

BUILDING TRUST, MANAGING RISK: VACCINE CONFIDENCE AND HUMAN PAPILLOMAVIRUS VACCINATION



7-8 June 2017 - LSHTM, London

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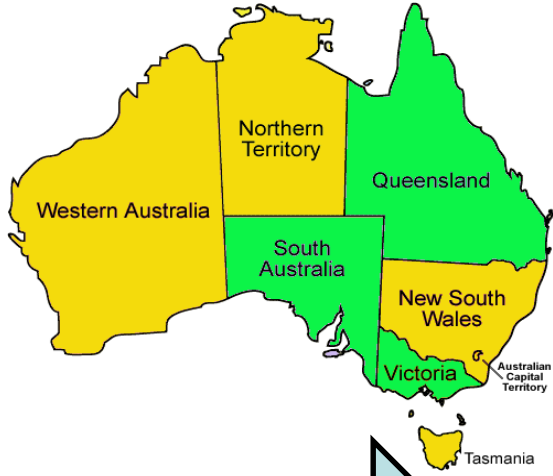
Staff Specialist, Department of Microbiology & Infectious Diseases, The Children's Hospital, Westmead

HPV vaccine in Australia

Quadrivalent (4vHPV)

4vHPV
and
2vHPV
registered

NIP program start
(4vHPV)
girls 12 - 18y school
women 18 – 26y GP



2006

April – June 2007

Ongoing program 12-13 yrs girls

Ongoing 12-13 yrs both
sexes, school based



Prof Ian Frazer
HPV VLPs
Australian of the Year

Dec 2008

School based girls
catch-up ceased

Dec 2009

Female Catch-up
18-26 years
ceased

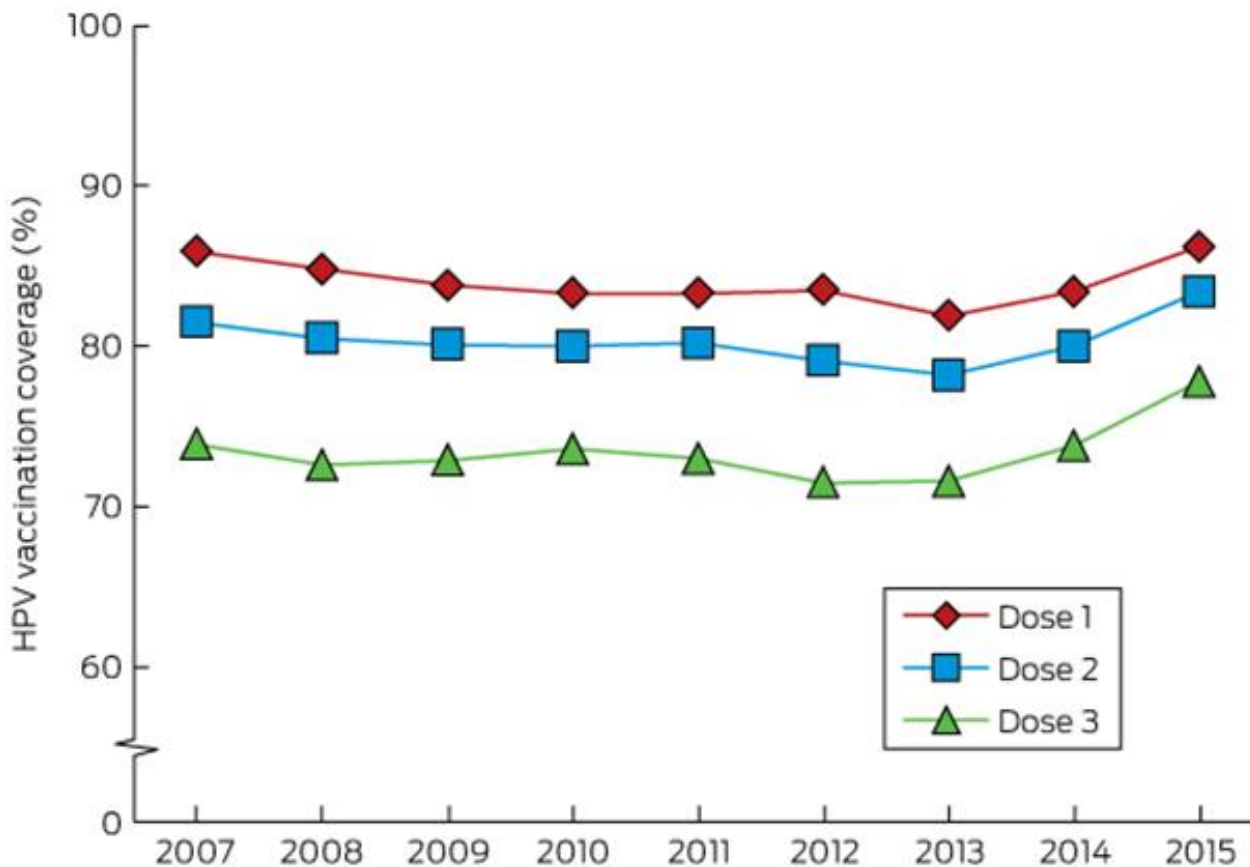
Feb 2013

Boys program started
School based: 12–13 years
Catch-up: 14-15 years ended 2014



Vaccine coverage is rising over time

National human papillomavirus (HPV) vaccination coverage for girls at age 15, by dose number and year, Australia, 2007–2015



Dose 1/2/3 coverage
15 years in 2015

- **86/83/78% females**
- **78/75/67% males**

14 years in 2015 = higher

- **87/85/79% females**
- **82/79/74% males**

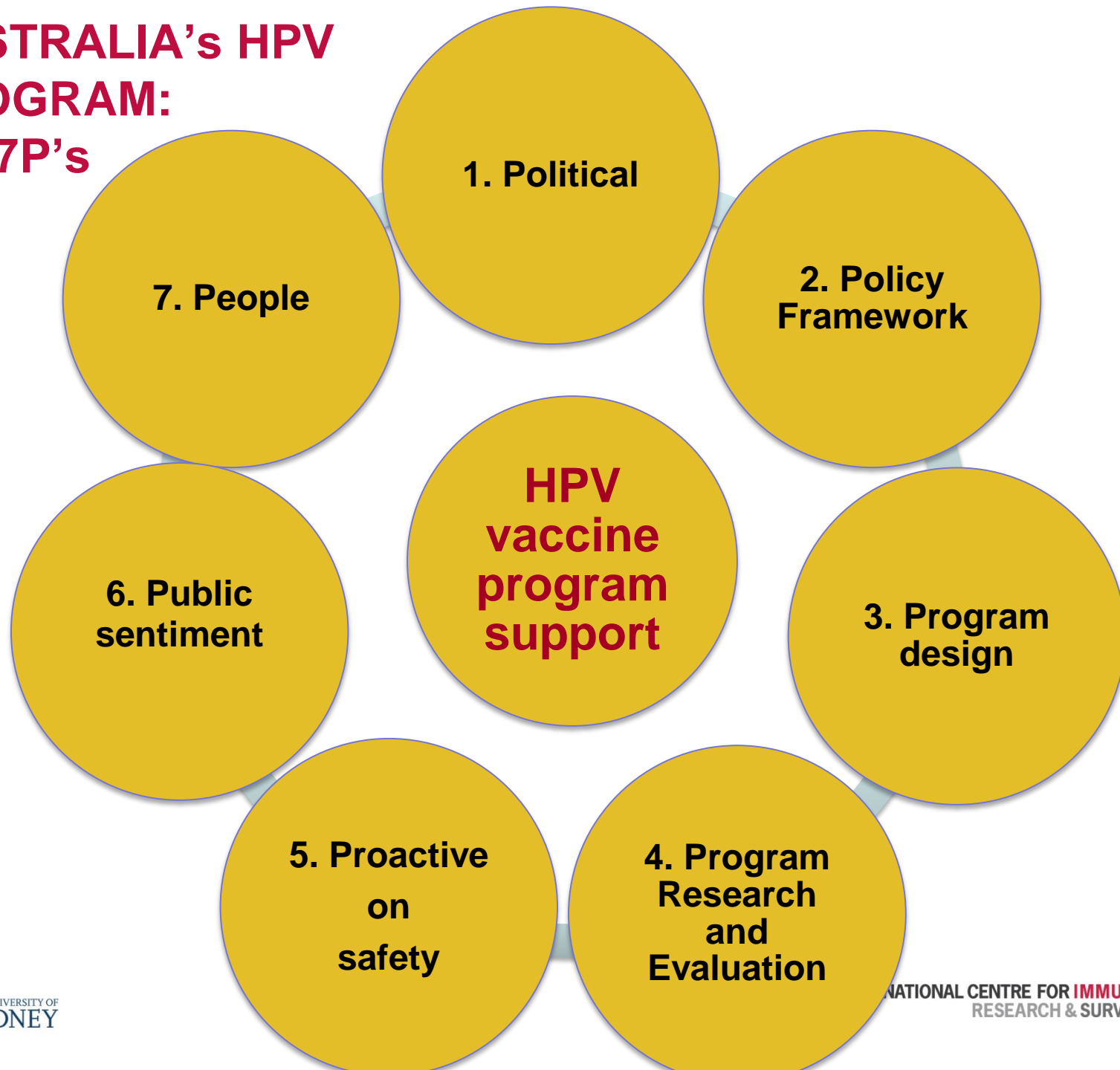
**NSW: 10% ↑ in coverage via
next year catch up**

Source: Brotherton et al, Med J Aust 2017
www.hpvregister.org.au/research/coverage-data



National HPV Vaccination
Program Register

AUSTRALIA's HPV PROGRAM: the 7P's






1. Political

- Strong initial support – Prime Ministers' wife cervical cancer survivor
- Measles elimination 2014 –focus on coverage targets
- Bipartisan support for immunisation
- Increasing compulsion eg “No Jab No Pay”

2. Policy making framework Rigorous 3 stage assessment:

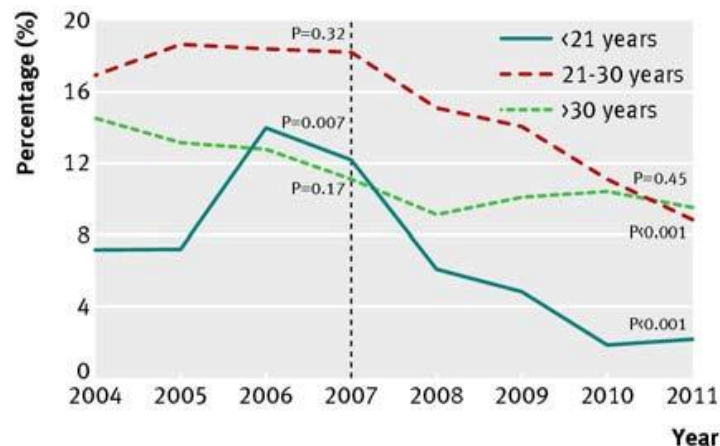
1. NITAG (ATAGI); dedicated technical support via NCIRS
 2. Cost-benefit assessments (PBAC);
 3. Government (national and state/territory consultation)
- **EQUITY** in cancer prevention sought for males/MSM
 - Modeling to support price reduction for males and screening program change

Population-wide vaccination against human papillomavirus 
in adolescent boys: Australia as a case study

Melina Georgousakis, Sanjay Jayasinghe, Julia Brotherton, Nicole Gilroy, Clayton Chiu, Kristine Macartney

3. Program implementation

- School-based immunisation
 - established nationally prior to introduction
- Dedicated HPV vaccine register
 - linkable to cancer/cervical screening register
 - detailed coverage data
- Strong sexual health programs and state-based cervical screening/cancer organisations – **engaged**



Declines in genital warts (HPV 6/11)

Ali et al BMJ 2013

- 8 public sexual health services
- New Australian born patients only
- 2004-2011- first visit to clinic.
- N=85,770

Females <21 years 92.6% decline

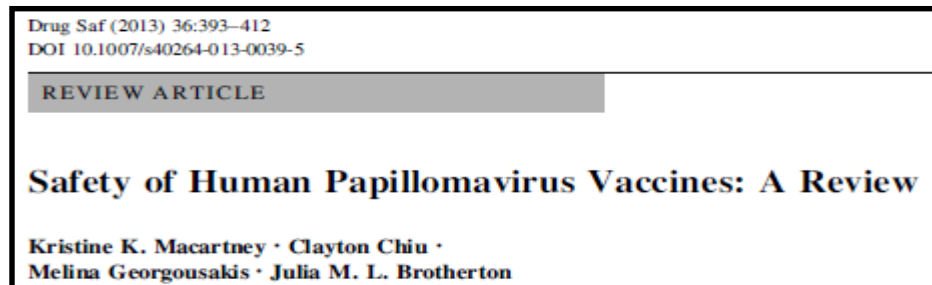
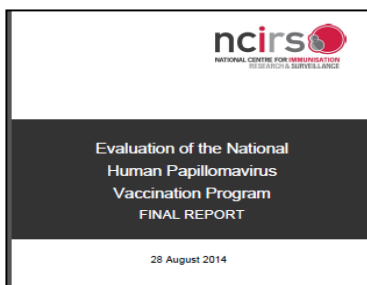
Females 21-30 yrs 72.6% decline

Males <21 years 81.8% decline

Males 21-30 yrs 51.1% decline post vaccination

4. Program research and evaluation

- Vaccine trialists in Australia (Garland; Skinner etc)
- **Early and sustained impact studies**
 - genital warts (Donovan, Fairly, etc)
 - cervical screening (Brotherton, Saville, Tabrizi, Garland etc)
 - HPV genotypes (Brotherton, Saville, Tabrizi, Garland etc)
 - Herd immunity shown
 - modelling and screening renewal (Canfell etc)
 - Links with education/adolescent health (Skinner etc)
- Published formal evaluation of female program
<http://ncirs.edu.au/surveillance/program-evaluations/>
- Systematic safety reviews and AEFI data published (NCIRS)



Decline in pre-cancer now impacting up to 30 years

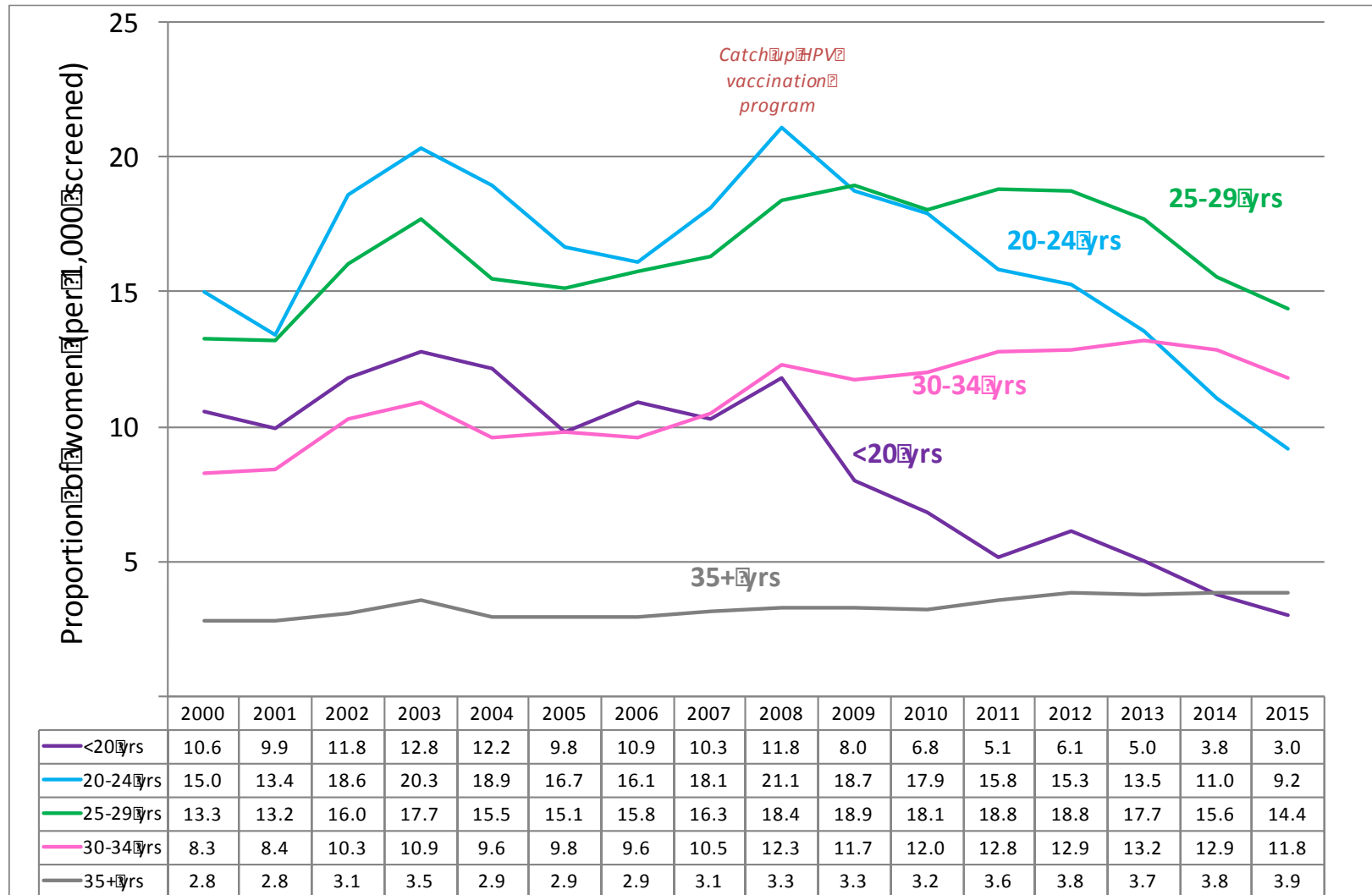


Figure 1: Trends in prevalence rates of high grade histologically confirmed cervical abnormalities (CIN2+)* diagnosed in Victorian women, Australia, by age group, 2000-2015

Updated from Brotherton et al . MJA 2016. Source VCCR



Victorian Cervical
Cytology Registry

Proactive on safety and communication

- Rapid and transparent response to safety ‘signals’
- Experts and expert panels, program advice
- Proactive safety plan for male program introduction

Date	Safety ‘event’	Response
May 2007	Multiple girls ill at school	Rapid assessment; no organic illness Mass psychogenic response
June 2007	? Excess anaphylaxis and allergic reactions	Expert panel; population level analysis; clinical guidance (overlap with syncope) Re-challenge of allergy cases; low recurrence rate
Jan 2009	Case series 5 multiple sclerosis	TGA established expert panel; extensive review No excess above background
June 2009	2 cases lipoatrophy 4 cases CRPS	Review: not HPV vaccine specific; clinical guidance provided around management
Oct 2012	Case reports of ovarian failure	TGA and vaccine advisory committee expert review; no evidence of association (single reporter)
Feb 2013	Male vaccination commences	Extensive safety plan established; systematic review of safety data Enhanced surveillance of AEFI and clinical advice syncope rates high and similar in males and females comparable
Throughout	Sporadic AE cases reported to TGA and reviewed via AEFI-CAN*	Review at 6 sentinel clinical assessment sites No consistent signal/patterns/organic explanation



PUBLIC HEALTH

Mass psychogenic response to human papillomavirus vaccination

Jim P Buttery, Simon Madin, Nigel W Crawford, Sonja Elia, Sophie La Vincente, Sarah Hanieh, Lindsay Smith and Bruce Bolam

RESEARCH

Syncope and seizures following human papillomavirus vaccination: a retrospective case series

Nigel W Crawford, Hazel J Clothier, Sonja Elia, Teresa Lazzaro, Jenny Royle and Jim P Buttery

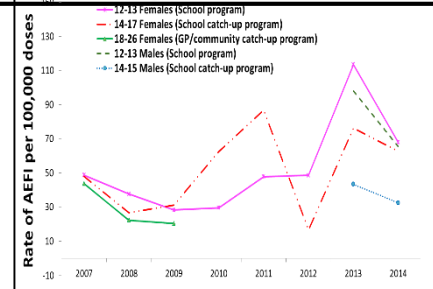
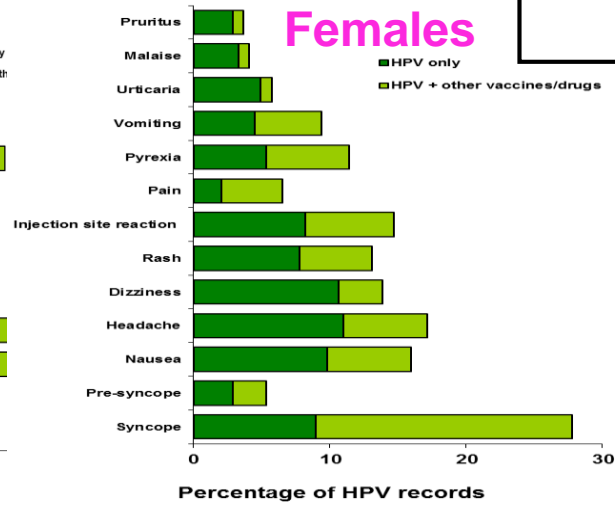
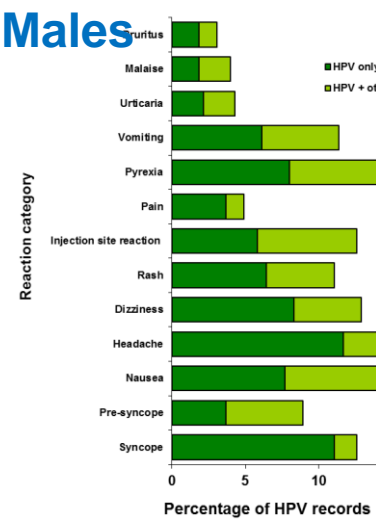
Downloaded from bmj.com on 3 December 2008

BMJ

RESEARCH

Hypersensitivity reactions to human papillomavirus vaccine in Australian schoolgirls: retrospective cohort study

Liew Woei Kang, clinical fellow and associate consultant,^{1,2} Nigel Crawford, consultant paediatrician,^{3,4} Mimi L K Tang, associate professor and director,^{1,3} Jim Buttery, infectious disease physician,^{3,4} Jenny Royle, consultant paediatrician,³ Michael Gold, senior lecturer and head,⁵ Christine Ziegler, consultant allergist and immunologist,² Patrick Quinn, consultant allergist and immunologist,⁶ Sonja Elia, immunisation nurse consultant,³ Sharon Choo, consultant allergist and immunologist



Rates of AEFI

Australian Government
Department of Health
Therapeutic Goods Administration

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Gardasil (quadrivalent human papillomavirus vaccine)

Update

16 May 2013

Gardasil is a vaccine that protects males and females from a range of cancers (including cervical and anal cancers) and other diseases caused by human papillomavirus (HPV). It is administered as three injections over six months.

Gardasil has been offered to females aged 12-13 years through schools, as part of the National Immunisation Program, since 1 April 2007. From February 2013, Gardasil has also been offered to males aged 12-13 years through the National HPV Vaccination Program.

The TGA published a safety update regarding Gardasil on 24 June 2010. Since then, the TGA has continued to monitor the vaccine. In that time, the TGA has identified no new safety signals. As with other regulators around the world, the TGA continues to consider Gardasil to be safe and effective.

[Adverse events following Gardasil vaccination](#)

Related information

- HPV School Vaccination Program

Active surveillance in ALL schools for AESI in first 2 years post introduction in males: Syncope, anaphylaxis, same day medical attendance

<http://www.tga.gov.au/safety/alerts-medicine-gardasil-130516.htm#.U57VduCr-0s>

6. Public Sentiment and messaging:

- Parent advocacy
- Community Advocacy
- “Stop the AVN” –group



Health Conspiracy websites worry experts

Lower vaccine rates put wealthy areas at risk of disease

Amy Corderoy
Health Editor

Mosman and some of Sydney's wealthiest areas have such low immunisation rates experts fear children could be at risk from deadly but preventable diseases.

The prestigious northern and eastern suburbs, Manly and inner Sydney are four of the nine NSW

said. "We do know these children are at increased risk of catching diseases such as measles and whooping cough."

Rates in many indigenous communities were particularly worrying. In NSW immunisation rates were at risky levels for children at age one, two and five in the coastal areas of the Richmond Valley, including Byron Bay and Lennox Head.

levels of vaccine-refusal were particularly worrying on the north coast. "But in other places, for example eastern Sydney, there's much more affluence and [overseas] travel, so from what we understand ... a fair proportion have travelled overseas and started vaccination but not finished it," he said.

An associate professor in the school of public health at the University of Sydney, Julie Leask, said

• protect • vacci-

This vaccine prevents CANCER

HPV causes cancer in men and women

- Murdoch press campaign;
- Media attacking anti-vaccinators as “flat earthers” and anti-science



7. People

(just some of them)



THANK YOU



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National HPV Vaccination
Program Register

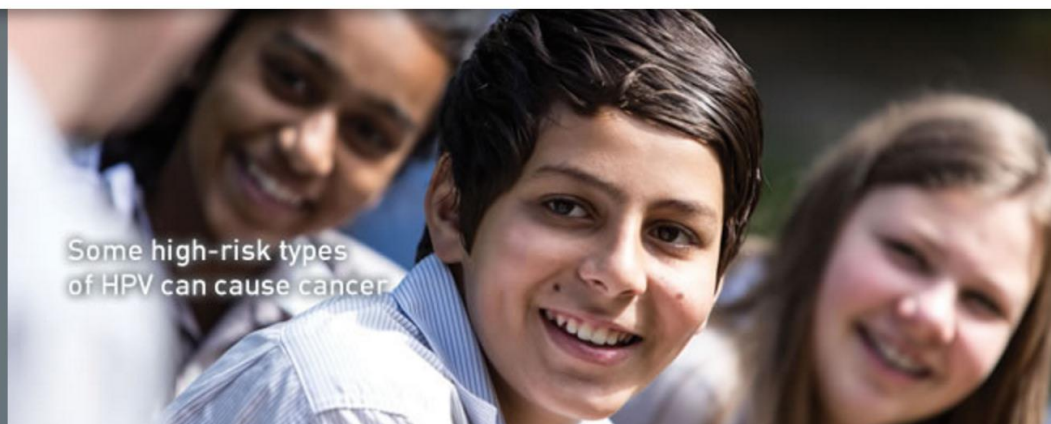
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The HPV Register supports the National HPV Vaccination Program funded by the Australian Government and plays an essential role in monitoring and evaluating the program by recording information about HPV vaccine doses administered in Australia.



Some high-risk types
of HPV can cause cancer.

For Health Professionals

For Parents & Teens

For Research & Data



NATIONAL CENTRE FOR IMMUNISATION
RESEARCH & SURVEILLANCE