



Appendices

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Appendices to: Azzopardi PS, Kennedy EC, Patton GC, et al. The quality of health research for young Indigenous Australians: systematic review. *Med J Aust* 2013; 198: 57-63. doi: 10.5694/mja12.11141.

Appendix 1a: Search strategy, inclusion criteria and process for the systematic review

Search strategy	<i>Databases</i>	Medline, EMBASE, CINAHL, ERIC, PsycINFO, Cochrane library, ATSIhealth and Australian Indigenous HealthInfoNet.
	<i>Search terms</i>	(Austral* AND (Aborigin* OR Indigenous OR "Torres Strait")). Search was limited to young people using independently: - 'AND (you* OR adol* OR child*)' - MeSH/ search engine limits of 'all child' (0-18 years), 'adolescent' (13-18 years) and 'young adult' (19-24 years)
	<i>Limits</i>	English language, 1994 – current (see inclusion criteria).
	<i>Handling</i>	Citations were imported into Endnote X (Thomson Reuters) and duplicates were deleted. Publications meeting inclusion criteria were manually extracted into a folder, excluded citations were not deleted.
	<i>Search dates</i>	Initial search on 24 th July 2010, updated on 8 th May 2011.
	<i>Quality control</i>	A second reviewer independently reviewed each publication and discrepancies were discussed to reach mutual agreement. Bibliographies of included publications were cross-checked.
Inclusion criteria	<i>Publication date</i>	1 st Jan 1994 – 1 st Jan 2011. Sampling frame coincided with policy reform aimed at improving quality of Indigenous health data. ¹ A review of Indigenous youth health published in 1991 reported a paucity of literature. ²
	<i>Definitions</i>	Health and wellbeing: included studies measuring or targeting physical, mental, social or emotional health ³ and their determinants; early childhood schooling, health, economic participation, healthy homes, safe communities, governance and leadership. ⁴ Young person: Samples and reports data for young people aged 10 – 24 years. This age band is consistent with definitions adopted by the World Health Organisation ⁵ and the National Indigenous Health Equality Council Youth Health Roundtable, ⁶ and encompasses most individuals experiencing puberty and the social-role transitions associated with adolescence. ⁷ We defined three age sub-groups (10-14, 15-19 and 20-24 years) with the midpoints of these sub-groups (12, 17 and 22 years) acting as discriminators. Indigenous Australian: As reported by the study. We included studies exclusively sampling Indigenous young people and those reporting disaggregated data (i.e. studies sampling Indigenous Australians and reporting data for young people, or studies sampling young people and reporting data for Indigenous Australians). Study Design: Included peer-reviewed original research; opinion pieces, editorials, review articles, study protocols, articles relating to health systems or laboratories (not directly relating to young people) and non-peer reviewed literature (including technical papers, reports and government policy) were set-aside within the main library and are not presented here. Studies were categorised as <i>descriptive</i> (qualitative or quantitative analysis of new or existing data to identify frequency of risk factors for health, disease, or health related knowledge or behaviour) or <i>evaluation</i> (evaluate or test the effectiveness of a health intervention)
Review process (refer Figure 1)	<i>Stage 1</i>	Review of the abstract based on publication type (the inclusion criteria thought to be most reliably reported in abstracts). Peer reviewed original research or publications where the abstract was insufficient to make a decision promoted to the second stage.
	<i>Stage 2</i>	Full text sourced and reviewed, promoted to stage 3 if all inclusion criteria met.
	<i>Stage 3</i>	Critical appraisal and grading of evidence (Appendix 1b). Each publication was assigned an identification number to link datasets.

Appendix 1b: Definitions used in identifying good quality data.

		Grading criteria	Notes
Quantitative ^{8,9}	Study design	Study design was not a strict criterion for grading. We included randomised trials, cohort, case-control, cross-sectional, longitudinal and surveillance studies; Case-series and qualitative studies were also included, see below.	The majority of Indigenous health research is descriptive. ¹⁰ Case reports were excluded.
	Study quality	Study sample: Quality of ascertainment of Indigenous status and representativeness of the target population were both considered. Prospective study design and studies engaging Indigenous Australian researchers were favored, however well designed retrospective studies with no other methodological issues were also included. Indigenous ascertainment was assumed for studies sampling Indigenous communities.	Ascertainment of Indigenous status is a significant issue with Indigenous health data, particularly for retrospective studies. ¹¹
		Sample size and response rate sufficient to test hypothesis or provide estimates with narrow confidence intervals.	Studies with small number of observations & wide confidence intervals considered poor quality ⁸
		Well-defined measures of exposure and outcome. Study measures were modified for Indigenous Australians where appropriate.	Studies with poorly defined measures and reporting bias were considered poor quality.
	Consistency	Findings consistent with other studies/ estimates, and inconsistent findings were not explained by poor study design or measures.	Inconsistent findings due to poor study design or measure excluded.
	Directness	The study and interventions relate to Indigenous young people's health. The study measures and adjusts for major confounders.	Biased studies and those not controlling for major confounders were graded as poor quality.
Qualitative ^{12,13}		We used standard criteria concerning methodological technique choice, participant recruitment and the analysis of contextual and descriptive data. We also considered how qualitative research adopted a participatory approach by engaging Indigenous young people. Good quality studies were either conducted by Indigenous researchers or by non-Indigenous researchers who documented how they established cultural security and trust.	

Appendix 2. Categories for study focus: Burden of Disease

Major categories are shown in red, minor in bold with subcategories in italics.

Group Ia : Communicable diseases	STI <i>Syphilis</i> <i>Chlamydia</i> <i>Gonorrhoea</i> <i>HSV</i> <i>Other</i> Other infections <i>Sepsis</i> <i>UTI</i> <i>Skin*</i> <i>Other</i> Tuberculosis	Intestinal <i>Cholera</i> <i>Salmonella</i> <i>Shigella</i> <i>E.Coli</i> <i>E.Coli (toxigenic)</i> <i>Campylobacter</i> <i>Amoebiasis</i> <i>Cryptosporidiosis</i> <i>Rotavirus</i> <i>Typhoid</i> <i>other</i> HIV/ AIDS	Immunisable <i>Diphtheria</i> <i>Pertussis</i> <i>Tetanus</i> <i>Poliomyelitis</i> <i>Varicella</i> <i>Measles</i> <i>Rubella</i> <i>Mumps</i> Hepatitis <i>HAV</i> <i>HBV</i> <i>HCV</i>	Parasitic <i>Leishmaniasis</i> <i>Trypanosomiasis</i> <i>Chagas</i> <i>Shistosomiasis</i> <i>Cysticercosis</i> <i>Echinococcosis</i> <i>Dracunculiasis</i> <i>Filariasis</i> <i>Onchocerciasis</i> <i>Trachoma</i> <i>Dengue</i> <i>Yellow fever</i> <i>Rabies</i>	Parasitic (intestinal) <i>Ascariasis</i> <i>Trichuriasis</i> <i>Hookworm</i> <i>other</i> Respiratory <i>Influenza</i> <i>Pneumococcal</i> <i>Hib</i> <i>RSV</i> <i>URTI</i> <i>Otitis Media</i> <i>other</i>	Malaria
Ib: Maternal	Maternal <i>Haemorrhage</i> <i>Sepsis</i> <i>PIH</i> <i>Obstructed labour</i> <i>Induced labour</i> <i>Other</i>	Perinatal <i>Premature/ LBW</i> <i>Asphyxia/ trauma</i> <i>SIDS</i> <i>other</i>	Nutritional <i>Iodine</i> <i>Vitamin A</i> <i>Folic acid</i> <i>FTT/ Stunting</i> <i>Zinc</i>	<i>Protein energy malnutrition</i> <i>Iron deficiency anaemia</i> <i>Other</i>		
Group II: Non-communicable diseases	Mental disorder <i>Depression</i> <i>Bipolar</i> <i>Schizophrenia</i> <i>Alcohol[#]</i> <i>Drug heroin[#]</i> <i>Drug cocaine[#]</i> <i>Drug stimulant[#]</i> <i>Drug other[#]</i> <i>Anxiety</i> <i>Eating disorder</i> <i>Pervasive dev.</i> <i>Childhood</i> <i>General mental h.</i> Oral <i>Caries</i> <i>Periodontal</i> <i>Edentulism</i> <i>Other</i>	Diabetes <i>IDDM</i> <i>NIDDM</i> Neurological <i>Alzheimer's</i> <i>Parkinson's</i> <i>Epilepsy</i> <i>Multiple Sclerosis</i> <i>Migraine</i> <i>headache</i> <i>other</i> Skin <i>Eczema</i> <i>other</i> Respiratory <i>COPD</i> <i>Asthma</i> <i>other</i>	Malignancy <i>Nasopharynx</i> <i>Pharyngeal</i> <i>Oesophagus</i> <i>Stomach</i> <i>Colon</i> <i>Liver</i> <i>Gallbladder</i> <i>Pancreas</i> <i>Larynx</i> <i>Trachea</i> <i>Melanoma</i> <i>Non-melanoma skin</i> <i>Myeloma</i> <i>Leukaemia</i> Genitourinary <i>Nephritis</i> <i>Urolithiasis</i> <i>Prostate</i> <i>Infertility</i> <i>PID</i> <i>other</i>	Malignancy (cont.) <i>Breast</i> <i>Cervix</i> <i>Uterine</i> <i>Ovarian</i> <i>Prostate</i> <i>Testicular</i> <i>Renal</i> <i>Bladder</i> <i>CNS</i> <i>Thyroid</i> <i>Hodgkin lymph.</i> <i>Non-Hodgkin lym.</i> <i>other</i> Musculoskeletal <i>Rheumatoid arth.</i> <i>Osteoarthritis</i> <i>Back pain</i> <i>other</i> Endo, Haem. & immune	Sensory <i>Glaucoma</i> <i>Cataracts</i> <i>Macular degen.</i> <i>Refraction</i> <i>Hearing</i> <i>Other vision</i> <i>Other hearing</i> Cardiovascular <i>Rheumatic</i> <i>Hypertensiv heart dis.</i> <i>Ischaemia</i> <i>CVA ischaemia</i> <i>CVA haemorrhage</i> <i>Peri/endo/myocarditis</i> <i>Cardiomyopathy</i> <i>Conduction/arrhythmia</i> <i>Aortic aneurysm</i> <i>Peripheral vascular</i> <i>other</i>	Gastrointestinal <i>Peptic ulcer</i> <i>Appendicitis</i> <i>Intestinal obstruct.</i> <i>IBD</i> <i>Vascular</i> <i>Cirrhosis</i> <i>Biliary</i> <i>Pancreatitis</i> <i>Other</i> Congenital <i>Neural tube</i> <i>Cleft palate/ lip</i> <i>Cardiac</i> <i>Intestinal</i> <i>Urogenital</i> <i>Fetal alcohol</i> <i>Trisomy 21</i> <i>Other chromosome</i> <i>other</i>
Group III: Injury	Unintentional <i>Road traffic</i> <i>Poisoning</i> <i>Fall</i> <i>Fire/ heat</i> <i>Drowning</i>	<i>Machinery</i> <i>Natural</i> <i>Adverse medical</i> <i>other</i>	Intentional <i>Suicide</i> <i>Interpersonal or assault</i> Intentional & Unintentional			

[#]These categories refer to studies which measure harmful or dependant use; lower level use is considered a health-risk exposure categorised below.

Exposures (risk and protective)	<p>Environmental</p> <ul style="list-style-type: none"> <i>Ambient air pollution</i> <i>Indoor air poll. (fuel)</i> <i>Passive smoke</i> <i>Food contamination</i> <i>Sanitation</i> <i>Lead</i> <i>Road & traffic safety</i> <p>Sexual reproductive</p> <ul style="list-style-type: none"> <i>Unwanted pregnancy</i> <i>Unsafe sex*</i> <i>Contraception knowledge</i> <i>Maternal antenatal care</i> <i>Attitudes to adol. sex</i> <i>Pap screen</i> <i>Teenage pregnancy</i> <i>Perinatal outcomes: breastfeeding, SIDS</i> 	<p>Violence</p> <ul style="list-style-type: none"> <i>Intimate partner*</i> <i>War/ military weapon</i> <i>Assault</i> <i>Bullying</i> <p>Occupational</p> <ul style="list-style-type: none"> <i>Air pollution</i> <i>Carcinogens</i> <i>Ergonomic</i> <i>Noise</i> <i>Injury (risks) other</i> <p>Substances</p> <ul style="list-style-type: none"> <i>Tobacco*</i> <i>Alcohol*</i> <i>Illicit drugs*</i> 	<p>Govt & community</p> <ul style="list-style-type: none"> <i>Isolation</i> <i>Racism</i> <i>Transport</i> <i>Food security</i> <i>Representation</i> <i>Land rights gangs</i> <p>Culture</p> <ul style="list-style-type: none"> <i>Forced separation</i> <i>Language</i> <i>Identity</i> <i>participation</i> 	<p>Parenting</p> <ul style="list-style-type: none"> <i>Attachment</i> <i>Parental health</i> <i>Primary carer</i> <i>Child care</i> <i>Parent incarcerated</i> <i>Neglect</i> <i>Play</i> <i>Sexual abuse*</i> <i>Physical abuse</i> <p>Housing</p> <ul style="list-style-type: none"> <i>Quality of housing</i> <i>Number residents</i> <i>security of housing</i> 	<p>Social emotional</p> <ul style="list-style-type: none"> <i>Connectedness</i> <i>Social network</i> <i>Crime participation</i> <i>Measurement tools</i> <i>Mastery</i> <p>Education</p> <ul style="list-style-type: none"> <i>Cognitive skills</i> <i>Literacy & numeracy</i> <i>Language</i> <i>School attendance</i> <p>Health seeking</p> <ul style="list-style-type: none"> <i>Hospital access</i> <i>Antenatal access</i> <i>Clinic access</i> <i>Mental health access</i> 	<p>Metabolic & Nutritional</p> <ul style="list-style-type: none"> <i>High BSL</i> <i>High BMI*</i> <i>High cholesterol*</i> <i>High BP*</i> <i>Low fruit/ vegetable*</i> <i>Salt intake</i> <i>Fat intake</i> <i>Other nutritional</i> <i>Physical inactivity*</i> <i>Growth paramter</i> <p>Financial</p> <ul style="list-style-type: none"> <i>Employment</i> <i>Financial security</i>
Population	<p>Mortality</p> <p>Morbidity</p>					

*These risk factors 11 selected risk factors in the Indigenous BoD, which together explain 37% of the total disease burden experienced by Indigenous Australians.¹⁴

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