

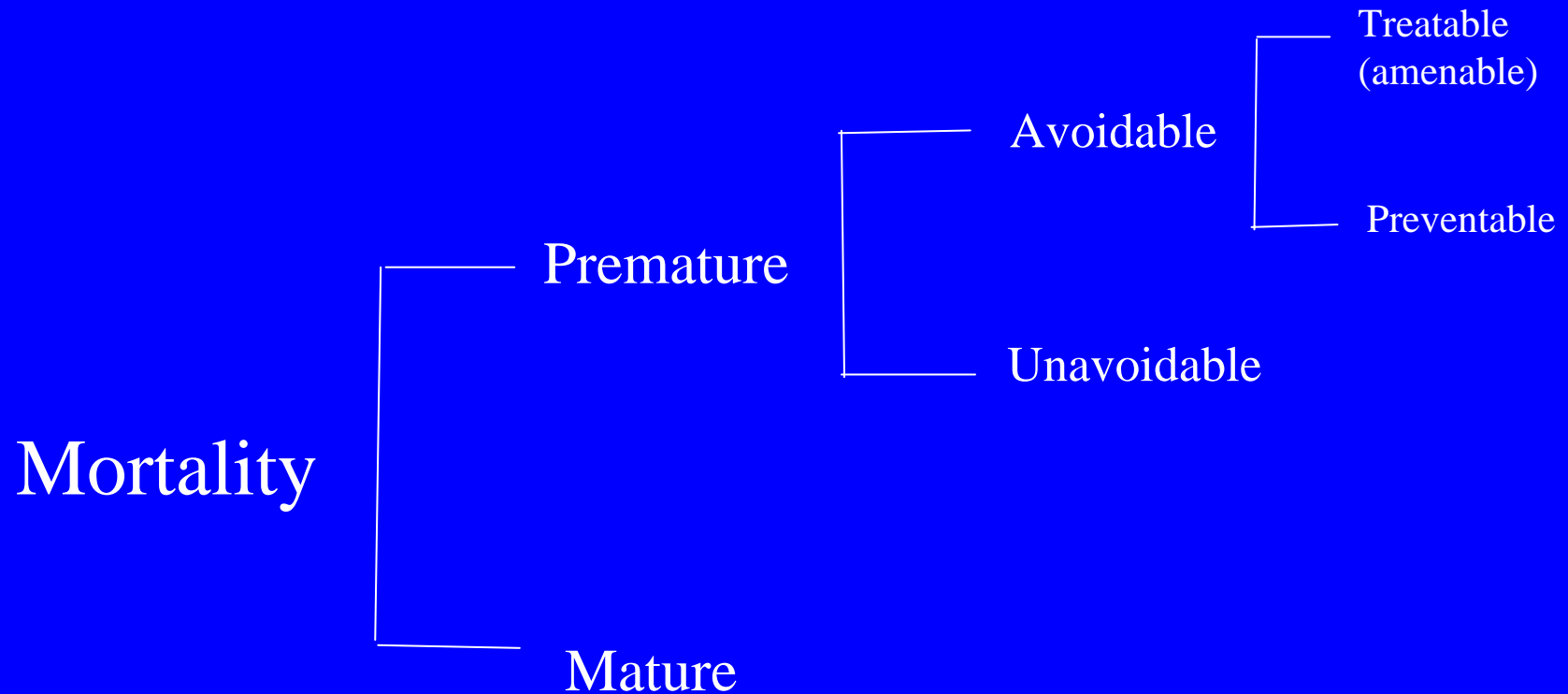
Amenable Mortality: concept and application

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Concept of avoidable and amenable mortality



Operationalising the concept

- Prematurity

65 yrs

75 yrs (or more?)

- Avoidability

categorical attribution

counterfactual modelling

- Prevention vs Treatment

prevention trumps treatment (or does it?)

splitting – IHD, stroke, diabetes

Examples from the current Aus-NZ list of amenable conditions

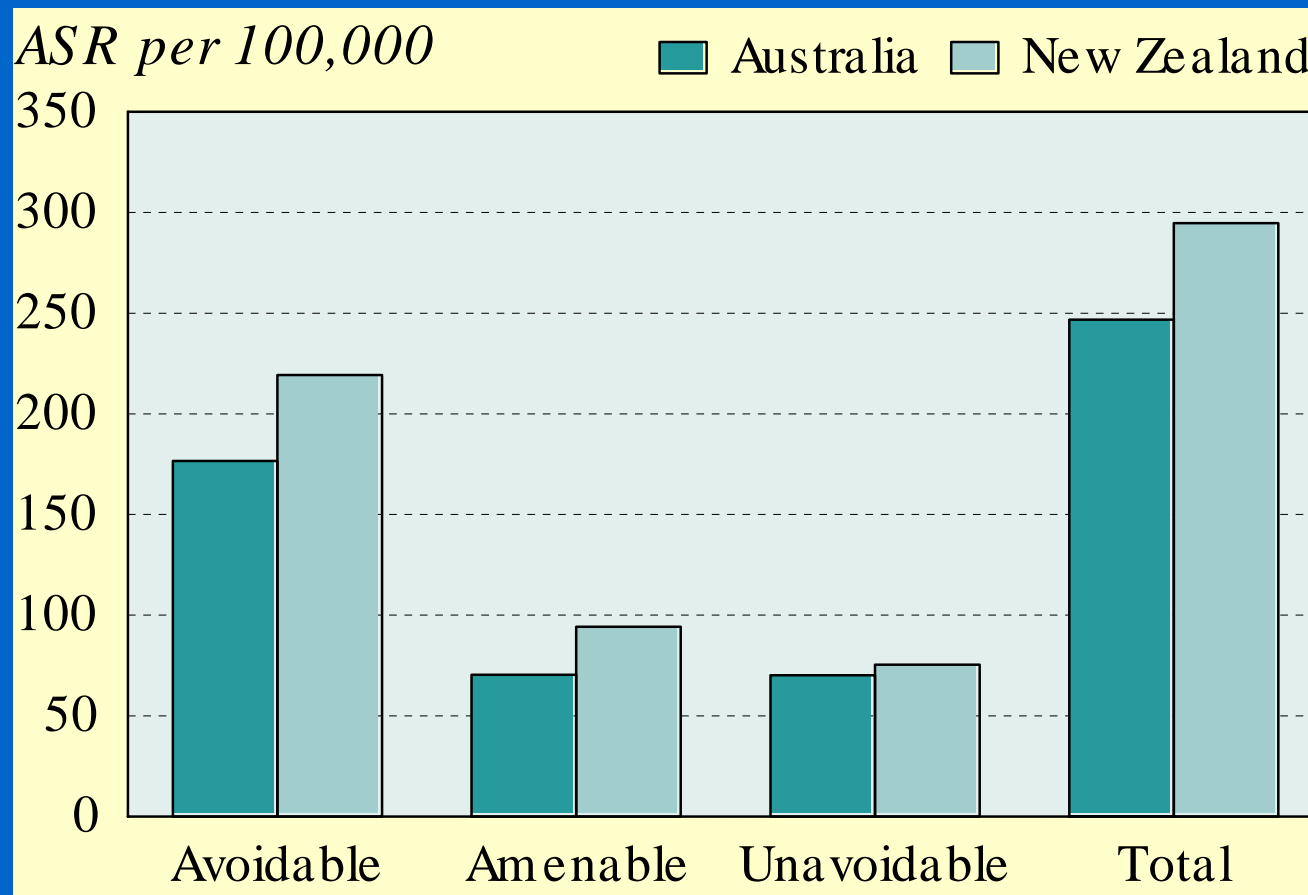
- Treatable infections eg meningococcal meningitis, HIV/AIDS*
- Treatable cancers eg breast, cervical, colorectal, melanoma
- Treatable CVD eg coronary disease, stroke, diabetes, heart failure*
- Treatable lung diseases eg asthma, COPD*
- Treatable GI disorders eg acute abdomen, peptic ulcer
- Treatable renal disorders eg nephritis, nephrosis
- Treatable maternal & infant conditions eg some congenital HD
- Treatable trauma* eg RTI, falls, burns, poisoning
- Medical error* eg surgical misadventure, drug reactions, HAI

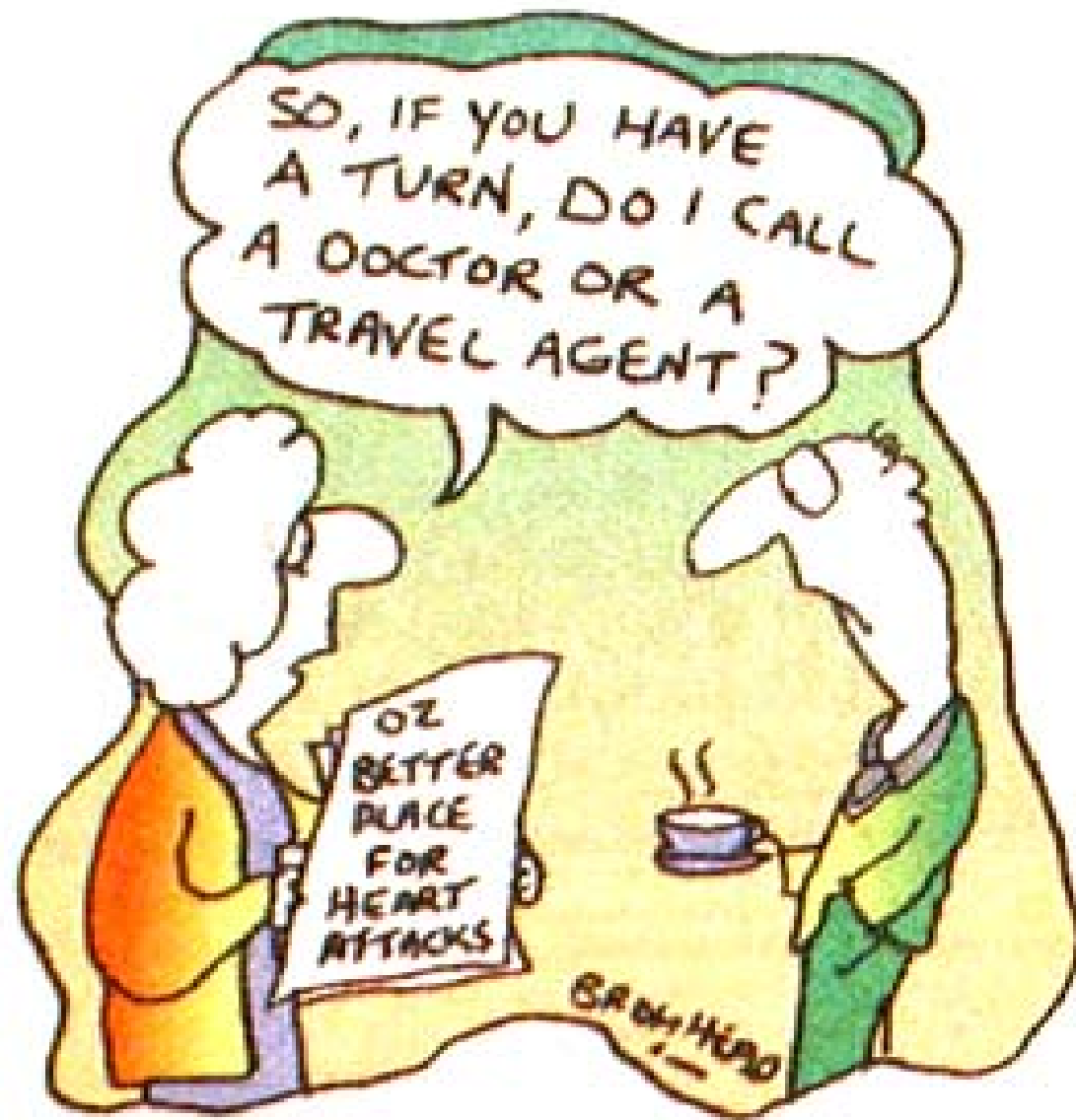
Limitations of the concept

- Limited to fatal outcomes
- Categorical attribution versus counterfactual modelling
- Age limit (? Increase to 80 or even 85 years)
- Time series
- Incidence vs survival
- SEP confounding / effect modification
- Linkage to health system input mix and processes

Trans Tasman Comparison

Avoidable mortality (0 to 74 years), Australia and New Zealand, 1997-2001



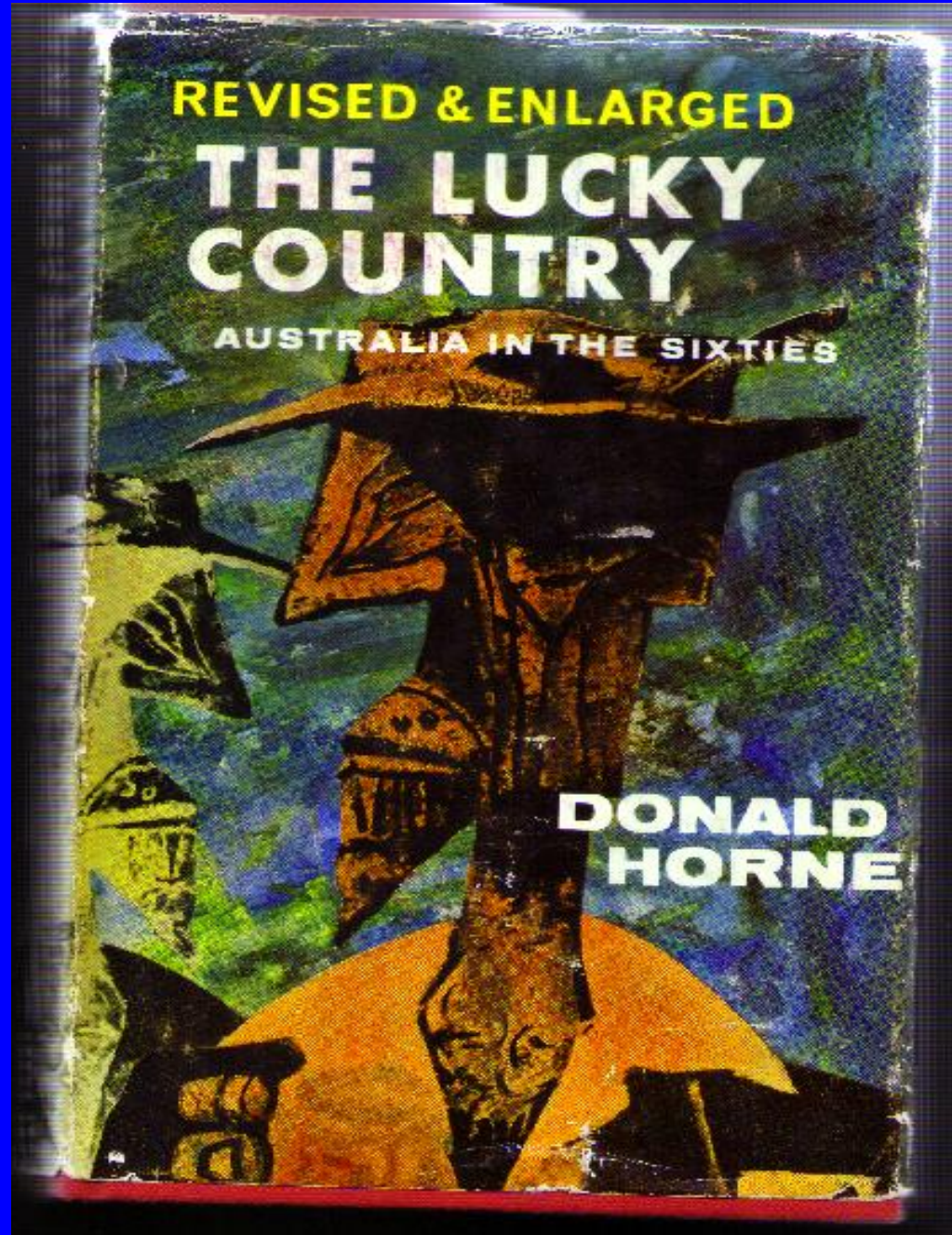


REVISED & ENLARGED

THE LUCKY COUNTRY

AUSTRALIA IN THE SIXTIES

**DONALD
HORNE**



“And little countries, made of coast,
Think size is what they value most.”

Lauris Edmond

OECD trend comparison

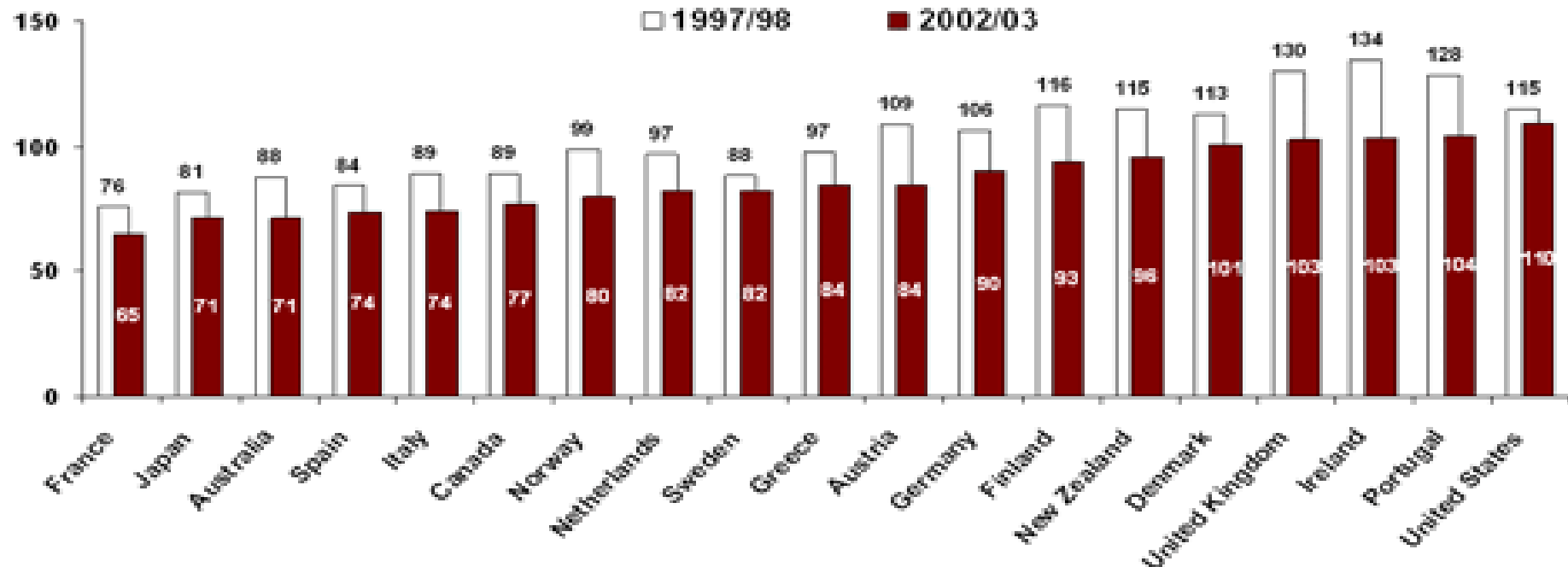
Country	1998 SAMR	2003 SAMR	1998 Rank	2003 Rank	Change in rank
France	75.6	64.8	1	1	-
Japan	81.4	71.2	2	2	-
Spain	84.3	73.8	3	4	-1
Australia	88.0	71.3	4	3	+1
Sweden	88.4	82.1	5	9	-4
Italy	88.8	74.0	6	5	+1
Canada	88.9	76.8	7	6	+1
Netherlands	96.9	81.9	8	8	-
Greece	97.3	84.3	9	10	-1
Norway	98.6	79.8	10	7	+3
Germany	106.2	90.1	11	12	-1
Austria	108.9	84.5	12	11	+1
Denmark	113.0	100.8	13	15	-2
New Zealand	114.5	95.6	14	14	-
United States	114.7	109.7	15	19	-4
Finland	116.2	93.3	16	13	+3
Portugal	128.4	104.3	17	18	-1
United Kingdom	130.0	102.8	18	16	+2
Ireland	134.4	103.4	19	17	+2

Performance Gap

HEALTHY LIVES

Mortality Amenable to Health Care

Deaths per 100,000 population*



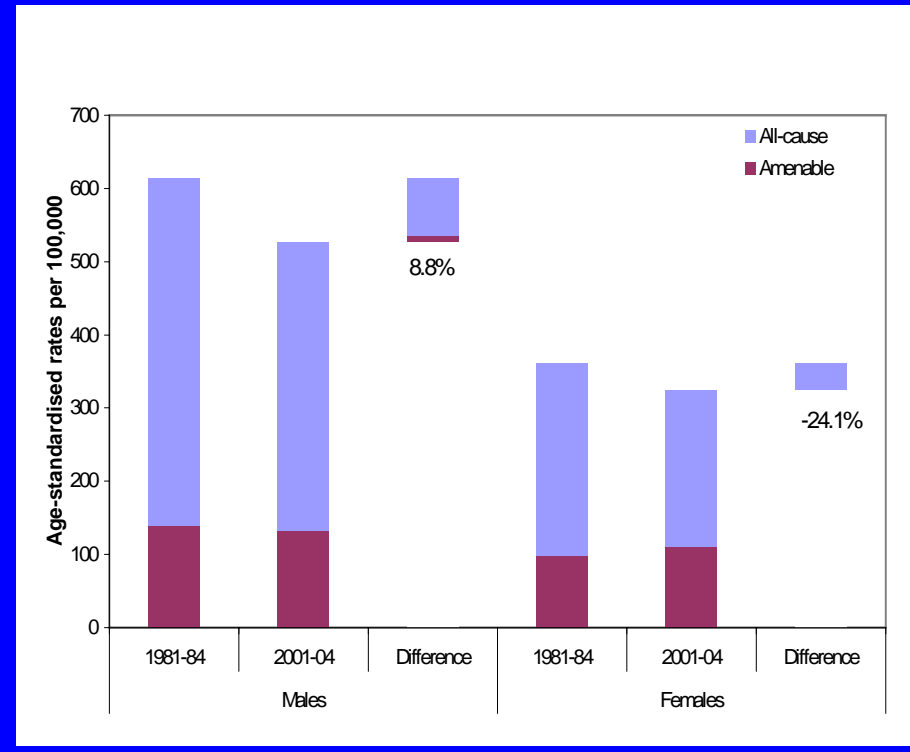
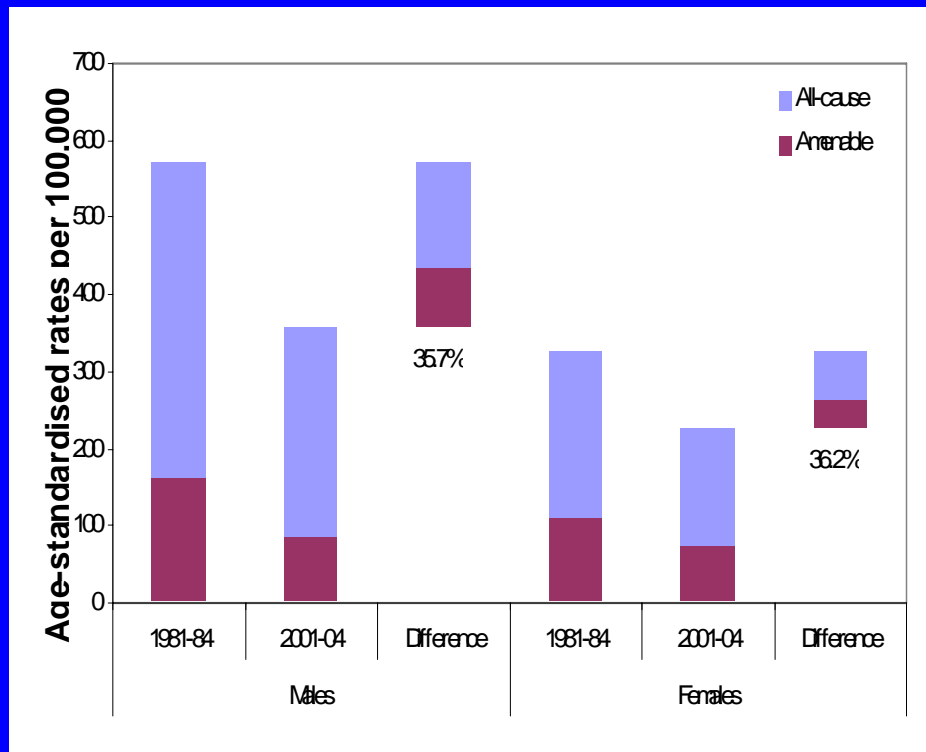
* Countries' age-standardized death rates before age 75; including ischemic heart disease, diabetes, stroke, and bacterial infections. See report Appendix B for list of all conditions considered amenable to health care in the analysis.

Data: E. Nolte and C. M. McKee, London School of Hygiene and Tropical Medicine analysis of World Health Organization mortality files (Nolte and McKee 2008).

Health care contribution to health gain

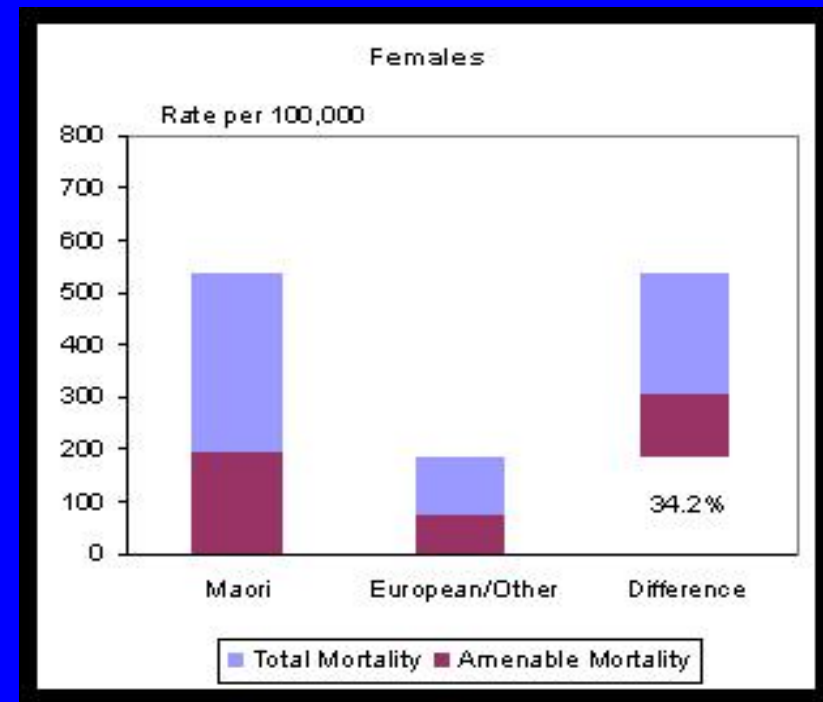
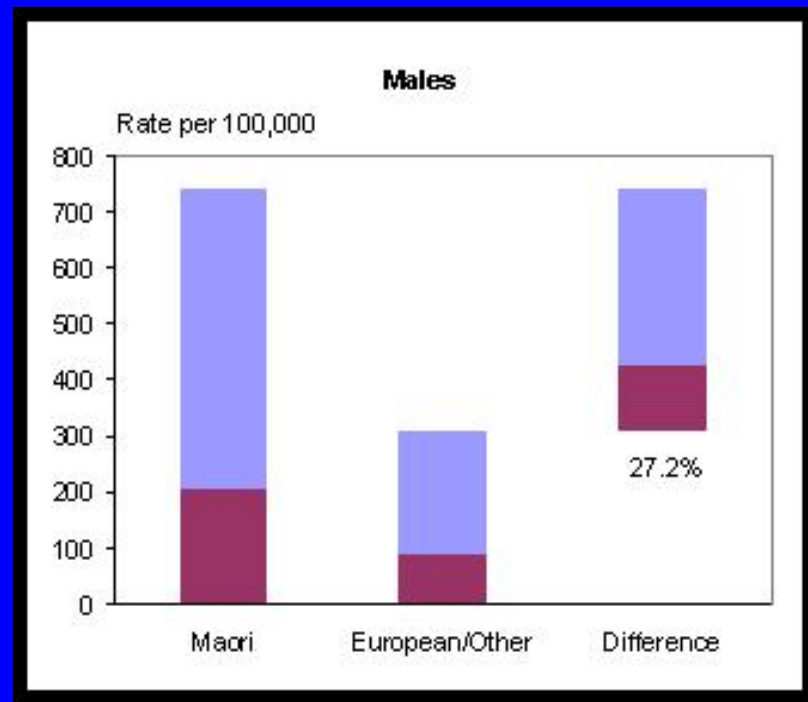
All NZ population

Pacific Peoples



Health care contribution to health inequality

Ethnic inequality in health, 2001-04



Amenable mortality as a health system performance indicator

Strengths

- Mortality is an important health outcome
- Data (mortality, COD, population) are robust
- Production of stats almost costless
- Indicator easily understood
- Decomposable and drillable
- Some evidence of successful application to policy
- Increasing international interest, standardisation and use

Weaknesses

- Age cutoff (to define prematurity) is arbitrary
- Classification of deaths as ‘avoidable’ or not is an inexact science
- Some avoidable deaths classified as ‘amenable’ are also preventable – arbitrary prioritisation rule needed for these CODs
- Confounding by disease incidence requires adjustment – or does it?
- Confounding by SEP requires adjustment – or does it?
- Time series problematic because of coding changes and improvements in health care technology
- Not a real time indicator – COD coding means ~3 yr delay
- Death is a rare event – small n problem
- Composite index – may disguise more than it reveals
- Restricted to mortality – so assessment of health care system performance not comprehensive

Conclusions

- Amenable mortality is readily measured, monitored and mapped
- Despite conceptual limitations, this metric is reasonably valid, reliable and responsive PROVIDED it is used appropriately and not too much is asked of it – it's a warning light, not a dial
- Applications include health system performance assessment (summary measure of health care effectiveness), monitoring social variations in health, and monitoring the contribution of health care to health gain and to health inequality
- These applications can run at national and at subnational levels (depending on how 'health system' is conceptualised)
- Interest is growing internationally – wider use, greater standardisation and more regular and systematic updating seem likely
- More evidence needed of links to health system inputs and processes – and actual examples of real world application

Acknowledgements

- Australia: John Glover, Anthea Page
- NZ: Craig Wright, Li-Chia Yeh, Gary Jackson

Avoidable mortality: Technical issues

- What classification of COD to use?
- How to attribute COD to categories?
 - expert judgement
 - systematic review of interventions for each COD
 - intervention analysis (time series)
- How often to update list (and who should do this, and how)?
- How to deal with COD coding changes (and differences)?
- What about multiple COD coding?
- Which indicators to report (and age standardisation / stratification)?
- Optimal reporting cycle?
- Can timeliness be improved (<18 months)?
- How to set targets / benchmarks / identify significant change or difference?
- How to adjust for incidence / SEP (if at all)?
- How to decompose summary indicators (cause group, age group etc)?
- How to drill down – what response do we expect when a problem is detected?