Sexual Health in Indigenous Australia: An Ongoing Scandal of Government Neglect
Introduction and Overview

Acknowledgements

• Traditional owners, elders past and present
• Collaborators investigators, health services
• Colleagues

Overview:
Epidemiology of STIs
HIV risk
Research studies in PHC
Behavioural data
Aboriginal & Torres Strait Islander peoples

Total population 669,000- comprising 3% of the total Australian population

Aboriginal and Torres Strait Islander population by area of residence 2011

- Remote
- Regional
- Major cities

Non Aboriginal
Aboriginal

Ref. 2011 Australian Bureau of Statistics Census
STIs

- STIs- referring to are chalmydia, gonorrhoea, syphilis and trichomonas
- STIS affect young people, shame, outcomes related to STIs PID, infertility, DV-

- Presence of STIs increases risk of HIV
- STIs –significant gains have not been made like in other areas of Aboriginal health, despite PCR testing and single dose curative antibiotics becoming available over last 20 years

- Neisseria gonorrhoeae antimicrobial resistance (AMR) is now a global problem and designated by the US CDC and Prevention as one of the top three urgent antimicrobial resistance threats.
## STIs-notification rates

<table>
<thead>
<tr>
<th>STI</th>
<th>Total diagnoses</th>
<th>Proportion among Aboriginal people</th>
<th>Population rates per 100,000 Aboriginal vs Non-Aboriginal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia</td>
<td>40,973</td>
<td>6629 (16%)</td>
<td>1220 vs. 379</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>10,713</td>
<td>4052 (38%)</td>
<td>694 vs. 48</td>
</tr>
<tr>
<td>Syphilis</td>
<td>1,764</td>
<td>142 (8%)</td>
<td>18 vs. 6</td>
</tr>
<tr>
<td>HIV</td>
<td>1,236</td>
<td>26 (2%)</td>
<td>5.5 vs. 5.1</td>
</tr>
<tr>
<td>Hepatitis B (newly diagnosed)</td>
<td>2899</td>
<td>206 (7%)</td>
<td>72 vs. 32</td>
</tr>
<tr>
<td>Trichomonas</td>
<td></td>
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</tr>
</tbody>
</table>

Trichomonas is not nationally notifiable, reportable only in the (NT). Prevalence estimates around 25% and 5% of women and men respectively aged 16-34 years. The prevalence in non-Aboriginal women is estimated at <1% nationally.
Gonorrhoea by remoteness

Rate per 100,000

Area of residence

Major cities
Inner regional
Outer regional
Remote
Very remote

Aboriginal and Torres Strait Islander
Non-Indigenous

Gonorrhoea

X 43
Notification rates of infectious syphilis in 2013 by Aboriginal and Torres Strait Islander status, sex and age group

Aboriginal and Torres Strait Islander

Non-Indigenous

Age specific rate per 100,000
Issue: Infectious syphilis outbreak MJA paper 2010

NT, QLD and WA infectious syphilis notifications higher than rest of Australia in 2010

3+ neonatal deaths (QLD)

>500 cases young Aboriginal and TSI people aged 15-24
STRIVE: Trichomonas prevalence (n=1828)

- **Males**
  - 16-19: 6.1%
  - 20-24: 2.9%
  - 25-29: 5.5%
  - 30-34: 6.5%

- **Females**
  - 16-19: 25.8%
  - 20-24: 15.6%
  - 25-29: 15.0%
  - 30-34: 16.1%
Aboriginal people face multiple risks for HIV to escalate

Globally communities with high STI prevalence have high HIV rates

Injecting drug use is implicated in HIV epidemics globally

Hindsight from Canada First Nations Peoples
Australian HIV diagnoses by Aboriginal & Torres Strait Islander status

Age standardised rate per 100,000

- non-Indigenous
- Indigenous

HIV diagnosis among Aboriginal Australians
HIV by exposure category

Aboriginal & Torres Strait Islander

- Men who have sex with men: 21%
- Men who have sex with men and injecting drug use: 12%
- Injecting drug use: 8%
- Heterosexual contact: 8%
- Mother-to-child: 1%
- Undetermined: 1%
- Total: 50%

Australian born non-Indigenous

- Men who have sex with men: 4%
- Men who have sex with men and injecting drug use: 13%
- Injecting drug use: 3%
- Heterosexual contact: 4%
- Total: 76%
Lessons from Canada

Aboriginal and First Nations, Metis and Intuits make up 3% of the population. Where reported Aboriginal peoples make up 18% of HIV diagnosis.
Injecting drug use & Aboriginal communities

- Triangulation of data ANSPS, OST program (10%),

- NSP Surveys – 2009(13) 2010(11) 2011(14) 2012 (8) 2013 (14)

- HCV prevalence 46%

- GOANNA survey 3%,
Results – % tested women

Testing doubled in young Aboriginal and Torres Strait Islander Women from 2009 – 2013 (199 in 2009, 412 in 2013)
Results – % tested men

% Men tested for gonorrhoea

Testing tripled in young Aboriginal and Torres Strait Islander men from 2009 – 2013 (59 in 2009, 170 in 2013)
Positivity by Area

- Regional:
  - Females: 4.5% (Gonorrhea), 15.8% (Chlamydia)
  - Males: 4.2% (Gonorrhea), 15.0% (Chlamydia)

- Urban:
  - Females: 1.2% (Gonorrhea), 16.0% (Chlamydia)
  - Males: 1.1% (Gonorrhea), 13.3% (Chlamydia)
SHIMMER CT - Testing rates females and males

4 regional Aboriginal medical services - NSW CQI program
SHIMMER study: CT and NG positivity

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females chlamydia</th>
<th>Overall</th>
<th>Overall Gonorrhoea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positivity (%)</td>
<td>14%</td>
<td>8%</td>
<td>9%</td>
<td>0.60%</td>
</tr>
</tbody>
</table>
Chlamydia testing rate in Aboriginal and Torres Strait Islander patients by age and ACCESS network 2008-09
Chlamydia positivity rate among Aboriginal and Torres Strait Islander patients by age and sex, SHS and ACCHS, 2008-09

17.5 20.8 20.0 20.2
14.2 12.3 12.6
17.1 12.2
8.1

Female Male 16-19 20-24 25-29 Female Male 16-19 20-24 25-29

Age group (years) Age group (years)

Sexual Health Service network Aboriginal Community Controlled Health Service network
RCT of CQI in remote primary care (68 remote communities)

5 year project
STRIVE – Cluster randomised trial to determine if a CQI program can have an impact on prevalence of STIs - 67 remote communities

Prevalence of chlamydia, gonorrhoea and trichomonas in 16-34 year olds

- Testing coverage
- Time to treatment
- 3 month testing for re-infection
- Contact tracing
STRIVE Indicators and Targets

**SCREEN**
Resident population aged 16-34 years

**TREAT QUICKLY**
Symptomatic infection – treat immediately
Asymptomatic infection – treat within 7 days of receiving a pathology result

**TEST FOR RE-INFECTION**
For people with a positive result, test at 3 months after treatment

**CONTACT REFERRAL**
Test and treat named contacts within 14 days

- Target: 80%
- Target: 95%
- Target: 80%
- Target: 80%
- Target: 50%
STRIVE field activity

264 site visits completed
Another 66 site visits in the coming 3-4 months
238 follow up calls (3 month and 9 month)
Many ad hoc calls and emails
900 clinical staff encounters
55 qualitative interviews
Outcomes: Total STI testing by calendar year

<table>
<thead>
<tr>
<th>Year</th>
<th>Chlamydia</th>
<th>Gonorrhoea</th>
<th>Trichomonas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>6,452</td>
<td>8,861</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>9,830</td>
<td>10,660</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>12,733</td>
<td>10,386</td>
<td>10,853</td>
</tr>
<tr>
<td>2013</td>
<td>13,855</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Methods: prevalence study

Defined period each year 2010, 2012, 2013

Aimed to offer testing to all clients attending in the age group 16-34

Quotas for each service according to size

Broken down by sex and age group
Number of tests for prevalence

- **2010**
  - Males: 1002
  - Females: 1290

- **2012**
  - Males: 827
  - Females: 1318

- **2013**
  - Males: 936
  - Females: 1466
Any STI prevalence, by sex

Year | Females | Males | Overall
--- | --- | --- | ---
2010 | 24.19 | 15.1 | 20.1
2012 | 22.1 | 14.1 | 18.1
2013 | 20.1 | 13.1 | 17.1
Any STI prevalence, by age group

- 16-19
- 20-24
- 25-29
- 30-34

2010: 29%, 19.9%, 15.7%, 12.2%
2012: 27.6%, 21.5%, 17.9%, 11.5%
2013: 27.5%, 17.9%, 12.2%,

Any STI prevalence (%)
STRIVE STI co-infections in remote Aboriginal communities: females

- CT, % with NG
- CT, % with TV
- NG, % with CT
- NG, % with TV

<table>
<thead>
<tr>
<th>Females</th>
<th>16-19</th>
<th>20-24</th>
<th>25-29</th>
<th>30-34</th>
<th>35+</th>
</tr>
</thead>
<tbody>
<tr>
<td>% positive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
STRIVE: STI co-infections in remote Aboriginal communities: males

- CT, % with NG
- CT, % with TV
- NG, % with CT
- NG, % with TV

% positive

<table>
<thead>
<tr>
<th>Age Group</th>
<th>16-19</th>
<th>20-24</th>
<th>25-29</th>
<th>30-34</th>
<th>35+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What about young people?

- National cross sectional survey of Aboriginal and Torres Strait Islander people aged 16-29 years
- Assessed knowledge, risk factors and health service access for STIs and BBVs
- Collaboration involving every jurisdiction health Departments and ACCHS orgs
n = 2887

- 2011 Survey Sites
- 2012 and 2013 Survey sites
Who participated?

- Total 2877 participants
- Female 60%  Male 40%
- Median age 21
- Aboriginal 88%, TSI 5%
- Both 7%

- Single 58%

- Heterosexual 91%

- 45% Education higher than Year10
- urban 45%, regional 41% , remote 14%
### Knowledge

**Table 4-3:** Participants knowledge score of BBVs and STIs questions by gender and age group

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>GENDER†</th>
<th>AGE GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>Male n (%)</td>
<td>Female n (%)</td>
</tr>
<tr>
<td><strong>n (%)</strong></td>
<td>2877</td>
<td>1132</td>
<td>1705</td>
</tr>
<tr>
<td><strong>KNOWLEDGE SCORE‡</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1(^{st}) tertile (score 0-8)</td>
<td>868 (31)</td>
<td>404 (37)</td>
<td>464 (28)</td>
</tr>
<tr>
<td>2(^{nd}) tertile (score 9-10)</td>
<td>937 (34)</td>
<td>370 (34)</td>
<td>567 (34)</td>
</tr>
<tr>
<td>3(^{rd}) tertile (score 11-12)</td>
<td>969 (35)</td>
<td>323 (29)</td>
<td>641 (38)</td>
</tr>
<tr>
<td><strong>n (%)</strong></td>
<td>2877</td>
<td>1460</td>
<td>1023</td>
</tr>
<tr>
<td><strong>KNOWLEDGE SCORE‡</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1(^{st}) tertile (score 0-8)</td>
<td>873 (31)</td>
<td></td>
<td>414 (29)</td>
</tr>
<tr>
<td>2(^{nd}) tertile (score 9-10)</td>
<td>939 (34)</td>
<td></td>
<td>481 (33)</td>
</tr>
<tr>
<td>3(^{rd}) tertile (score 11-12)</td>
<td>969 (35)</td>
<td></td>
<td>555 (38)</td>
</tr>
</tbody>
</table>
### Sexual Activity

**Gender**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Total n (%)</th>
<th>Male n (%)</th>
<th>Female n (%)</th>
<th>16-19 n (%)</th>
<th>20-24 n (%)</th>
<th>25-29 n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2877</td>
<td>1132</td>
<td>1705</td>
<td>1265</td>
<td>897</td>
<td>715</td>
</tr>
</tbody>
</table>

**Ever Had Sexual Intercourse (Vaginal or Anal)**

<table>
<thead>
<tr>
<th>Status</th>
<th>Total n (%)</th>
<th>Male n (%)</th>
<th>Female n (%)</th>
<th>16-19 n (%)</th>
<th>20-24 n (%)</th>
<th>25-29 n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2320 (81)</td>
<td>919 (81)</td>
<td>1381 (81)</td>
<td>871 (69)</td>
<td>783 (87)</td>
<td>666 (93)</td>
</tr>
</tbody>
</table>

**Of Those Who Have Ever Had Sex (n=2320), Number of Partners in Last Year**

<table>
<thead>
<tr>
<th>Number of Partners</th>
<th>Total n (%)</th>
<th>Male n (%)</th>
<th>Female n (%)</th>
<th>16-19 n (%)</th>
<th>20-24 n (%)</th>
<th>25-29 n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>191 (8)</td>
<td>62 (7)</td>
<td>126 (9)</td>
<td>78 (9)</td>
<td>55 (7)</td>
<td>58 (9)</td>
</tr>
<tr>
<td>One</td>
<td>1075 (46)</td>
<td>364 (40)</td>
<td>709 (51)</td>
<td>346 (40)</td>
<td>366 (47)</td>
<td>363 (55)</td>
</tr>
<tr>
<td>2-4 people</td>
<td>869 (38)</td>
<td>376 (41)</td>
<td>489 (35)</td>
<td>367 (42)</td>
<td>292 (38)</td>
<td>210 (32)</td>
</tr>
</tbody>
</table>

**Age of Last Partner**

<table>
<thead>
<tr>
<th>Age of Partner</th>
<th>&lt;16 years</th>
<th>16-17</th>
<th>18-19</th>
<th>20-24</th>
<th>25-29</th>
<th>30 or older</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;16 years</td>
<td>69 (3)</td>
<td>46 (5)</td>
<td>23 (2)</td>
<td>61 (8)</td>
<td>6 (1)</td>
<td>2 (&lt;1)</td>
</tr>
<tr>
<td>16-17</td>
<td>337 (16)</td>
<td>195 (23)</td>
<td>138 (11)</td>
<td>313 (40)</td>
<td>16 (2)</td>
<td>8 (1)</td>
</tr>
<tr>
<td>18-19</td>
<td>395 (19)</td>
<td>184 (21)</td>
<td>208 (17)</td>
<td>265 (34)</td>
<td>111 (15)</td>
<td>19 (3)</td>
</tr>
<tr>
<td>20-24</td>
<td>860 (41)</td>
<td>313 (37)</td>
<td>546 (44)</td>
<td>130 (16)</td>
<td>487 (67)</td>
<td>243 (41)</td>
</tr>
<tr>
<td>25-29</td>
<td>246 (12)</td>
<td>76 (9)</td>
<td>170 (14)</td>
<td>11 (1)</td>
<td>61 (8)</td>
<td>174 (29)</td>
</tr>
<tr>
<td>30 or older</td>
<td>192 (9)</td>
<td>34 (4)</td>
<td>158 (13)</td>
<td>7 (1)</td>
<td>37 (5)</td>
<td>148 (25)</td>
</tr>
</tbody>
</table>
Sexual Debut before 16 years

Median age Sexual debut 15; IQR 13-17

16-19 years
- 16 years and over: 15%
- <16 years: 85%

20-24 years
- 16 years and over: 36%
- <16 years: 64%

25-29 years
- 16 years and over: 37%
- <16 years: 63%

Figure 5b: First sexual intercourse before/after 16 years of age by age group
Illicit Drug Use in Last 12mths: Gender

% Population: Yes

- Cannabis
- Meth
- Ecstasy
- Cocaine
- Heroin

% Yes combined categories:
- Every Day
- Once a week or more
- About Once a month
- Every Few Months

Male | Female
Methamphetamines

• STI and HIV risk

• Injecting risk

• Availability and affordability

• Much higher reported rates of use in Aboriginal communities
  • Ever reported use 15% vs 7%
  • Last year use 9% vs 2%
The first randomised trial of a molecular chlamydia and gonorrhoea point-of-care assay
1. Patients with symptoms treated presumptively (‘syndromic management’) in PHC.

2. Asymptomatic patients have specimen sent to laboratory.

3. Treatment delays common (3 weeks for asymptomatic patients) and up to 25% remain untreated (Guy 2012).
TTANGO design

- Whether the addition of POC testing
  - Improves timeliness of
    - Treatment
    - Partner notification

- Reduces infections
  - Re-infections
  - Prevalence

- Acceptable?

- Impacts on client flow?

- Cost-effective?

Cross-over study design
Preliminary data

- Early data suggests nearly all clients treated in 24 hours, compared with avg of 3 weeks
- Very acceptable to staff and clients
- Systems established for 90 min wait time
  - Collect urine early in consultation
  - Ask patients to come back later, or contact via mobile phone (more common)
At best sporadic approach to community health promotion and education, often ad hoc one off and inappropriate

Both targeted messages are required that match the reality for young Aboriginal people are required

Evidence states these are best developed and delivered by peers to have any impact on both reach and impact
Prevention needs reinvigorating
Conclusions

• STIs and HIV a major concern for Indigenous communities but with little Government action since 2009 coinciding with the CTG agenda
• Long standing rates of STIs- threat of +++HIV
• Interventions need to be more potent - holistic
• Solution for remote endemic rates of STI is unanswered
• Major improvements required in PHC delivery
• Breaking boundaries advocacy is powerful
• Strategy environment is good but impact is limited