

Impact for Indigenous Women: The VIP-I study and the National HPV Vaccine Program

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Cancer: The case of Indigenous Australians

- High incidence
- High mortality
- Lower survival rates
- Increased risk factors associated to cancer incidence
 - Biomedical
 - Behavioural and Lifestyle
 - Environmental

Age-standardised rate for incidence, mortality, hospitalisation and 5-year crude survival comparing Indigenous and non Indigenous Australians

	Incidence 2004-2008	Mortality 2007-2011	Hospitalisation 2006-07 to 2010-11	Survival 1999-2007
All cancers combined				
Indigenous	460.8	251.7	113.0	40.2%
Non-Indigenous	434.4	172.4	170.1	51.9%

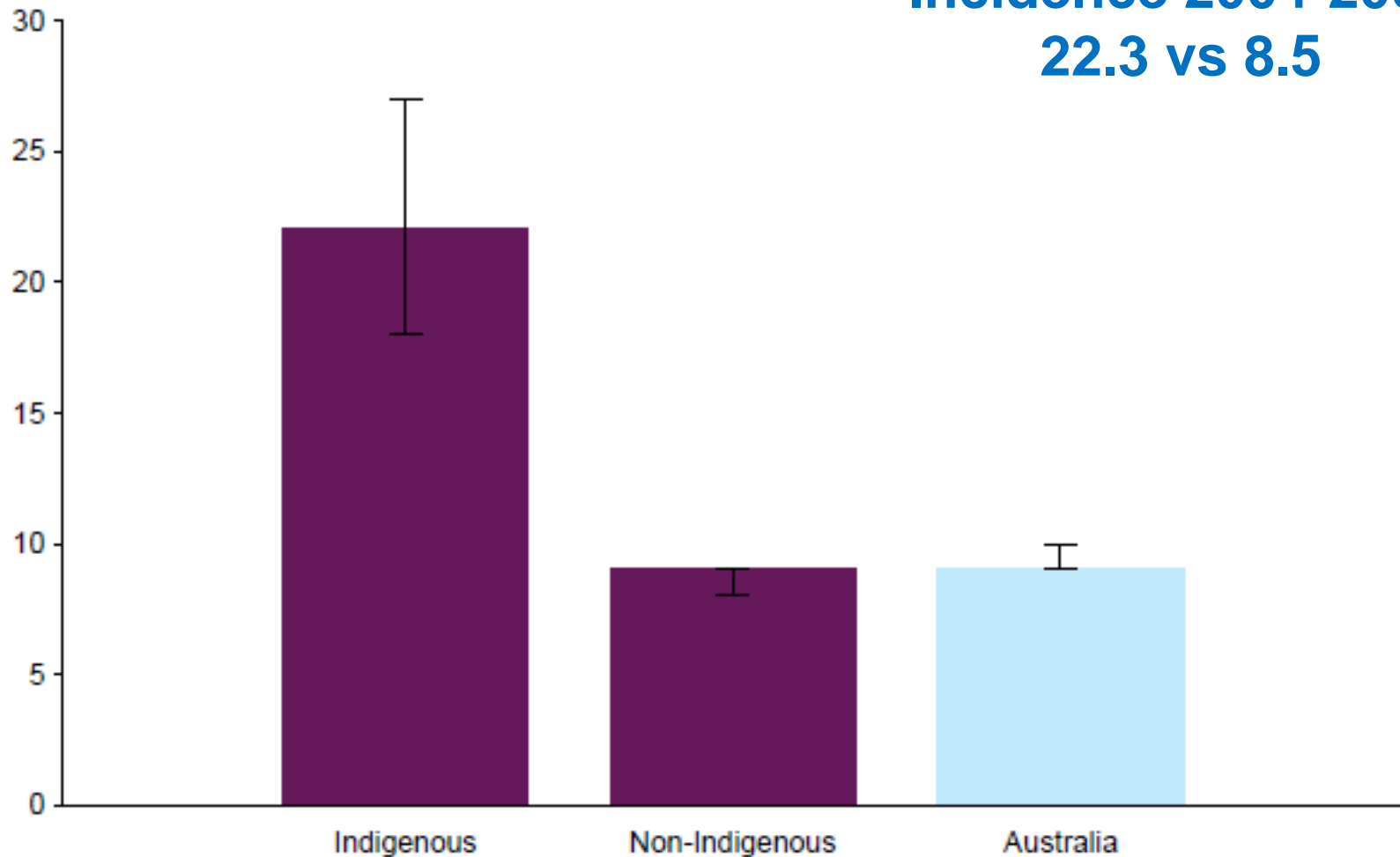
Table 3.3: The 10 most commonly diagnosed cancers in Aboriginal and Torres Strait Islander peoples, New South Wales, Queensland, Western Australia and the Northern Territory, 2004–2008

Cancer site/type	Indigenous		Non-Indigenous	
	Number	Ranking	Number	Ranking
Lung (C33–C34)	603	1	28,998	4
Breast in females(C50)	438	2	35,851	3
Bowel (C18–C20)	348	3	39,725	2
Prostate (C61)	291	4	47,404	1
Unknown primary site (C77–C80)	167	5	8,329	7
Non-Hodgkin lymphoma (C82–C85)	125	6	10,945	6
Cervix (C53)	121	7	2,185	22
Uterus (C54–C55)	120	8	5,243	13
Liver (C22)	118	9	3,429	18
Pancreas (C25)	110	10	7,046	8
All cancers combined^(a)	3,875	..	292,949	..

Greater burden of cervical cancer incidence in Indigenous vs non-Indigenous women

Number of new cases per 100,000 women

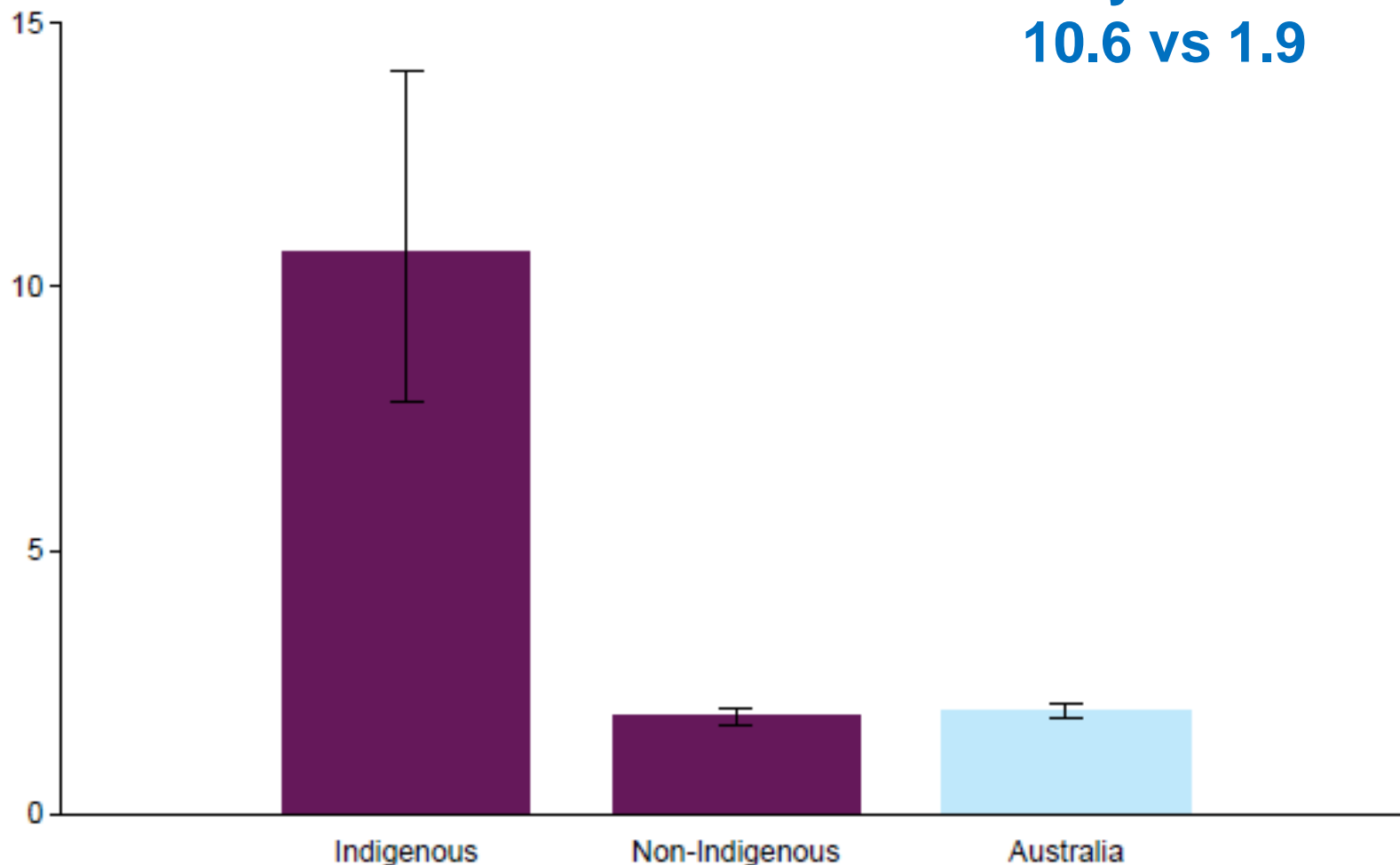
Incidence 2004-2008
22.3 vs 8.5



Greater burden of cervical cancer mortality in Indigenous vs non-Indigenous women

Number of deaths per 100,000 women

Mortality 2006-2010
10.6 vs 1.9



Indigenous women and the cervical screening program

- 1999 – 2004 Indigenous women participation in cervical screening was 18-19 percentage points lower than Australian rate (NT) (Binns 2006)
- 1999-2000 Indigenous women had a 30% lower participation rate. (QLD)(Coory 2002)

Barriers to cervical screening

- Cultural
- Linguistic
- Physical

- Health service access
- Physical and psychological Impact of historical policies
- Generational trauma

National Human Papillomavirus (HPV) Vaccination Program

July 2007 - Dec 2009

Community-based
program targeting women
≤26

2013 - 2014

Introduction of 12-15
year old boys to
school based
program

April 2007 - Dec 2008

School-based program
targeting 12-17 year
old women

2009 - Ongoing

School-based program continued, targeting 12 – 13 year old
girls in first year high school

2007

2008

2009

2010

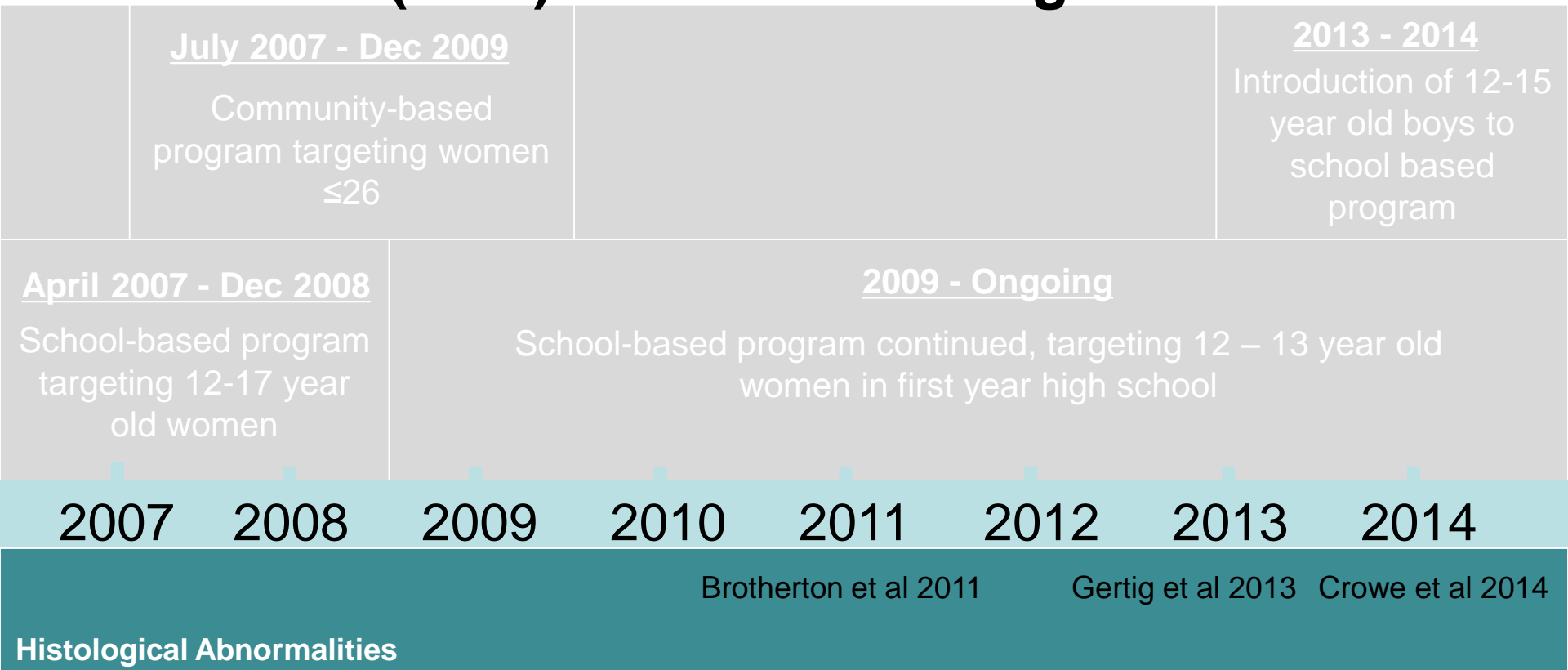
2011

2012

2013

2014

Evaluation of the National Human Papillomavirus (HPV) Vaccination Program



Availability of cancer data by Indigenous status

Data source	Measure	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Missing data ^(a)
Australian Cancer database (2009 version, reporting years 2004–2008)	Incidence	✓	✗	✓	✓	✗	✗	✗	✓	12%
National Mortality Database (reporting years 2007–2011)	Mortality	✓	✗	✓	✓	✓	✗	✗	✓	0.8%
National Hospital Morbidity Database ^(b) (2006–07 to 2010–11 financial years)	Hospitalisation	✓	✓	✓	✓	✓	✗	✗	✓	11%
BreastScreen Australia ^(c) (2 years 2010–2011)	Breast screening	✓	✓	✓	✓	✓	✓	✓	✓	n.a.
National Bowel Cancer Screening Program ^(c) (July 2011 and June 2012)	Bowel screening	✓	✓	✓	✓	✓	✓	✓	✓	n.a.
National Cervical Screening Program	Cervical screening	✗	✗	✗	✗	✗	✗	✗	✗	n.a.

Evaluation of the National Human Papillomavirus (HPV) Vaccination Program

<p><u>July 2007 - Dec 2009</u></p> <p>Community-based program targeting women ≤26</p>					<p><u>2013 - 2014</u></p> <p>Introduction of 12-15 year old boys to school based program</p>			
<p><u>April 2007 - Dec 2008</u></p> <p>School-based program targeting 12-17 year old women</p>	<p><u>2009 - Ongoing</u></p> <p>School-based program continued, targeting 12 – 13 year old women in first year high school</p>							
2007	2008	2009	2010	2011	2012	2013	2014	
<p>Histological Abnormalities</p>			<p>Brotherton et al 2011</p>		<p>Gertig et al 2013</p>		<p>Crowe et al 2014</p>	
<p>Genital Warts</p>		<p>Fairley et al 2009</p>	<p>Donovan et al 2011</p>			<p>Ali et al 2013</p>	<p>Ali et al 2013</p>	<p>Smith et al 2013</p>

Fall in Genital Warts Diagnosis in the General and Indigenous Australian Population

Megan A. Smith,^{1,2} Bette Liu,^{3,4} Peter McIntyre,⁵ Robert Menzies,⁵ Aditi Dey,⁵ and Karen Canfell²

¹Sydney School of Public Health, University of Sydney, ²Prince of Wales Clinical School, and ³School of Public Health and Community Medicine, UNSW, and ⁴Sax Institute, Sydney, and ⁵National Centre for Immunisation Research and Surveillance, University of Sydney and Children's Hospital Westmead, Westmead, Australia

- Comparable reductions in hospital admissions post implementation of the vaccine program among Indigenous and non- Indigenous women

Non-Indigenous women ↓ 76%

Indigenous women ↓ 88%

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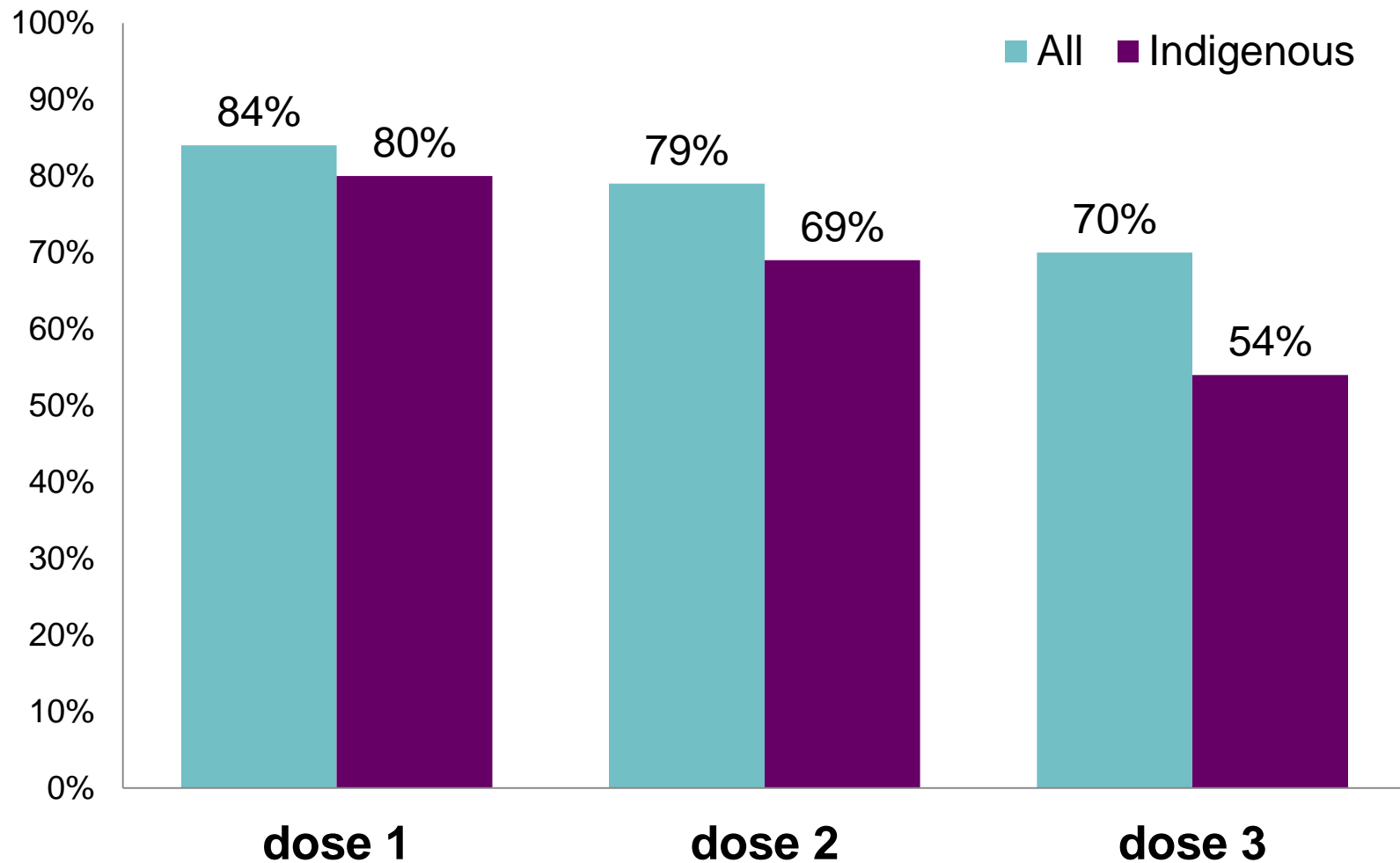
Highlighted challenges

- Data quality
 - Reporting of Indigenous status
 - Consistency across jurisdictions
- Small sample
- Difficulties evaluating the impact of the national HPV vaccine program among Indigenous males

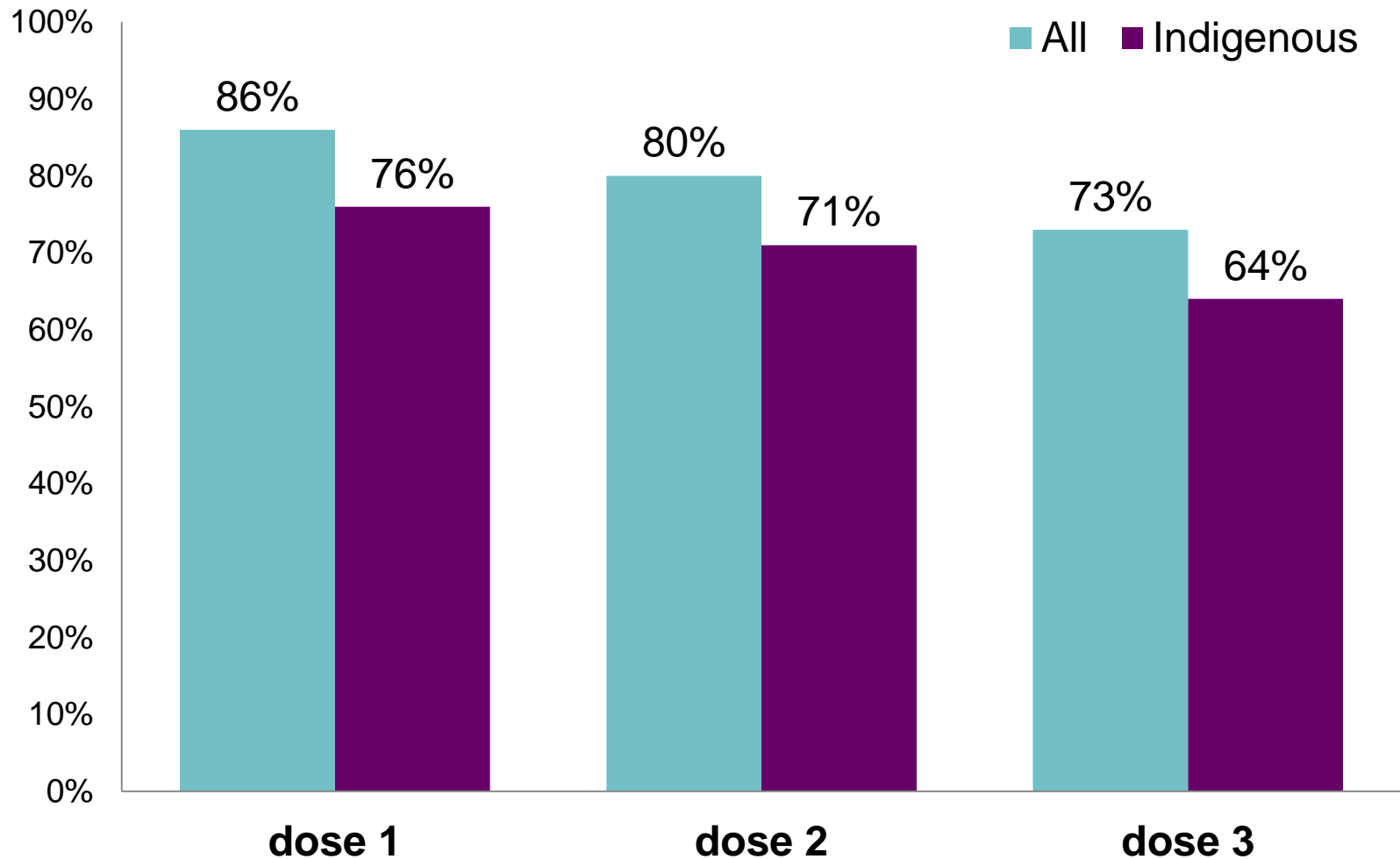
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<p>Vaccine Coverage</p>					Brotherton et al 2013		Barbaro et al 2014 Brotherton et al 2014

Vaccine coverage among 12-17 year old women in Queensland by whole of population and Indigenous status



Vaccine coverage among 12-17 year old women in the Northern Territory by whole of population indigenous status

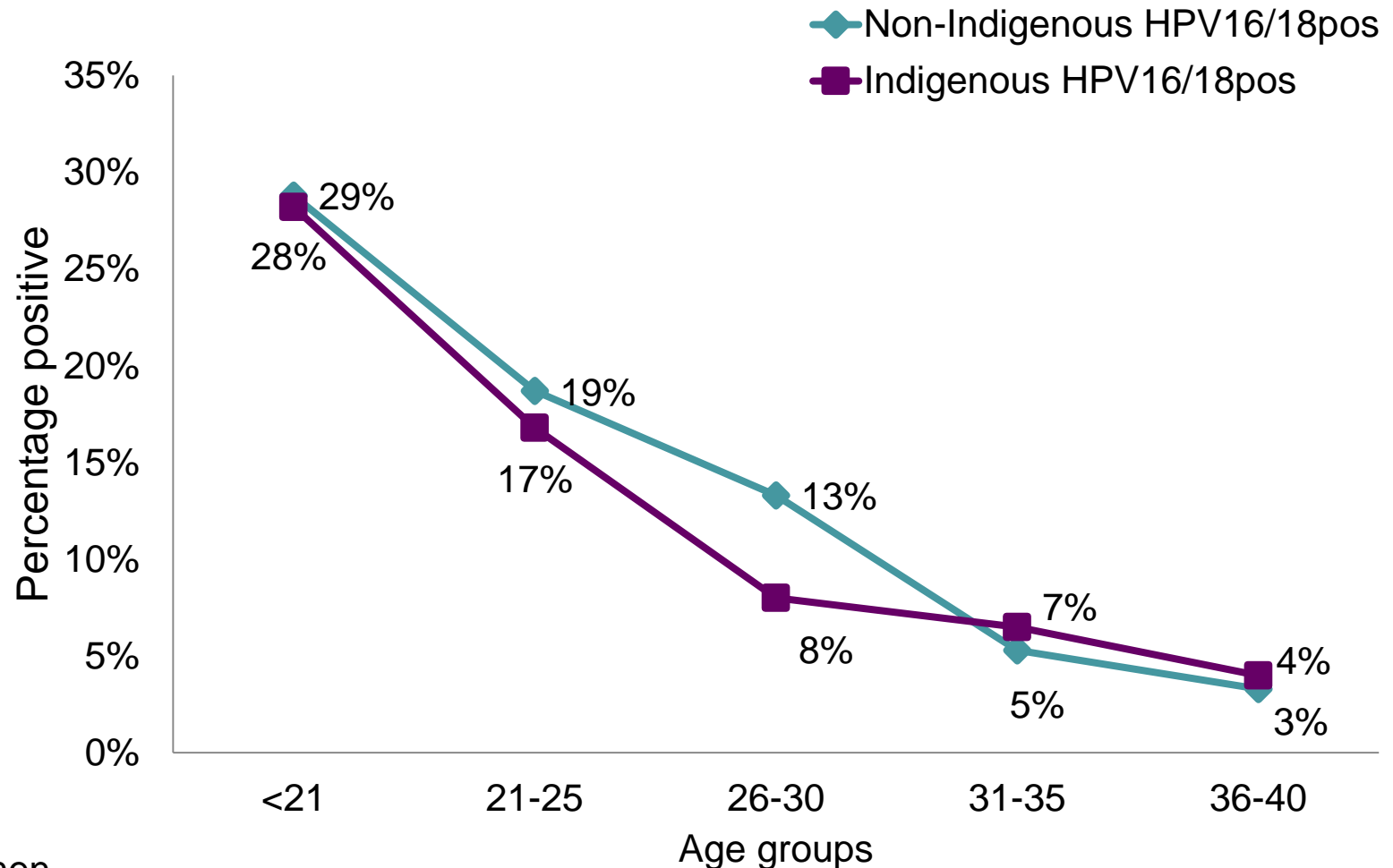


Evaluation of the National Human Papillomavirus (HPV) Vaccination Program

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Vaccine Coverage					Brotherton et al 2013		Barbaro et al 2014 Brotherton et al 2014	
Pre vaccine era - Genotype Prevalence				Garland et al 2011		Tabrizi et al 2012 Tabrizi et al 2014		

HPV positivity prior to the national HPV vaccination program, WHINURS study

HPV 16 or 18 positivity by age group and Indigenous status

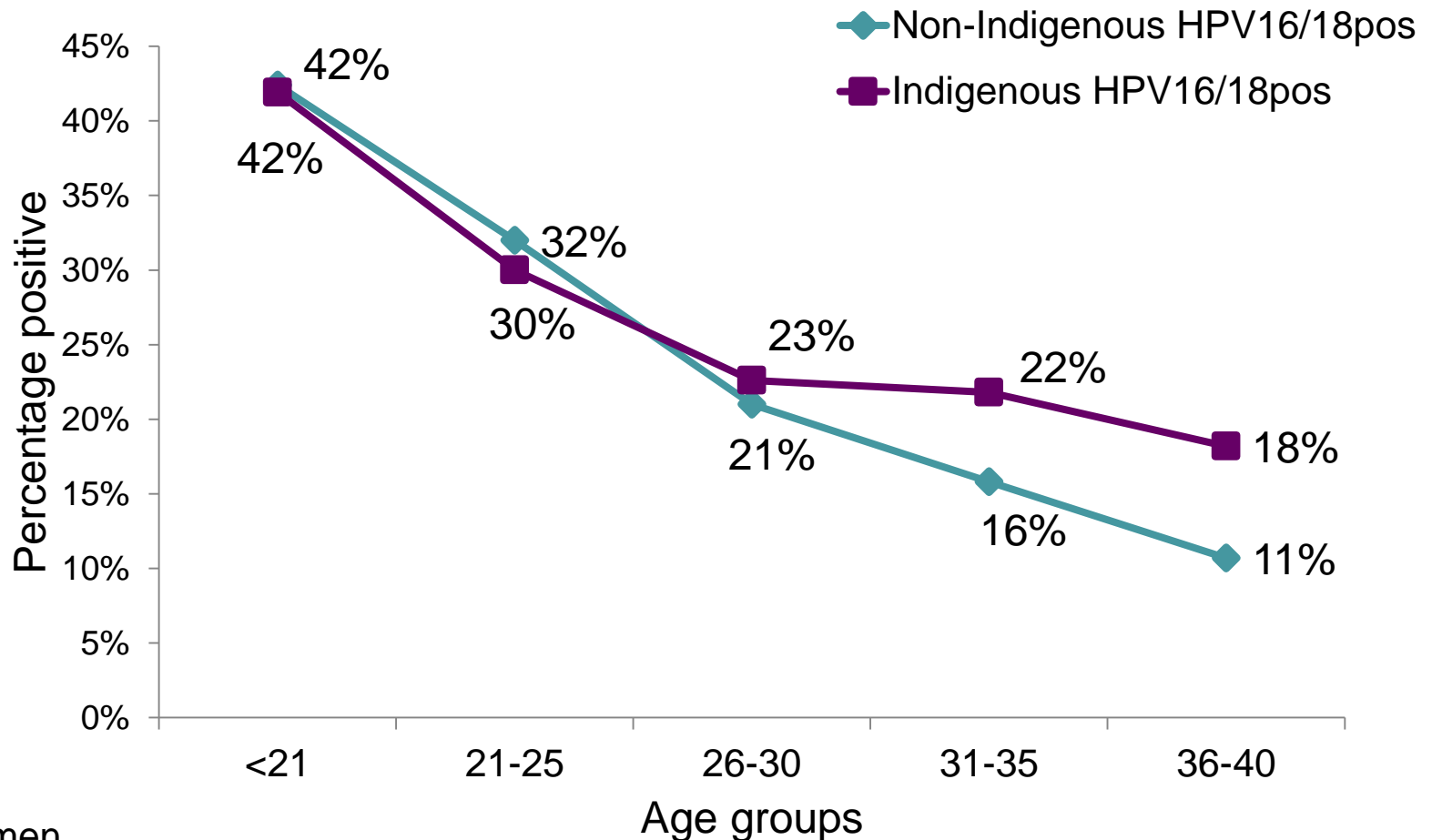


2152 women,
655 Indigenous

Garland, BMC Med 2011

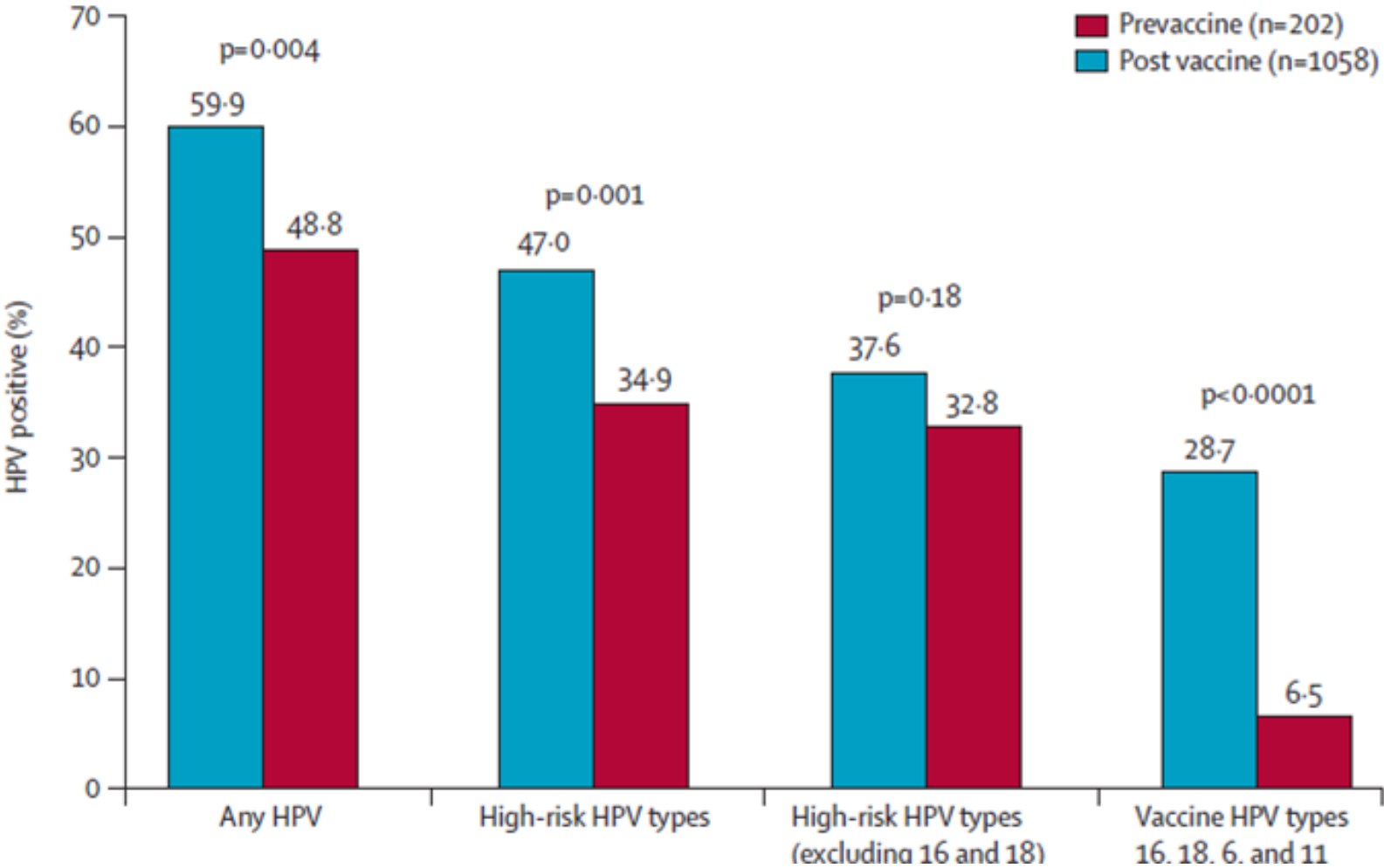
HPV positivity prior to the national HPV vaccination program, WHINURS study

HPV positivity for 11 high risk types other than HPV16 or HPV18 by age group and Indigenous status



2152 women,
655 Indigenous

Assessment of herd immunity and cross-protection after a human papillomavirus vaccination programme in Australia: a repeat cross-sectional study



Vaccine Impact in Indigenous Population (VIP-I)

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Funded: Commonwealth department of health

Vaccine Impact in Indigenous Population (VIP-I)

Objective

Evaluation of the impact of the Australian vaccination program on the prevalence of circulating HPV genotypes among Aboriginal and Torres Strait Islander women.

Vaccine Impact in Indigenous Population (VIP-I)

Aim

- To estimate the proportion of Aboriginal and Torres Strait Islander women who have been vaccinated
- To estimate and compare the prevalence of HPV types among demographically similar post-vaccine era and pre-vaccine era (WHINURS participants) cohorts .

Vaccine Impact in Indigenous Population (VIP-I)

Target

- Sites determined by participation in pre vaccine WHINURS study
- Aboriginal & Torres Strait Islander women aged 18 – 26 years
- Attending participating study sites for Pap screening

Recruitment target = 200

Methods

- Identical methodology to pre-vaccine WHINURS study

Methods

- Identical methodology to pre-vaccine WHINURS study
- Demographic and behavioural questionnaire

HPV and Vaccination Questionnaire

Thank you for agreeing to participate in our study!

Background

This study is looking at what effect the HPV vaccine has had in Aboriginal & Torres Strait Islander women around Australia. We want to know more about your experiences and why some people got vaccinated and why some didn't.

If an answer that you are looking for isn't listed, please mark the closest correct response.

Office use only:

1. Date of Birth

D	D	M	M	Y	Y
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2. Home postcode

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3. Do you identify as Aboriginal and/or Torres Strait Islander?

Aboriginal Torres Strait Islander
 Both Neither

4. What is the highest level of education you have completed?

Primary school University degree
 High school Higher degree
 TAFE or trade

5. Have you had the HPV Vaccine? (Also known as cervical cancer vaccine, Gardasil, or Cervarix)

Yes, 1 dose (go to Q6)
 Yes, 2 doses (go to Q6)
 Yes, 3 or more doses (go to Q6)

6. Have you had a Pap test before? If yes, when?

Yes, but unsure how many doses (go to Q6)
 Not sure if I have had it (go to Q6)
 No, I haven't been vaccinated
 → If no, why haven't you received it?
 Don't know what it is/ haven't heard about it
 Never offered it
 Worried about vaccine side effects
 Forgot to return the consent form to school
 My parent/guardian didn't sign the consent form
 Other _____

6 a) If yes, what was the result of your last test? (Circle one)

Normal Abnormal Unsure

7. Do you smoke?

No Yes

8. What age were you when you first had sex?

9. In your lifetime, how many people have you had sex with? (Please don't include partners you have only had oral sex with)

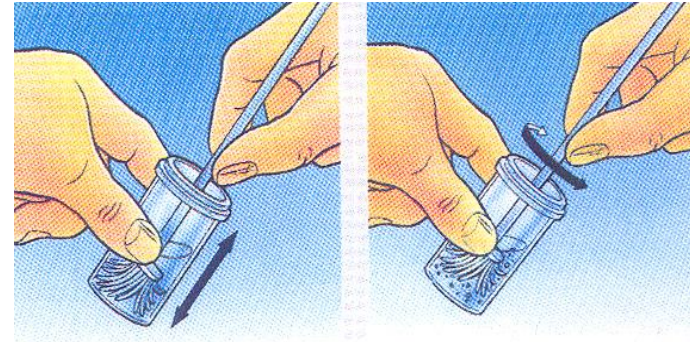
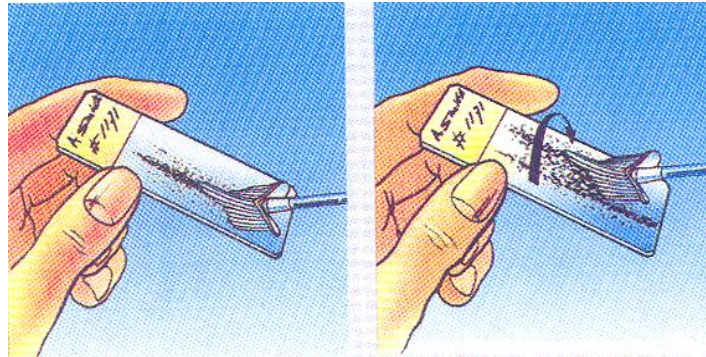
10. What contraception do you currently use? (Please tick all that apply)

I do not have a male partner
 Condoms Oral contraceptives (Pill)
 Depo Provera (Injection) Vaginal ring
 IUD (hormone) Implanon (Implant/Rod)
 IDU (copper) Emergency Contraception (past 6mths)
 Diaphragm or cap Withdrawal (pulling out)
 Do not use any Other

Please turn over page

Methods

- Identical methodology to pre-vaccine WHINURS study
- Demographic and behavioural questionnaire
- Collection of ThinPrep sample during routine Pap screening



Methods

- Identical methodology to pre-vaccine WHINURS study
- Demographic and behavioural questionnaire
- Collection of ThinPrep sample during routine Pap screening
- Laboratory confirmation of HPV DNA and genotype
- Linkage of participant dose coverage data from the National HPV vaccination program register (NHVPR)

Service led

- Site coordinator
- Collaborative team
Aboriginal health workers, doctors,
nursing and midwifery/ mothers & babies
staff and health promotion workers

Capacity building

- HPV update
- VIP-I training
- Pap provider training available for health staff

VIP-I Progress

- 4 sites in 3 jurisdictions
- 3 Aboriginal Community Controlled Health Services and 1 Family Planning site
- 85 Indigenous women recruited into the study

Lessons learnt

Time frames

- Ethics delays
- Delays in site recruitment process
- Staff turn over

Participation in Pap screening

- Recruiting 18-26 year old women during routine Pap testing

Conclusion

- Preliminary reduction in HPV vaccine targeted HPV16 and HPV18 would indicate potentially promising results for the wider VIP-I study on conclusion.
- There are lessons to take from VIP-I to improve the research processes to ensure timely and quality Indigenous specific data
- Further ongoing monitoring and evaluation

Considerations

- Success will depend on maximising vaccine coverage among Indigenous people
- Careful consideration and consultation regarding cervical screening program renewal to understand the potential impact for Indigenous people and their service providers
- Surveillance including high-quality Indigenous specific data and targeted initiatives with input from community to reduce barriers affecting service access

Future work

- Indigenous HPV Surveillance network
- Inclusion of Indigenous boys and men
- Possibility of self-collected samples
- Novel methodologies such as utilising social media networks to recruit and using new technologies

Acknowledgement

- Participating women
- Participating Services
- VIP-I site coordinators
- WHINURS and VIP investigators

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Commonwealth Department of Health

