

Australian evidence of a literacy gap in lay knowledge of genetic science and related concepts

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Background

- Increase in research into gene, environment and lifestyle interactions
- Emphasis on translation of research into health care applications of genetic technology
- ‘Genetic literacy’ has been linked to:
 - Public perceptions of genetic technology and research
 - Informed choices about using genetic technology
- ‘Genetic literacy’ is defined as an understanding or knowledge of genetic concepts.

Objectives

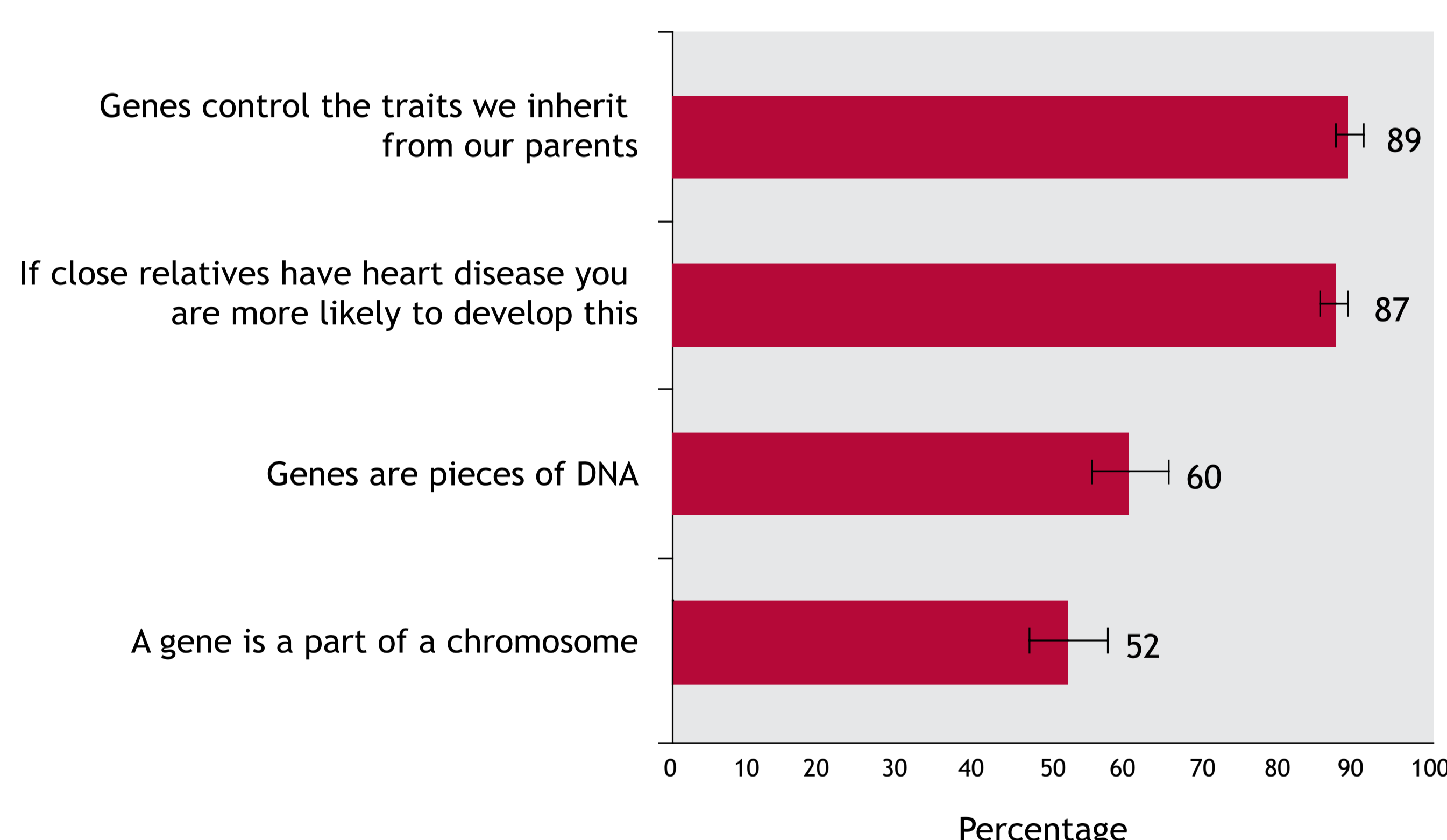
- Obtain baseline data on lay knowledge of genetic science and related issues
- Investigate differences in lay knowledge
- Identify factors predicting higher lay knowledge (using multivariate logistic regression modelling)

Method

- Cross-sectional, computer assisted telephone surveys
- Random sample of 1000 adults
- Sample drawn from WA telephone directory
- Sample weighted to age-sex structure of the estimated adult resident population

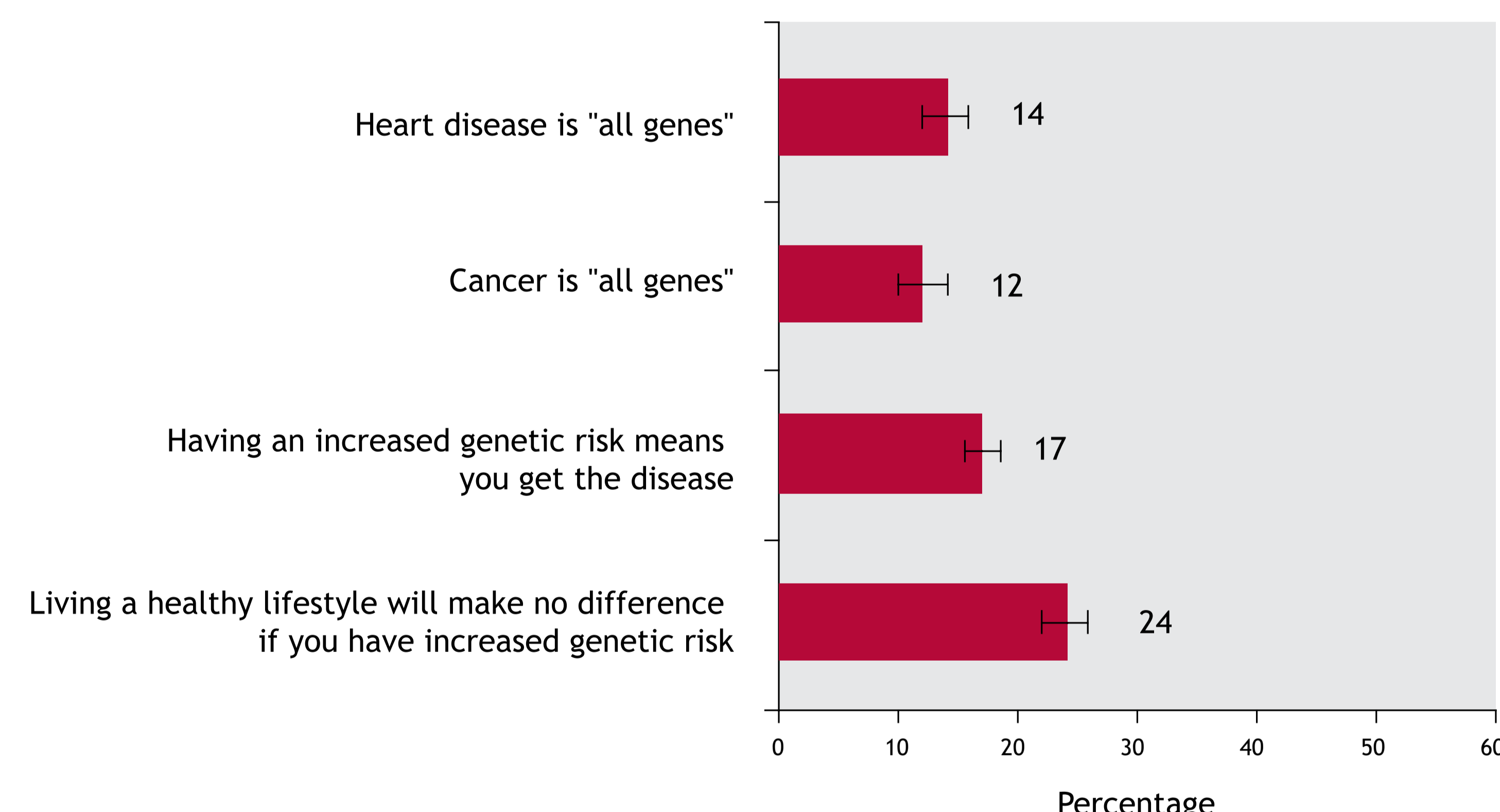
Key finding: Type of Knowledge (Gap 1)

- Most lay people understood the link between genes, inheritance and disease
- Fewer understood the biological mechanisms behind these links



Key finding: Genetic Determinism (Gap 2)

- At least one in ten lay people thought select chronic conditions are “all genetic”.
- ≈ 20% of lay people thought an increased genetic risk could not be mitigated by lifestyle or other changes.



Key finding: Social differences (Gap 3)

- The odds of higher lay knowledge were greater among people reporting higher socio-economic indicators.

High knowledge
(≥20 correct out of 24 questions)

	AdjOR	P value
Female	2.00	0.000
Age 18-44 years	2.30	0.000
12+ years education	3.00	0.000
\$80k+ HH income	1.80	0.018

Ref groups: Male, 65+ yrs, <12 years education, <\$40k HH income

(Note: Not all significant factors reported)

Do these ‘gaps’ matter?

- In the context of this study, “gap” is intended to mean ‘difference’ not ‘deficit’. It is not presumed the differences need closing.

Instead, further research is planned to determine:

- For effective participation (individual and collective) in decisions about genes and health, is an understanding of biological mechanisms required?
- What is the impact of genetic determinism on the adoption (or lack thereof) of health behaviours that minimise the risk of chronic conditions?
- Should genetics education ensure basic genetic concepts are taught in the middle years of school, along with generic information seeking skills?
- Should the focus of genetics education be on ‘real world’ relevance rather than science and abstract concepts of genetics?