HPV & MALES

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http://newsnetwork.mayoclinic.org/discussion/parental-perceptions-are-preventing-hpv-vaccination-success/

Relationship between HPV and cancers

Incident HPV-related cancers in Australia in 2005

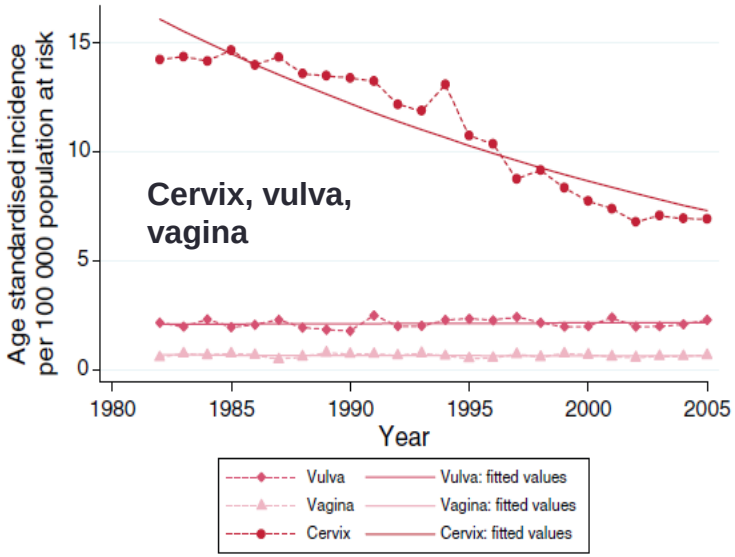
	Women	Men	% of cases due to HPV	% of HPV associated cases due to HPV16/18	Cases due to HPV 16/18	
					Women	Men
Cervical cancer	734	-	100%	76%	558	-
Vulval cancer	264	-	40%	86%	91	-
Vaginal cancer	76	-	70%	88%	47	-
Anal Cancer	176	149	85%	93%	140	118
Cancer of the base of tongue and oropharynx	114	395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

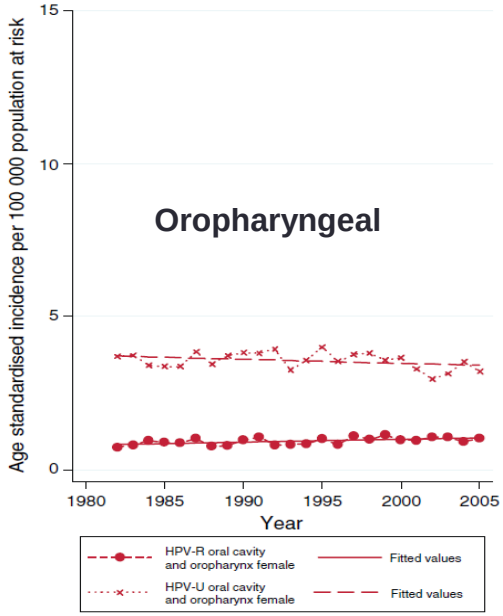
~1/3

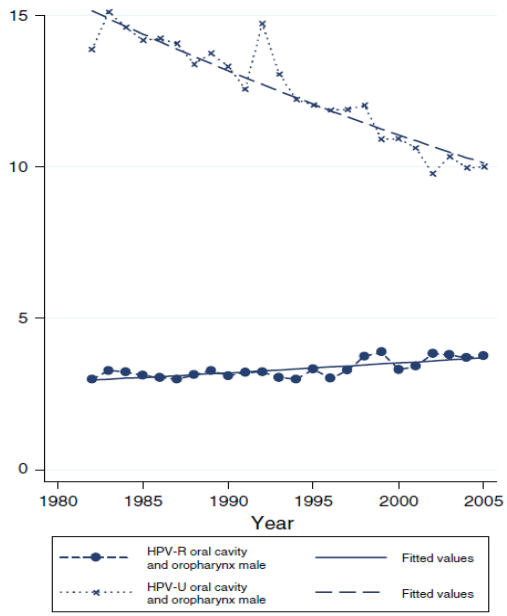
Grulich et al. Cancers attributable to human papillomavirus infection. Sexual Health, 2010.

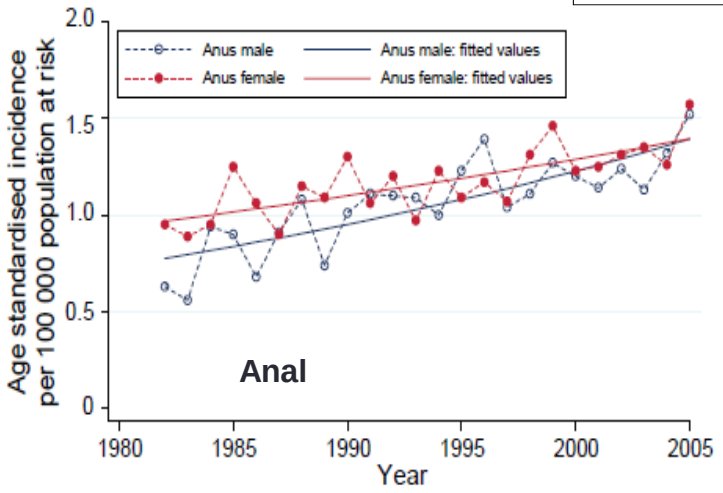
Trends in cancer incidence by sex

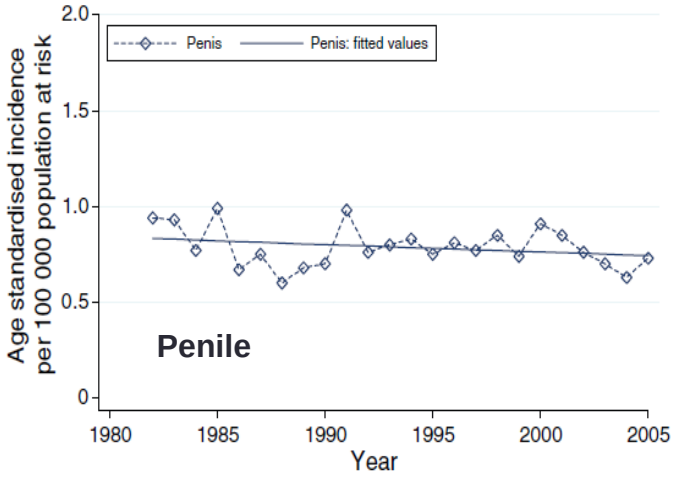
Age standardised incidence of cancers in Australia 1982-2005











Grulich et al. Cancers attributable to human papillomavirus infection. Sexual Health, 2010.

Estimated annual percentage change in age standardised incidence rates of human papillomavirus (HPV)-associated cancers between 1982 and 2005

Cancer site	Sex	Estimated annual percentage change	P-value
Cervix	Female	–3.38% (–3.91%, –2.86%)	<0.001
Anus	Female	1.59% (0.99%, 2.19%)	<0.001
Anus	**Male**	**2.58% (1.80%, 3.36%)**	**<0.001**
Vulva	Female	0.15% (–0.39%, 0.70%)	0.579
Vagina	Female	–0.31% (–1.06%, 0.44%)	0.412
Penis	Male	–0.49% (–1.26%, 0.28%)	0.209
HPV-related oral cavity and pharynx	**Male**	**0.98% (0.62%, 1.34%)**	**<0.001**
HPV-related oral cavity and pharynx	Female	1.00% (0.38%, 1.63%)	0.002
HPV-unrelated oral cavity and pharynx	Male	–1.74% (–2.01%, –1.46%)	<0.001
HPV-unrelated oral cavity and pharynx	Female	–0.36% (–0.78%, 0.05%)	0.084

Grulich et al. Cancers attributable to human papillomavirus infection. Sexual Health, 2010.

Disproportionate HPV-related cancer burden among men who have sex with men (MSM) and MSM living with HIV

- **Anal cancer:**
  - MSM ~20-30x higher rate vs other m
  - 5-20 per 100,000 among HIV- MSM
  - 78 per 100,000 among HIV+ MSM in the

Similar to cervical cancer rates among women before the implementation of screening programmes

- **HSIL among MSM aged 35 and over in Sydney[2]**
  - Baseline HSIL prevalence: 34.8% (HIV-) & 44.6% (HIV+)
  - Regression: 44.1 (HIV-) & 37.0 (HIV+) per 100 person years (py)
  - Progression: 20.0 (HIV-) & 30.0 (HIV+) per 100 py
  - HPV 16 ↑ develop HSIL & ↓ clear prevalent HSIL

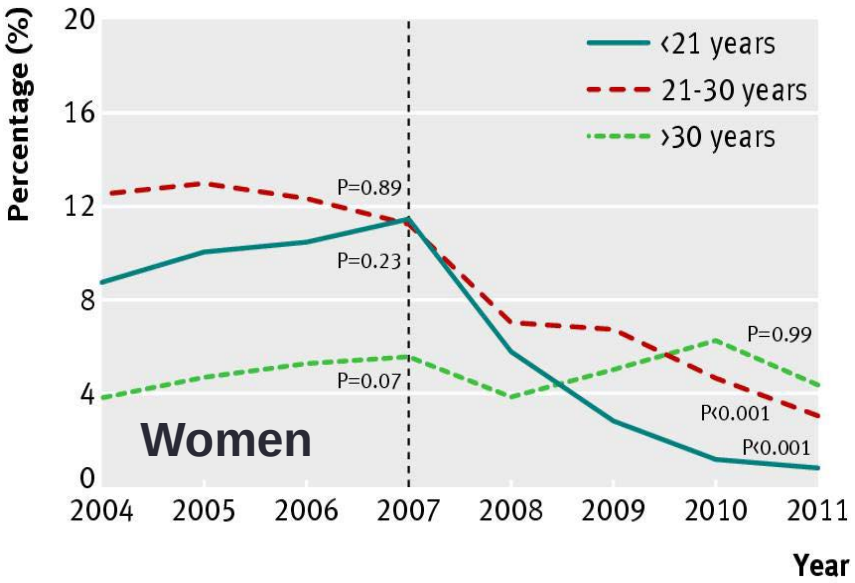
[1]*Machalek et al. Anal HPV infection and associated neoplastic lesions in MSM: A systematic review and meta-analysis. Lancet Oncology, 2012.*
[2]*Grulich et al. High prevalence, incidence and clearance of anal high-grade squamous intraepithelial lesions (HSIL): Early evidence from a natural history study in homosexual men. STI & AIDS World Congress, Vienna, 2013.*

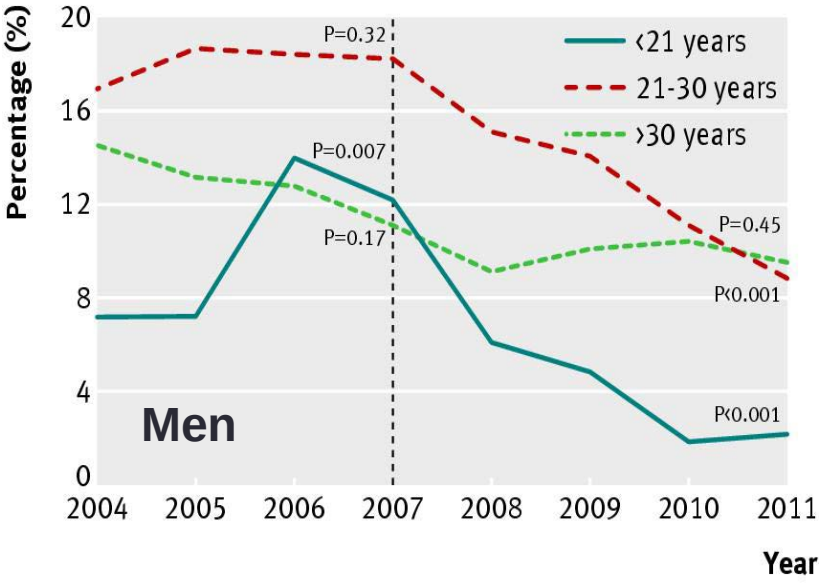
Screening for HPV-related cancers in males

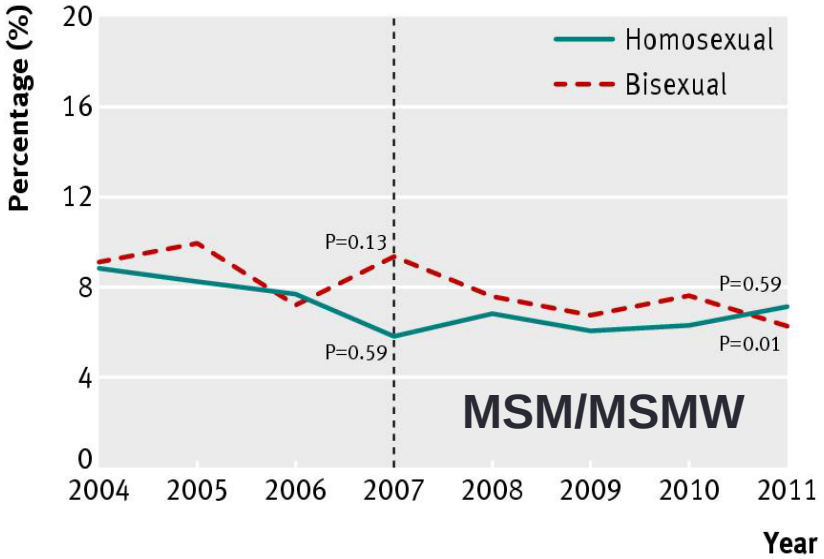
- There are no evidence-based screening programmes
- We do not know the natural progression of non-cervical cancers from infection to carcinoma
- Compared to cervical cancers, other HPV-related cancers are uncommon.
- Non-cervical HPV-related cancers occur in “non-closed” mucosal sites – oropharynx, anal passage
- Benefits of surgical removal of pre-cancers is not clear – particularly for anal cancers where there is considerable natural regression.

VACCINATION IS THE BEST OPTION

Results among women and men (AUS)







Proportion of Australian born women, men and MSM diagnosed with genital warts on first visit by age group

83% first dose vaccine coverage, **73% third dose**, ↓93% in genital warts after 5 years

Ali et al. Genital warts in young Australians five years into national HPV vaccination programme: national surveillance data. BMJ, 2013.

In New Zealand

- Vaccination coverage with Gardasil-4 among women

- **2000 birth cohort** (still eligible until 20yrs):
  - 1st dose = 60%
  - 2nd dose = 58%
  - 3rd dose = 54%

- **1993 birth cohort** (no longer eligible):
  - 1st dose = 58%
  - 2nd dose = 55%
  - 3rd dose = 51%

Vaccination for men

- From an economic view, the old programme made financial sense:
  - Only need to vaccinate half the population to protect the majority – *community immunity*

- Single-sex vaccination programmes are problematic:
  - Burdens one sex with the “responsibility” for sexual health
  - The other loses their control of their own sexual health
  - Sexual orientation and gender minorities are not recognised
  - NZ has a very mobile young population – many males move overseas then return later – sexual partners overseas may not be vaccinated
  - Possible public concerns about why not given to all?

But do men know they are at risk?

- Among health science university students aged 18-19 years old (2009): [1]
  - 58% males unaware of HPV vaccine
  - 76% males unaware HPV vaccine was free for women
  - 66% of males would accept free HPV vaccination
- Among a community sample of MSM of all ages (2014):[2]
  - 51% unaware of any HPV-related disease
  - 83% unaware of HPV vaccine
  - 78% would accept free HPV vaccination

1 Chelimo & Wouldes. Human papillomavirus knowledge and awareness among undergraduates in healthcare training in New Zealand. NZMJ. 2009. Vol 122 No:1304
2 Ludlam, Saxton, Petousis-Harris, Arroll. Data unpublished.

Future challenges

- Great! Vaccine now free to all up to the age of 26yrs!
  - Is there still benefit to those who are older?

1. Health promotion to all males, particularly those beyond school age
2. Monitoring uptake among those beyond school age
3. Monitoring uptake and impact among MSM – the population previously receiving no benefit

Conclusions

- A large proportion of HPV-related cancers and disease affect males
- Men stand to gain significant health benefits from the new funding criteria for HPV vaccination
- Monitoring of vaccine uptake and impact is essential to make sure the new programme addresses previous inequities.