

Evolution in Sexual Health Medicine

Basil Donovan
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ASHA Partner Organisations



ashm

Supporting the HIV, Viral Hepatitis
and Sexual Health Workforce



AUSTRALASIAN SEXUAL HEALTH & HIV NURSES ASSOCIATION INC.



Australian
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in Sex, Health
& Society



Centre for Social Research in Health

 SOCIETY OF AUSTRALIAN
SEXOLOGISTS



FAMILY PLANNING
ALLIANCE AUSTRALIA



FAMSACA

Federated and Affiliated Sexual Health Clinicians Australia



SEXUAL
HEALTH
SOCIETY
OF QUEENSLAND



THE NEW ZEALAND SEXUAL HEALTH SOCIETY INCORPORATED
SEXUAL HEALTH FOR ALL



The Royal Australasian
College of Physicians

Adult Medicine Division
Australasian Chapter of Sexual Health Medicine

nswsti
PROGRAMS UNIT

Today

1. The impact of the National Immunisation Program against human papillomavirus (HPV)
2. The changing paradigm of HIV management and control
 - Treatment as prevention
 - Pre- and post-exposure prophylaxis
 - Male circumcision
3. The role of point-of-care testing for STIs
4. Current syphilis epidemics in Australia



National qHPV vaccination program

- From April 2007:
 - school-based 12-13yo girls – ongoing.
 - school-based 13-18yo girls – to end 2009.

At last there's some good news about cancer.

National cervical cancer vaccinations begin April 2007.

all females aged 12 to 20 under the National HPV Vaccination Program.

For girls at school, the program starts in April 2007. A consent form will be sent home shortly for parents to fill in and return.

For women who have left school, and are under 27, the free vaccine will be available from your GP or community immunisation clinic from July.

The vaccine doesn't prevent all cervical cancers, so regular Pap smears are still essential. But a free cervical cancer vaccine is still very good news for women.

Help protect your daughter from cervical cancer. Sign the consent form.

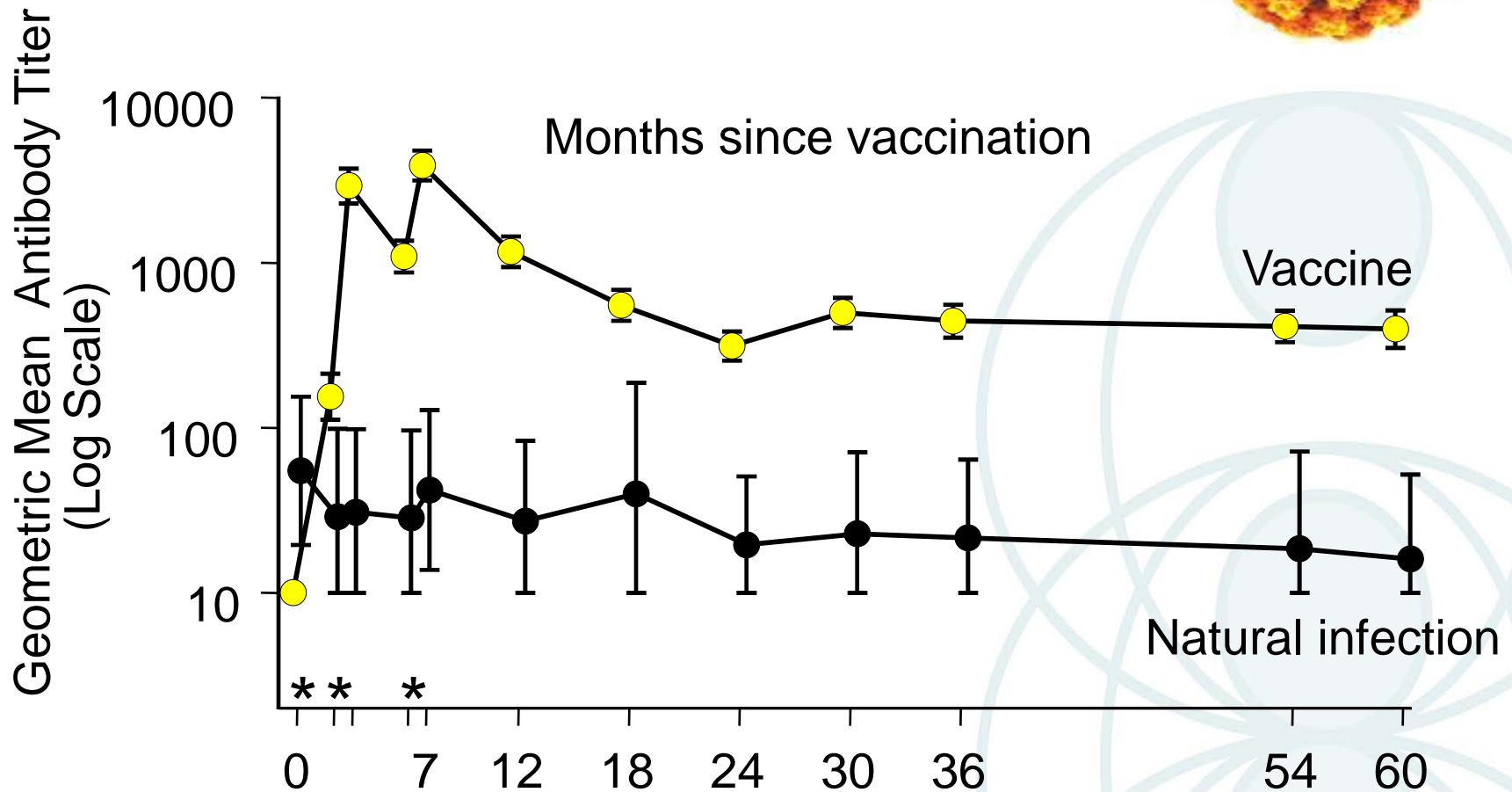
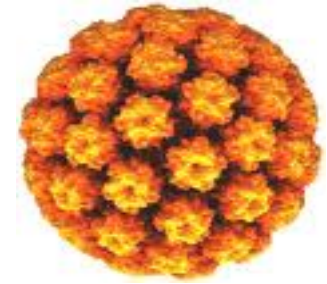
Cervical cancer is the second most common cancer in women worldwide which is almost always caused by the human papillomavirus (HPV). The good news is that a new vaccine, developed in Australia, can protect against HPV, the cause of up to 70% of cervical cancers. The other good news is that the Australian Government is making the cervical cancer vaccine available free to

For more information:
National Immunisation Hotline 1800 671 811
australia.gov.au/cervicalcancer

Australian Government

- From July 2007:
 - community-based 18-26yo women – to end 2009.
- From 2013: schoolboys added

Anti-HPV16 antibody over 5 years (quadrivalent vaccine)



Per protocol* efficacy of quadrivalent HPV vaccine

Clinical endpoint	Vaccine		Placebo		Vaccine efficacy (95% CI)
	No. of women	No. of cases	No. of women	No. of cases	
HPV 16/18-related CIN 2/3 or AIS	8487	0	8460	53	100% (92.9–100)
HPV 16/18 related VIN 2+	7897	0	7899	8	100% (41.4–100)
HPV 16/18 related VaIN 2+	7897	0	7899	5	100% (<0–100)
HPV 6/11/16/18-related genital warts (condyloma)	7897	1	7899	91	98.9% (93.7–100)

*No evidence of past or current infection with vaccine targets at baseline



Incident HPV-related cancers in Australia, 2005

	Women	Men	% of cases due to HPV	% of HPV associated cases due to HPV16/18	Cases due to HPV 16/18	
					Women	Men
Cervical cancer	734	-	100%	76%	558	-
Vulval cancer	264	-	40%	86%	91	-
Vaginal cancer	76	-	70%	88%	47	-
Penile cancer	-	69	50%	87%	-	31
Anal Cancer	176	149	85%	93%	140	118
Cancer of the base of tongue and oropharynx	114	395	35%	95%	38	131
Totals	1364	613			874	280

Grulich AE, et al. *Sexual Health* 2010



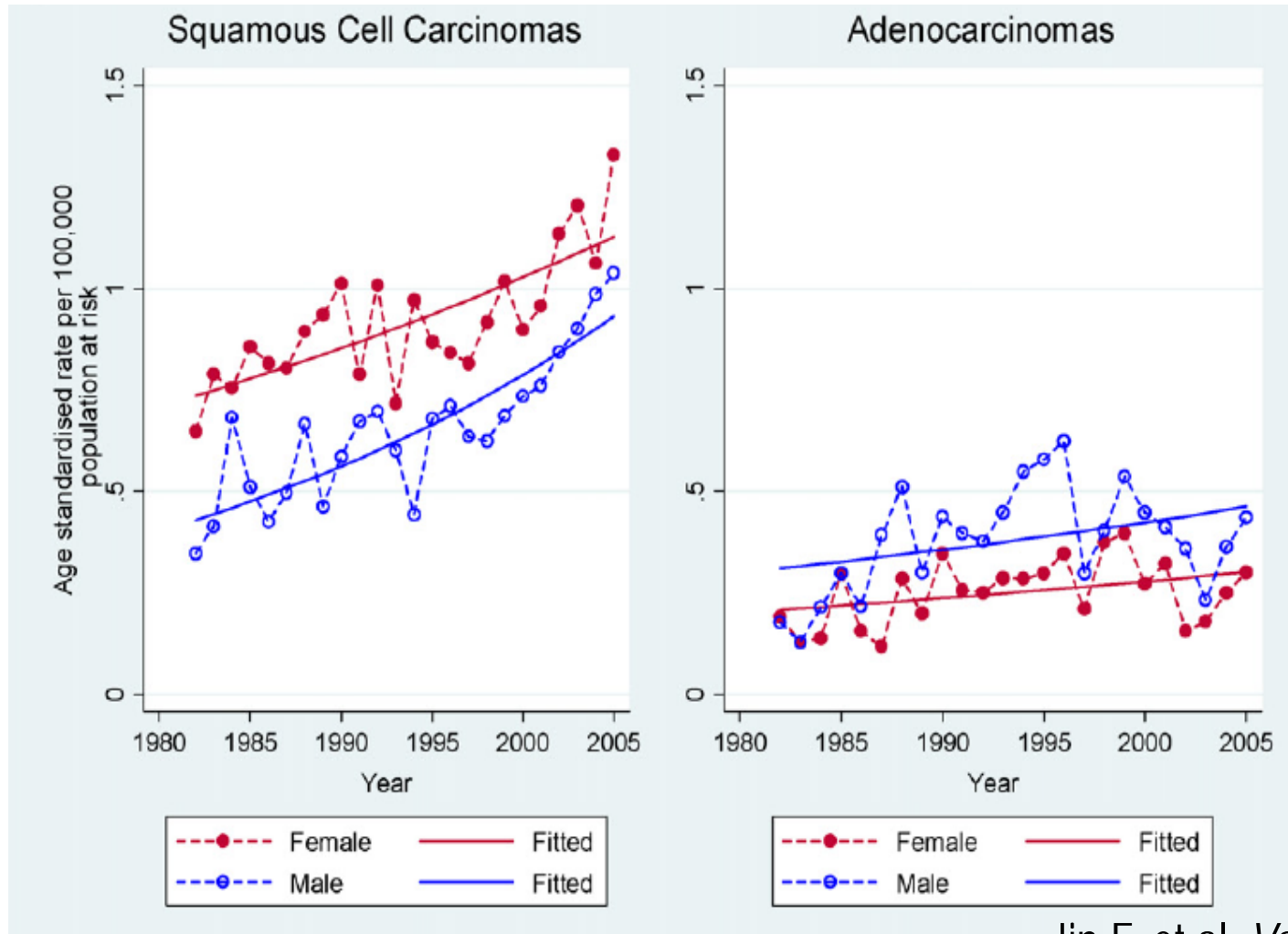
Incident HPV-related cancers in Australia, 2005

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Anal cancers in Australia by sex, 1982-2005



Jin F, et al. *Vaccine* 2011

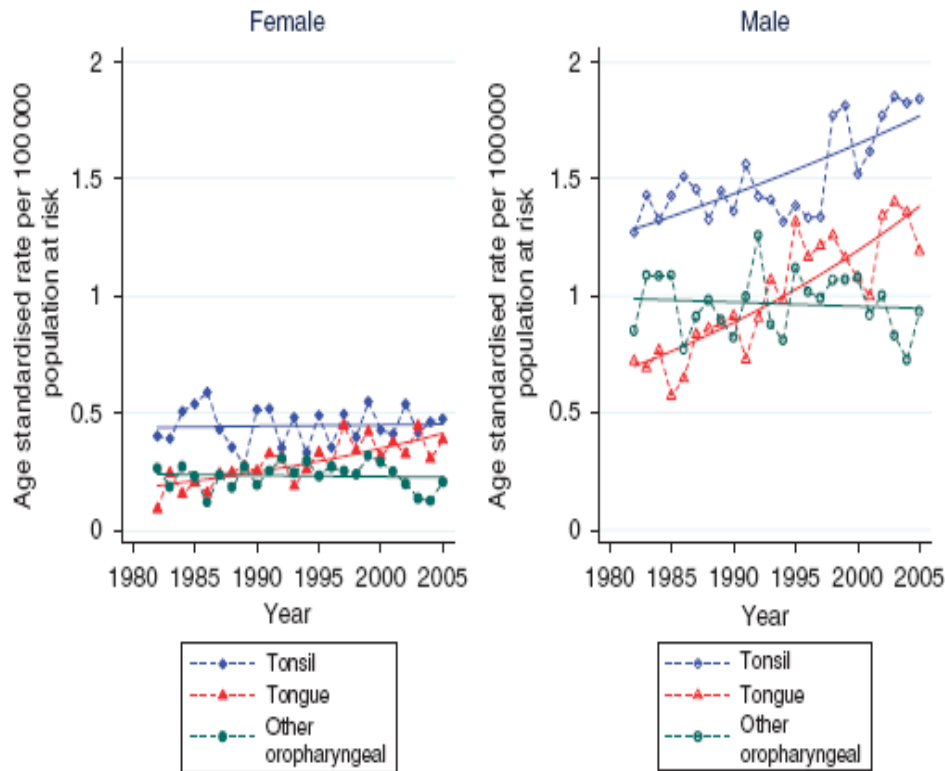


Oropharyngeal cancers in Australia, by sex and HPV association, 1982-2005

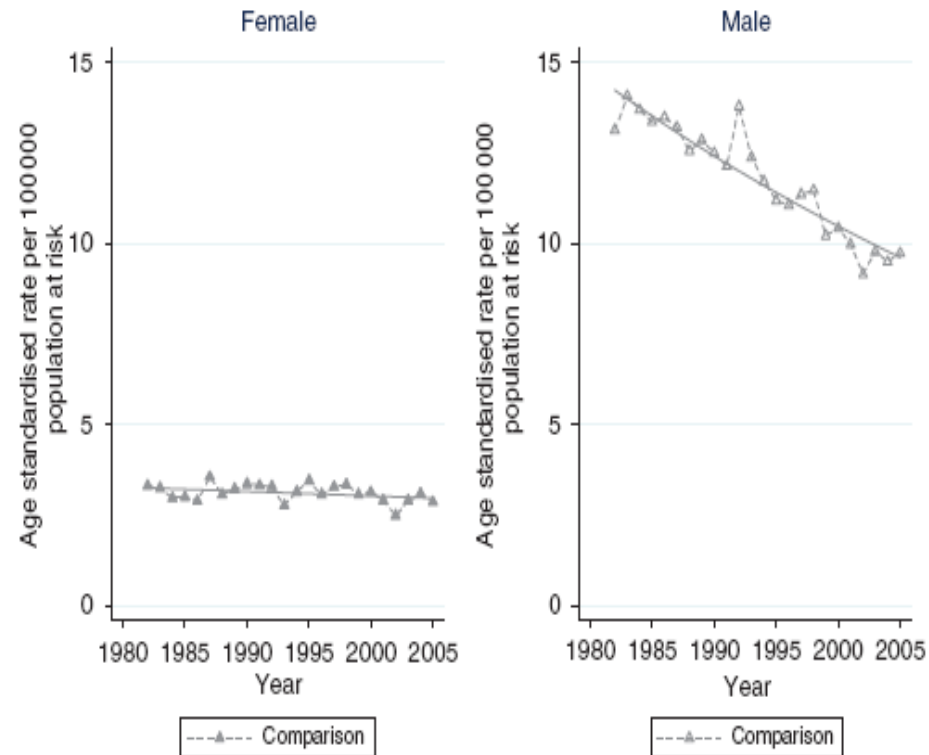
HPV-related

Toxin-related

A



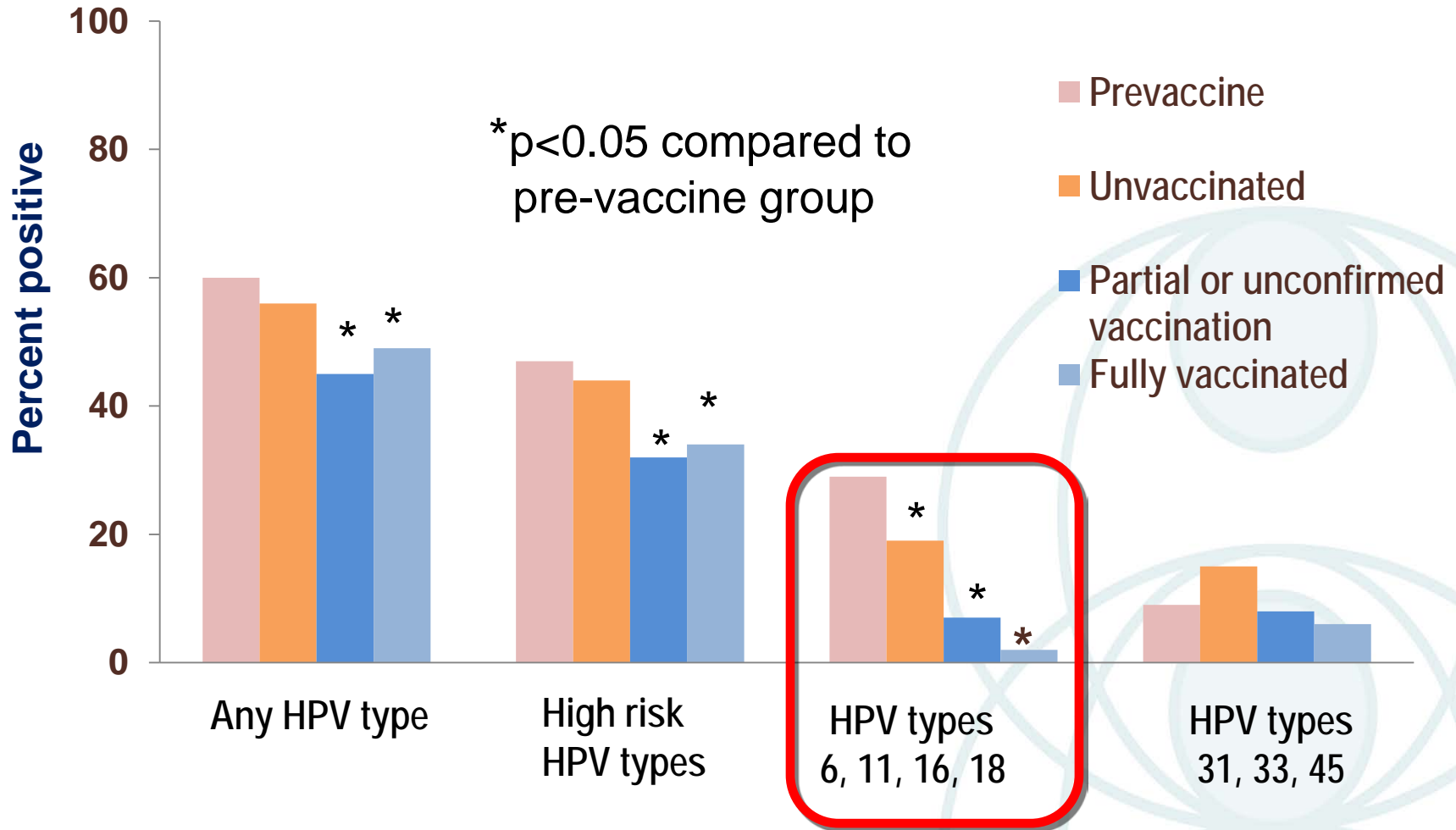
B



Hocking J, et al. *Br J Cancer* 2011



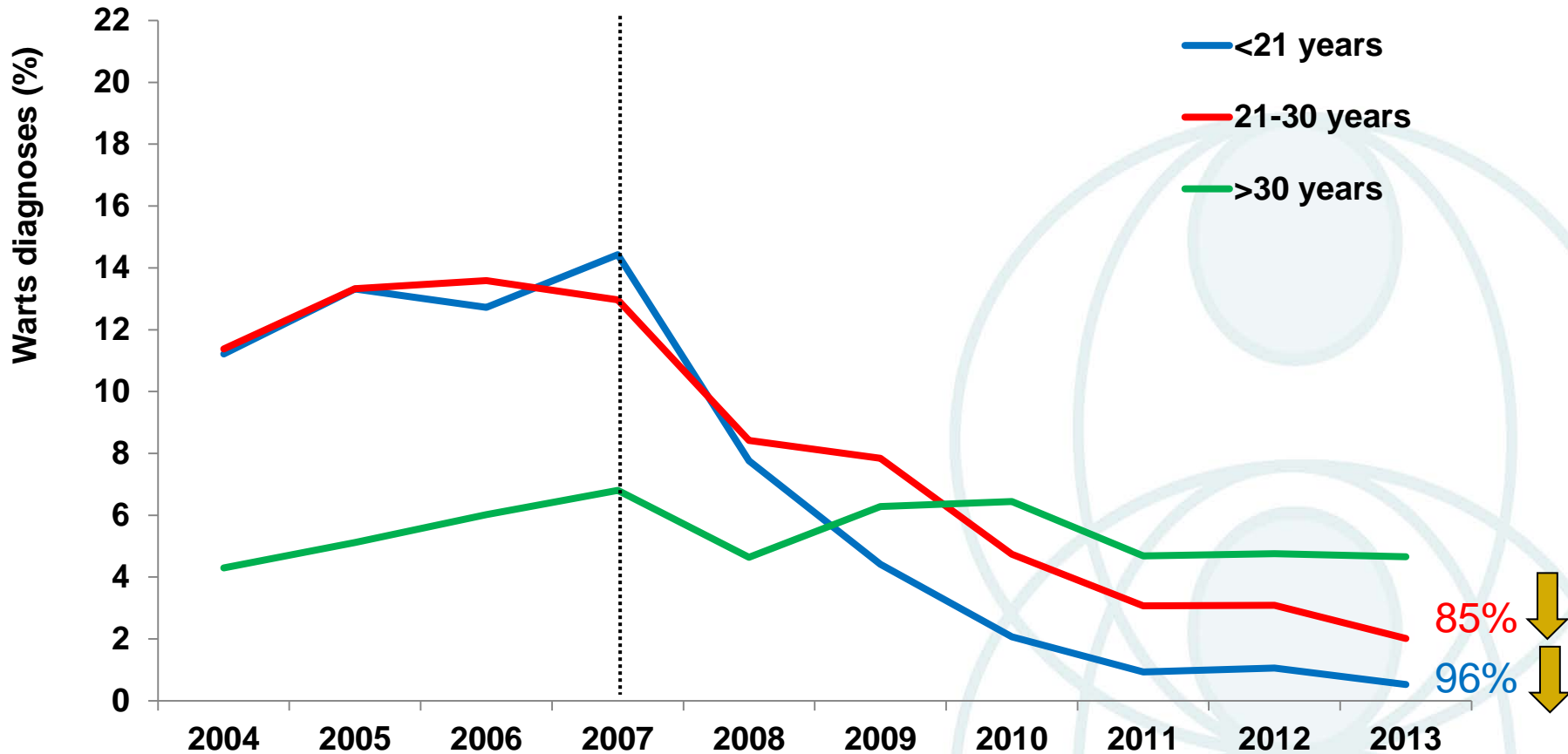
HPV prevalence in women before and after vaccination program, by vaccination status



Tabrizi SN et al. *Lancet Infect Dis* 2014; 10: 958



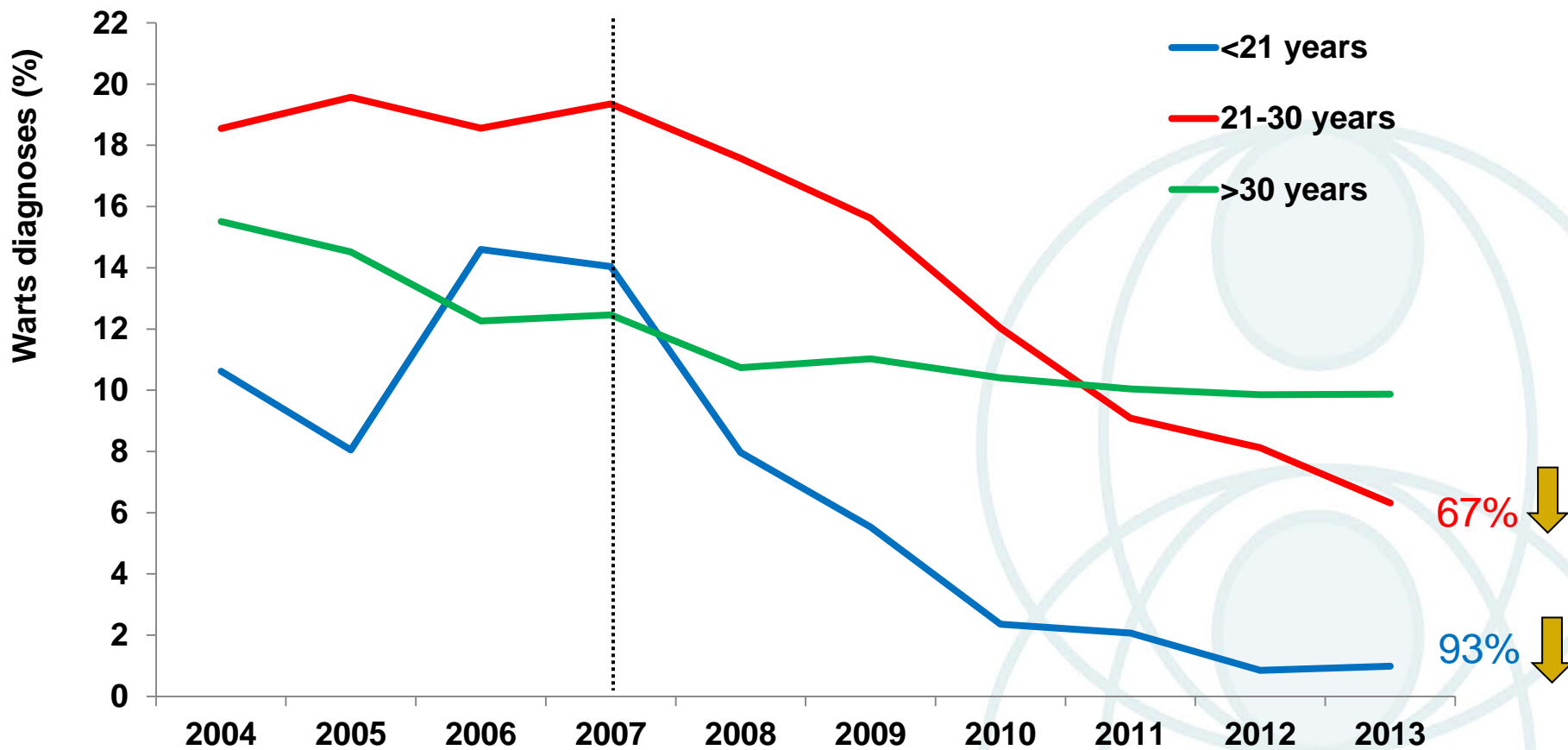
Proportion of Australian born women diagnosed with genital warts at first visit, by age group, 2004-2013



Ali H et al. *BMJ* 2013 (extended data)



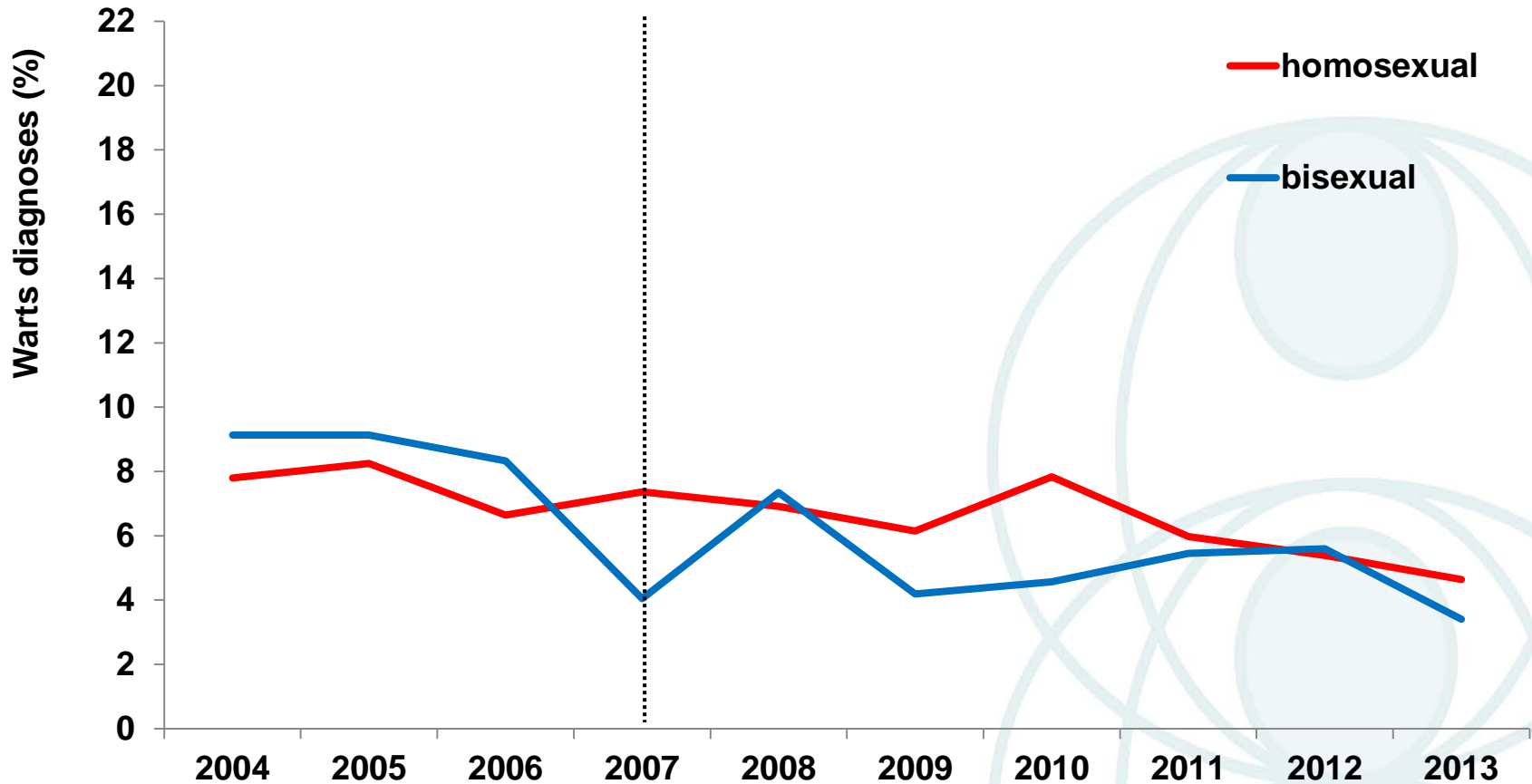
Proportion of Australian born heterosexual men diagnosed with genital warts at first visit, by age group, 2004-2013



Ali H et al. *BMJ* 2013 (extended data)



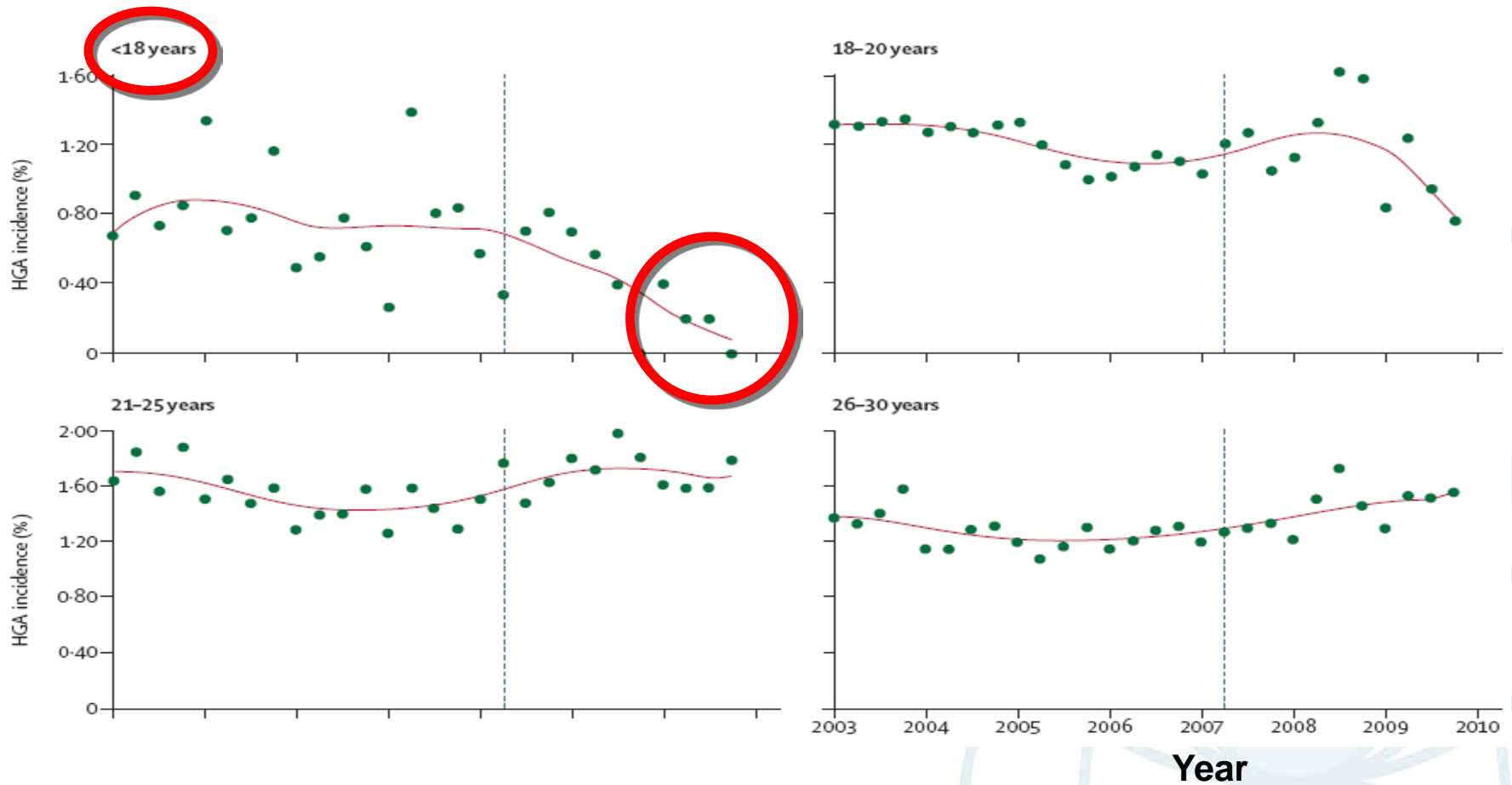
Proportion of Australian born homosexual and bisexual men diagnosed with genital warts at first visit, 2004-2013



Ali H et al. *BMJ* 2013 (extended data)



High-grade cervical abnormalities in young Victorian women, by age group, 2003–2010



Red lines = Lowess smoothing

Brotherton JM et al. *Lancet* 2011; 377: 2085

HIV treatment as prevention (TasP)

The NEW ENGLAND JOURNAL *of* MEDICINE

ESTABLISHED IN 1812

AUGUST 11, 2011

VOL. 365 NO. 6

Prevention of HIV-1 Infection with Early Antiretroviral Therapy

Myron S. Cohen, M.D., Ying Q. Chen, Ph.D., Marybeth McCauley, M.P.H., Theresa Gamble, Ph.D.,
Mina C. Hosseinipour, M.D., Nagalingeswaran Kumarasamy, M.B., B.S., James G. Hakim, M.D.,
Johnstone Kumwenda, F.R.C.P., Beatriz Grinsztejn, M.D., Jose H.S. Pilotto, M.D., Sheela V. Godbole, M.D.,
Sanjay Mehendale, M.D., Suwat Chariyalertsak, M.D., Breno R. Santos, M.D., Kenneth H. Mayer, M.D.,
Irving F. Hoffman, P.A., Susan H. Eshleman, M.D., Estelle Piwowar-Manning, M.T., Lei Wang, Ph.D.,
Joseph Makhema, F.R.C.P., Lisa A. Mills, M.D., Guy de Bruyn, M.B., B.Ch., Ian Sanne, M.B., B.Ch.,
Joseph Eron, M.D., Joel Gallant, M.D., Diane Havlir, M.D., Susan Swindells, M.B., B.S., Heather Ribaud, Ph.D.,
Vanessa Elharrar, M.D., David Burns, M.D., Taha E. Taha, M.B., B.S., Karin Nielsen-Saines, M.D.,
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**Only 1 of 28 linked transmissions
occurred in the early therapy group**

HIV treatment as prevention (TasP)

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AUGUST 27, 2015

VOL. 373 NO. 9

Initiation of Antiretroviral Therapy in Early Asymptomatic HIV Infection

The INSIGHT START Study Group*

ABSTRACT

BACKGROUND

Data from randomized trials are lacking on the benefits and risks of initiating antiretroviral therapy in patients with asymptomatic human immunodeficiency virus (HIV) infection who have a CD4+ count of more than 350 cells per cubic millimeter.

METHODS

The members of the writing group (Jens D. Lundgren, M.D. [cochair], Abdel G. Babiker, Ph.D. [cochair], Fred Gordin, M.D. [cochair], Sean Emery, Ph.D., Birgit Grund, Ph.D., Shweta Sharma, M.S., Anchalee Avihingsanon, M.D., David A. Cooper, M.D., Gerd Fätkenheuer, M.D.,

HIV treatment as prevention (TasP)

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Initiation of Antiretroviral Therapy in Early Asymptomatic HIV Infection

Hazard ratio for initiation of ART >500 v <350 cells:

Serious AIDS-related events	0.28 (p<0.001)
Serious non-AIDS-related events	0.61 (p=0.04)

68% occurred in patients with CD4>500 cells/cmm

HIV pre-exposure prophylaxis (PrEP)

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Antiretroviral Prophylaxis for HIV Prevention in Heterosexual Men and Women

J.M. Baeten, D. Donnell, P. Ndase, N.R. Mugo, J.D. Campbell, J. Wangisi, J.W. Tappero, E.A. Bukusi, C.R. Cohen, E. Katabira, A. Ronald, E. Tumwesigye, E. Were, K.H. Fife, J. Kiarie, C. Farquhar, G. John-Stewart, A. Kania, J. Odoyo, A. Mucunguzi, E. Nakku-Joloba, R. Twesigye, K. Ngiere, C. Apaka, H. Tamoooh, F. Gabona, A. Mujugira, D. Panteleeff, K.K. Thomas, L. Kidoguchi, M. Krows, J. Revall, S. Morrison, H. Haugen, M. Emmanuel-Ogier, L. Ondrejcek, R.W. Coombs, L. Frenkel, C. Hendrix, N.N. Bumpus, D. Bangsberg, J.E. Haberer, W.S. Stevens, J.R. Lingappa, and C. Celum, for the Partners PrEP Study Team*

Baeten JM, et al. *N Engl J Med* 2012

HIV pre-exposure prophylaxis (PrEP)

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Antiretroviral Prophylaxis for HIV Prevention in Heterosexual Men and Women

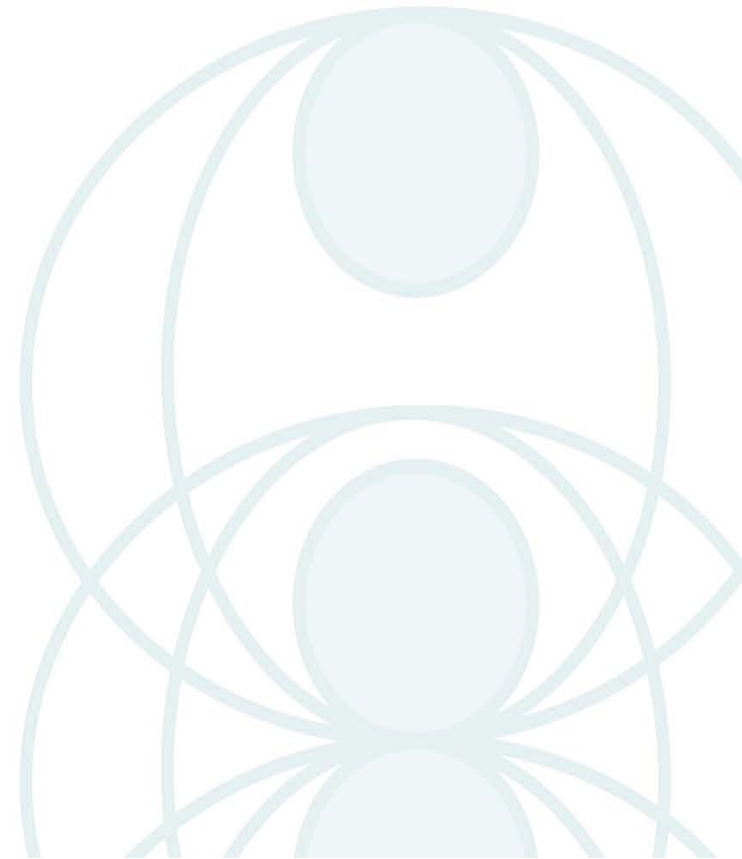
4758 serodiscordant couples, daily oral PrEP:

Efficacy of tenofovir alone	67%
Efficacy of tenofovir-emtricitabine	75%
Efficacy if tenofovir-emtricitabine detectable	90%

Baeten JM, et al. *N Engl J Med* 2012

HIV intervention strategies

- Abstinence
- Condoms
- Serosorting
- Strategic positioning



HIV intervention strategies

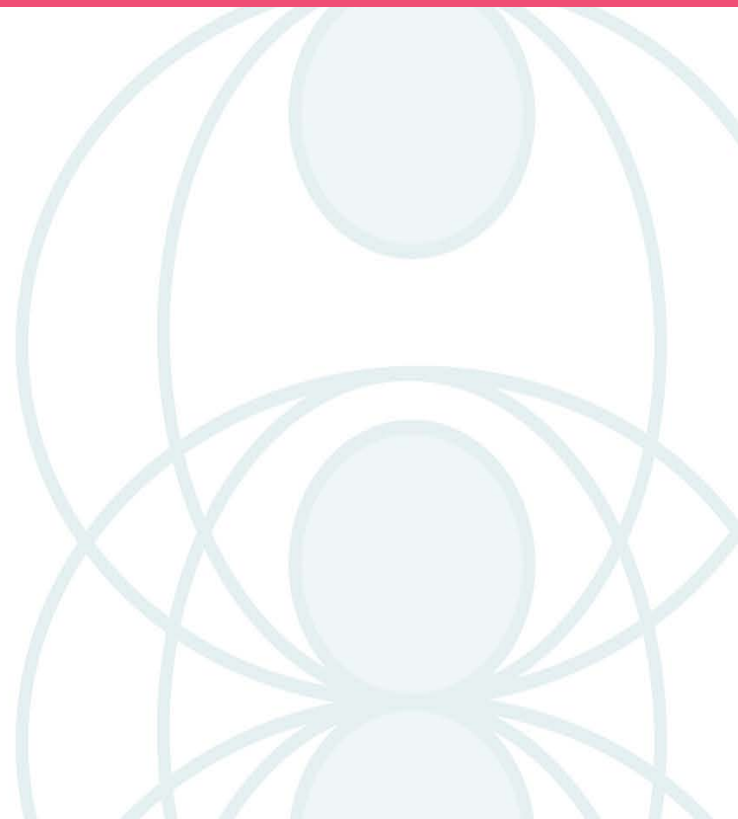
- Abstinence
- Condoms
- Serosorting
- Strategic positioning
- TasP
- PrEP
- Post-exposure prophylaxis (PEP)
 - Complicated by TasP and PrEP
- Male circumcision





[TEST
OFTEN] + [TREAT
EARLY] + [STAY
SAFE] = END
ING
HIV 2020

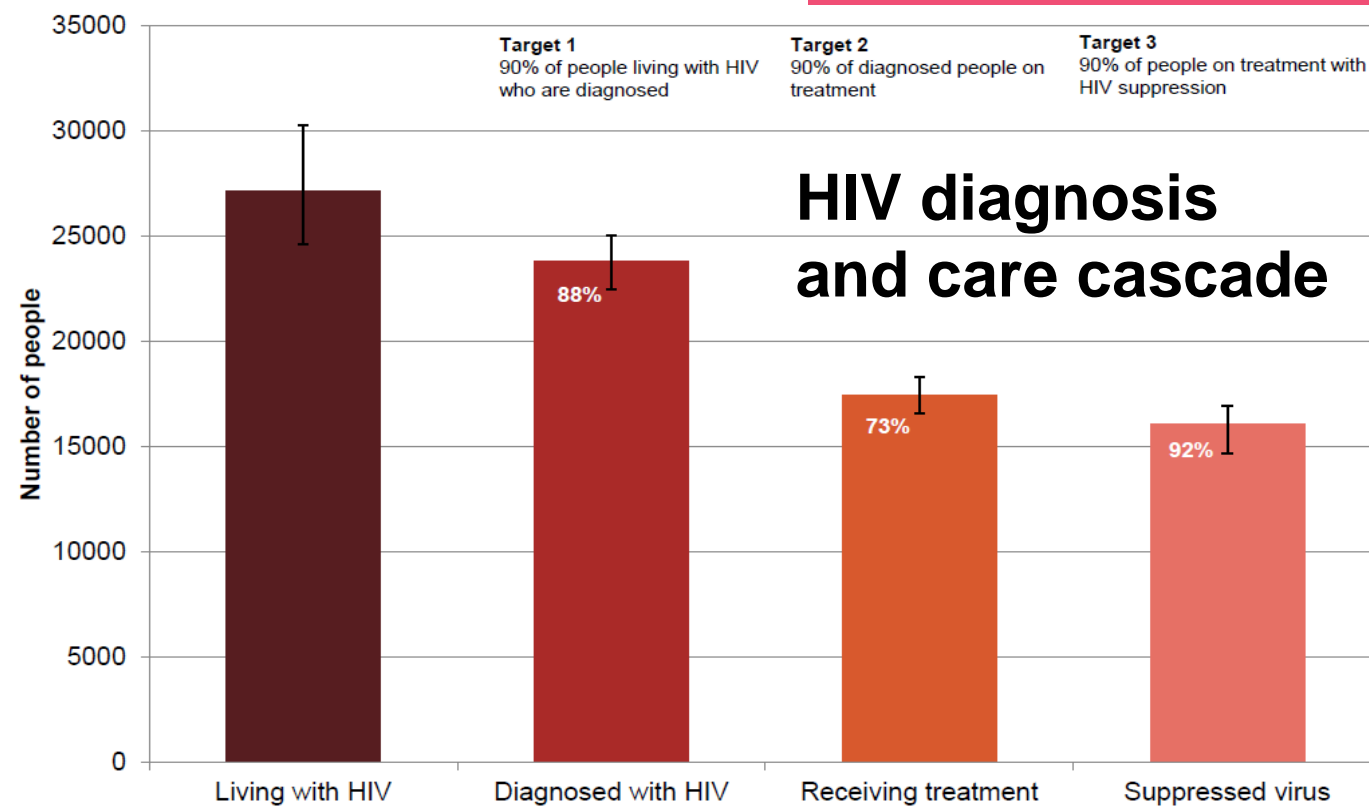
WE CAN END HIV BY 2020





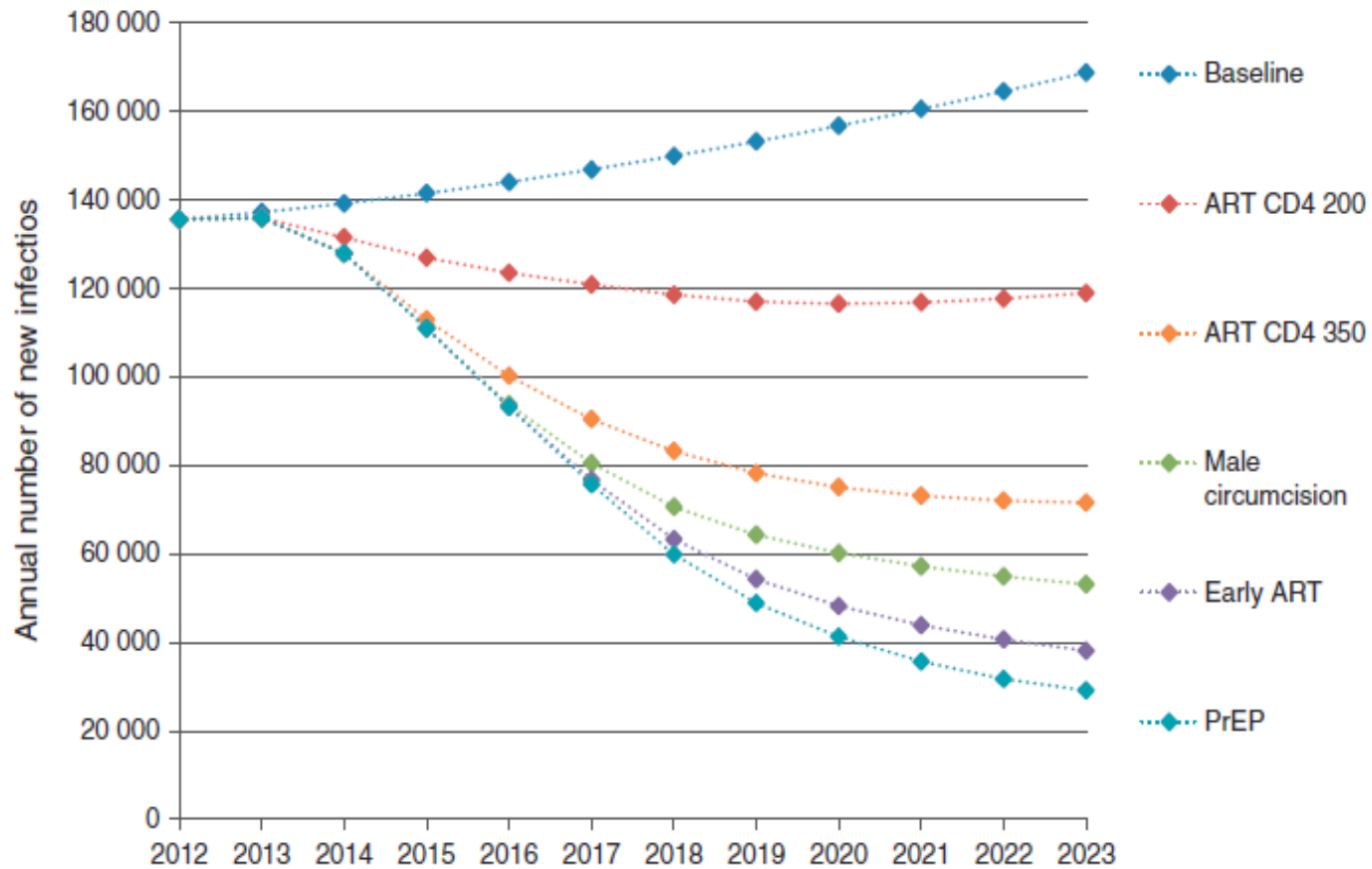
$$\left[\begin{array}{c} \text{TEST} \\ \text{OFTEN} \end{array} \right] + \left[\begin{array}{c} \text{TREAT} \\ \text{EARLY} \end{array} \right] + \left[\begin{array}{c} \text{STAY} \\ \text{SAFE} \end{array} \right] = \begin{array}{|c|} \hline \text{2020} \\ \hline \text{ENDING} \\ \hline \text{HIV} \\ \hline \end{array}$$

WE CAN END HIV BY 2020



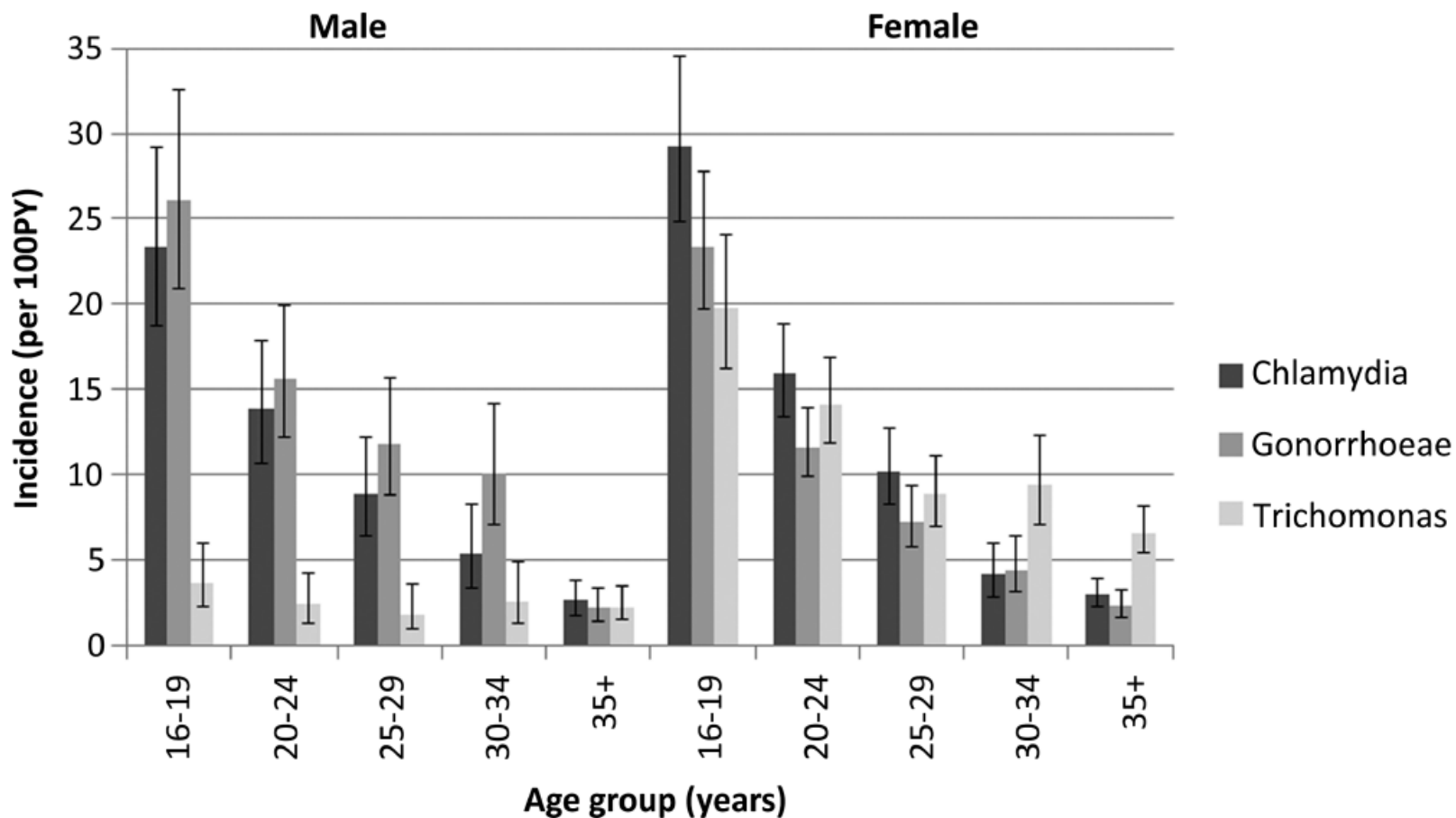
Kirby Annual Surveillance Report 2015

The impact of combination prevention on the annual number of new HIV infections



Cremin I et al. *AIDS* 2013; 27: 447

Incidence of chlamydia gonorrhoea and trichomonas in 65 remote communities, by sex and age group, 2009-2011



Silver BJ, et al. *Sex Transm Infect* 2015; 91: 135



Difficulties managing STIs in remote communities

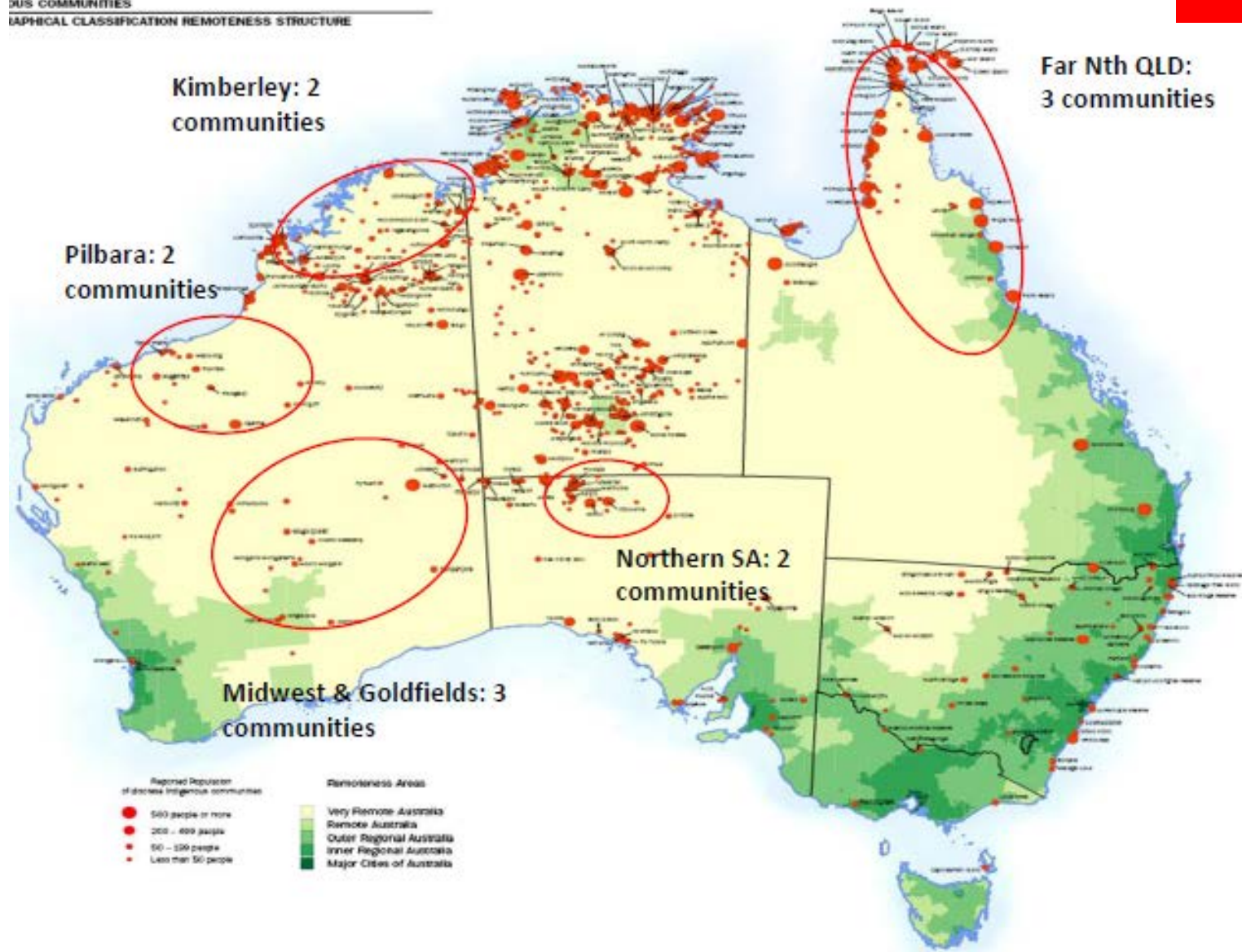
- Relies on Aboriginal health workers and nurses
- Most people are asymptomatic
- Laboratory 100s of kilometres away
- Average time to treatment 21 days
- ~20% remain untreated



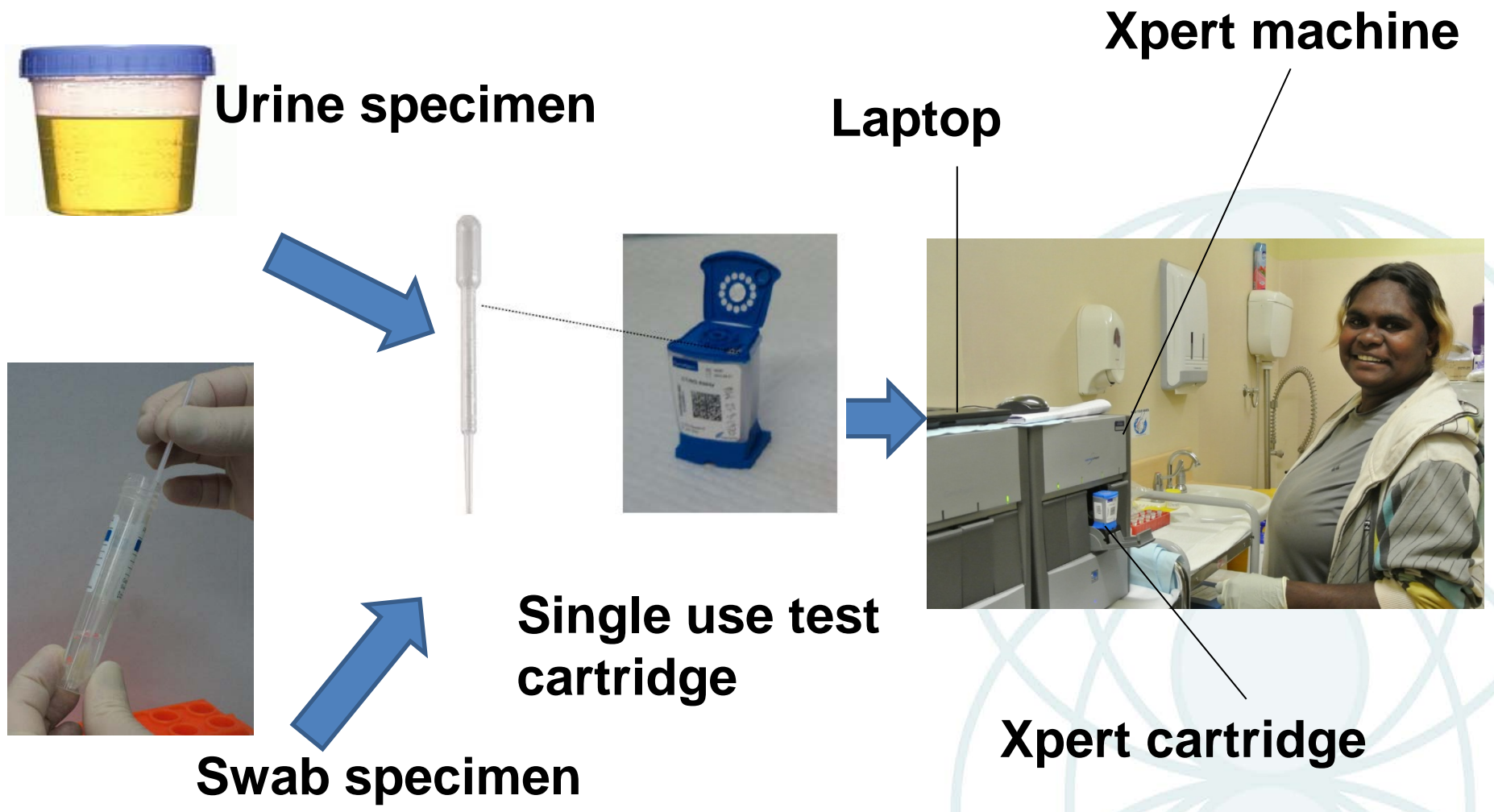
Test-treat-and-go (TTANGO) sites



DUS COMMUNITIES
GRAPHICAL CLASSIFICATION REMOTENESS STRUCTURE



GenXpert point-of care test for chlamydia and gonorrhoea



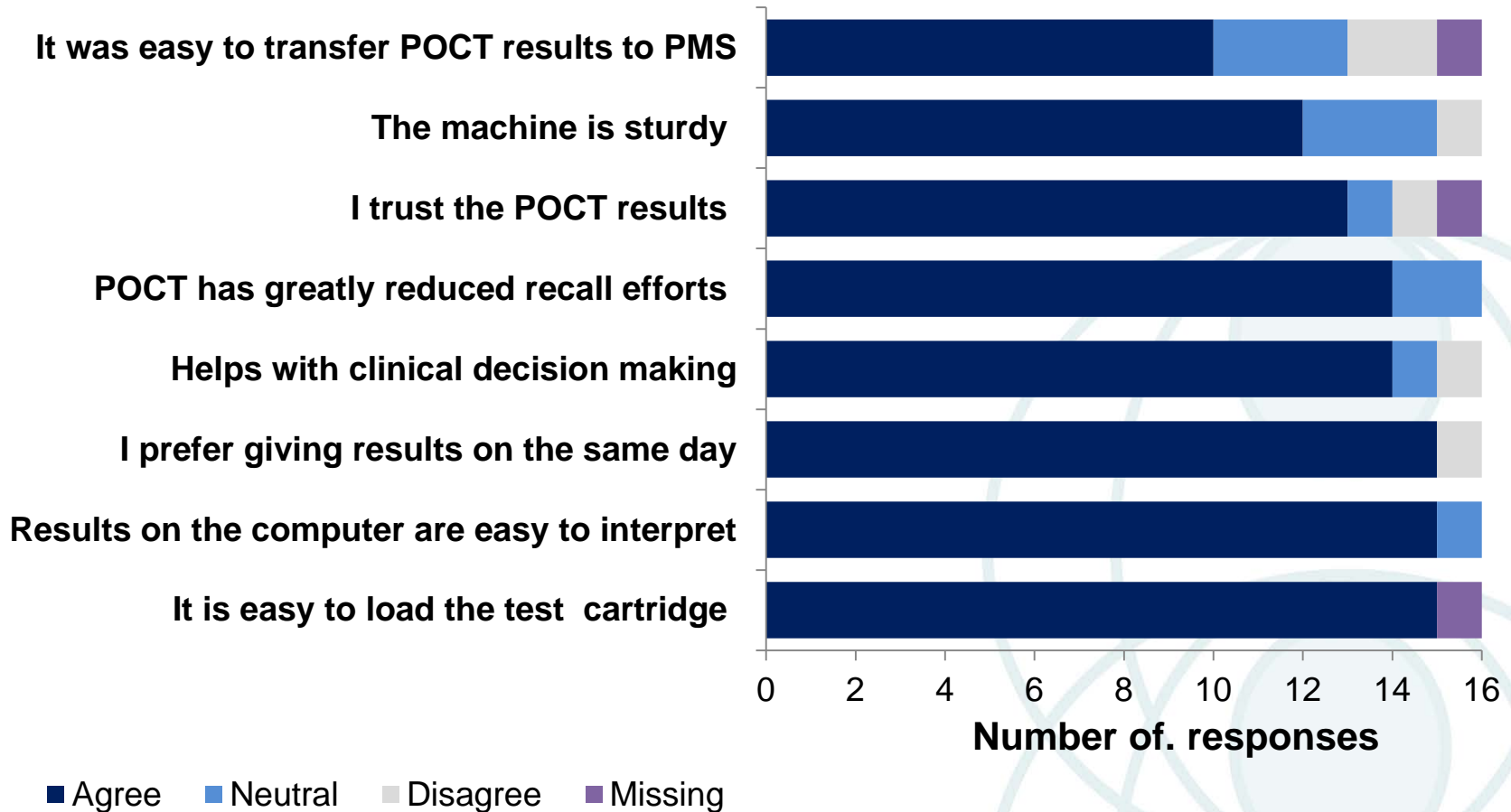
GenXpert CT/NG performance



Chlamydia	%	95% CI
Sensitivity	98.4	94.9 – 99.6
Specificity	99.5	99.0 – 99.8

Gonorrhoea	%	95% CI
Sensitivity	100.0	96.3 – 100.0
Specificity	99.9	99.6 – 100.0

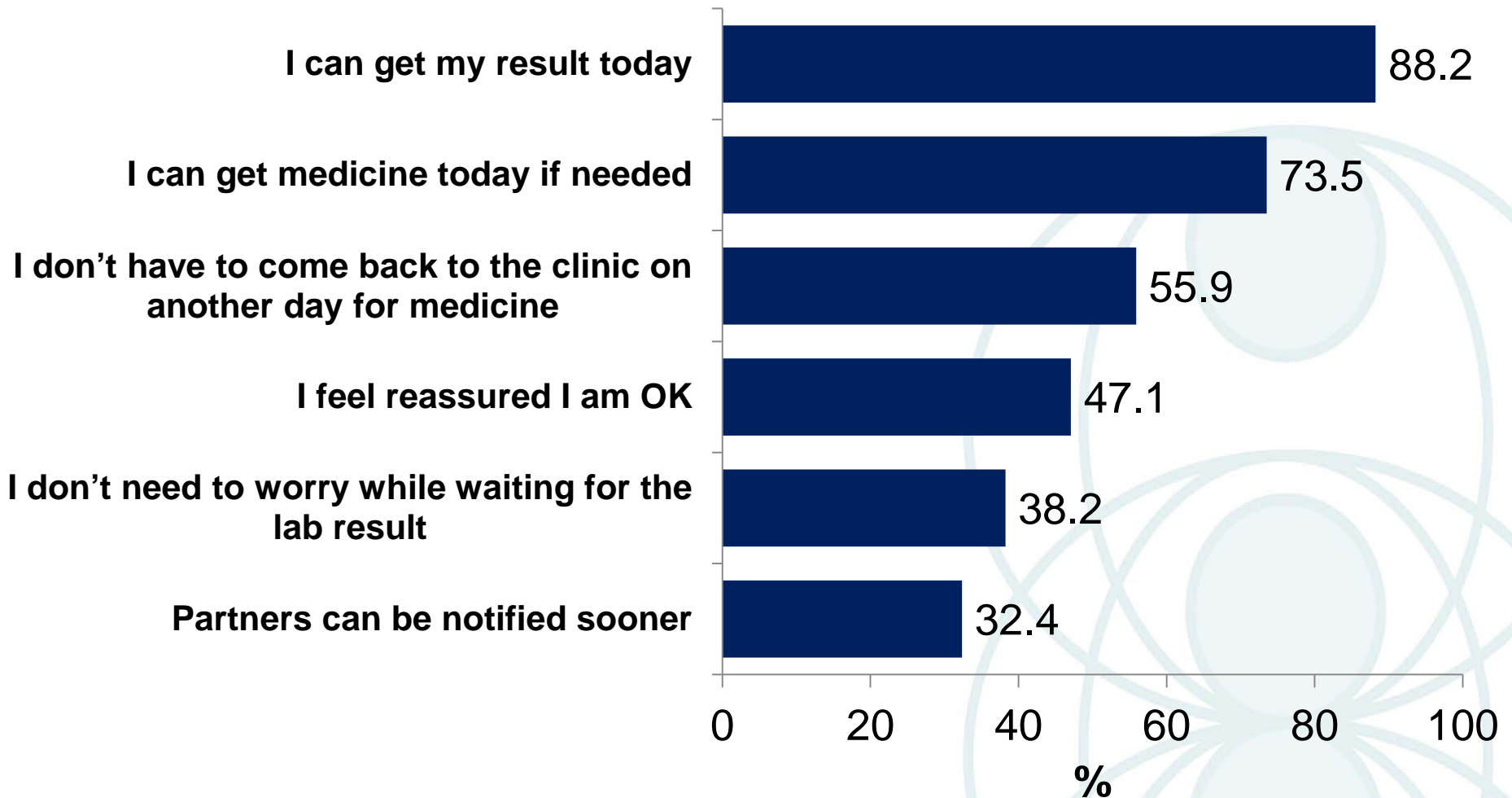
Staff 'likes' about GenXpert testing



Patient 'likes' about the GenXpert test

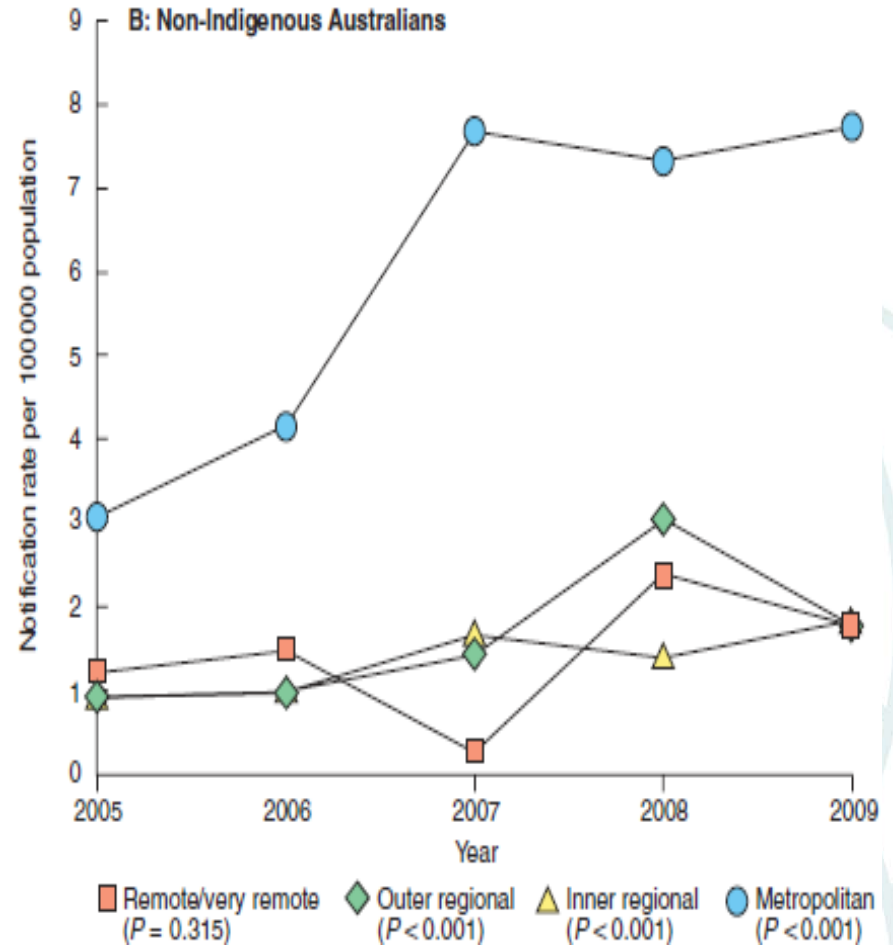
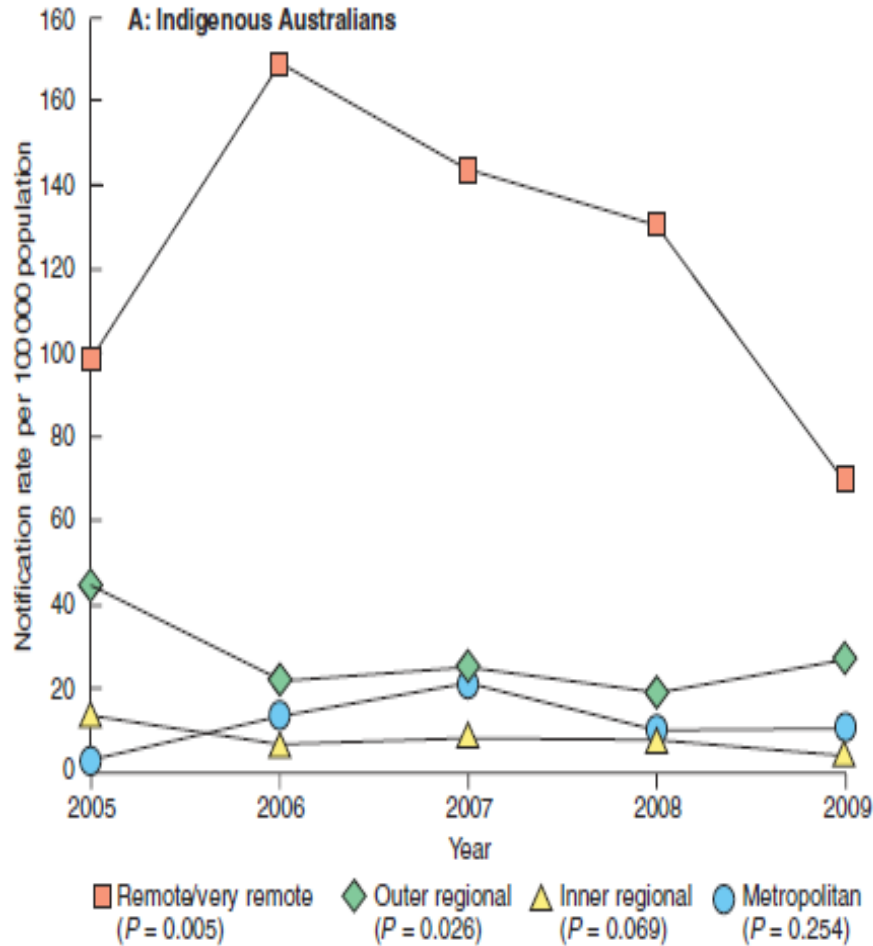


Multiple choice



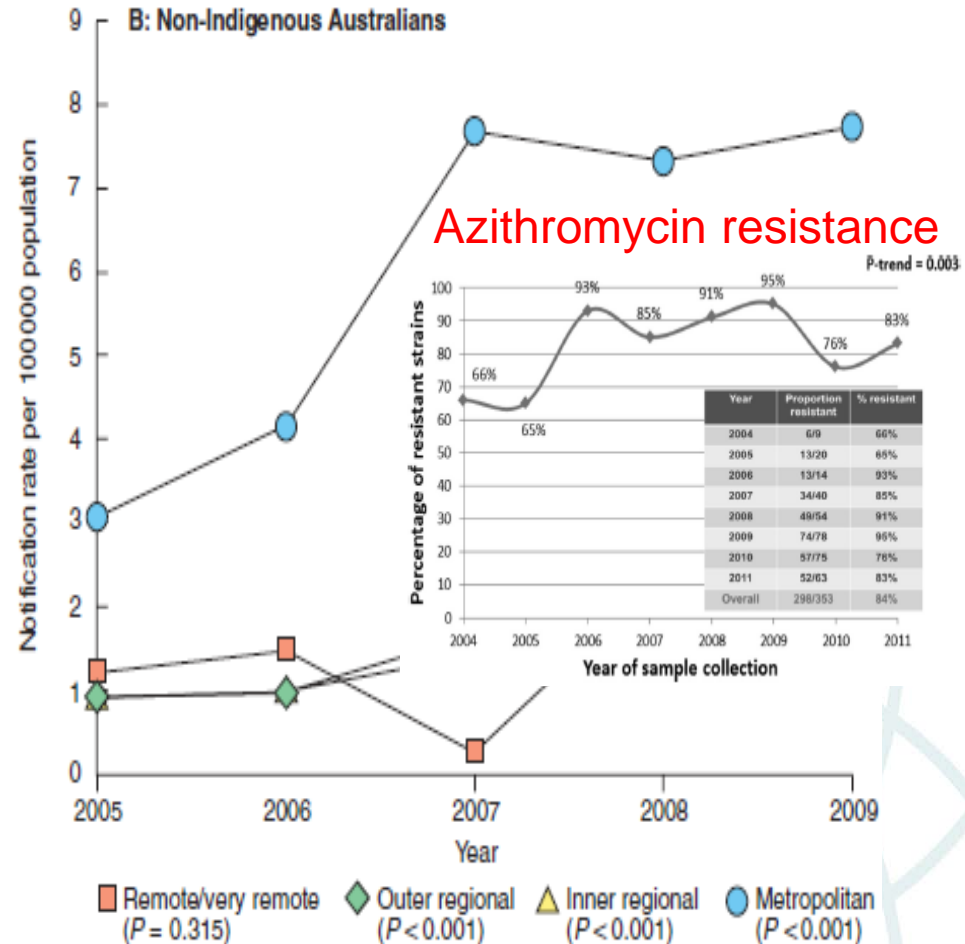
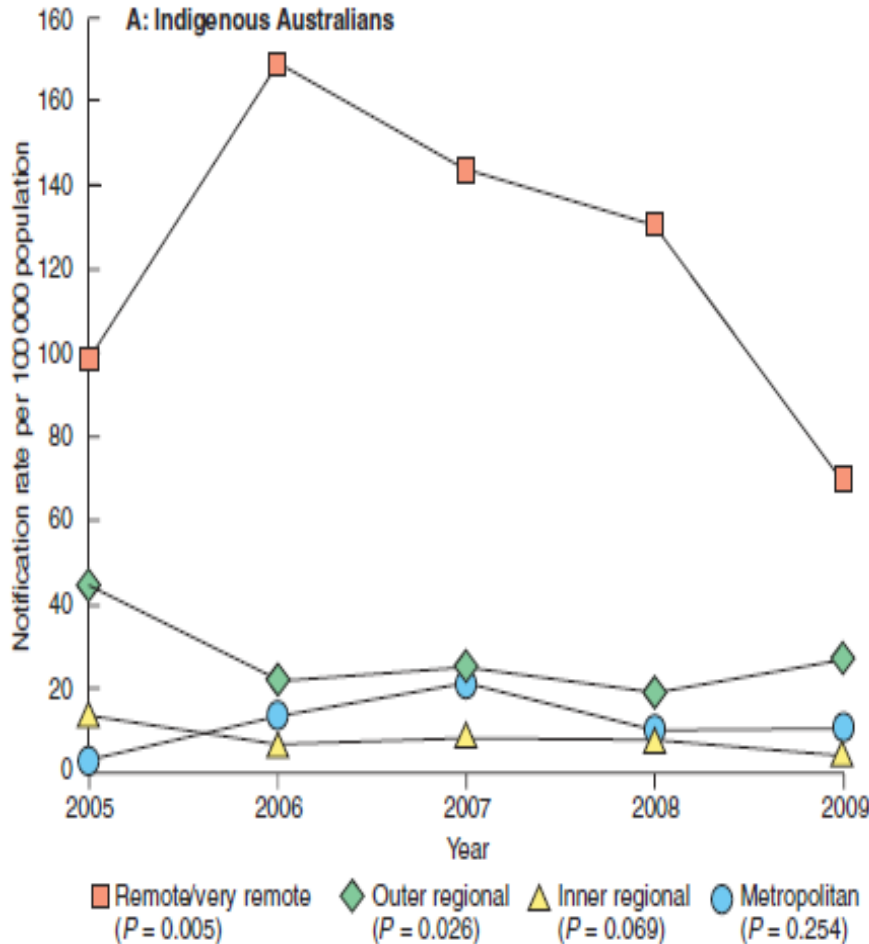


Infectious syphilis notifications by place of residence, 2005-2009



Ward J, et al. *Med J Aust* 2011

Infectious syphilis notifications by place of residence, 2005-2009



Read P, et al. *J Clin Micro* 2014
 Ward J, et al. *Med J Aust* 2011

Evolving syphilis outbreak, 2011-2015

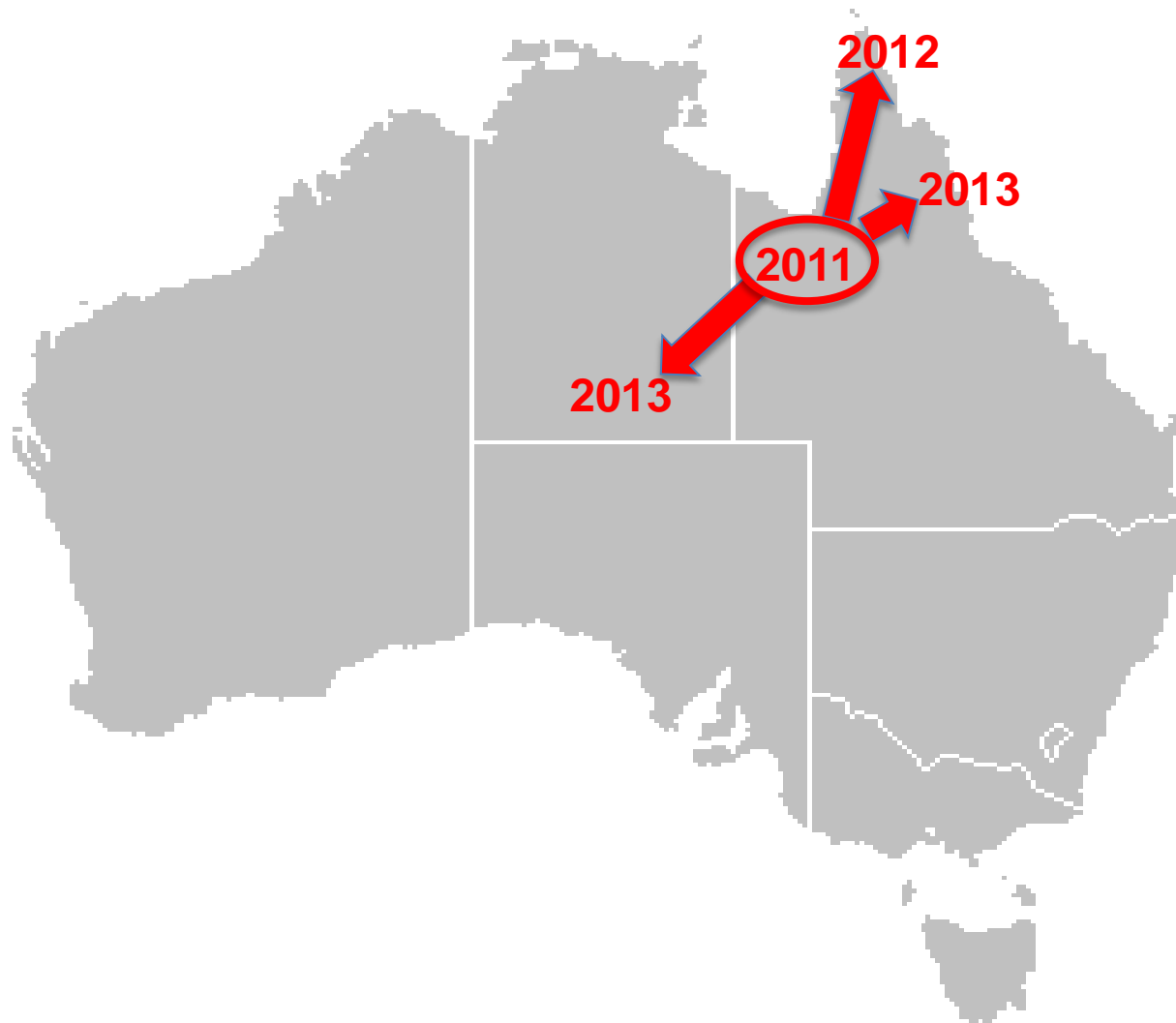


Bright A & Dups J. *Commun Dis Intell* 2016

Queensland 2013

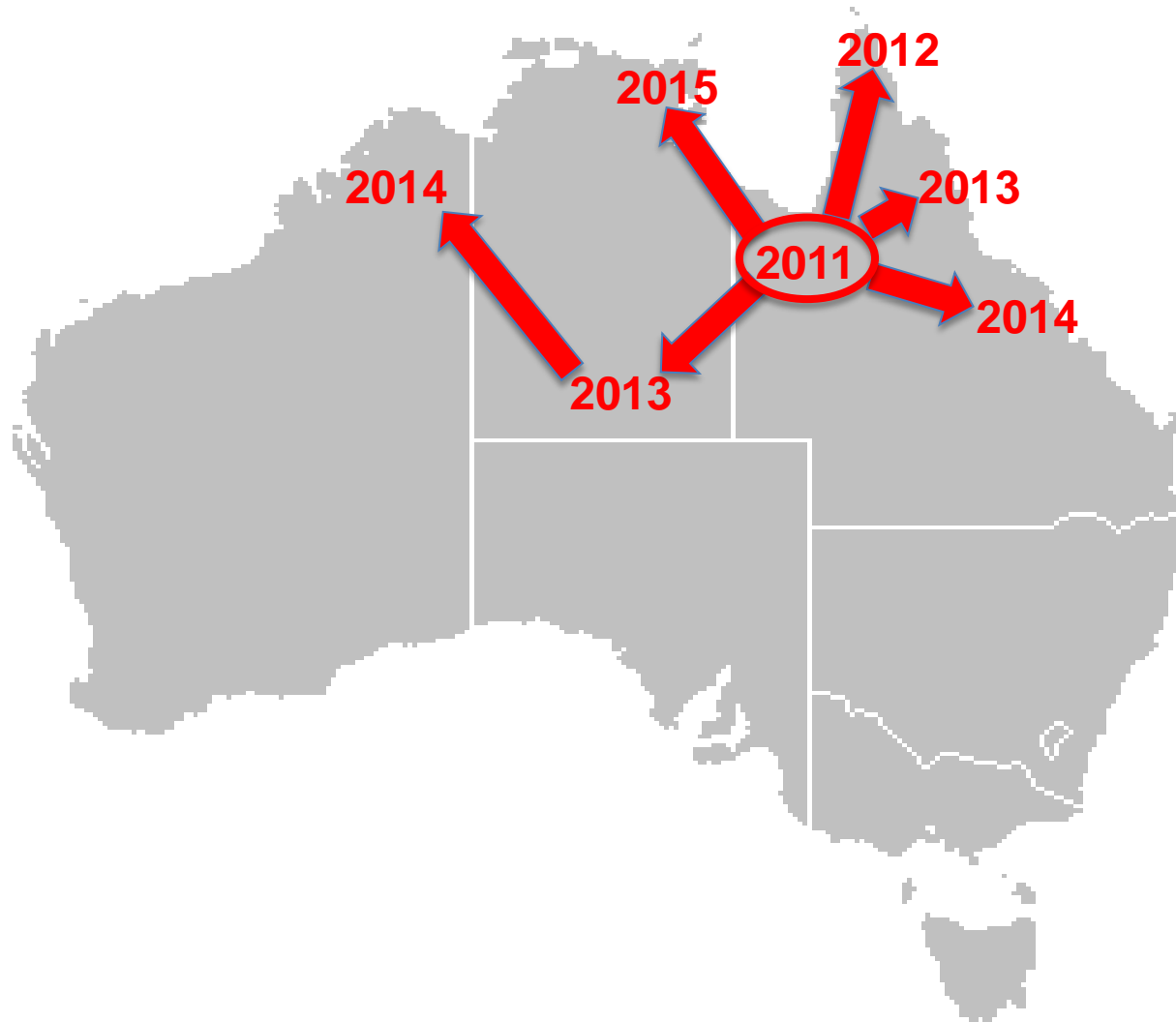


Evolving syphilis outbreak, 2011-2015



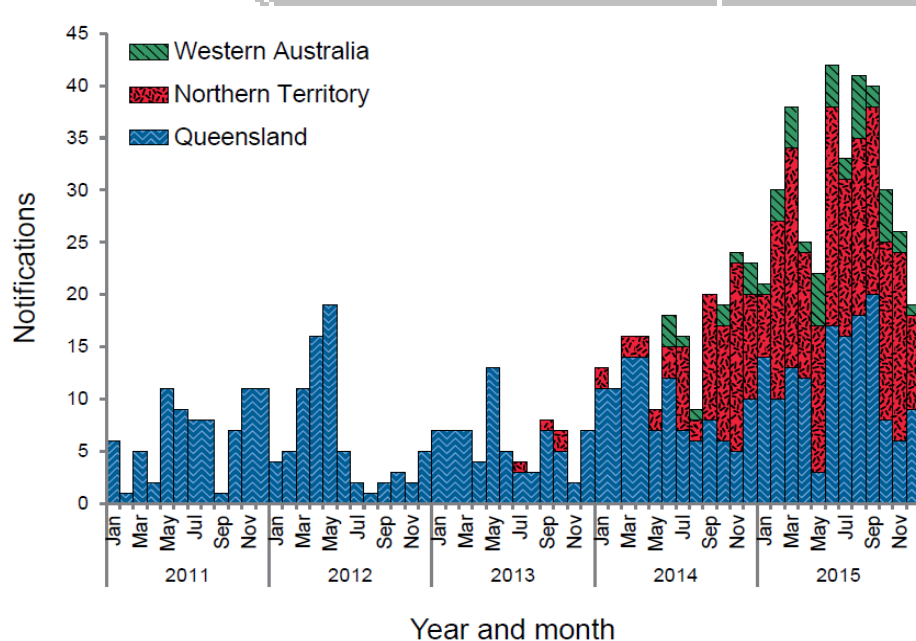
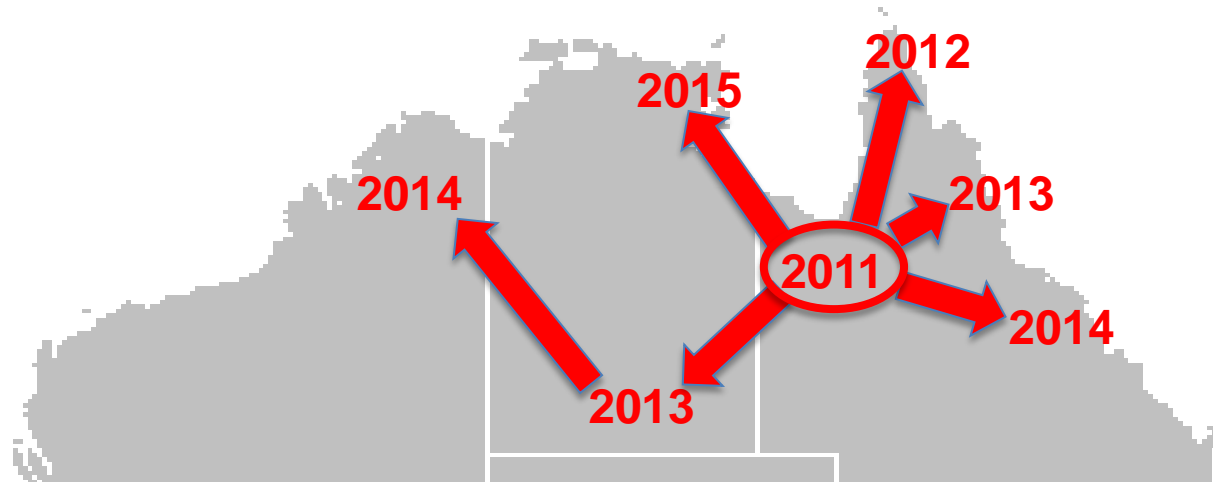
Bright A & Dups J. *Commun Dis Intell* 2016

Evolving syphilis outbreak, 2011-2015



Bright A & Dups J. *Commun Dis Intell* 2016

Evolving syphilis outbreak, 2011-2015



790 cases (644 confirmed)
 55% female
 37% 15-19 years old
 38% 20-29 years old
 7 congenital infections
 (2 stillbirths, 1 neonatal death)

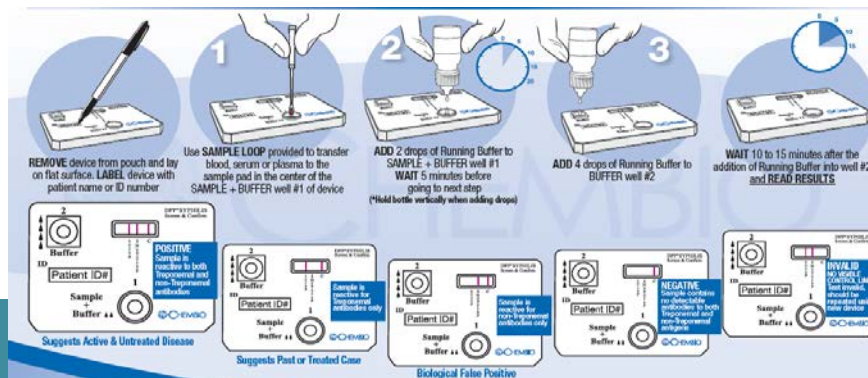
Bright A & Dups J. *Commun Dis Intell* 2016



Response to ongoing syphilis outbreak

- Interim guidelines (2012)
- Opportunistic testing and community screening
 - Including point-of-care testing
 - Immediate treatment of symptomatic people, seropositive, or known contact
 - Public health alerts
 - Education programs/community consultation
 - Active follow-up of cases
- Multijurisdictional Syphilis Outbreak Group (2015)

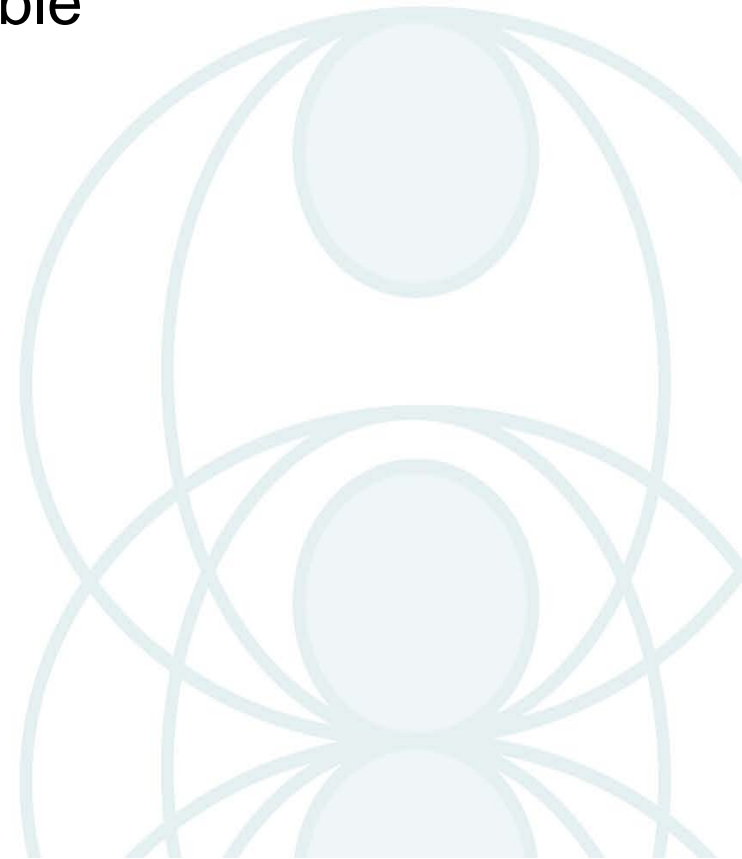
DPP Syphilis Screen and Confirm



Causser L, et al. *Clin Infect Dis* 2015

Summary

- The only certainty is change
- All STIs (except HSV) are controllable



Summary

- The only certainty is change
- All STIs (except HSV) are controllable
- STI control is vulnerable to:
 - Political will
 - Community and professional advocacy
 - Access to clinical services (acceptable and competent)
 - Gaps in surveillance, including antimicrobial resistance
- New clinical and public health strategies offer hope

Rethinking SEXUAL HEALTH

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HEALTH CONFERENCE



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