



World Bank Global
HIV/AIDS Program

HIV/AIDS - *Getting Results*

These reports describe activities, challenges and lessons learned during the World Bank's HIV/AIDS work with countries and other partners.

Risk Behavior and HIV Prevalence in Tanah Papua, Indonesia: *Results of Integrated Biological and Behavioral Surveillance Among the General Population in Tanah Papua*

A population-based HIV survey conducted in Papua, Indonesia in 2006 challenged widely-held assumptions about the prevalence, distribution and transmission of HIV in this unique island region. The study assessed the risk behaviors and primary driving factors that have given Papua what may be the world's second-highest prevalence of HIV. The survey findings offer a new understanding of the epidemic in these provinces that will help to shape constructive changes in programs to contain the epidemic and prevent continued HIV transmission.

A dearth of data on HIV

The need for the survey was clear. Many development partners – 27 by one count – have been working in Papua, but overall HIV surveillance is somewhat limited. There have been some surveys of vulnerable groups and some small-scale more general surveys, but no systematic population based HIV survey. Nor were data from elsewhere helpful; no other region can be compared reliably with Papua. Unlike Africa, no countries share sufficient geographic and cultural affinities to be useful in analyzing the conditions in Papua. The most similar is probably Papua New Guinea, with which it shares the island. However, Papua New Guinea's demographics have not been shaped by the wider Indonesian transmigration which has had a great impact on Papua, where in some cities, 30 percent of the population originated from elsewhere in Indonesia.

This was one of the great challenges this survey had to confront: the tremendous diversity of languages and cultures on Papua. The world's second largest island, it is home to a vast span of distinct population groups who collectively represent approximately 20% percent of the world's languages. Many of these people live in remote, isolated rural areas and have little access to even the most basic HIV and AIDS information. Thus, extensive ignorance about the causes of HIV has been a huge factor in driving the epidemic in Papua, which constitutes one percent of Indonesia's population but 30 to 50 percent of its HIV cases.

Methodology

The survey project funding partners – Family Health International/USAID, the World Health Organization and World Bank – decided to conduct a population-based bio-behavioral survey to obtain an accurate and reliable estimate of HIV prevalence, distribution and transmission patterns, and to inform decisions on interventions.

Conducted at the household level from August-October 2006, the survey included 6,500 women and men ages 15-49. The high overall response rate – 95.7 percent – adds to the statistical robustness of the findings. The Indonesian Statistics Bureau proved to have excellent capacity to contribute to the project and developed the sampling frame.

The survey used three-stage cluster sampling that stratified by the island's three main topographic areas: the highlands, which are uniformly difficult to access; the lowlands areas that are easy to access; and the lowlands areas that are difficult to access.

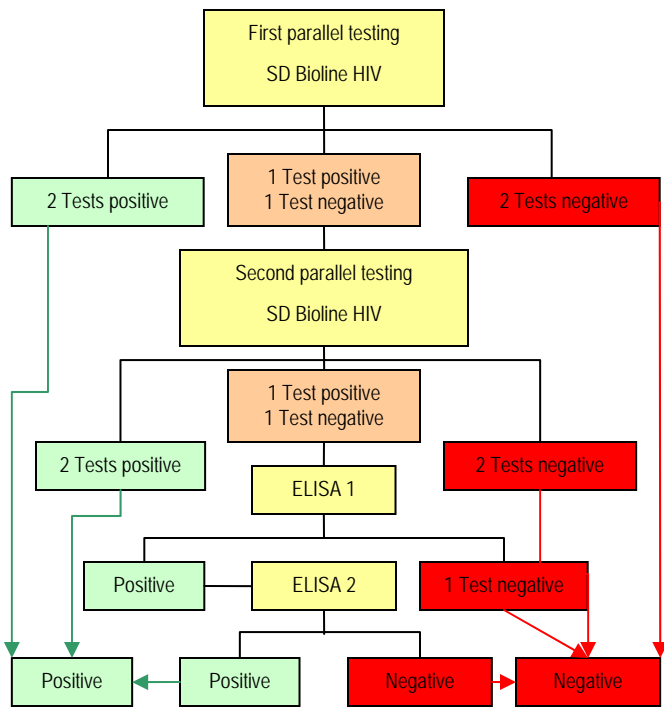


Men in a small shopping area in the remote mining town of Tembagapura, West Papua (photo by Kurt Frieauf)

Districts were selected at random from each stratum, proportionate to population size, and the same methodology was applied to select census blocks from within each sampled district. Within the blocks, households and their occupants were enumerated by gender and three age groups (15-24, 25-39, and 40-49).

Staff from local puskesmas (community health clinics) and the Central Statistics Bureau conducted anonymous face-to-face interviews in private, using standard questionnaires which differed for men and women. Blood was collected via finger prick, and anonymous-linked HIV testing done onsite using two rapid tests: SD Bioline HIV 1/2 3.0® and Determine® HIV-1/2. Tests that produced indeterminate results were re-tested on the spot with two similar test kits; if results were again indeterminate, retesting was conducted at a national reference laboratory using ELISA (see Figure 1).

Figure 1: HIV testing algorithm



Source: Family Health International (FHI). World Bank, 2007

All positives results and 10 percent of the negatives were re-tested for quality control using Vironostika HIV Uni-Form II Plus O® (Organon Teknika). Those that were positive on the first quality control test were retested with Murex HIV-1.2.O EIA (Abbott Diagnostics).

Response

Of the 6,500 people selected to participate, 3 percent refused to participate or could not be located at home. Of the 6,305 interviewed, 6223 provided blood samples; 4.3 percent refused to provide blood samples or could

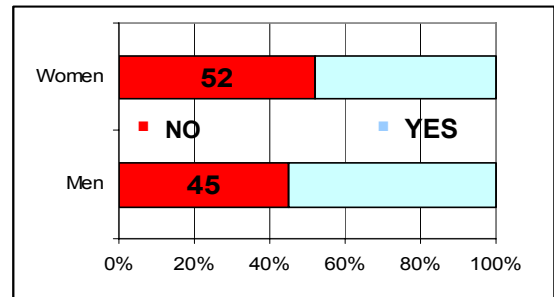
not be located at home. Those who refused to give blood (1.3 percent) were all from urban lowland locations. The total response rate was 95.7 percent, and the overall sample represented demographic groups quite evenly.

Characteristics

As expected, there are wide discrepancies between men's and women's educational and economic circumstances. Women completed significantly fewer years of education than men and have significantly higher rates of unemployment than do men, even in farming, which was the source of employment of the majority of respondents. More women than men have no income, and more men than women have high income.

Interviews revealed widespread ignorance about HIV, particularly among women. Testing and counseling is rare among Papuans, and most who are tested do not obtain their results; only a tiny minority knows their status. But more astonishing, as the graphic below illustrates, is that in 2006, half the population included in the survey had never even heard of AIDS.

Figure 2: Survey respondents in Papua who have ever heard of AIDS, by gender



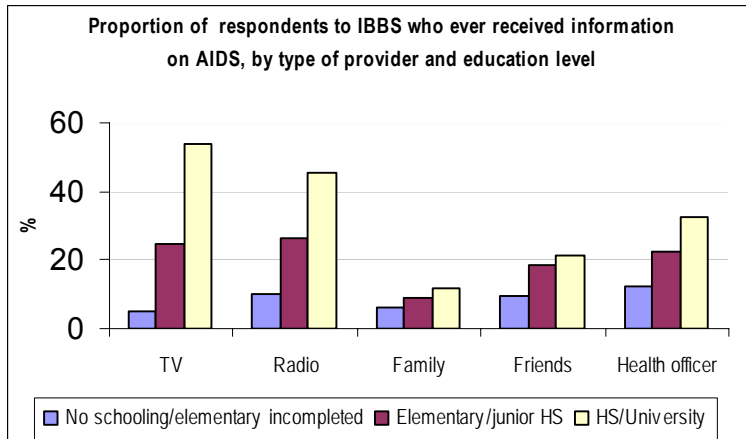
Source: Family Health International (FHI). World Bank, 2007

There is an obvious association between level of education completed and level of HIV knowledge, with incredibly low awareness of AIDS among the non-literate population: 74% had never heard of it. Given the rates of HIV and AIDS prevalence in the population, this implies persistent ignorance even among people who knew someone with AIDS. They attributed AIDS symptoms in the people they knew to a hundred different things from witchcraft to tuberculosis. Fewer highlanders than lowlanders knew someone with AIDS, though there is much more HIV and AIDS in the highlands, suggesting especially extensive ignorance and denial in the highlands. Lowlanders tend to seek medical help for illness, while highlanders tend to self-medicate; which indicates different availability of and access to medical services in the two regions.

Denial, which is widespread on both ends of the island, stems in part from the fact that the disease is sexually transmitted. Moreover, the number of Papuans who

have received face-to-face information is incredibly low, especially among the non-literate, who, as Figure 3 illustrates, simply are not being reached.

Figure 3: Most Papuans have never received face-to-face information on HIV/AIDS



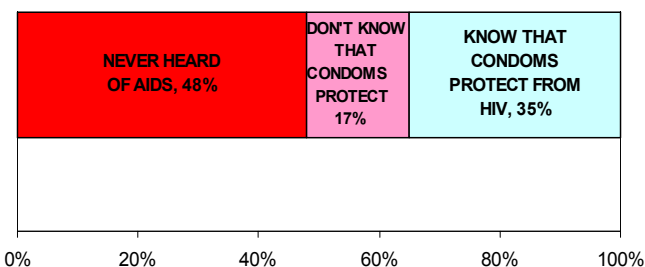
Source: Family Health International (FHI). World Bank, 2007

Even the dissemination of information via broadcast media, which in theory can benefit those at any level of distribution, is, in practice, reaching only the literate. Fewer than five percent of the non-literate report having seen anything about AIDS on TV, and just 10 percent report having heard about AIDS on the radio.

Survey results dispelled preconceptions about the sexual behaviors of people with HIV. Reported sexual behavior was relatively conservative. Participants did not report large numbers of sexual partners; 78 percent of men and 93 percent of women reported either not being sexually active or engaging in sex exclusively with a spouse. Particularly important was the observation that commercial, rather than casual, sex appears to play a bigger role in sexual relationships than some observers expected. Among men and women who reported having multiple partners, commercial sex accounted for half of all sexual encounters outside marriage.

Consistent with the pattern of ignorance, only a third of Papuans who had heard about HIV and AIDS knew that condoms can prevent HIV transmission (Figure 4).

Figure 4: Papua IBSS respondents who know that condoms can protect from HIV (percent)



Source: Family Health International (FHI). World Bank, 2007



Peer educators in a UNICEF-supported program in Papua teaching other students about HIV (photo: UNICEF)

Condom use outside marital sex is reported to be very low, which accords with the survey's overall findings of ignorance about HIV and condoms. There is a high prevalence of reported sexually transmitted infections (STIs), with commercial sex being the biggest risk factor for contracting STIs.

On the other hand, some behaviors were revealed by the survey to be more conservative than some had predicted. There had been speculation that the survey would reveal widespread alcohol use before sex, but the survey data do not support this hypothesis. Respondents also reported very low rates of drug use: only 0.8 percent said they had ever used any drug, and only 0.03 percent had injected drugs in the previous year.

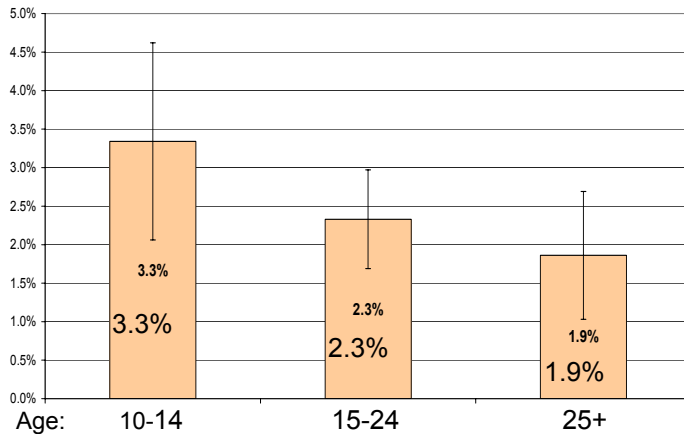
Similarly, "queue sex", in which numerous men line up to have sex – often coercive – with a woman, was very rare, and the numbers reported overall for sexual coercion were lower than some estimates had suggested. Among respondents who were sexually active, six percent of the men reported that they had forced someone into sex in the previous year – their own wives in 57 percent of those cases. Of the sexually active women, 12 percent reported having been forced into sex in the previous year – by their own husbands in 84 percent of those cases.

Though risky sexual behavior proved less common than had been anticipated, other sexual risk factors are on the rise. Most notably, young people reported less conservative sexual behavior than did earlier generations at the same age. Prevalence of teen sex is rising, and earlier sexual initiation correlates with increased HIV prevalence.

Multiple partners and commercial sex are more prevalent in the rural highlands, where traditional parties that involve extramarital sex appear to be among the risk factors. An exacerbating factor is that there is less availability of and access to condoms in the highlands.

HIV is widely diffused and evenly distributed; it was above one percent in all districts represented in the survey. However, some groups are at higher risk than others. Young people, face higher odds of contracting HIV because of their higher levels of risky behavior. Early sexual initiation raises the risk of HIV tremendously, as Figure 5 illustrates.

Figure 5: HIV prevalence by age at first sex: early initiation increases HIV risk



Source: Family Health International (FHI). World Bank, 2007

Conclusions and recommendations

This survey collected the basic information necessary for developing more effective HIV prevention programs in Indonesian Papua. It also highlighted the challenges that must be overcome for prevention programs to have their intended impact.

For example, the survey suggests that commercial sex remains a major cause of HIV infection. Early age of sexual debut is also an important contributor to HIV transmission. The survey also drew attention to the fact that while programs have been concentrated in urban areas until now, the need is actually greater in rural

areas. This presents a huge programming challenge: how do programs reach these remote highlands with extremely entrenched cultural practices?

Based on the information generated by the survey, these key objectives are recommended for future programs:

- Increase efforts to protect young people through youth-focused programs.
- Promote increased protection of all population groups by organizing effective sex worker and client programs, particularly in neglected highland areas
- Intensify the distribution of information and condoms everywhere and to all groups, including to illiterate and highland people.
- Work toward expanded access to counseling and testing.
- Expand the focus of programming from urban to more highland and rural areas and attempt to increase coverage throughout the island.



Men at the Baliem Valley festival dressed in traditional regalia, wearing koteka (penis covers)

(Photo: Biagio Rampante benettontalk.com/baliem_a.jpg)

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The full report, *Risk Behavior and HIV Prevalence in Tanah Papua 2006 – Results of the IBBS 2006 in Tanah Papua*, Statistics Indonesia and Ministry of Health, is available on line at:

http://siteresources.worldbank.org/INTINDONESIA/Resources/Publication/PapuaHIV_en.pdf

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