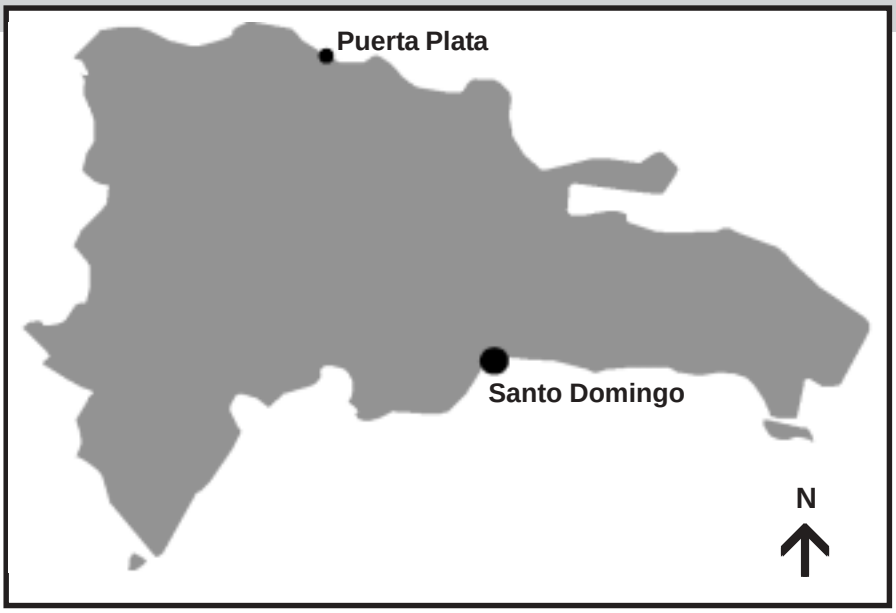
RESEARCH SUMMARY

Community Approaches and Government Policy Reduce HIV Risk in the Dominican Republic



Effective programs that avert new HIV infections among sex workers and their partners, and hence the general population, are critical components of national HIV prevention strategies. Prevention efforts have frequently relied on interventions that reach members of these vulnerable groups as individuals, such as condom promotion and STI management. Now, many researchers and program implementers are increasingly turning to "environmental-structural" interventions that address the physical, social, and political contexts in which individual behavior takes place.

Two environmental-structural approaches have recently been shown to increase rates of condom use and decrease STI prevalence among female sex workers. One focuses on community development and mobilization to build a collective commitment to prevention, such as the Sonagachi Project in Calcutta, India (Jana 1998). The second involves government-sponsored initiatives, including the "100 Percent Condom Program" in Thailand, that utilize a government policy mandating condom use in brothels (Rojanapithayakorn 1996).

A recent Horizons study conducted jointly with two Dominican NGOs—Centro de Orientación e Investigación Integral (COIN) and Centro de Promoción e Solidaridad Humana (CEPROSH)—and the National Program for the Control of STDs and AIDS (DIGECITSS) assessed the impact of two environmental-structural models in reducing HIV-related risk among female sex workers in the Dominican Republic and compared their cost-effectiveness. The models, built on years of experience gained from sex worker peer education programs, drew from the strengths of both community solidarity and government policy initiatives and engaged community members in both program and policy development.

To read the full report on this study, go to
www.popcouncil.org/pdfs/horizons/drcmntygvtplcy.pdf

DESCRIPTION OF THE INTERVENTION

The models, developed after extensive formative research and consultation with sex worker peer leaders, were implemented in 68 sex establishments in two Dominican cities. In Santo Domingo, the nation's capital, a community-based solidarity approach to 100 percent condom use was implemented, while in Puerto Plata, a smaller coastal city in the north where tourism is prevalent, solidarity was combined with government policy and regulation.

Solidarity-building activities included workshops and meetings with sex workers, sex establishment owners and managers, and other employees, such as doormen and deejays, to strengthen collective commitment to HIV/STI prevention, particularly in supporting sex workers to use condoms with partners. These gatherings also focused on exploring issues of trust and intimacy in condom use negotiation between sex workers and regular paying and non-paying partners.

To enhance a collective commitment to prevention, each sex establishment owner was encouraged to ensure that 100 percent condom use posters and other awareness-raising materials, as well as glass bowls filled with condoms, were in place within each establishment. Other cues to support condom use included deejay messages about safer sex, information booths at establishment entrances, and participatory theater with male clients.

In Puerto Plata, the same model was used but included a government-sponsored policy that required condom use between sex workers and all clients. Owners were told that they, not the sex workers, were responsible for ensuring compliance with the policy and with program activities. For those not in compliance, government officials imposed a graduated series of warnings, fines, and other sanctions, including closure of the establishment.

Horizons conducts global operations research to improve HIV/AIDS prevention, care, and support programs. Horizons is implemented by the Population Council in partnership with the International Center for Research on Women (ICRW), the Program for Appropriate Technology in Health (PATH), the International HIV/AIDS Alliance, Tulane University, Family Health International, and Johns Hopkins University.

METHODS

Researchers used a pre-/post-test evaluation design to assess the two, year-long programs conducted in 34 sex establishments in each city. Structured surveys and non-routine STI testing were conducted among a random, cross-sectional sample of approximately 200 female sex workers, age 18 years and older, from the study establishments. Women were recruited at government health clinics in each city and data were collected at baseline and at the end of the 12-month intervention period.[1]

In both cities, the median age of female sex workers who participated in the baseline was 25 years; the median number of years of schooling completed was seven. More than 75 percent were single, and nearly two-thirds had a regular partner. The median number of reported encounters with paying clients in the last week was two in Puerto Plata (range: 0-32) and one in Santo Domingo (range: 0-30).

Government health inspectors accompanied by NGO staff visited sex establishments in both cities on a monthly basis to assess compliance with five key elements: the presence of 100 percent condom use posters, availability of at least 100 condoms on site, visibility and accessibility of condoms for clients and sex workers, attendance of all of the establishment's sex workers at monthly STI check-ups, and a lack of a positive STI diagnosis among sex workers based at the establishment.

Participant observations were also conducted pre- and post-intervention among a random sample of 64 sex workers in each city, by male NGO staff members posing as clients. Following a strict research protocol, each NGO staffer selected a sex worker, talked with her at a table in the establishment, then asked if she would be willing to have sex without a condom, presenting up to four reasons, developed during formative research, why he did not want to use one.

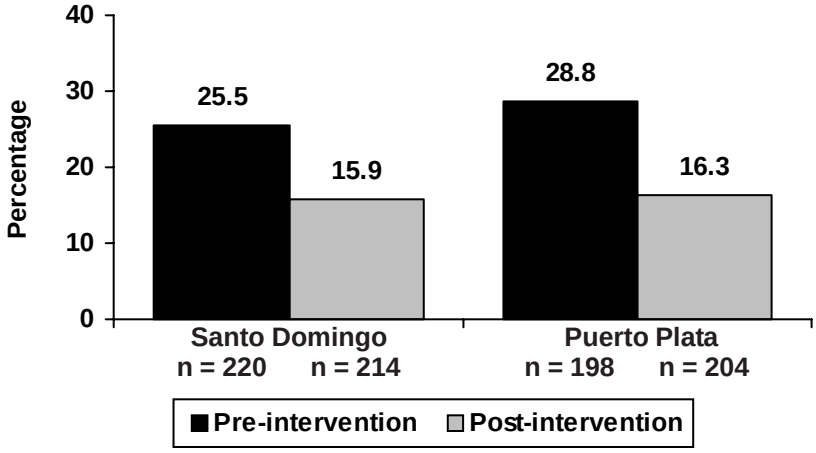
KEY FINDINGS

Consistent condom use (CCU) rose significantly in each city, albeit with different types of clients. CCU with new clients in the last month increased significantly among sex workers in Santo Domingo, from 75 to 94 percent ($p < .001$). In Puerto Plata, where CCU with new clients was already high at 96 percent, the rate increased to 99 percent. Only in Puerto Plata did CCU rise significantly for regular paying and non-paying partners, from 13 to 29 percent ($p = .001$); in Santo Domingo, CCU with regular partners rose only slightly, from 15 to 18 percent. These figures are particularly important given the much lower levels of pre-intervention condom use documented with regular paying and non-paying customers, compared to condom use with new clients. Additionally, the study found that the majority of sex acts in the last month among all respondents occurred with regular paying partners, making the increase in Puerto Plata particularly important.

Sex workers' ability to reject unsafe sex rose significantly only in Puerto Plata. Results from the participant observations showed that the percent of sex workers who rejected having sex without a condom after hearing all four reasons increased significantly from 50 to 79 percent ($p < .001$). In Santo Domingo, rejection of unsafe sex also increased from 64 to 72 percent, but the difference was not statistically significant.

Rates of STIs decreased almost 40 percent from pre- to post-intervention. As shown in Figure 1, there were significant decreases in both cities in the proportion of women testing positive for one or more of three STIs (gonorrhea, trichomoniasis, and / or chlamydia), with slightly stronger declines documented in Puerto Plata ($p = .003$), compared to Santo Domingo ($p = .014$). These overall reductions were due largely to decreases in specific STIs: in Santo Domingo, the prevalence of chlamydia decreased significantly from 16 to 9 percent ($p = .029$), while in Puerto Plata, the prevalence of trichomoniasis decreased significantly from 10 to 4 percent ($p = .024$).

Figure 1 Prevalance of one or more STIs among female sex workers



CCU among sex workers was associated with higher levels of exposure to the intervention and compliance with the intervention by their establishment. In multivariate analyses, the research team found that the odds of consistent condom use among sex workers with all their sexual partners in the last month was 1.84 (CI 1.07-3.17) times greater among those with higher levels of reported exposure to the intervention. CCU was also 2.33 (CI 1.01-5.39) times greater among sex workers from sex establishments with the highest level of observed compliance to key intervention elements.

Sex establishments participating in the intervention in Puerto Plata showed a significant increase in observed compliance with intervention elements. Although reported exposure to the intervention increased significantly among sex workers in both cities, levels of observed compliance with the five key intervention elements increased significantly, from an average of 2.6 at month one to 4.7 at month twelve ($p < .001$), only at establishments in Puerto Plata, where a government policy mandating condom use and a graduated sanction system for non-compliance were implemented.

The Puerto Plata model, which includes government regulation, is more cost-effective than the Santo Domingo model. A cost analysis done by the researchers shows that while the cost to implement the two models is comparable, the combined intervention model that includes government regulation and oversight is

approximately two and a half times more cost-effective. The cost per HIV infection averted in Puerto Plata, at $9,843, is substantially less than in Santo Domingo, at $25,574. When converted, the cost per disability adjusted life years (DALY) saved is $414 in Puerto Plata, compared to $1,075 in Santo Domingo.

CONCLUSIONS

In both cities there were improvements from pre- to post-intervention in the study's key outcome variables: consistent condom use, rejection of unsafe sex, and STI prevalence. Yet the type and level of these changes varied by intervention approach. The Puerto Plata model, which included a government policy and enforcement component, appears to have been more successful in bringing about significant increases in CCU with regular partners. Similarly, the ability of sex workers to reject unsafe sex rose significantly only in Puerto Plata.

The triangulation of findings shows that while both models had a positive impact on reducing vulnerability to HIV, the impact of the intervention appears to have been broader in Puerto Plata. Cost-effectiveness data also show that the Puerto Plata model is much more cost-effective than the Santo Domingo model. These gains in Puerto Plata are likely linked to the ability of that city's combined model—community solidarity plus government policy and enforcement—to achieve higher levels of compliance with key intervention elements compared to Santo Domingo.

While there are some limitations to the study (e.g., pre / post design, only one model implemented per city), triangulation of data from different sources highlights that the combined solidarity- and policy-based model is a feasible, acceptable, and effective intervention package for the Dominican Republic. With funding from the Global Fund, the World Bank, and USAID, the implementing NGOs in coordination with the Dominican government are currently scaling up the combined model in areas of the country where commercial sex is prevalent.

February 2004

[1]The study was approved by the ethical review boards of the Population Council and Johns Hopkins University. DIGECITTS also reviewed the study for technical and ethical merit.

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Suggested citation: Kerrigan, D. et al. 2004. "Community Approaches and Government Policy Reduce HIV Risk in the Dominican Republic ," *Horizons Research Summary*. Washington, D.C.: Population Council.

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USAID This publication was made possible through support provided by the Global Bureau of Health/HIV-AIDS, U.S. Agency for International Development (USAID), under the terms of Award No. HRN-A-00-97-00012-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID.