

Interpreting the “league tables of death”: advance Australia backwards?

Adrian E Bauman

Differences in life expectancy within countries are as important as international comparisons



In this issue of the *MJA*, Lopez and Adair describe slowing of the growth in life expectancy in Australia.¹ They report that we reached our peak position in the world around 2003 (fourth highest for men, fifth highest for women), but increases in life expectancy over the past decade have been modest, and our international ranking is expected to fall.

Variations in life expectancy and its ranking are common;² increases in life expectancy in the United Kingdom and the United States, for instance, have slowed markedly since 2000.³ However, it would be incorrect to ascribe year-to-year variations in life expectancy to specific causes. A complex interaction between socio-demographic factors, migration patterns, and macro-economic and structural factors leads to changes in health systems and risk factor profiles at different times in different populations and countries. Accurately assessing these influences on life expectancy are probably beyond the capacity of current predictive models. Rankings of national life expectancy may be of interest to politicians and policy makers, but they share the uncertainty associated with university rankings and placings in global happiness indexes. Nonetheless, shifts in rankings may in a broad sense be indicators of the effects of health system changes, new therapies, or changes in health-related behaviour. Therapeutic advances can raise life expectancy relatively quickly if they improve survival, whereas public health policies and population level behavioural change programs may require years before their effects on population health become apparent.

Maximal life expectancy benefits can be achieved by reducing the prevalence of conditions that are particularly common. For example, the remarkable increases in life expectancy in Australia during 1980–2003¹ are attributable to reduced numbers of cardiovascular deaths and better overall management of acute heart disease, but also to longer term national policies for reducing tobacco smoking and motor vehicle accidents. Substantial campaigns, innovative policies, and tobacco control regulations reduced rates of smoking among Australian men from 40% in 1982 to about 23% in 2003 and 16% in 2016.⁴ In contrast, the decline in smoking in western Europe started 10–20 years later than in Australia, with national smoking rates for men in 2003 ranging from 35% to 43%, but in most countries they have subsequently declined substantially.⁵ In Australia, we may have already experienced the maximum benefit achievable through reduced smoking, manifested by 2003 in distinctly reduced incidence and mortality levels for lung cancer; western Europe, on the other hand, will experience similar benefits over the coming decades.



Another example is motor vehicle accident-related mortality, which peaked in Australia in the late 1960s; sustained efforts reduced its level until the early 2000s, after which rates have remained fairly constant.⁶ As our vehicle accident mortality rates were substantially higher than in England, for example, greater gains in life expectancy were possible.^{7,8} These two examples of successful preventive measures illustrate the effectiveness of national health policies implemented with appropriate enforcement.

Recent life expectancy increases in the USA have been smaller than in Australia.¹ Given the widening inequalities between sections of the US population, increases in the numbers of opioid- and influenza-related deaths, and less strict legislation regarding motor vehicle seatbelts and gun ownership (leading to higher numbers of injury-related deaths²), life expectancy is likely to remain lower in the US than in Australia. In the UK, recent falls in life expectancy are attributed to widening social and health care inequalities and to reductions in preventive programs.⁹

Lower life expectancy is not linearly related to national wealth. In Cuba, with its strong nationwide preventive health care commitment, the mean life expectancy is a remarkable 79.7 years, one year more than in the USA,¹⁰ although Cuba spends a much smaller fraction of its GDP on health.¹¹

Many changes in evidence-based clinical management are introduced at similar times in different high income countries, but growth in life expectancy can be hampered by investing too little in preventive health measures. Despite decades of strategic plans for reducing the omnipresent overweight/obesity problem in Australia,¹² and the lack of marked change in the levels of physical activity among adults,¹³ no bold and coordinated national responses have been implemented in response to these major health risks, and their contributions to mortality will probably continue to rise.

It may be that we have extended life expectancy in Australia as much as we can with current health policies, while similar initiatives in western Europe will need a further decade to show

their effects. In any case, life expectancy in most high income countries is now remarkably similar, in the range 81–83 years in 2017. Small differences and inevitable minor fluctuations should not be over-interpreted, particularly as the differences between high income countries are negligible in comparison with intra-country differentials — including the fact that life expectancy for Indigenous Australians is 11 years lower than for other Australians.¹⁴

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