Indigenising interventions to impact STI inequality among First Peoples of Australia

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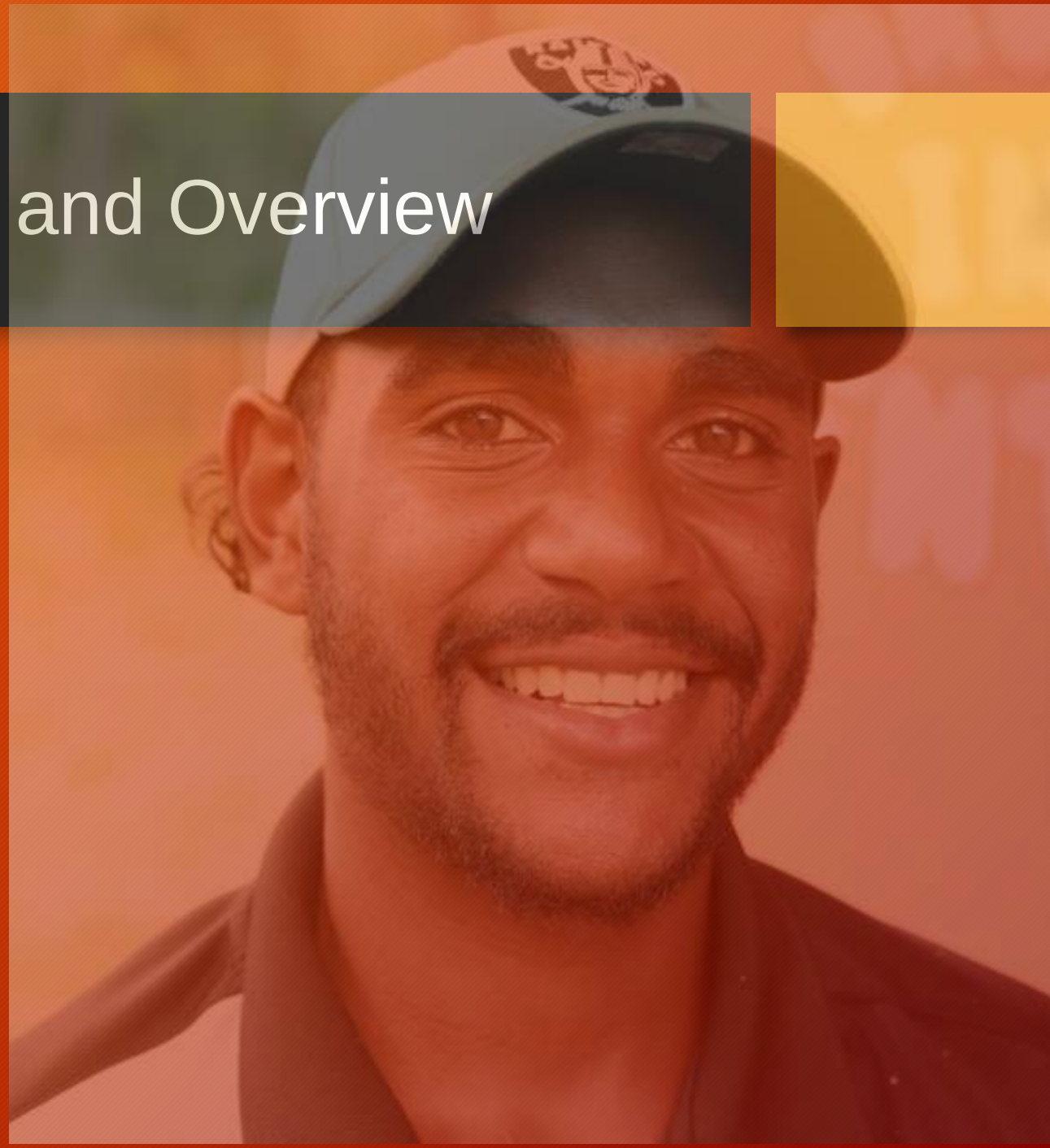
Acknowledgements and Overview

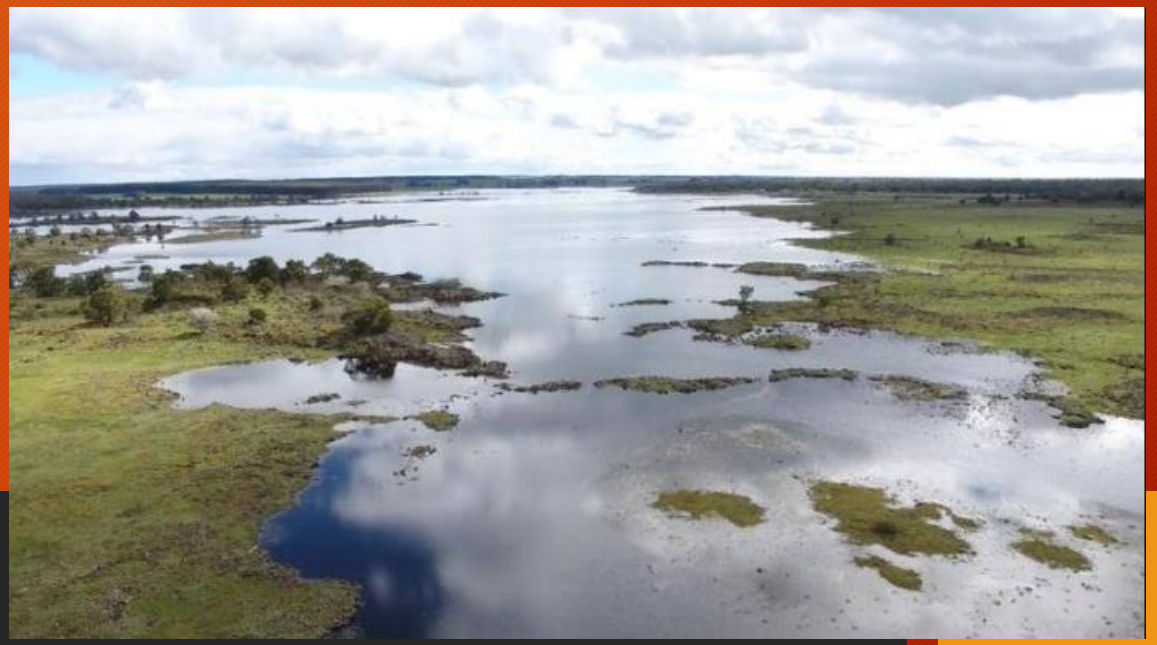
Acknowledgements

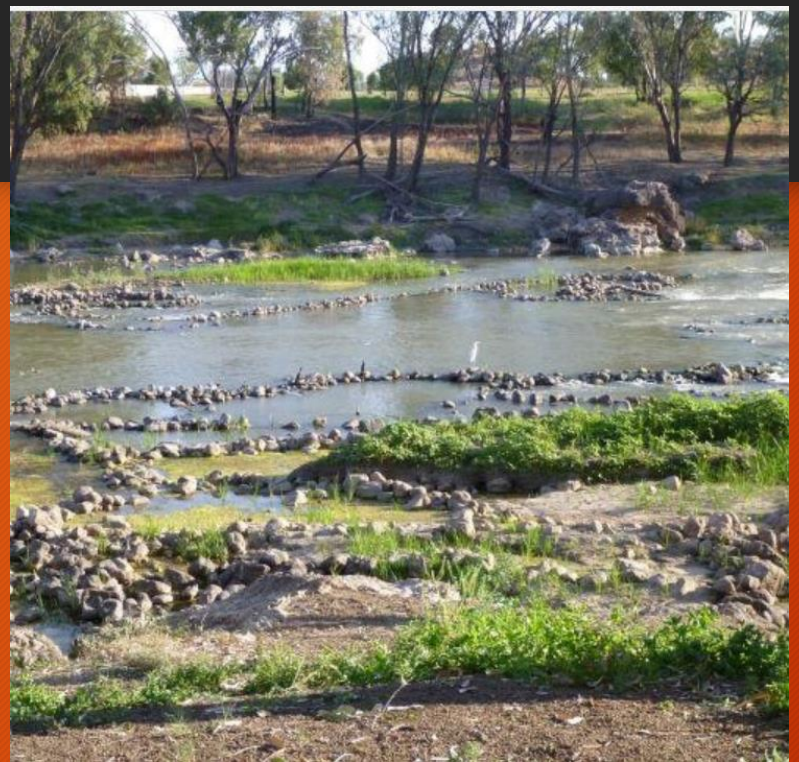
- Traditional owners

Overview

- The research pathway
- What have we learnt
- Ways forward







Worlds oldest living continuous culture

A few words to begin with

- Acknowledgement and collectiveness of our people
- When one wins we all win, when one loses we all lose
- These data, these outbreaks, they’re our skin, they’re our kinship, they’re our people
- These data provide a deep sense of purpose, but shame, frustration and a gods eye view of how inequity plays out in contemporary society.

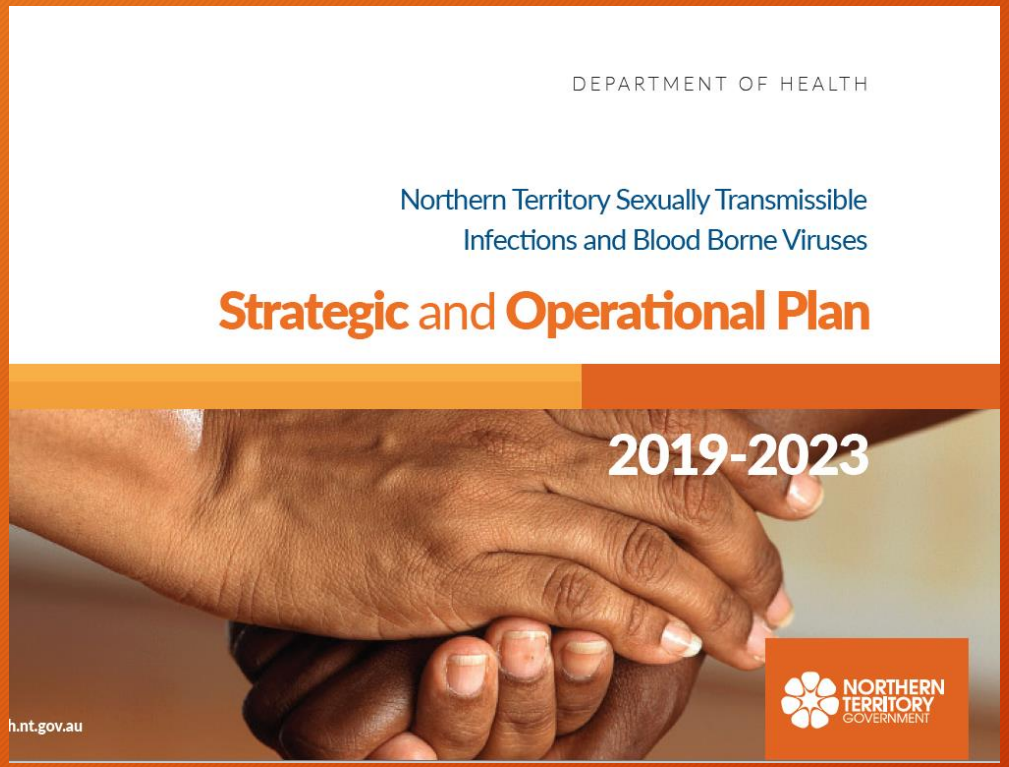
A few truths….

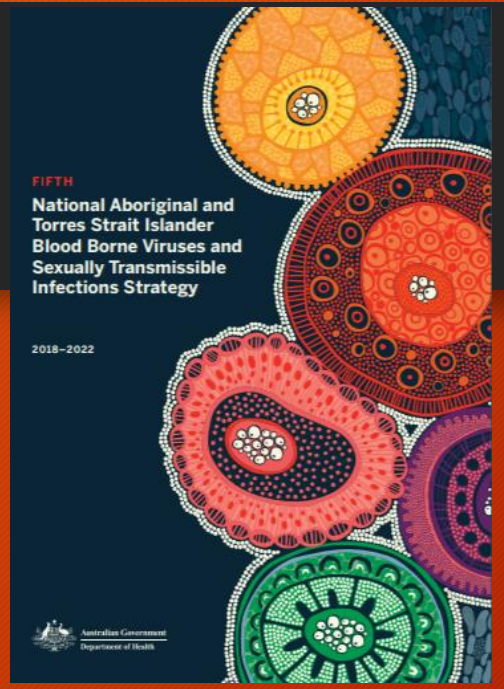
- We have a responsibility in Aboriginal health to lead the way
- STIs (services, diagnostics, treatment)
- Acceptance of current status
- Long term vision

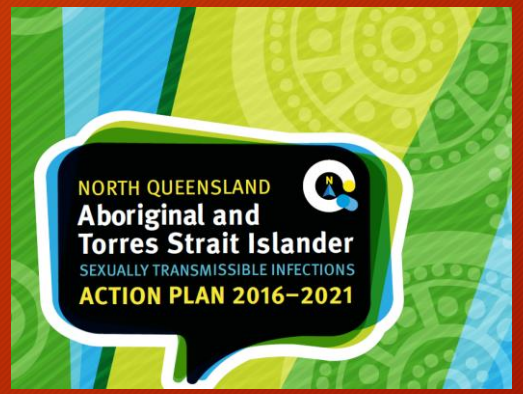
The current situation

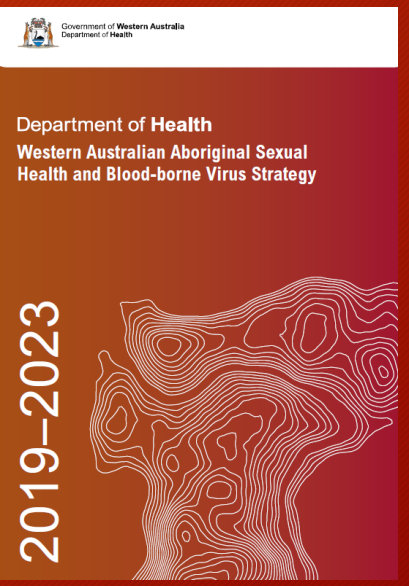
- Many efforts to reduce STI and HIV
- Few areas nationally that are doing well
- STIs and HIV are not the easy issue to talk about
- Remote and regional areas

Good Policy Environment









Health Services and guidelines in place

- ACCHS
- Sexual Health Services and
- Mainstream PHC
- Clinical Guidelines

NACCHO

Health Promotion

- Social media
- Animations
- Videos
- Website
- Posters
- TV and Radio
- Fact sheets

Some persistent issues

- Clinical service delivery
  - Males present a third less often than women
  - Retesting, contact tracing and ITT all < optimal
  - Testing rates remain around 20%
  - Incidence and prevalence remains high - are we winning this battle
  - Youngest age groups 15-19 yo. access, burden of infection

Some persistent issues

- Workforce
  - Limited sexual health specialists in northern Australia +/- Cultural awareness
  - RAN turnover 140% p.a. - median stay 4 months*
  - Diminishing AHP/AHW roles

*Russell Human Resources for Health 2017

Some persistent issues

- Social determinants of health remain a constant – particularly pertinent education, health care access and employment
- Health promotion – too few Aboriginal and Torres Strait Islander led campaigns
- Social context - AOD use, First Peoples languages, early sexual debut
- Disempowerment – white fragility (D' Angelo) frustration, anger, maintains status quo, breeds complacency but then gets turned on us disengaged

The two big R’s

Morris Gollow Lecture – Canberra 2011

Dreaming of health equality

- Addressing the unacceptable predicament
- The use of evidence
- Making a difference to address STI and BBV control for Australia's first peoples
- Giving Voice to those who need their voice to be heard!

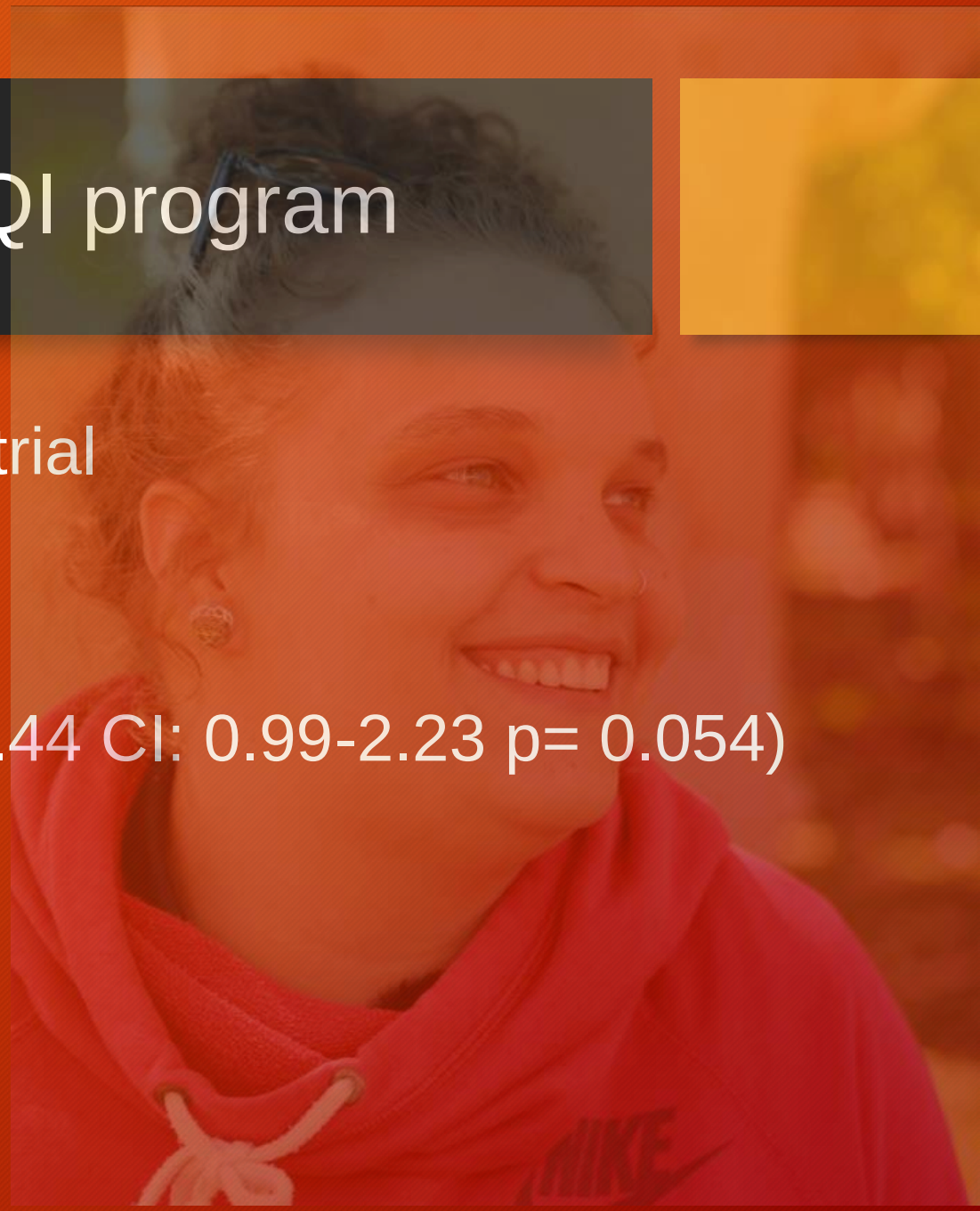
Research – since 2011

- STRIVE/2 (CQI health services research)
- TTANGO/2 (point of care machines)
- Young Deadly Free (peer education health promotion)
- GOANNA (national cross-sectional survey (population health)
- CRE - ASH (CQI – health services research)
- MOST (peer qualitative work and trial of incentives)

STRIVE Study

- Largest RCT conducted in Aboriginal health
- Target population 35,000 in 68 remote communities NT (n=58), WA (n=7), QLD (n=3)
- Hypothesis: increase testing, case detection, treatment and reduce reinfection
- Primary outcome, lower prevalence
- Our intervention: CQI Program, extraction & analysis of clinic data, supporting change for improvement in care

STRIVE SW-RCT trialling a CQI program

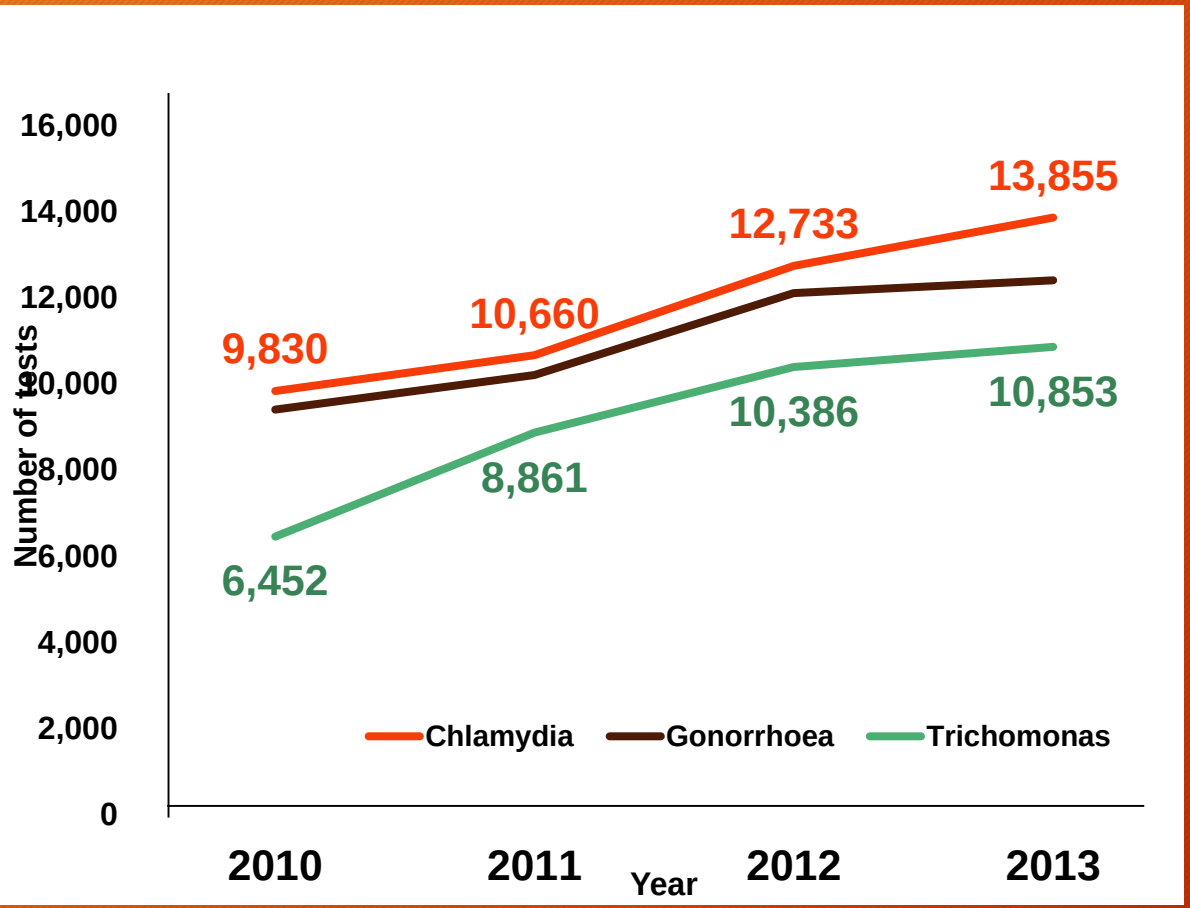


- 35,000 tests conducted over 3 years of trial

- Testing increased by 44% overall (RR 1.44 CI: 0.99-2.23 p= 0.054)

STRIVE Outcomes: STI testing and community prevalence

STI testing data by infection and year



Adjusted relative risk of prevalence of STI, intervention and control clusters adjusted for baseline prevalence assessments

	Relative risk	P-value
All 3 STI	1.21	0.273
Chlamydia	1.54	0.069
Gonorrhoea	1.00	0.997
Trichomonas	0.87	0.546

Final outcomes paper under review Lancet Global Health

TTANGO Study -Xpert® (Cepheid) Molecular POC Test for CT & NG

Urine specimen

Swab specimen

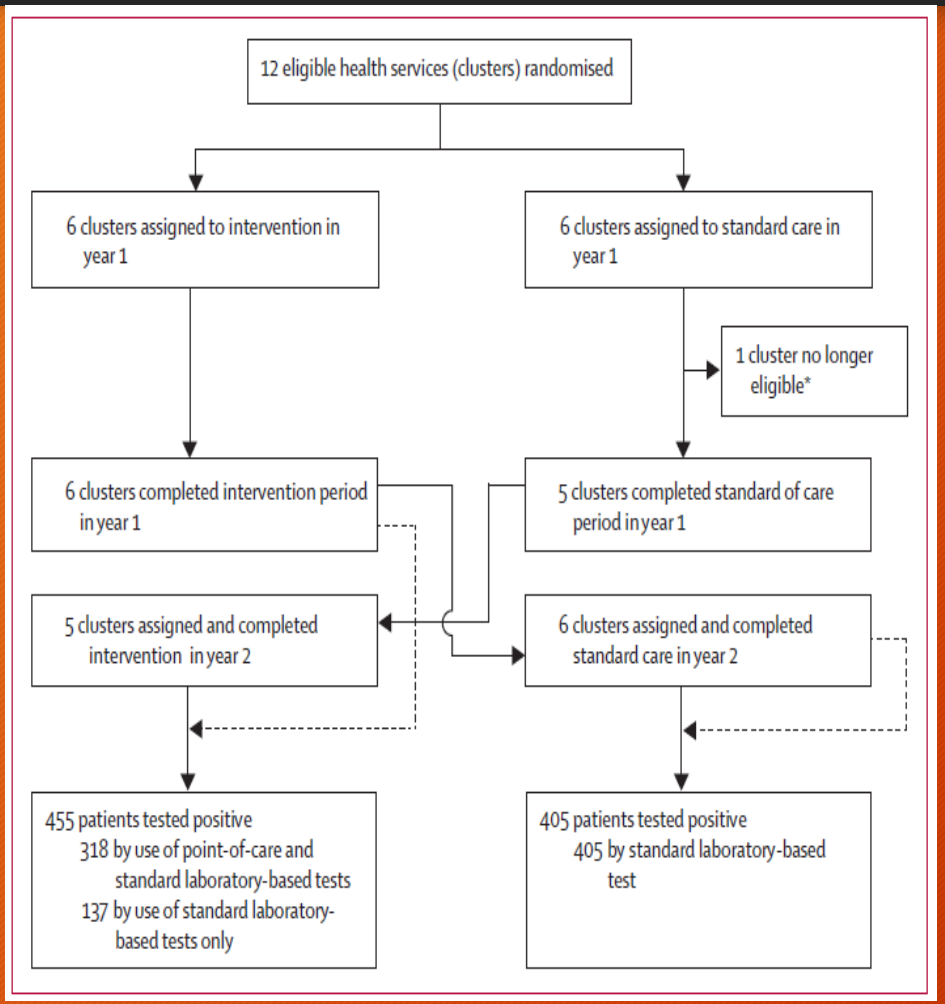
Single use test cartridge

Laptop

Xpert machine

Xpert cartridge

Point of care testing for STI in remote Australia



Molecular point-of-care testing for chlamydia and gonorrhoea in Indigenous Australians attending remote primary health services (TTANGO): a cluster-randomised controlled, crossover trial

Lancet Infect Dis 2018; 18: 1117–26

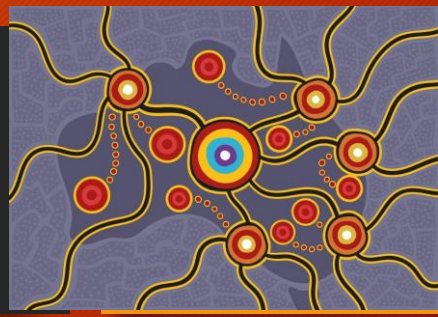
Rebecca J Guy, James Ward, Louise M Causer, Lisa Natoli, Steven G Badman, Annie Tangey, Belinda Hengel, Handan Wand, David Whiley, Sepehr N Tabrizi, Mark Shephard, Christopher K Fairley, Basil Donovan, David A Anderson, David G Regan, Lisa Maher, John M Kaldor

Repeat positivity (RR 1·42, 95% CI 0·64–3·13; p=0·405)

Interval time to treatment (RR 1·66, 1·41–1·93; p<0·0001).

Number of tests (455 intervention vs 405 control)

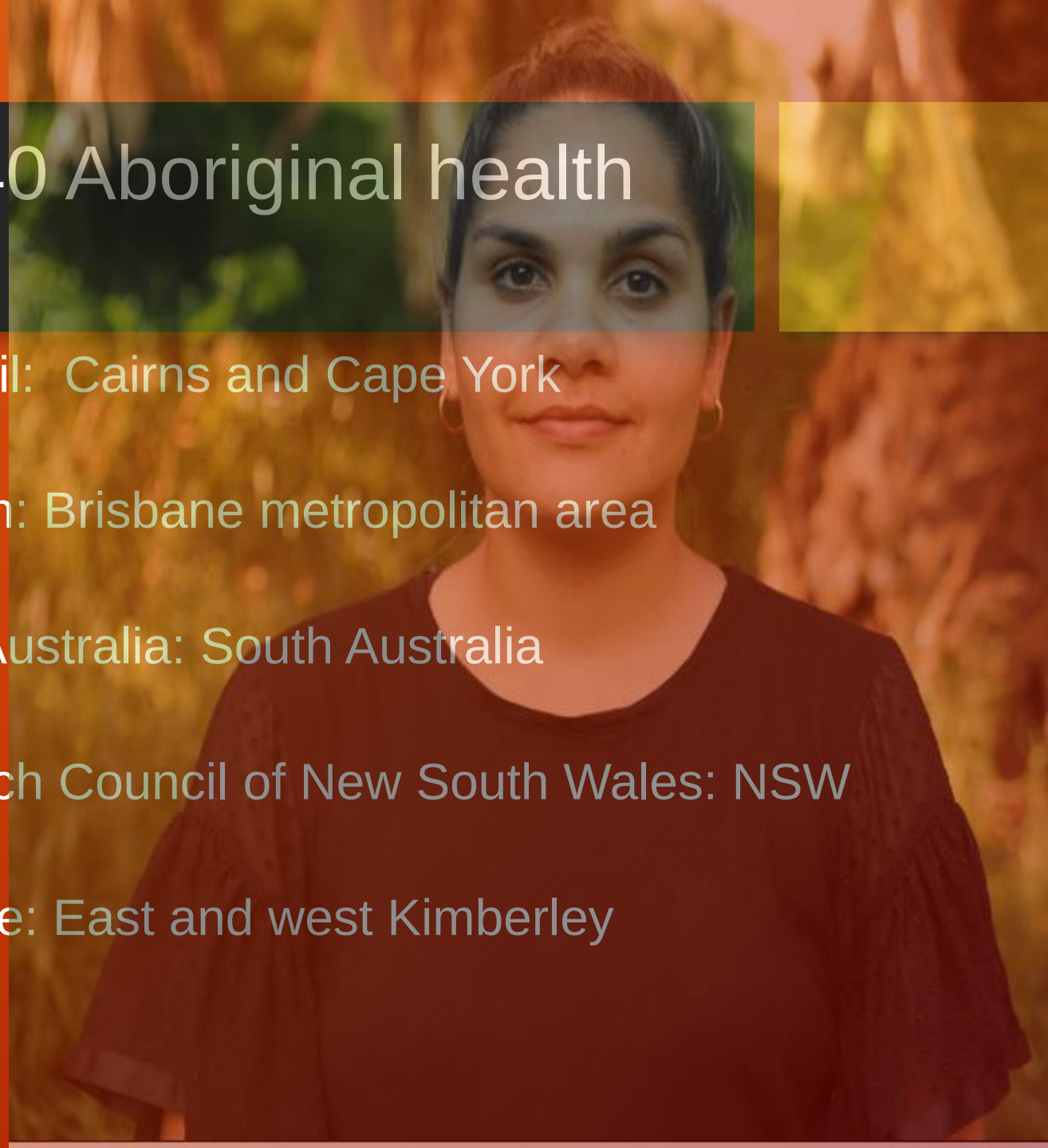
ATLAS – national sentinel surveillance network



- Working with 52 Aboriginal Health Services
- Focus is clinical activity -attendance, testing, retesting, treatment outcomes for all STI/BBVs
- 12 performance measures to drive continuous quality improvement

Five Clinical Hubs and >40 Aboriginal health services

- Apunipima Cape York Health Council: Cairns and Cape York
- Institute for Urban Indigenous Health: Brisbane metropolitan area
- Aboriginal Health Council of South Australia: South Australia
- Aboriginal Health & Medical Research Council of New South Wales: NSW
- Kimberley Aboriginal Medical Service: East and west Kimberley
- Other remote sites



3 PERFORMANCE MEASURES

The following Performance Measures are presented in this report:

1. **STI Testing Rate**: Proportion of clients tested for STIs (CT, NG, TV, syphilis and HIV) during the reporting period
2. **STI Testing Coverage**: Proportion of current clients tested for STIs once in a 12-month period
3. **Unique STI test positivity**: Proportion of clients with at least one positive STI test in a 12-month period
4. **Completeness of STI Testing:** Proportion of clients with a positive CT and/or NG and/or TV result among also tested for syphilis and HIV within 30 days from the date of initial specimen collection
5. **STI Treatment Interval**: Time (days) from date of positive STI (CT, NG, TV) result to date of treatment
6. **STI Retesting Rate**: Proportion of clients retested at approximately three months (60 to 120 days) following treatment for an initial positive STI (CT/NG/TV) result
7. **STI Repeat Positivity Rate**: Proportion of clients retested at approximately three months (60 to 120 days) after treatment for an initial positive CT/NG result and who retested positive for CT/NG at this time
8. **Hepatitis B Virus (HBV) Testing Rate**: Proportion of clients receiving an HBV test and among those testing negative, the proportion subsequently vaccinated
9. **Hepatitis C (HCV) Testing Rate**: Proportion of clients tested for HCV and among those testing positive, the proportion subsequently tested for RNA or viral load
10. **HCV Treatment Uptake**: Proportion of HCV RNA positive clients prescribed Direct Acting Antiviral (DAA) treatment
11. **HCV Sustained Virological Response (SVR)**: Proportion of clients who, after having been prescribed DAA treatment, achieve an undetectable viral load (VL)
12. **HPV Screening Rate**: Proportion of female clients screened for human papillomavirus (HPV) in line with national guidelines

Health Services Research

National Surveillance Network

Our network potentially will:

- Link to existing ACCESS/TTANGO networks
- Link with other health services in regions determine patterns of care
- Expand beyond sexual health to other infections

Capability to

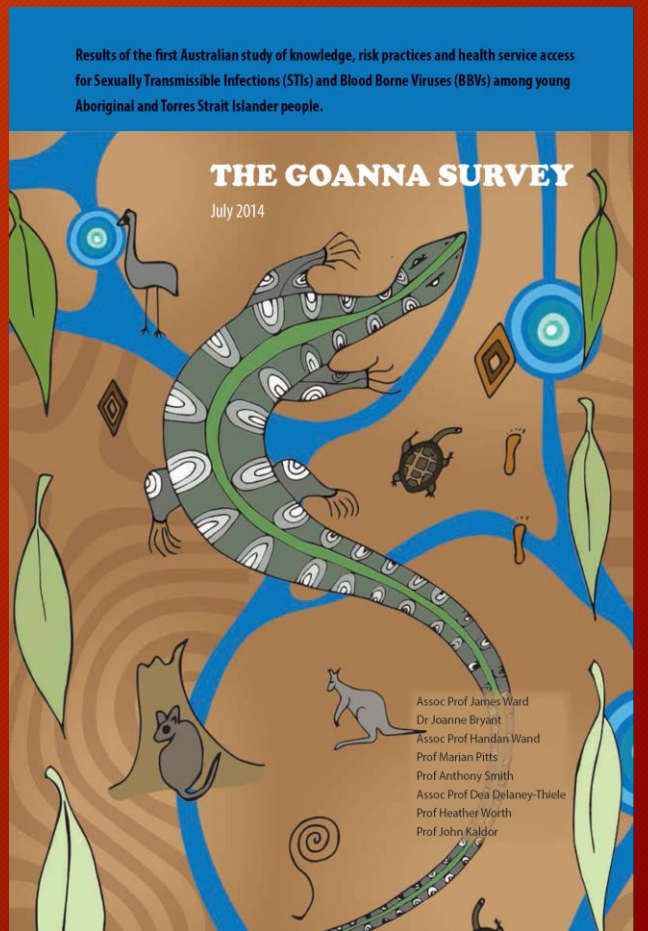
- Develop diagnosis and treatment cascades
- Undertake geospatial mapping
- Initiate Cohorts e.g. HIV + clients, PWID (ageing, other diseases)
- Answer other questions relevant to clinical practice

GOANNA - National survey of young Aboriginal and Torres Strait Islander people

- Cross sectional surveys of Aboriginal and Torres Strait Islander people aged 16-29 years

Methods

- 40 community events; surveyed n=2,877
- Assessed knowledge, risk factors and health service access
- GOANNA 2 underway n=985
- Assessing online survey collection n= 2200 in SA



Publications arising from study

Ward STD 2017
Ward ANZJPH 2016
Bryant DAR 2016
Wand BMC Public Health 2017

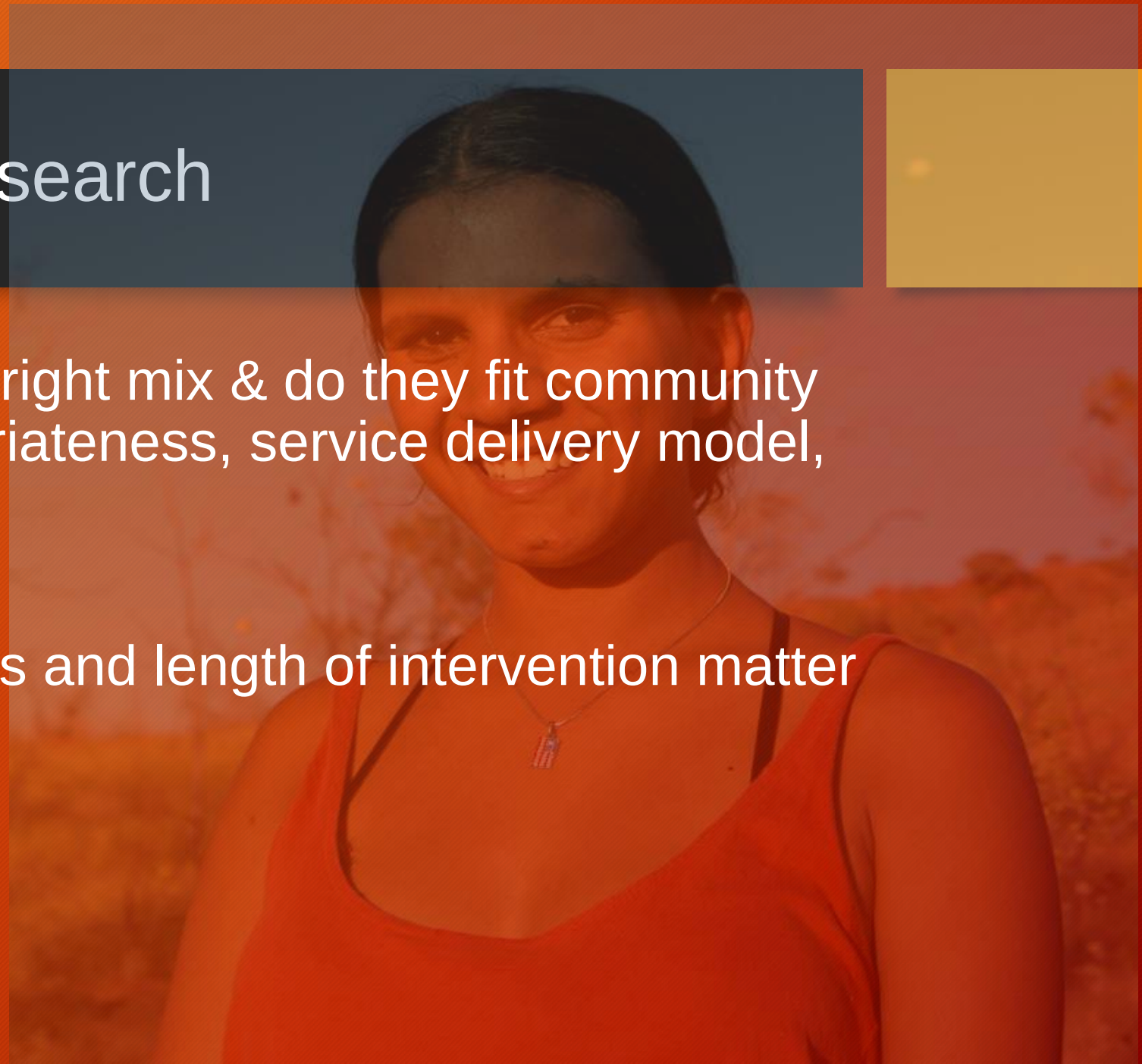
Other foundational research

- HIV Molecular epidemiology FNQ
- Peer Education trial STIs in 18 remote communities
- HIV Outbreak Documentation
- HIV and HCV Data linkage
- Global HIV and VH prevalence systematic reviews
- PrEP uptake and coverage among Aboriginal GBM

Reflections on our research

- Foundational vs transformative
- Moderate impacts – collectively would be fantastic
- Community involvement and engagement is critical but hasn’t expanded beyond health services
- Single interventions are not enough to address this wicked issue

Reflections on our research



- Type of intervention - the right mix & do they fit community structure, cultural appropriateness, service delivery model, community

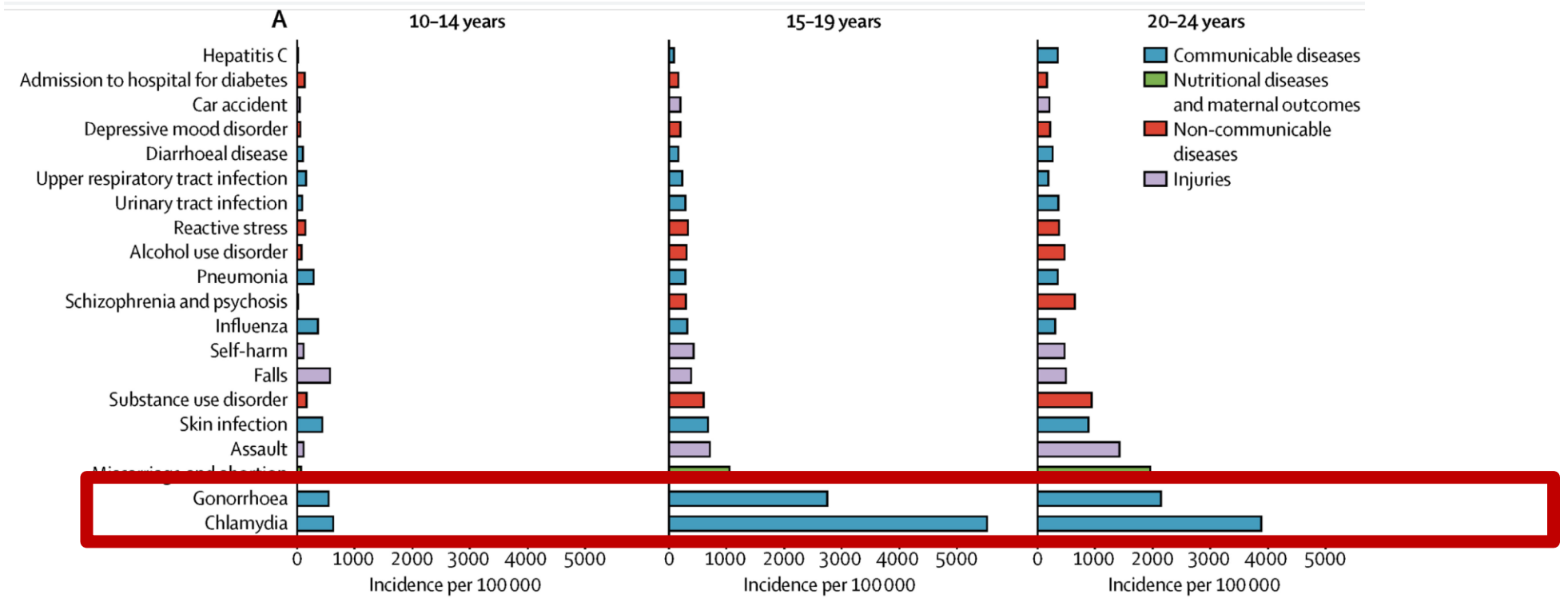
- Potency, scope, timeliness and length of intervention matter

Four issues

- STIs among young people
- Syphilis outbreak
- HIV
- Outcomes of STI on women

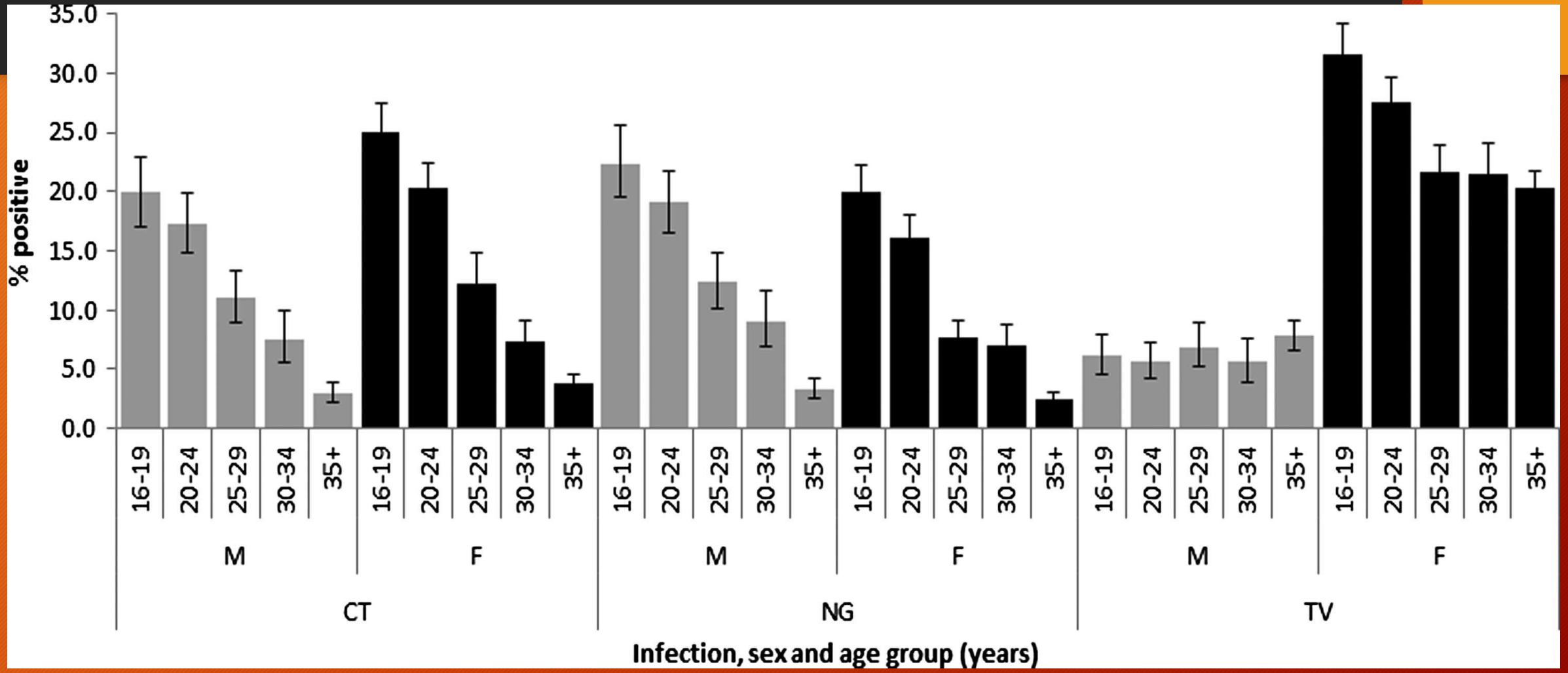
Health and wellbeing of Indigenous adolescents in Australia: a systematic synthesis of population data

Peter S Azzopardi, Susan M Sawyer, John B Carlin, Louisa Degenhardt, Ngiare Brown, Alex D Brown, George C Patton**



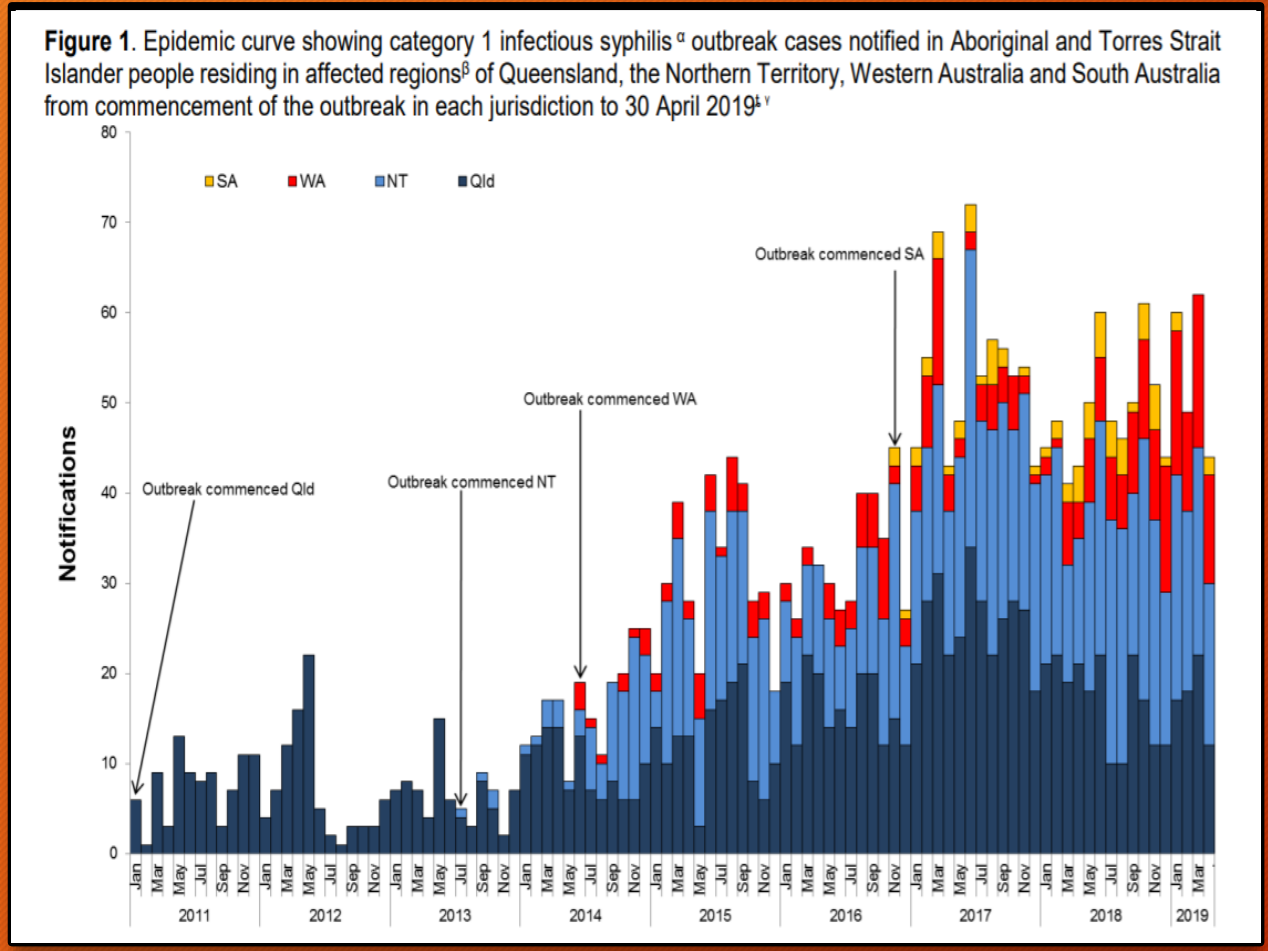
Azzopardi et al The Lancet, 2017

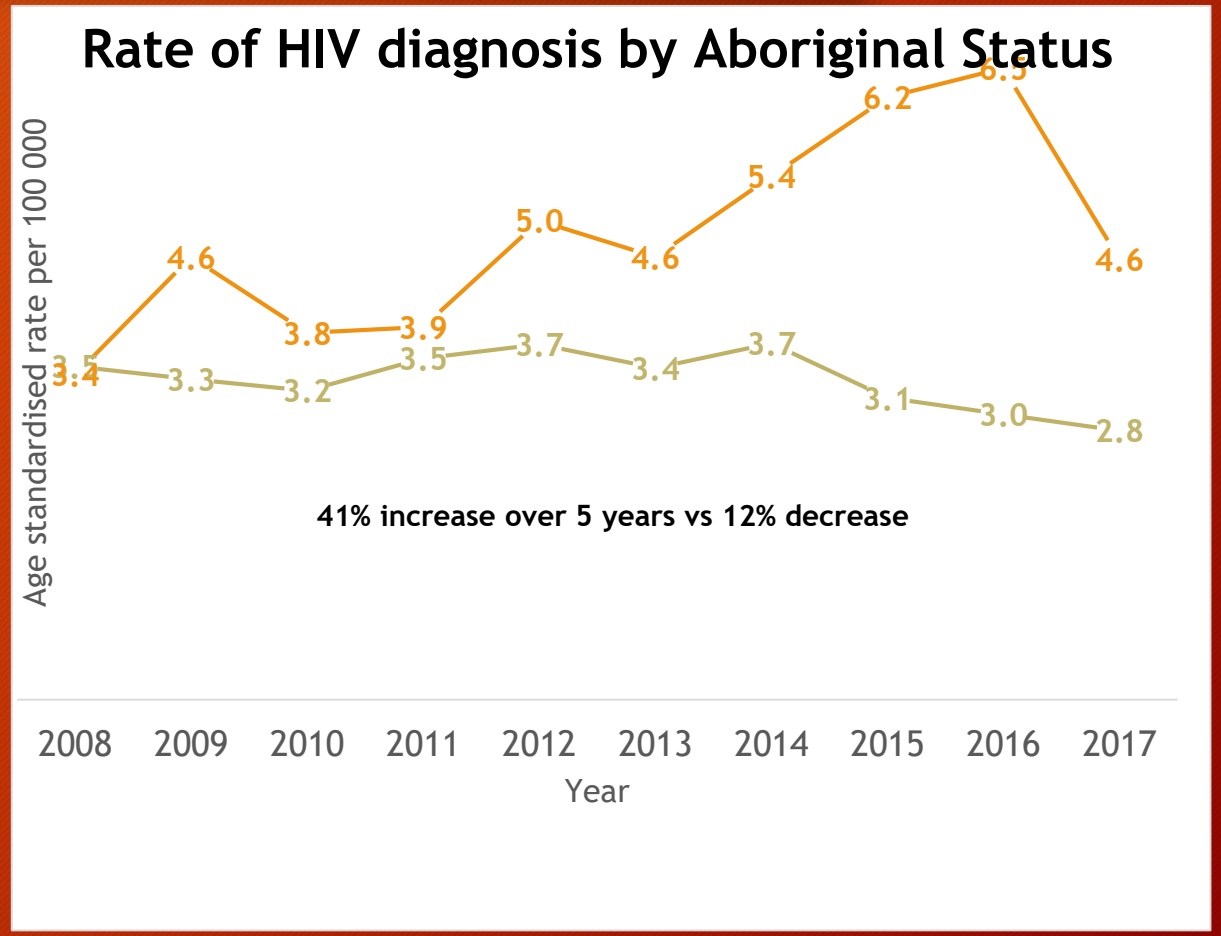
STIs prevalence among young people



Guy et al STI 2015

Three emerging issues – that require transformative change

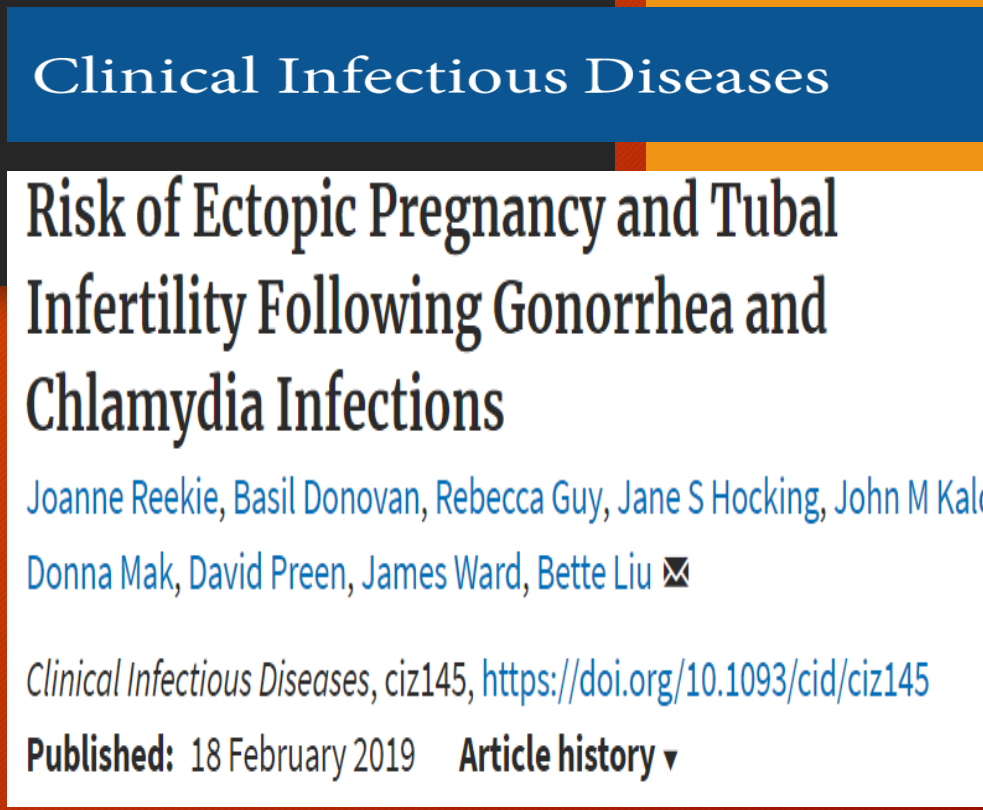




> 2k cases; 41 cases CS; 7 CS deaths

The outcomes of these STIs

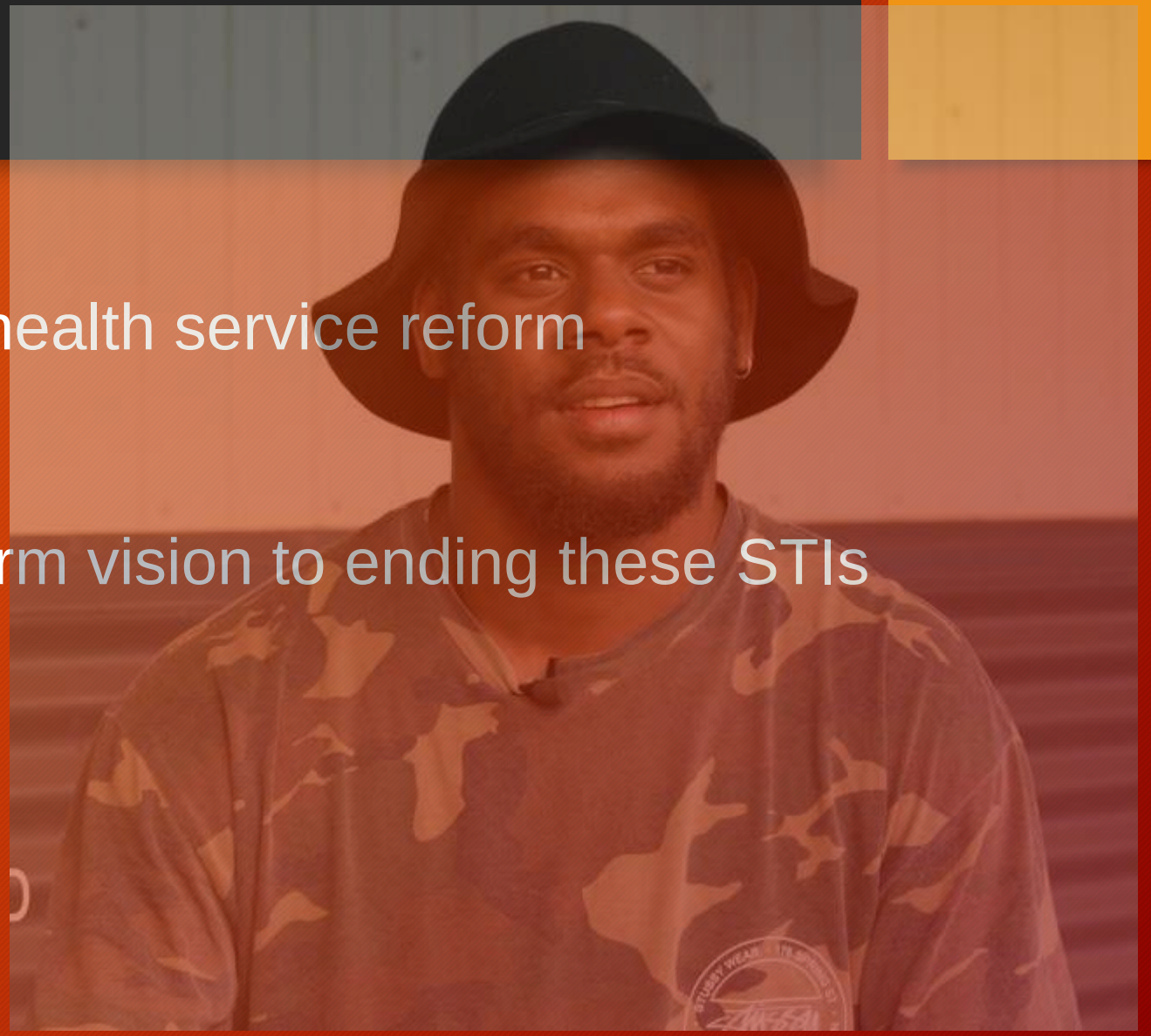
- 300K WA women of reproductive age 10 years
- Analyses of ectopic pregnancy included 314,846 women, followed for 3.2 million person-years, over which time 2763 had an ectopic pregnancy.
- The corresponding numbers for tubal factor infertility were 315037 women, 3.2 million person-years and 473 cases.
- The majority of women positive for gonorrhoea were Aboriginal (78%) and almost all ectopic pregnancies (81%; 43/53) and all the tubal infertility cases (100%; 8/8) were among Aboriginal women.

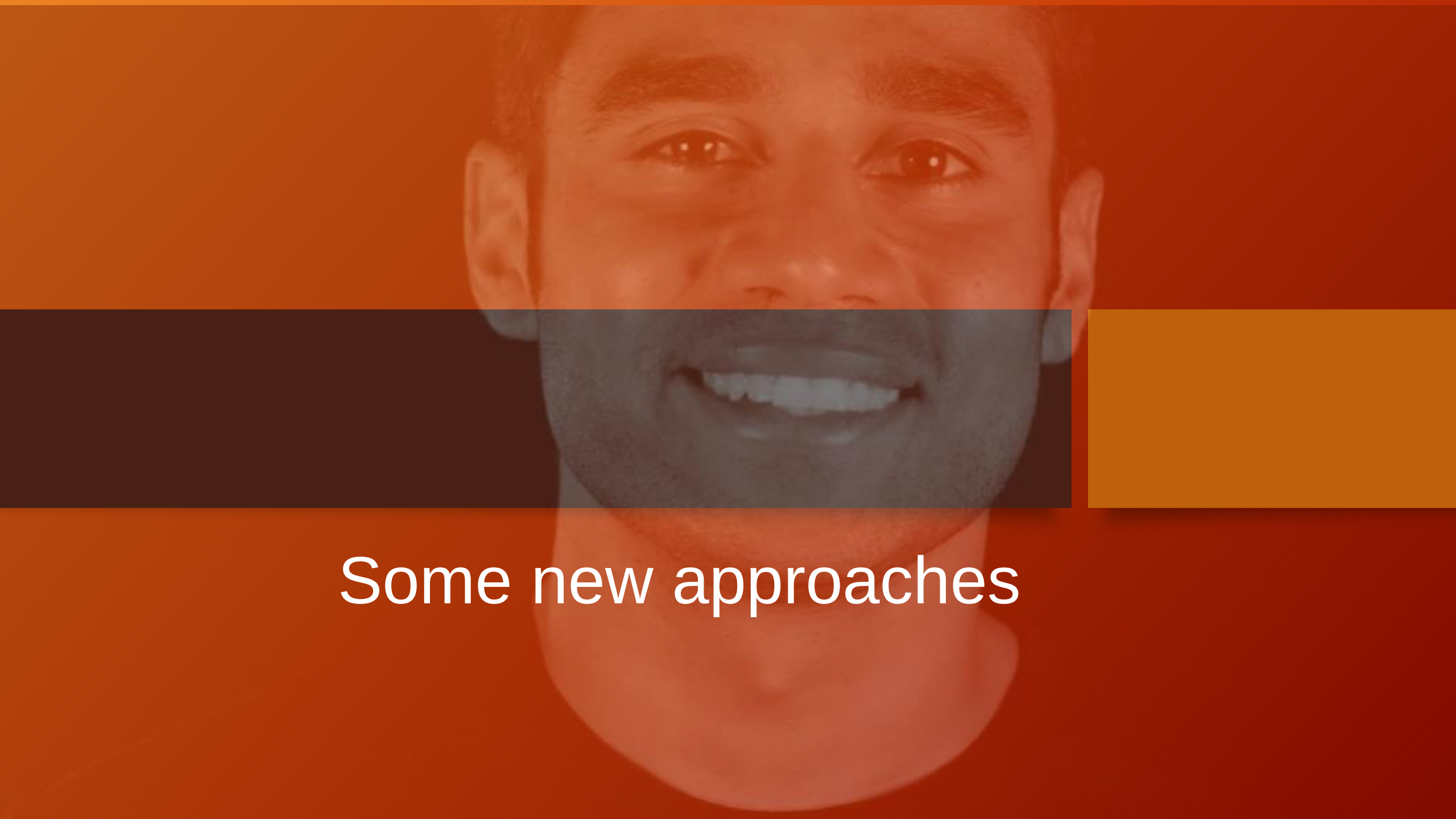


PID (Silver, Knox)
Miscarriage (Knox)
LBW (Liu)
Infertility (Reekie)

So do we continue down this path or do we need to transform our approaches?

- In the absence of major health service reform
- In the absence of long term vision to ending these STIs





Some new approaches

Can Meningococcal vaccination impact on Gonorrhoea B Part of it NT

- *Neisseria meningitidis* (*Nm*) and *Neisseria gonorrhoeae* (*Ng*) - same bacterial genus and share large proportion of primary genetic sequences
- Suggestive evidence of protective effect from 4CMenB vaccine for Neisseria gonorrhoea
- Studies from NZ and Canada show 31% (1) & 59% (2) RR of NG
- World first and opportunity to conduct a sufficiently powered study to generate evidence

1. Petousis-Harris H, Paynter J, Morgan J, et al 2017
2. Longtin J, Dion R, Simard M, et al 2017

Can Meningococcal vaccination impact on Gonorrhoea B Part of it NT

Methods

Before and after study, population aged 14-19 years, remote communities in NT; Sample size of 7000; 90% power to detect 20% reduction

Outcomes

- Carriage (oropharyngeal) prevalence of *Neisseria meningitidis* at 12 months post-immunisation

- Laboratory confirmed notifications of *Neisseria gonorrhoeae* pre and post 4CMenB vaccine program

CI-A Prof Helen Marshall, (Partnership Grant - 2019)

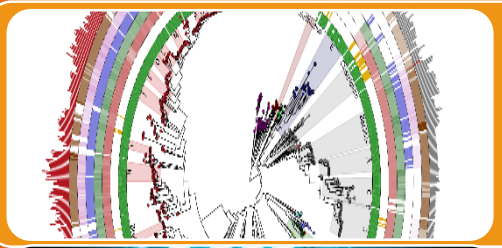
Precision Public Health for STIs

- Community coalitions
- Three regions (small but intense efforts)

Precision Public Health for STIs

Health Service Data- Access, Testing coverage, retesting, incidence, prevalence, management of STI and BBV, elimination of HCV

Understanding issues on ground- mobility, concurrency, what works for young people



Pathogen genomics - transmission networks, clusters - early detection of outbreaks- precise treatment

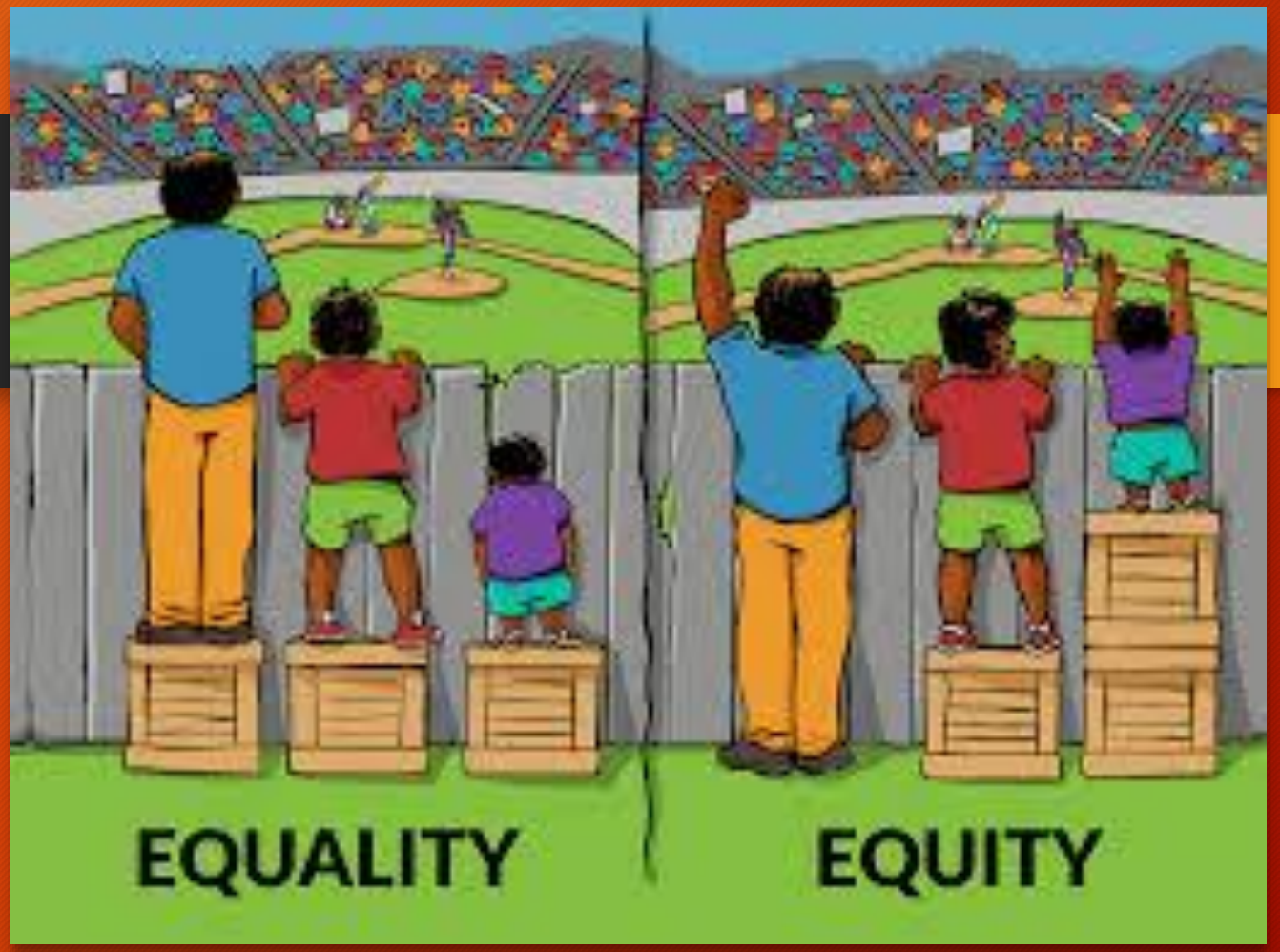
Linking data esp SDOH using Indigenous data sovereignty principles e.g. by clan SDOH granular level

Trials of interventions

HIV

- Achieving equity

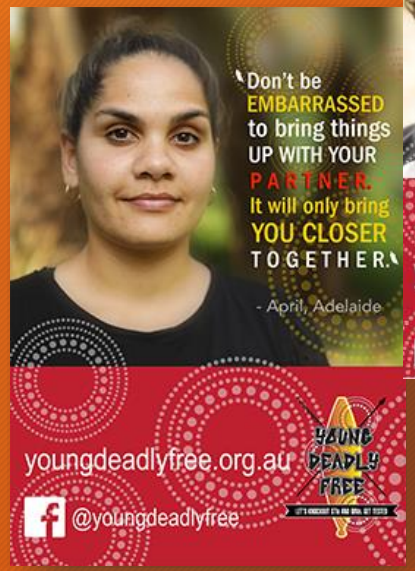
- TASP
- PrEP
- Other prevention methods

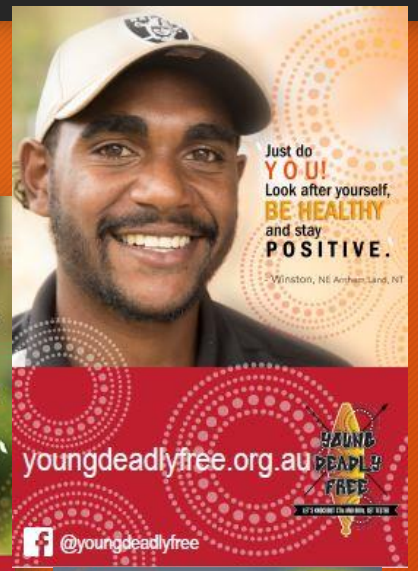


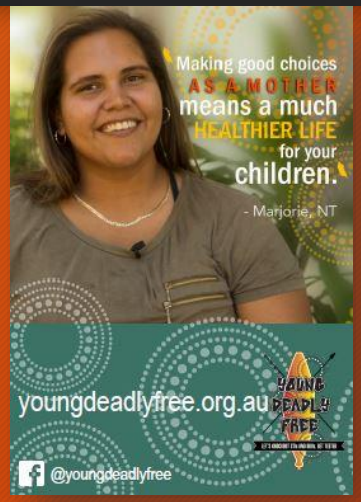
In summary

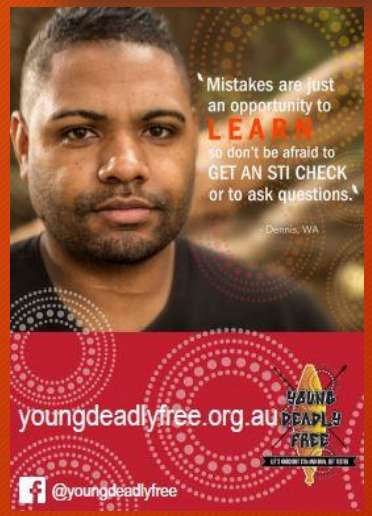
- STIs remain a wicked issue that prevalence has been hard to shift
- Synergising efforts are likely to impact STIs as will new technology
- Language in STI control is important
- Centering communities has to be done better to enable strength based approaches to be implemented
- Reforms are required as is a long term vision

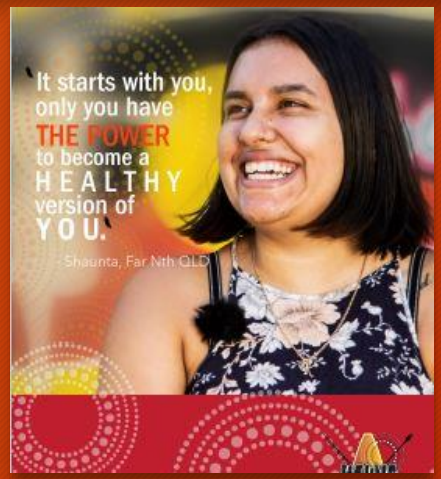
Young Deadly Free
www.youngdeadlyfree.org.au

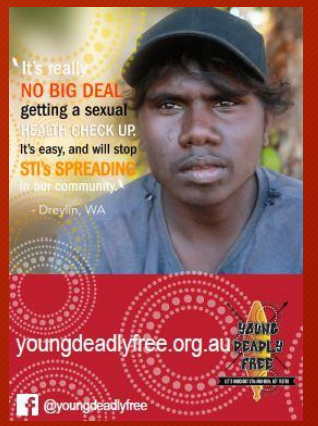








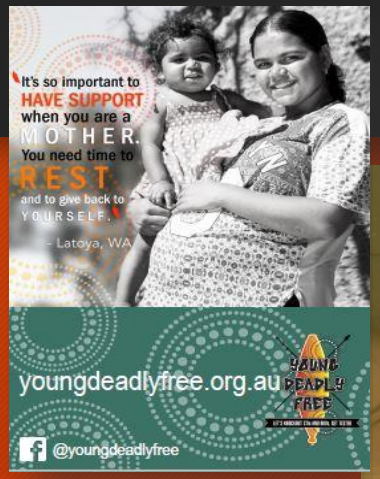


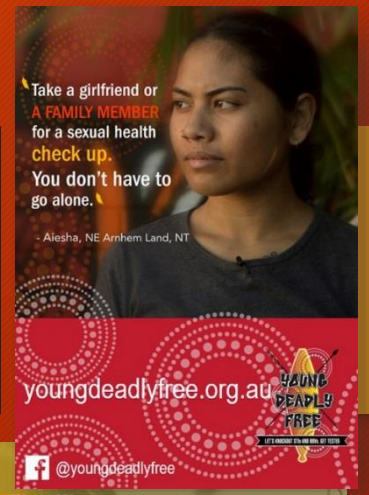


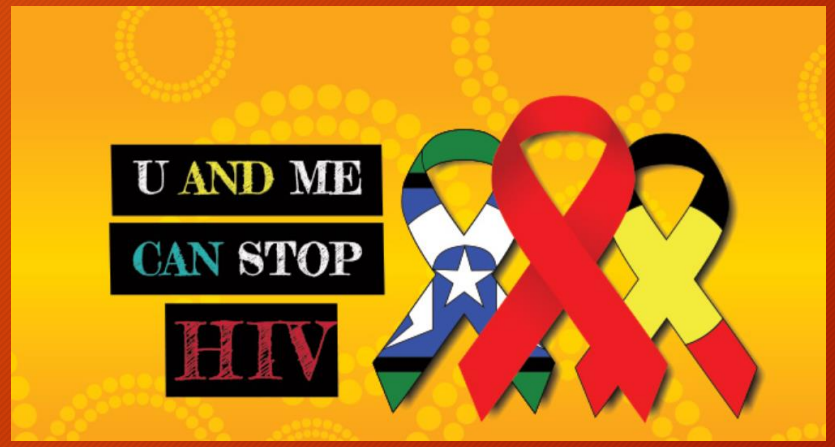
Translation activities-Social Media

- www.atsihiv.org.au
- www.cre-ash.org.au
- www.nimac.org.au
- www.youngdeadlyfree.org.au

- Facebook
- Instagram
- You Tube
- Twitter @atsihiv @researchjames







YouTube

Acknowledge Infectious Diseases Group

Collaborators ++++++

NHMRC

Commonwealth Department of Health

YOUNG DEADLY FREE

LET'S KNOCKOUT STIs AND BBVs.