaluation Analysis: Effect of the IPC sexual health edutainment project on selected behaviors and their determinants among young Roma males in Bucharest, Romania, 2005**

This study benefited from a pre-post case-control design, which is a considered one of the strongest quasi-experimental designs in intervention evaluation. Because it compares the level of change observed in the treatment community with changes observed in the comparison community, this design minimizes the probability of obtaining a false positive result. Unfortunately, the study did not benefit from rigorous sampling – both waves were conducted by convenience sampling (the follow-up with some additional systematization described in Annex 2). It is therefore likely that selection bias of respondents is influencing the results. The analyses did control for the available socio-demographic characteristics (which are also shown in the monitoring table); however, there may be additional unobserved differences which cannot be accounted for at the analysis stage. As presented herein, the analysis gives a mixed picture of intervention success.

The evaluation table shows adjusted proportions and means based on analysis which takes into account the case-control pre-post study design: i.e., evaluates whether the difference between baseline and follow-up observed for the treatment (intervention) community remains significant after accounting for the difference between the baseline and follow-up observed for the comparison community. This is termed the “overall program effect” and is shown in column (g). The table also shows the effect among those exposed to the IPC program within the treatment community, shown in column (h). About one third (36.6%, or 132 individuals) were exposed to the PSI intervention within the treatment community. As defined earlier in this paper, the “treatment community” is the community which was targeted with the intervention; the “exposed group” is the sub-set of individuals in the treatment community that were actually exposed to the PSI intervention. Values in column (h) are the proportions or means observed at follow-up for those exposed to the IPC intervention. The baseline for this group is column (d), which is the baseline for the treatment community (as the exposed are a sub-group of this community), and the analysis was set up to also control for (or account for) the changes observed in the comparison community (baseline to follow-up). Interpretation of columns (g) and (h) of the table together allows for a more in-depth understanding of the effect of the program.

Regarding condom use behaviors, the table shows that condom use with a stable wife or girlfriend increased over time for both the treatment and the comparison communities, up to 27% for each community (columns b and e). The test of the difference in the proportions gained for each of the treatment and comparison communities (6.5 percentage points vs. 16.8 percentage points shown in columns f and c, respectively) is in fact favorable for the comparison community. This is shown in column (g): those in the treatment community at follow-up were, overall, only 40% as likely to have increased the use of condoms with wife or stable girlfriend as compared to the comparison community. However, among those exposed to the IPC program (column h), the proportion at follow-up is 37.6% (baseline proportion for this group is 20.9%, i.e., the baseline for the treatment community as a whole, of which the exposed are a sub-group; changes in the comparison community are also controlled for in the analysis). This is significantly higher than changes observed for either the treatment community as a whole (including the non-exposed), and the comparison community.

Reported condom use with a lover or mistress, and condom use with sex workers increased in similar proportions for the overall intervention vs. comparison groups, as well as for the PSI-exposed sub-group. Therefore, the change is not significant for any of the groups. Similarly, there was a decrease observed in both treatment and comparison groups in reporting the number of sexual partners; therefore, the lower proportion of respondents who report having more than one partner at follow-up observed in the treatment group is not significant after taking into account the similar change in the comparison group. Again, there was also no significant change detected in the sub-group of those exposed to the IPC intervention.

Ability factors were measured by eleven knowledge-related variables; examining the results for these variables shows a picture of mixed success of the IPC intervention. In five of these variables both the comparison and treatment communities show improvements in the desired direction. The improvements made by the treatment community are not statistically significant (column g), with regard to the following knowledge indicators: “mean score of knowing different types of sexual diseases,” “correctly identifies ways of transmitting an STI,” “correctly identifies ways of transmitting HIV,” and “knows physical consequences of an STI.” However, the sub-group exposed to the IPC intervention (column h) shows statistically significant improvements that are above those observed for the overall treatment and comparison communities; or, in the case of “knows modern contraceptives,” the exposed sub-group shows smaller losses. These findings suggest that the PSI intervention contributed to a statistically significant increase in

knowledge or contributed to the knowledge remaining at a high level, even after accounting for the increase over time for the overall treatment and comparison communities. Regarding respondents who could “correctly identify signs of an STI,” a positive effect is observed for the treatment community overall (a positive regression coefficient, shown in column g), as well as for the exposed sub-group (a mean of 2.2, shown in column h). This finding also suggests that the IPC intervention contributed to an increase in knowledge beyond the statistically significant increase observed for the overall treatment community (while also controlling for the gains made by the comparison community).

Three of the knowledge variables show a positive change in the overall treatment community, but no significant changes for the exposed sub-group. Specifically, respondents in the treatment community were 20.3 times more likely to know that condoms protect against STIs, 4.8 times more likely to know that condoms protect against HIV, and 6.4 times more likely to know that condoms protect against pregnancy. However, as additional improvements are not reflected in the exposed sub-group, it is likely that factors other than the IPC intervention contributed to the increases observed in the overall treatment community. It should be noted, though, that the overall proportions for these variables were quite high in both the control and treatment communities, and that therefore it is difficult to show a statistically significant improvement in their levels.

There was no program effect on the knowledge variable “high *incorrect* knowledge of HIV transmission” for either the comparison or the treatment community, or for the exposed sub-group. Finally, the variable “*incorrectly* believes that HIV can be recognized by looking at someone” showed an unexpected effect. Although both treatment and comparison communities made gains in this indicator, the respondents in the treatment community were, at follow-up, 2.1 times more likely than respondents in the comparison community to *incorrectly* believe that HIV can be recognized by looking at someone (column g). The statistically significant odds ratio therefore denotes that the comparison community made greater improvements in this factor between the baseline and the follow-up, as compared to the treatment community. There is also no significant change detected for the sub-group exposed to the IPC intervention as compared to the overall treatment community.

Motivational factors were measured by one variable relating to beliefs, and one variable relating to intentions. Regarding the belief that condoms should be used with all partners, both treatment

and comparison communities showed an increase over time, but respondents in the treatment community were 2.8 times more likely to report this belief at follow-up, after accounting for gains made in this item in the comparison community (column g). This effect is also sustained by the statistically significant increase in the proportion observed for those exposed to the IPC intervention (column g), suggesting that the IPC intervention contributed to statistically significant changes in this belief even after the significant changes observed for the treatment community overall. Regarding the intention to seek medical treatment in case of an STI, the respondents in the intervention community were 14.4 times more likely at follow-up to report this intention than respondents in the comparison community (column g), but there was no additionally significant change observed among those exposed to the IPC intervention in comparison to the treatment community overall (column h). The significant difference between the two communities in relation to this factor may be due to the decrease observed in the comparison community between baseline and follow-up, not to the gain made in the treatment community. In any case, the exposed sub-group does not show statistically significant differences compared to the overall treatment community, and therefore the overall program effect observed cannot be attributed to the IPC intervention.

**Programmatic recommendations**

- The general picture regarding the measured determinants for this sample of young Roma males overall is that knowledge about STI and HIV is quite high, although there is some room for improvement, especially on items requiring more in-depth knowledge about STIs. The intent to use health services is also uniformly high across groups, though actual reported use, measured only at follow-up and shown on the monitoring table, can be improved. At follow-up, condoms appear to be available to two thirds of the population (monitoring table); however, the belief that condoms should be used with all partners is uniformly low across all communities, suggesting that attitudes and beliefs about appropriateness of condom use can be addressed through interventions.
- The evaluation table shows that for a number of determinants (knowledge-related variables, and one belief-related variable), the IPC exposed sub-group shows positive changes that are statistically significant when the changes in the overall treatment and comparison communities are not, and changes that are statistically significant above the significant changes observed for the treatment community. These results suggest the intervention was indeed effective in improving knowledge and promoting healthful beliefs.
- Regarding behavioral changes, condom use with a lover or mistress, and condom use with a sex worker increased over time in similar proportions for both the comparison and treatment communities, as well as for the IPC-exposed sub-group. This result suggests that the changes cannot be attributed to the IPC intervention, and that factors extraneous to the intervention and equally distributed across the communities (e.g., availability of condoms overall) are contributing to this change. However, for the variable “condom use with wife or stable girlfriend” there was a statistically significant difference between baseline and follow-up for the group exposed to the IPC intervention, even though the overall comparison group actually improved more than the overall treatment group. This result may be interpreted as a positive effect of the intervention: the exposed sub-group showed greater improvements in behavior beyond the changes observed for both the treatment community, and controlling for the changes observed in the comparison community. Future programs may benefit from developing messages and focusing on appropriate skills for different type of sexual partners.
- The segmentation table for those who had used a condom with wife or stable girlfriend is meant to provide further insight into how users differ from non users, which can be used for better targeting of future interventions. The results show that condom users are more likely to

be younger than non-users, and more likely to be attending school. Furthermore, population characteristics of the individuals exposed to the IPC program as compared to those in the intervention community not exposed to the program (see Annex 1 Population characteristics table) show that the exposed population are more likely to be younger and less likely to be married than those in the treatment community in general. Combined with the evaluation results, this suggests that the IPC successfully reached a certain segment of the population (which could be a population predisposed to condom use), but that different interventions are needed to successfully target somewhat older, perhaps married, non-school attending young Roma men.

- Regarding reported condom use overall, it is interesting to note that it is quite different according to type of partner: it is highest for sex workers and occasional girls, it is somewhat lower for lovers and mistresses, and lowest for wives and stable girlfriends. However, it should also be noted that when a sub-set of respondents who have wives and stable girlfriends is examined, 69.1% report using a condom in the past month. This is quite high, and further investigation might be needed to discern whether this is due to over-reporting (due to “courtesy bias,” when the respondent knows what the desired answer is), or whether it truly reflects such high rates of condom use. In addition, it would also be important to examine the consistency of condom use, particularly with non-regular partners.
- Finally, the current intervention did not aim to directly increase the proportion of respondents who use health services for STI testing and treatment. Nevertheless, as PSI Romania may plan to focus on improved use of health services among young Roma males in its future interventions, the results from the segmentation table are informative: the table shows that individuals who have used health services generally fall into a higher-risk category than those who have not (e.g., have higher incorrect knowledge about HIV signs, know less accurately how STI are transmitted, etc). Also, they are less likely to be studying and more likely to be working. These findings suggest that interventions aimed at increasing health service utilization need to focus on a higher-risk profile of young Roma men. In addition, there may be numerous factors related to the availability and appropriateness of health services that are important determinants of this behavior, but were not measured in this study. Further research is needed to better understand these factors, and to develop appropriate interventions.

**Annex 1: Population characteristics table of the intervention group at follow-up**

Romania, 2005

**Characteristics of those exposed to the IPC intervention as compared to those not exposed (within intervention community), at follow-up**

<b>INDICATORS</b>	<b>Not exposed N=229 (63.4%)</b>	<b>Exposed to IPC N=132 (36.6%)</b>	<b>Sig.</b>
Mean age	18.6	20.2	*
Completed more than primary school (more than grade 8)	35.2	30.3	
Currently married	12.5	19.8	*
Currently working / employed	60.3	47.6	

\*=p&lt;0.05; \*\*=p&lt;0.01; \*\*\*=p&lt;0.001;

## Methodology

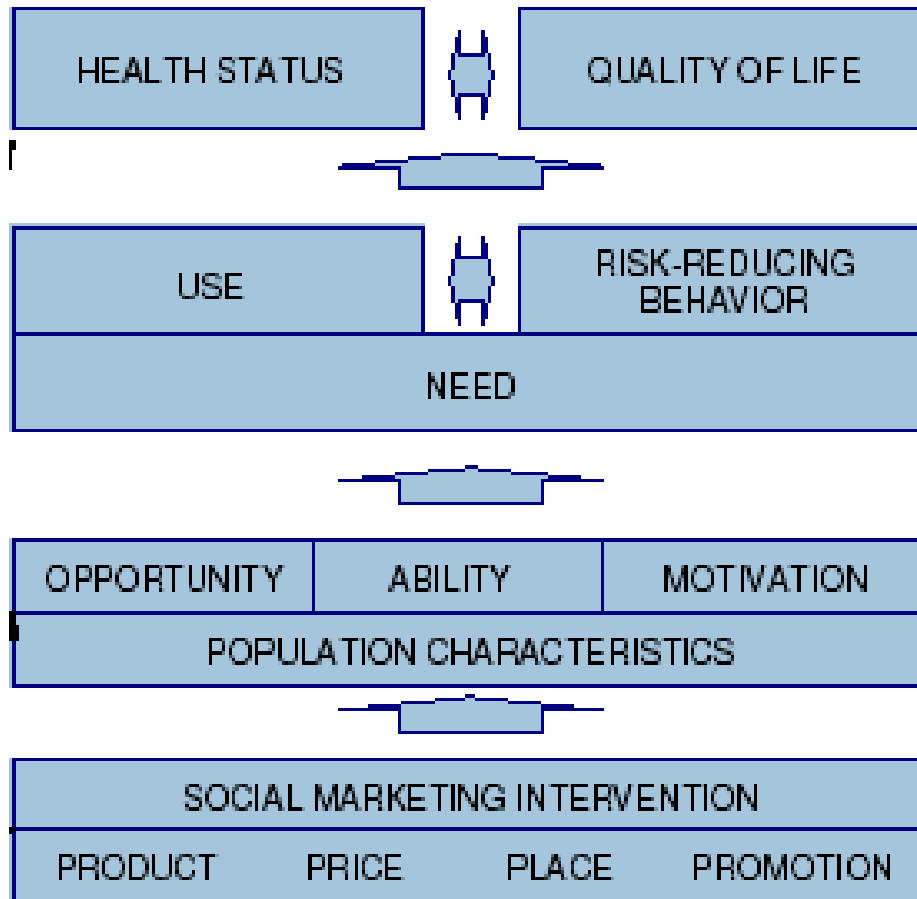
**Sample Characteristics** The baseline sample consisted of 453 respondents from the 3 selected communities (1 intervention and 2 comparison), and the follow-up sample consisted of 605 respondents from the same 3 communities. At follow-up, the respondents were overall younger and better educated, and more likely to be currently employed.

**Data Collection Procedure** At baseline, the data was collected using a snowball sampling approach in the 3 communities, without any specifications on age structure of the sample or other requirements (individuals ranged from 14-38 years of age, with a mean age of 21.5). At follow-up, a quota of ages was imposed (to increase the proportion of the sample in the 15-19 year group, which was targeted by the intervention); the entire follow-up sample is composed of individuals aged 15-29 (mean 19.9), as this was the age group targeted by the intervention. Furthermore, the communities were first mapped, and the sampling proceeded along the mapped routes, interviewing all respondents on the route who fit the age criteria and who were willing to be interviewed. Refer to Annex 4 for the maps.

**Survey Instrument(s)** Both the baseline and follow-up instruments were composed of approximately 40 questions covering selected socio-demographic characteristics; items relating to knowledge about STI and HIV transmission, symptoms, and protection; items about beliefs about condom use and intention to use medical services; and items about condom use behavior with different partners. The follow-up questionnaire also included a few new items: questions relating to opportunity factors (buying condoms, receiving free condoms, etc); a measure of using health services for STI concerns; and questions on perceived threat of STI and HIV. Both the baseline and follow-up questionnaires were implemented by trained interviewers, and took about 20 minutes to complete.

**Analytic Technique** The baseline and follow-up samples were merged, and data were analyzed using Stata 8.2 statistical package. The analytic technique used to create the segmentation tables was logistic regression; the techniques used for the monitoring and evaluation tables were logistic regression or linear regression, and adjusted proportions or adjusted means, as appropriate to the outcome.

Performance Framework for Social Marketing





Map 2: Rahova



Map 3: Aparatorii Patriei

