

*JE 4 Sept 09*

# HIV and STI Issues in the Torres Strait and Cairns

*Cairns, 31 August 2009*

## Background:

### HIV/AIDS in PNG (data from UNAIDS Report, 2008)

- In **Papua New Guinea** the number of people living with HIV has increased from 10,000 in 2001 to 54,000 in 2007
- By comparison, in **Australia** a total of 18,000 people were living with HIV in 2007
- The main mode of HIV transmission in **Papua New Guinea** appears to be unsafe heterosexual intercourse, and unprotected paid sex also factors as a central factor
- In **Papua New Guinea**, a high prevalence of untreated sexually transmitted infections is being detected in both the general population and groups at higher risk of exposure
  - Recent community-based studies found some 40% of people to be infected with at least one sexually transmitted infection (STI)
- **Papua New Guinea** is making some progress in expanding voluntary counselling and testing sites—about 75 are operating country-wide—which has resulted in more people being tested for HIV; the number has tripled each year since 2002
- AIDS remains the leading cause of hospital admissions and deaths
  - At Port Moresby General Hospital, up to 70% of beds are occupied by patients with HIV-related illnesses

### Torres Strait

- There are more than **55,000 people movements** across the Torres Strait border region between Australian residents and people living in PNG each year
- Not enough is known about '**sexual networks**' in the Torres Strait – in basic terms, we really do not understand who is having sex with whom
  - Anecdotally, men and women in the Torres Strait engage in sex with PNG nationals from The Treaty Zone. This is sometimes done in exchange for money or goods
- In developing countries around the world, outbreaks of HIV usually start first in younger women (usually 14-21 years old) and older men (25-50)
- Not enough is known about the rates of HIV and STIs in people living in the PNG Treaty Zone
  - Testing of people crossing the border from PNG for HIV and STIs is vital so that we gain a better understanding of the rates of infection. PNG nationals presenting to Australian health services in the Torres Strait should be offered STI/HIV testing, where appropriate

- **Rates of STIs** in the Torres Strait are very high, with gonorrhoea, *Chlamydia trachomatis* and *Trichomonas vaginalis* diagnoses being several times higher than that in the general Australian population
- A recent study of the rates of **genital herpes** infections on Cape York (which included Aboriginal and Torres Strait Islander population carries out by ourselves showed some of the highest rates of this infection ever recorded in the world
  - In this study of 270 Indigenous adults aged 16 and older, **the prevalence of herpes simplex type 2 (which causes genital herpes) was 58.5%**. The rate in the general Australian population is 12 %
- There are people who are HIV-positive residing in the Torres Strait and in Cape York. The numbers are currently very small
- **Transmission of HIV from PNG Nationals to Australians in the Torres Strait is inevitable**
- Health services in the Torres Strait and Cairns are ill-equipped to deal with such transmissions and the medical and psycho-social needs of people with HIV/AIDS
  - For instance, it is not currently possible for Queensland Health to test the immune function (CD4 or T-cell counts) of those with HIV if they live on the outer islands of the Torres Strait. No such facility exists at Cairns Base Hospital, and all blood is sent to Brisbane for testing. As the blood must reach the laboratory and be tested within 24 hours (and preferably sooner), logistics mean that testing in Cairns is impossible
  - People with HIV who live on the islands travel to Cairns to be tested
  - In the event of an outbreak of HIV, this would be a very costly and disruptive exercise, with loss of confidentiality for infected individuals a certainty

### Cairns

- Cairns has the highest rate of new HIV infections per head of population in Australia
  - There were 31 *new* diagnoses in 2008, for a population of less than 150,000 people
- Cairns has the highest rate of people with HIV/AIDS in Queensland, and probably the second highest (outside central Sydney) in Australia (*see Appendix*)
- There is significant movement of people between the Torres Strait and Cairns, for family reasons, employment, commerce, study, and tourism
- Cairns has seen several HIV diagnoses related to Australian males contracting HIV from women in PNG – at least 8 such infections in the last 2 years
- The Cairns Sexual Health Service provides HIV management to over 280 people in Cairns who are living with HIV
  - It also provides specialised care to the very small number people residing in the Torres Strait who are HIV positive
  - The service also sees many HIV-positive expatriates (and their sexual partners) who are living in PNG
- People from PNG who have HIV and who require hospitalisation in Cairns are assisted by the 'PNG friends and Wantoks Association' in Cairns

## ***HIV Transmission in the Torres Strait – what will be the drivers of infection?***

For HIV to transmit to a large extent in a community, 3 things are necessary:

1. High rates of partner change, especially if concurrent partnerships are occurring
  - a. Not enough is known about sexual networks in the Torres Strait, but this is a likely situation
2. A community in which males are uncircumcised will have approximately 9 times the risk of HIV transmission compared with circumcised populations
  - a. The vast majority of Torres Strait Island men, and PNG men, are uncircumcised
3. High rates of bacterial STIs, *Trichomonas vaginalis* (a small parasite that lives in the vagina and male urethra), and genital herpes. This latter infection may be the most important factor as it increases the risk of HIV transmission 2-3-fold, but cannot be cured
  - a. The Torres Strait has *very* high rates of all these STIs

As such, communities in the Torres Strait represent areas at very high risk of contracting HIV.

**Transmission from PNG to this area of Australia is inevitable**, but it is expected that the extent of the epidemic that occurs can be controlled by good public health measures and the provision of antiviral medications to treat HIV – these medications greatly reduce the risk of transmission, and may reduce it to almost zero.

In addition, these medications can lead to **an individual with HIV having a life expectancy of over 40 years**. Treatment, however, is highly specialised and complex, and **Cairns Sexual Health Service** is best placed to provide this service to Cape York and Torres Strait. The service is currently under-funded and under-resourced, and investment will need to be made by Queensland Health to improve capacity to deal with the inevitable outbreaks of HIV infection that will occur.

**Recommendations to reduce transmission risks of STIs, including HIV, and to deal with an increase of HIV infections in the Torres Strait :**

1. Conduct a study of the **sexual networks** in the Torres Strait to ascertain the nature of sexual contacts in the regions.
  - a. ARCSHS (Australian Research Centre in Sex, Health & Society) in Melbourne would be the ideal agency to conduct this research
2. Continue to collect data on the **prevalence of STIs - including HIV** - among PNG nationals presenting to Australian health facilities in the Torres Strait.
  - a. Further to this, obtain information and data on STIs - including HIV – in Treaty Zone villages
3. Build and maintain links between Queensland Health and PNG health professionals with a view to **increasing the long term health service delivery capacity of Western Province**, particularly the South Fly District, including Daru Hospital.
  - a. Assist with the facilitation of specialist medical visits for priority needs to Daru Hospital by medical specialists based in Cairns and on Thursday Island.
4. Acknowledging the inevitability of HV transmissions within the Torres Strait, and the complexity of HIV treatment, **increase the capacity of Cairns Sexual Health Service**, based at Cairns Base Hospital, to respond to HIV in the Torres Strait and Cape York.
5. **Allow Cairns Base Hospital to perform CD4 (T-cell) monitoring** of people with HIV who reside on the Torres Strait by installing a flow cytometer (T-cell counting machine) and technician in the pathology laboratory.
6. **Assist the 'PNG friends and Wantoks Association' in Cairns** to give support to People with HIV who are sent down from the Treaty Zone to the Cairns Base Hospital for treatment.

## ***Brief Biography of Dr Darren Russell***

- Sexual Health Physician
- Director of Cairns Sexual Health Service at Cairns Base Hospital
- Adjunct Associate Professor in the School of Medicine and Dentistry, James Cook University
- Conjoint Associate Professor, School of Population Health, The University of Melbourne
- President of the Australian Chapter of Sexual Health Medicine of the Royal Australasian College of Physicians
- Member – Australian Ministerial Advisory Committee on Blood Borne Viruses and STIs
  - Chair of STI National Strategy Writing Group
- Member – Queensland Ministerial Advisory Committee on HIV/AIDS, Hepatitis C, and Sexual Health
- Member – World Committee of International Union against the STIs
  - Regional Vice-Chair – Branch Committee of International Union against the STIs (Asia Pacific Region)
- Board Member – Australasian Society for HIV Medicine
- Board of Management Member & Book Editor – ‘Sexual Health’ journal
- Past President – Australian Federation of AIDS Organisation
- Past President – Victorian AIDS Council

### **Textbooks**

‘Sexual Health Medicine’, edited by *Russell, Bradford, and Fairley*. IP Communications, Melbourne, 2005.

‘Talking with Clients about Sex’. Bradford D and *Russell DB*. IP Communications, Melbourne, 2006.

Health service districts

In 2007, the notification rate in several Health Service Districts (HSDs), including Cairns and Hinterland and Metro North and South, were higher than the State-wide notification rate. In 2007, the Cairns and Hinterland HSD reported the highest notification rate (10.9 per 100,000 population) which was 2.7 times the State-wide rate. From 2003 to 2007, the notification rate in this District (5.3 notifications per 100,000 population) more than doubled to 10.9 notifications per 100,000 population in 2007.

Examination of the HIV risk exposures in the Cairns and Hinterland HSD in 2007 showed an increase in males reporting MSM exposure, as well an increase in males reporting heterosexual contact with a person from a high prevalence country (Papua New Guinea). Over the same period, the notification rate in Metro North and South HSDs increased similar rate to the State-wide increase (32%). Notifications in other HSD were relatively low in number and/or constant in trend over the same period.

**Table 6: New HIV notifications and notification rates by Health Service District, where the first diagnosis was in Queensland, 2002-2007**

| Health Service District          | 2002 |                   | 2003 |                   | 2004 |                   | 2005 |                   | 2006 |                   | 2002-2006 |                   | 2007 |                   |
|----------------------------------|------|-------------------|------|-------------------|------|-------------------|------|-------------------|------|-------------------|-----------|-------------------|------|-------------------|
|                                  | n    | rate <sup>†</sup> | n    | rate <sup>†</sup> | n    | rate <sup>†</sup> | n    | rate <sup>†</sup> | n    | rate <sup>†</sup> | n         | rate <sup>†</sup> | n    | rate <sup>†</sup> |
| Torres Strait-Northern Peninsula | 1    | 0.7               | 1    | 0.6               | 0    | 0.0               | 0    | 0.0               | 3    | 28.7              | 5         | 9.6               | 0    | 0.0               |
| Cape York                        | 0    | 0.0               | 0    | 0.0               | 1    | 8.3               | 0    | 0.0               | 0    | 0.0               | 1         | 1.7               | 0    | 0.0               |
| Mount Isa                        | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0         | 0.0               | 1    | 3.3               |
| Cairns and Hinterland            | 12   | 5.8               | 11   | 5.3               | 17   | 8.0               | 14   | 6.5               | 13   | 5.8               | 67        | 6.3               | 25   | 10.9              |
| Townsville                       | 1    | 0.5               | 2    | 1.0               | 2    | 1.0               | 2    | 1.0               | 2    | 0.9               | 9         | 0.9               | 4    | 1.8               |
| Mackay                           | 2    | 1.4               | 3    | 2.1               | 1    | 0.7               | 4    | 2.7               | 4    | 2.5               | 14        | 1.9               | 5    | 3.1               |
| Central West                     | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0         | 0.0               | 0    | 0.0               |
| Central Queensland               | 1    | 0.5               | 1    | 0.5               | 3    | 1.6               | 1    | 0.5               | 1    | 0.5               | 7         | 0.7               | 2    | 1.0               |
| South West                       | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0    | 0.0               | 0         | 0.0               | 1    | 3.8               |
| Darling Downs-West Moreton       | 4    | 0.9               | 4    | 0.9               | 9    | 2.1               | 9    | 2.0               | 7    | 1.5               | 33        | 1.5               | 8    | 1.3               |
| Sunshine Coast-Wide Bay          | 11   | 2.4               | 5    | 1.0               | 8    | 1.2               | 11   | 2.2               | 10   | 1.9               | 43        | 1.7               | 10   | 1.8               |
| Metro North                      | 37   | 5.2               | 33   | 4.5               | 39   | 5.1               | 44   | 5.7               | 39   | 4.9               | 192       | 5.1               | 54   | 6.6               |
| Metro South                      | 27   | 3.1               | 34   | 3.8               | 39   | 4.2               | 39   | 4.2               | 45   | 4.7               | 194       | 4.0               | 41   | 4.3               |
| Gold Coast                       | 21   | 5.2               | 20   | 4.8               | 20   | 4.7               | 24   | 5.4               | 19   | 4.1               | 104       | 4.8               | 17   | 3.5               |
| Queensland                       | 118  | 3.2               | 114  | 3.0               | 137  | 3.5               | 148  | 3.7               | 143  | 3.5               | 660       | 3.4               | 166  | 4.0               |

n Number

† Rate per 100,000 population using Estimated Resident Population figures, Australian Bureau of Statistics catalogue no. 3201.0 and Queensland Health District mappings.