Papua New Guinea HIV prevalence: 2009 Estimates

- New national prevalence estimated at 0.9%
- Surveillance and access to services improved
- Scale-up of response required for sustained prevention and treatment efforts
- Highest prevalence in Highlands and Southern Region with increasing prevalence in Momase and New Guinea Islands
- Estimated number of people living with HIV at the end of 2009 is 34,100
Summary of 2009 Findings

In 2009, an analysis of HIV prevalence (the proportion of the population living with HIV) was conducted by National Department of Health (NDOH) and National AIDS Council Secretariat (NACS) in collaboration with stakeholders. The prevalence analysis was carried out using data on HIV voluntary testing among pregnant women at Antenatal Clinics (ANCs) in Highlands, Southern, Momase, and New Guinea Islands regions. The results were collated and finalised during a joint NDOH-NACS workshop in June 2010. Following are main findings of the 2009 HIV prevalence estimates:

- Revised 2009 estimated prevalence of HIV among adults aged 15-49 years is 0.9%
- Number of clinics providing testing services throughout the country has increased ten fold, from 17 in 2005 to 178 in 2009 resulting in a much more comprehensive set of information available to draw from
- Disease surveillance and access to prevention and treatment services improved with a need to scaling up these efforts in a sustained manner
- HIV prevalence is highest in Highlands and Southern Region (1.02% and 1.17%, respectively) with lower estimates in Momase and New Guinea Islands (0.63% and 0.61%, respectively)
- Total estimated number of people living with HIV in 2009 is 34,100 (31,000 adults and 3,100 children)
- Number of newly infected people in 2009 is 3,200
- 1,300 deaths estimated in 2009 from HIV - Related illness and AIDS
- Surveillance data indicate some levelling-off in the spread of HIV in PNG (Figure 1)

Data and Methodology

The estimates were calculated using data mainly from antenatal clinics in all parts of Papua New Guinea that offer HIV testing to pregnant women as part of routine care. As a result of the expansion of programs that aim to prevent parent to child transmission of HIV, the number of antenatal clinic sites providing testing services increased substantially over recent years from 17 in 2005 to 178 in 2009 (Figure 3).

- Data on HIV among pregnant women attending antenatal clinics were considered the best available source of data on HIV prevalence over time in the country.
- The assumption was made that the ratio of female to male prevalence in Papua New Guinea is 1.
- Methods used to derive estimates of HIV prevalence, incidence and other impact indicators included the UNAIDS/WHO recommended Estimation and Projection Package (EPP) and Spectrum software. More information on these methods can be found on the UNAIDS website, at http://www.unaids.org/en/KnowledgeCentre/HIVData/Methodology/default.asp
Access to Treatment

The number of people receiving Antiretroviral Therapy (ART) has increased significantly in recent years in all regions, but particularly in Southern and Highlands regions (Figure 4). Overall, the numbers increased from 2250 in 2007 to 6794 in 2009, pointing to high coverage and a successful treatment program.

![Graph showing number of people receiving treatment by region](image)

**Figure 4 - Number of people receiving treatment**

**Figure 5 - Comparison in HIV prevalence between 2007 & 2009**

Limitations

1. Estimates of prevalence trends over time are based on data collected from pregnant women attending those antenatal clinics where HIV testing is offered as part of routine care. Potential biases associated with antenatal clinic surveillance in PNG should be considered. For example, pregnant women may not be representative of all adult women, women at higher risk of HIV may be opting out of testing, and there may be under-reporting of HIV in antenatal clinics.

2. In absence of reliable data on prevalence among adult men and women in the general population, the assumption was made that the prevalence ratio is 1. However, this assumption needs further investigation as it could substantially affect the overall national estimates. While the expanded ANC testing data now provide a more comprehensive picture of HIV prevalence among women in PNG, there is no comparable systematic, national information for prevalence among men.

Recommendations

Recognizing the significant progress that has been made in recent years in improving and expanding HIV surveillance systems, and treatment, care and prevention efforts, the following recommendations were made at the consensus workshop:

- Continue to improve the coverage and quality of HIV testing and reporting mechanism at antenatal clinics
- Undertake more detailed analyses of HIV treatment data
- Use behavioural and STI surveillance data to help guide the interpretation of prevalence trends
- Progress the conduct of national household-based HIV prevalence survey to obtain more representative data on HIV prevalence in the national adult population
- Continue to strengthen HIV and STI surveillance systems
Frequently Asked Questions

Why the 2009 estimates are different than those of 2007?
The main reason for the revision of HIV prevalence compared to the previously projected estimates for 2009 is that the expanded data collection on HIV prevalence now provides a much clearer picture of the epidemic in Papua New Guinea. The number of antenatal sites contributing data on HIV prevalence increased from 17 in 2005 to 104 in 2009. Figure 5 shows a comparison between the prevalence curve from the 2007 process and the new, more accurate curve from 2009, which is based on an expanded number of ANC sites.

What do we understand now to be the difference between the urban and rural spread of the epidemic?
Until 2008-2009, we had little information on rural prevalence. With the expansion of ANC sites beyond the urban centres, especially in the Highlands, we now have much better information. On the basis of the new information we can conclude that HIV infection is present in a number of rural locations. However, we still only have one or two years of testing in most rural locations, and the numbers tested at each site are relatively small, so we cannot draw separate conclusions about rural vs urban trends. Further information that will be collected from antenatal clinics over the next one to two years should clarify whether there are important urban-rural differences in prevalence.

What are the assumptions about male and female prevalence?
While the expanded ANC testing data now provide a more comprehensive picture of HIV prevalence among women in PNG. There is no comparable systematic, national information for prevalence in men. The only source of information that simultaneously reports on men and women is the routine HIV surveillance (case reporting) system, which is not a direct measure of prevalence. Until 2007 this system generally reported equal numbers of men and women diagnosed with HIV. A high proportion of these diagnoses were likely to have been in people with symptomatic infection who were seeking medical care. The recent expansion of ANC sites has resulted in a greater number of diagnoses in women than in men for the past two years, but this difference probably reflects more testing in women rather than higher prevalence.

Can the epidemic still be regarded as “generalized”?
The epidemic remains generalized. Based on case reporting data, the majority of infections occur as a result of heterosexual contact. In two regions, Highlands and Southern Region, prevalence estimates among women attending antenatal clinics exceeded 1%.

Are new infections starting to rise again?
New diagnoses as notified to the case reporting system are increasing steadily as more testing takes place. Based on the trends in ANC prevalence, we estimate that the rate of new infections has slowed over the past few years in the Highlands and Southern Regions. On the other hand, in other parts of PNG, where the prevalence has been lower, the rate of new infection does not show any indication of slowing.

Should HIV prevalence for NCD be estimated separately?
The most detailed and complete information on HIV in Southern Region comes from NCD. We could indeed look at the rest of the region separately, but would not be able to draw reliable conclusions about HIV prevalence or trends. It is certainly possible that by combining the rest of Southern with NCD, we are drawing conclusions that are actually more relevant to NCD than the remainder of the Region.

What impact would the scale up of treatment have on this data, as this has more than doubled since 2007?
The progress in scaling up of HIV treatment over the last three years is an outstanding achievement for PNG. People on treatment have reduced viral load and with regular access to prevention education, are less likely to transmit infection to sexual partners. On the other hand, the increased survival and reduction in HIV-related deaths due to treatment will cause an increase in numbers of living with HIV.

Does the rise in infections among children suggest that PPTCT programs are not working?
HIV infections among children are mostly a result of parent-to-child-transmission (PPTCT). The expansion of ANC testing has facilitated a great improvement in access to PPTCT programs in a number of locations, but there is still much work to do to prevent infections among newborn children in PNG.

Has there been any behavioral change including condom use and number of sexual partners?
Reliable, repeated behavioural surveys are a key component of the PNG National HIV, AIDS and STI Surveillance Plan. Repeat surveys have been recently completed in selected locations but are not yet available for review. Their findings should be known in the next few months. STI surveillance is based on reporting of syndromes through public clinics. It is useful as a means of describing clinic activity but is not considered to be sufficiently specific or accurate for use in tracking population rates of STIs.

ANC data is the most reliable source of information available for the estimation and projection in PNG. Are there other options/data that could be considered to provide some confidence in current projections?
There are recommendations to continue improving the coverage and quality of ANC testing data, and to do more quality control for both routine HIV case reporting and ART data. Ultimately there is no perfect surveillance system and every country must contend with a range of uncertainties in planning and managing programs. When the behavioural data are made available in the next few months, there will be another opportunity to look at the consistency of their findings with the prevalence trends. A planned national household survey will also provide better information in the future.