Head and neck cancers among Indigenous Australians living in Queensland, 1997-2012

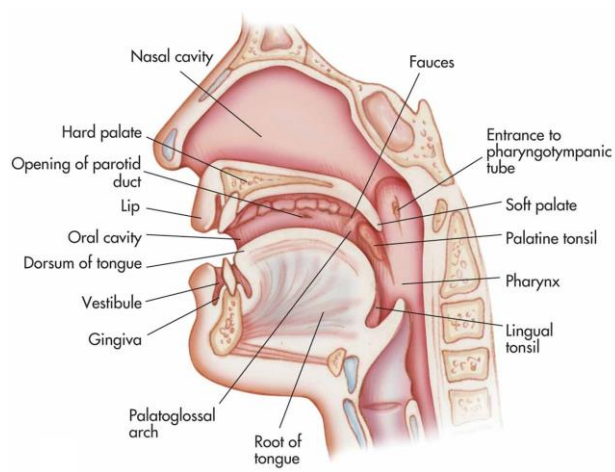
research
prevention
support

Newell Johnson (Griffith University), Susanna Cramb, Anura Ariyawardana (James Cook University), Gail Garvey (Menzies School of Health Research) and Peter Baade

Cancer Council Queensland

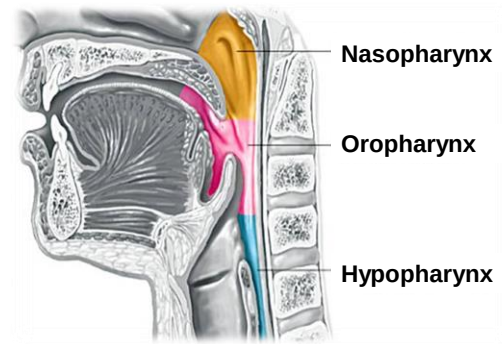
Head & neck cancers (ICD-O3 C00-C14)

- Lip
- Oral cavity
  - Tongue
  - Gum
  - Floor of mouth
  - Palate
  - Salivary glands
  - Tonsils
- Pharynx

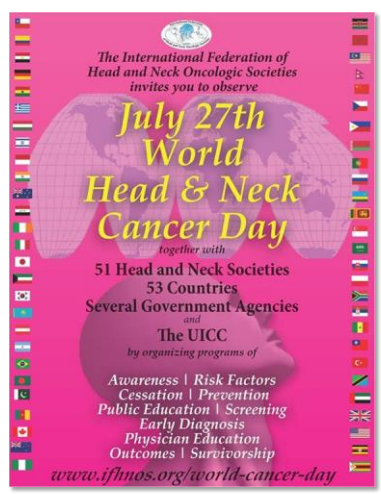


Head & neck cancers (ICD-O3 C00-C14)

- Lip
- Oral cavity
  - Tongue
  - Gum
  - Floor of mouth
  - Palate
  - Salivary glands
  - Tonsils
- Pharynx
  - Nasopharynx
  - Oropharynx
  - Hypopharynx



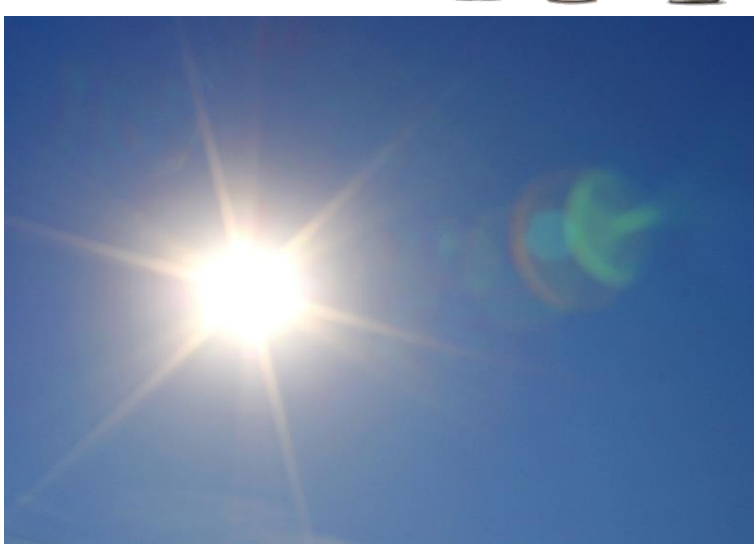
Head & neck cancers



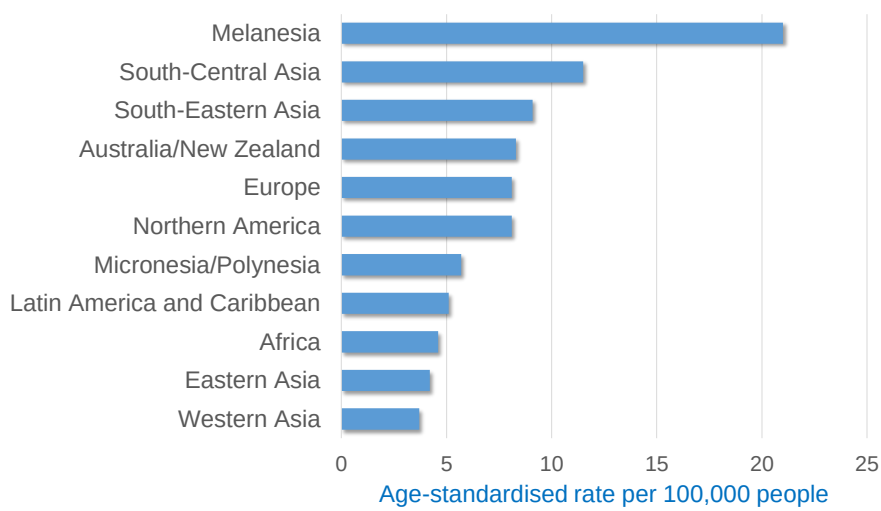
Head & neck cancers: Issues

- Require massive surgery
- Disfigurement
- Disability and rehabilitation
- Cost/hospital stay
- Social
- Quality of life

Risk factors

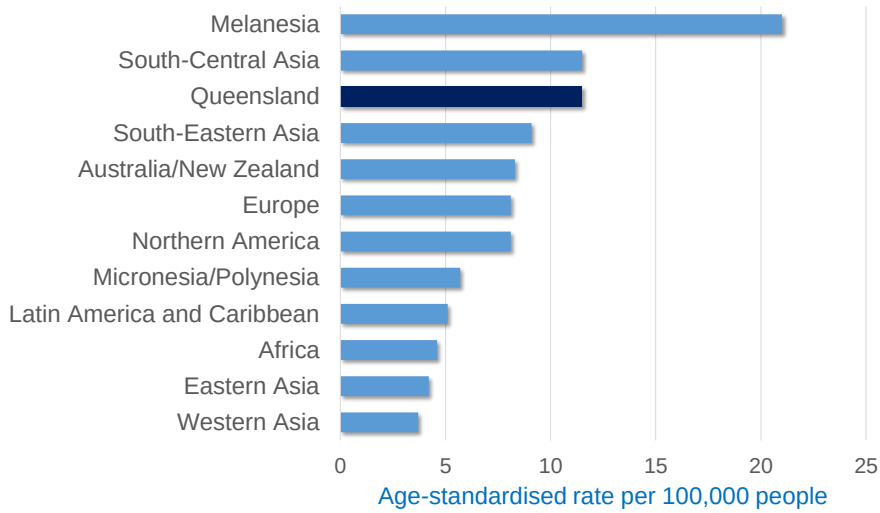


Head and neck cancers incidence rate, 2012



Data source: GLOBOCAN 2012.
Notes: Rates age-standardised to the world (Segi) population.

Head and neck cancers incidence rate, 2012



Data sources: GLOBOCAN 2012, except for Queensland (Queensland Cancer Registry).
Notes: Rates age-standardised to the world (Segi) population.

Study Aims

1. To examine the Indigenous incidence differentials in head and neck cancers
2. Calculate the trends in head and neck cancer incidence rates
3. To determine head and neck cancer survival disparities for Indigenous Queenslanders

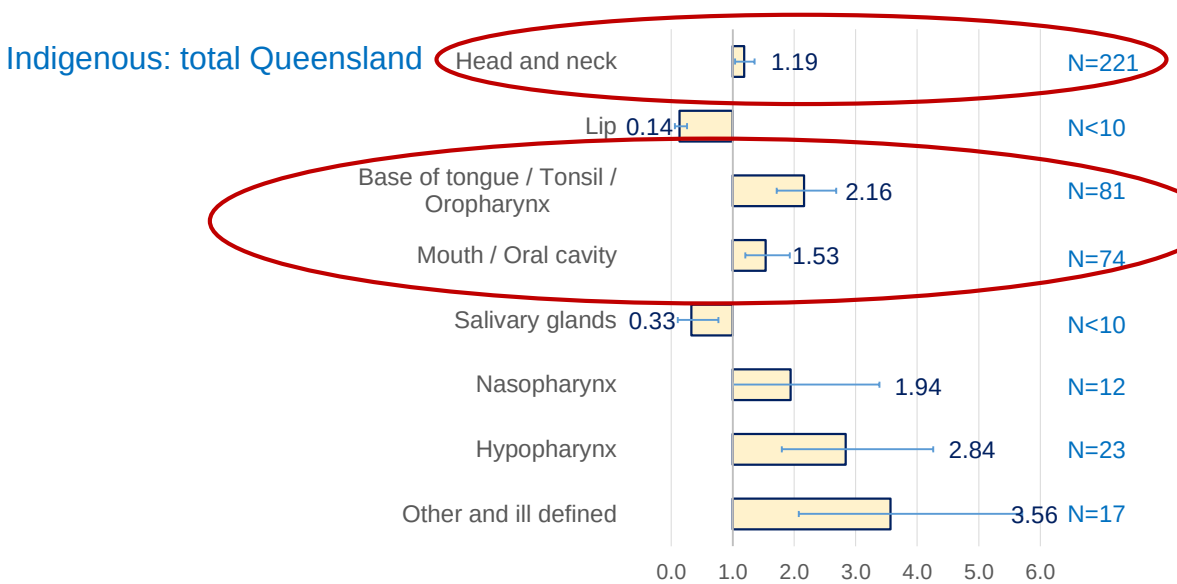
Head & neck cancers, Queensland, 1997-2012

6%

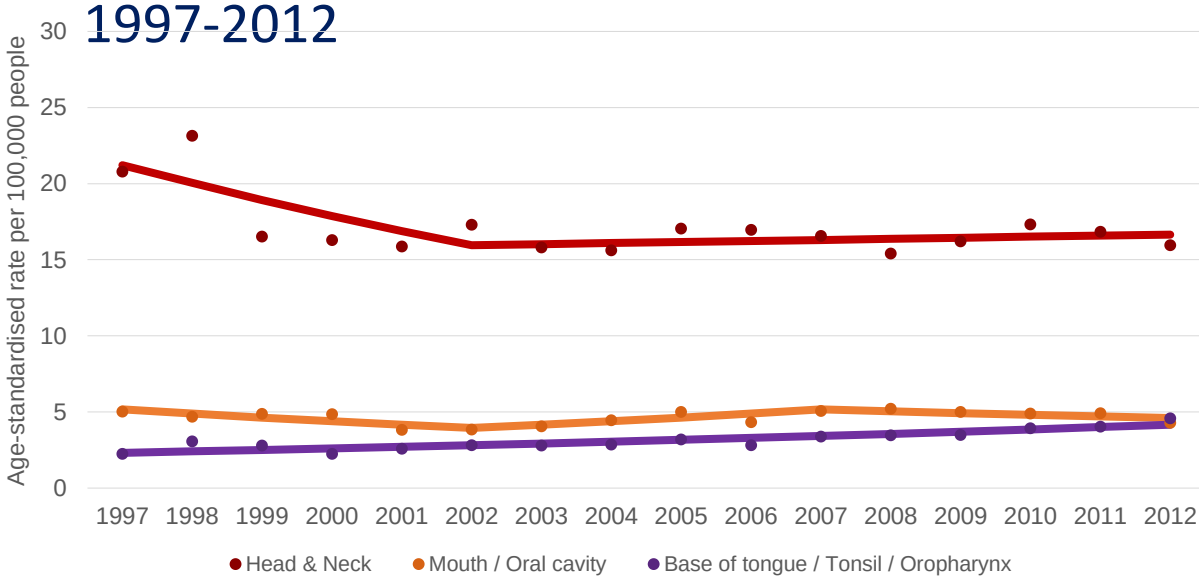
3%

	Males	Females	Total
Indigenous			
N	156	65	221
%	71	29	100
Non-Indigenous			
N	6,265	2,350	8,615
%	73	27	100
Unknown			
N	1,299	498	1,797
%	72	28	100
Total			
N	*7,720*	*2,913*	*10,633*
%	*73*	*27*	*100*

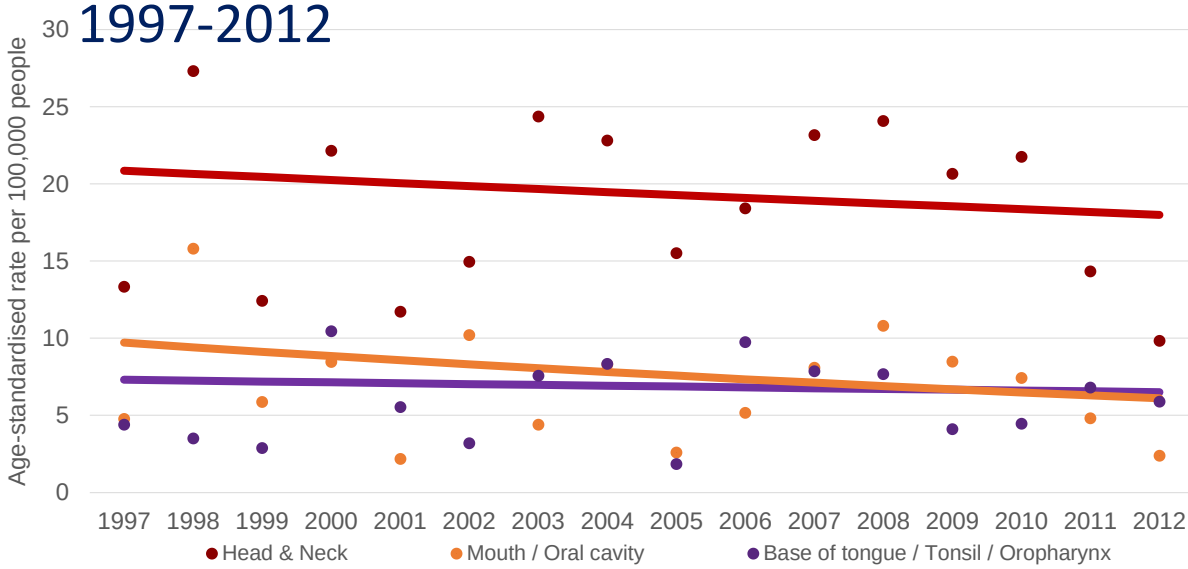
Standardised Incidence Ratios (SIRs), 1997-2012



Incidence rate trends, persons, Queensland, 1997-2012



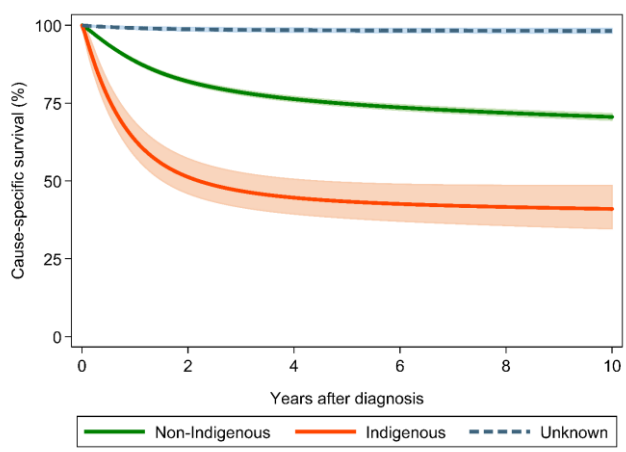
Indigenous incidence rate trends, persons, 1997-2012



Survival among Queenslanders by ethnicity, 1997-2012

- Cause-specific survival in flexible parametric survival models
- Diagnosed during 1997 and 2011 aged 20-89 years, followed up to 2012
- Censored at 10 years follow-up, the 31 December 2012, or at non-cancer death (whichever came first)
- Adjusted for patient age at diagnosis (continuous variable), sex (male/female) and ethnicity (3 categories: Indigenous, non-Indigenous, and unknown)

Head & neck cancer survival among Queenslanders by ethnicity, 1997-2012

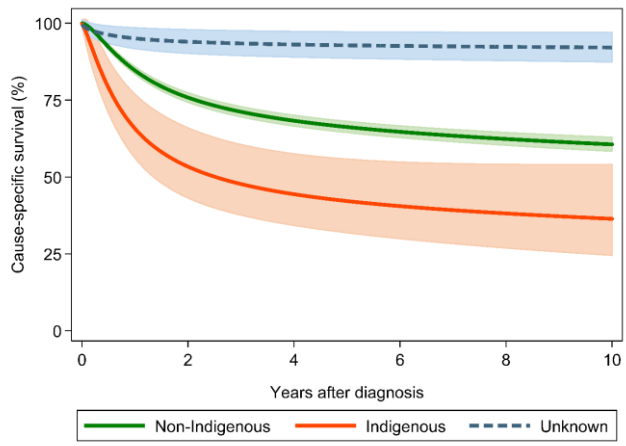


At 5 years:

75%

43%

Mouth & oral cavity cancer survival among Queenslanders by ethnicity, 1997-2012



At 5 years:

66%

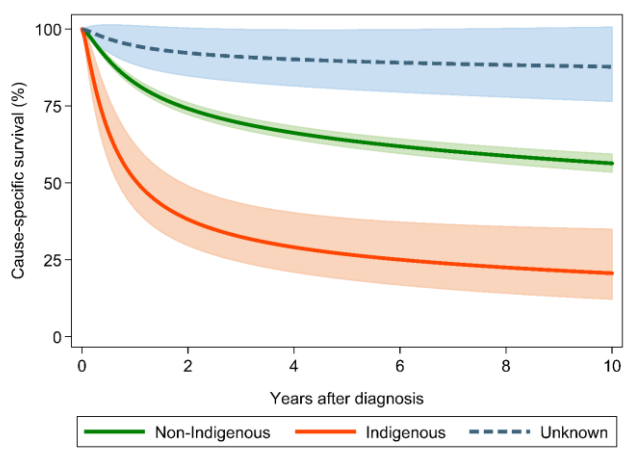
42%

Base of tongue, tonsil & oropharynx cancers survival among Queenslanders by ethnicity

At 1 year:

82%

51%



At 5 years:

64%

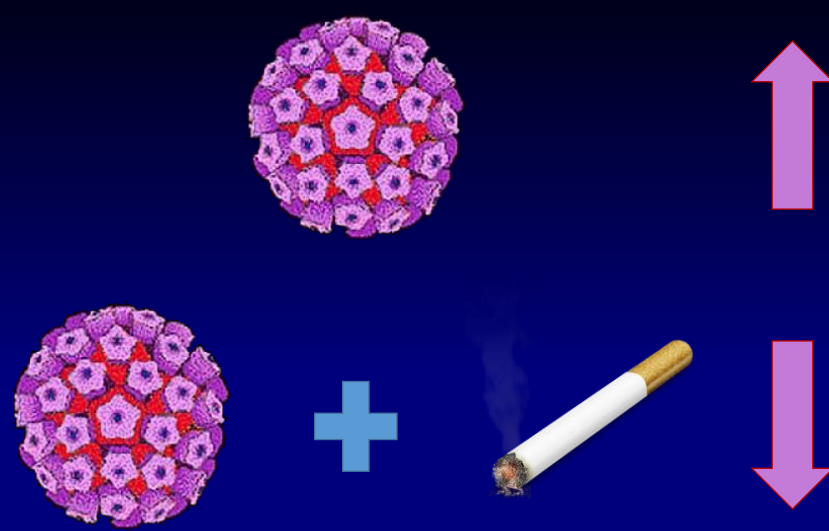
27%

Why???

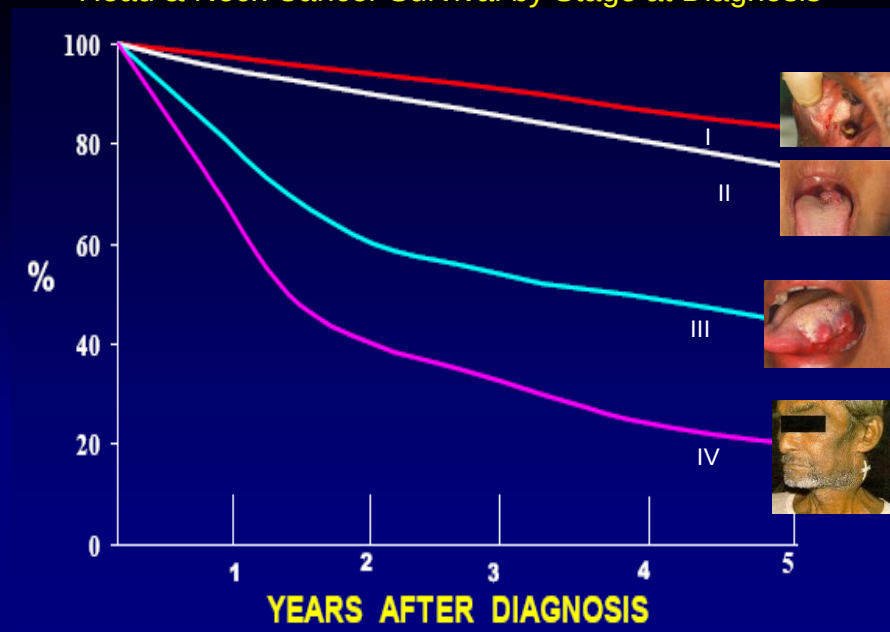
Lack information on:

- Lifetime/Current smoking
- HPV positive
- Stage at diagnosis
- Treatment received

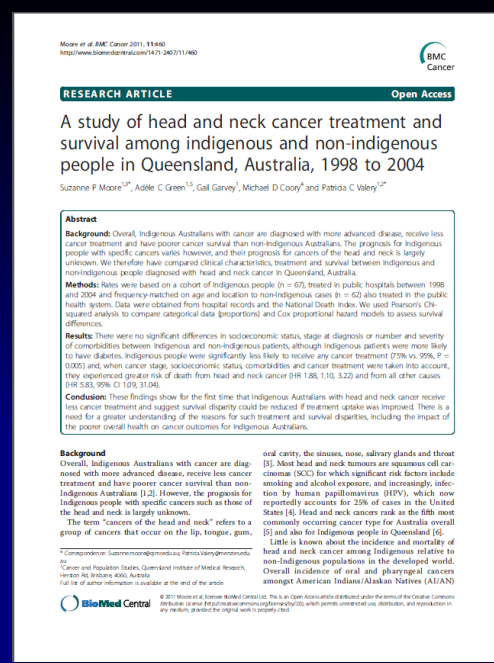
Why???



Why???



Why???



Moore et al. BMC Cancer 2011, 11:460
http://www.biomedcentral.com/1471-2407/11/460

BMC Cancer

RESEARCH ARTICLE Open Access

A study of head and neck cancer treatment and survival among indigenous and non-indigenous people in Queensland, Australia, 1998 to 2004

Suzanne P Moore[1,2*], Adèle C Green[1,3], Gail Garvey[1], Michael D Coory[4] and Patricia C Valery[1,2*]

Abstract

Background: Overall, Indigenous Australians with cancer are diagnosed with more advanced disease, receive less cancer treatment and have poorer cancer survival than non-Indigenous Australians. The prognosis for Indigenous people with specific cancers varies however, and their prognosis for cancers of the head and neck is largely unknown. We therefore have compared clinical characteristics, treatment and survival between Indigenous and non-Indigenous people diagnosed with head and neck cancer in Queensland, Australia.

Methods: Rates were based on a cohort of Indigenous people (n = 67), treated in public hospitals between 1998 and 2004 and frequency-matched on age and location to non-Indigenous cases (n = 62) also treated in the public health system. Data were obtained from hospital records and the National Death Index. We used Pearson's Chi-squared analysis to compare categorical data (proportions) and Cox proportional hazard models to assess survival differences.

Results: There were no significant differences in socioeconomic status, stage at diagnosis or number and severity of comorbidities between Indigenous and non-Indigenous patients, although Indigenous patients were more likely to have diabetes. Indigenous people were significantly less likely to receive any cancer treatment (75% vs. 95%, P = 0.005) and, when cancer stage, socioeconomic status, comorbidities and cancer treatment were taken into account, they experienced greater risk of death from head and neck cancer (HR 1.88, 1.10, 3.22) and from all other causes (HR 5.83, 95% CI 1.09, 31.04).

Conclusion: These findings show for the first time that Indigenous Australians with head and neck cancer receive less cancer treatment and suggest survival disparity could be reduced if treatment uptake was improved. There is a need for a greater understanding of the reasons for such treatment and survival disparities, including the impact of the poorer overall health on cancer outcomes for Indigenous Australians.

Background

Overall, Indigenous Australians with cancer are diagnosed with more advanced disease, receive less cancer treatment and have poorer cancer survival than non-Indigenous Australians [1,2]. However, the prognosis for Indigenous people with specific cancers such as those of the head and neck is largely unknown.

The term "cancers of the head and neck" refers to a group of cancers that occur on the lip, tongue, gum, oral cavity, the sinuses, nose, salivary glands and throat [3]. Most head and neck tumours are squamous cell carcinomas (SCC) for which significant risk factors include smoking and alcohol exposure, and increasingly, infection by human papillomavirus (HPV), which now reportedly accounts for 25% of cases in the United States [4]. Head and neck cancers rank as the fifth most commonly occurring cancer type for Australia overall [5] and also for Indigenous people in Queensland [6].

Little is known about the incidence and mortality of head and neck cancer among Indigenous relative to non-Indigenous populations in the developed world. Overall incidence of oral and pharyngeal cancers amongst American Indians/Alaskan Natives (AI/AN)

* Correspondence: Suzanne.moore@qimr.edu.au; Patricia.Valery@menzies.edu.au
[1]Cancer and Population Studies, Queensland Institute of Medical Research, Herston Rd, Brisbane, 4006, Australia
Full list of author information is available at the end of the article

BioMed Central

Conclusions

- Treatment planning for established HNC must include screening for HPVs.
- Early detection

PREVENTION

- Targeted health promotion strategies and sexual health education programs in Indigenous communities
- Continued efforts to reduce tobacco smoking

With thanks to:

Newell Johnson

Gail Garvey

Aruna Ariyawardana

Peter Baade

Cancer Council Queensland

Griffith University

James Cook University Australia

menzies school of health research