

Using prevalent years of life lived with disability (YLDs) to measure comorbidity in CUA

Tony Blakely

Melissa McLeod, Nhung Nghiem, Giorgi Kvizhinadze, Terry Quirke
Nadia Bartholomew, Martin Tobias

Burden of Disease Epidemiology, Equity
and Cost-Effectiveness Programme

bode³

Burden of Disease Epidemiology, Equity
and Cost Effectiveness Programme



W E L L I N G T O N

Comorbidity in CUA

- Imagine an intervention that improves survival in colorectal cancer patients.
- Colorectal cancer patients will often have comorbidity (e.g. heart disease, arthritis).
- How do we capture that comorbidity?
 - Most CUA assume it is captured in questionnaire (e.g. EQ5D)
 - Be it specifically administered as part of ‘this’ economic evaluation, or ‘borrowed’ from somewhere else
- But what if the comorbidity in our evaluation varies (e.g. due to age variation)

What might burden of disease methods offer?

- A burden of disease study (BDS) measures all morbidity and mortality in a population within a given envelope – consistently.
- One output of a BDS is ‘years lived with disability’ at each sex and age (and social group). This is one quantification of ‘expected’ morbidity in the population, and can be used in CUA (e.g. ACE-Prevention studies in Australia).

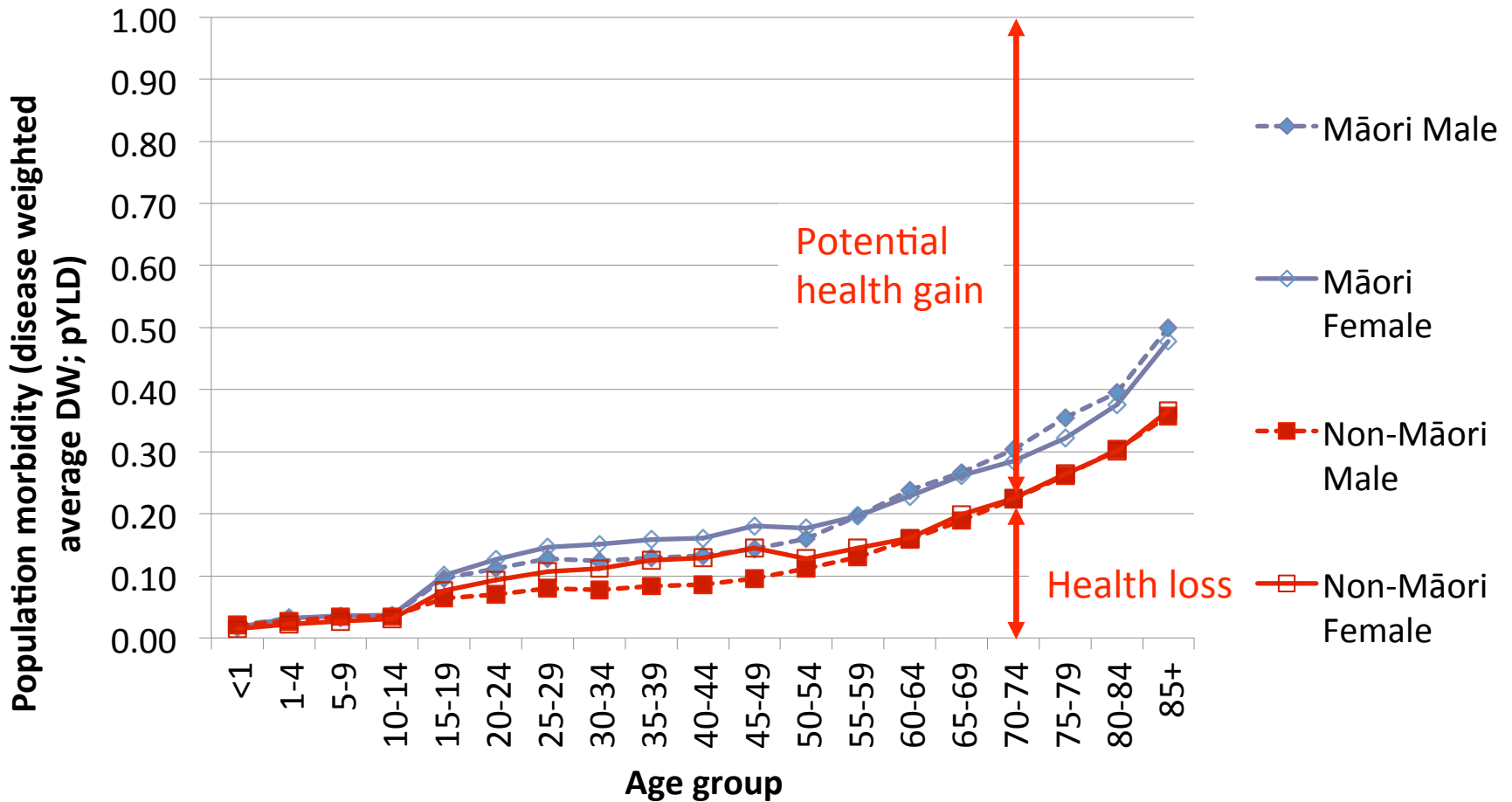
bode³

Burden of Disease Epidemiology, Equity
and Cost Effectiveness Programme



WELLINGTON

pYLDs by sex, age and ethnicity in NZ



Hypothetical intervention reducing excess cancer mortality rate by 20%, 65-69 yr olds, 2011: Impact for non-Māori and Māori

	Baseline HALY per case	Incremental HALY per case gain due to intervention	HALY per case change: absolute and percent
Non-Māori			
Baseline: 'correct' non-Māori background mortality and excess mortality rate	8.36	0.82	
Plus non-Māori comorbidity	6.19	0.60	↓ by 0.22 or 27%
Māori			
Baseline: 'correct' Māori background mortality and excess mortality rate	5.27	0.80	
Plus Māori comorbidity	3.53	0.53	↓ by 0.27 or 34%

So what?

- We probably do not capture co- or expected-morbidity well in many CUA.
- Using pYLDs from BDS is one potential solution.
- But it causes us to face up to difficult equity considerations, in that ‘correctly’ allowing for higher morbidity of Māori lessens potential health gain... which will increase the ICER.