

Selecting Priority Health Risk Factors for Researching Preventive Interventions: A New Zealand Example

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Background

To maximise health gain with constrained health sector resources, it is necessary to identify the most effective and cost-effective interventions for health sector funding. For researchers, who also have limited resources to most effectively contribute to this process, it is necessary to first identify the highest priority risk factor areas for studying preventive interventions. That is, selection of interventions to study determines future evidence available for decision-making, and is a critical step in itself. We aimed to develop a process for prioritising such risk factors for further research in the New Zealand (NZ) setting.

Results

The initial 15 risk factors considered from WHO burden of disease work at the regional level had a reasonable overlap with previous, albeit somewhat outdated, NZ-specific prioritisation work. Namely, seven of the ten top risk factor priorities in the NZ work were also in the highest ranked 10 risk factors for the WPR (see Table). All of the top 10 of these risk factors (in terms of DALYs lost for the WPR) had evidence in the international literature of effective and cost-effective preventive interventions.¹ Also nine were definitely relevant to health inequalities between Māori and non-Māori (based on NZ epidemiological literature). When considering additional issues around the strength of evidence, we re-ranked the risk factors to give a final prioritised list for intervention selection for future research (Table).

Table: Ranking of risk factors for future research into preventive interventions in NZ (considering WHO data for the WPR; availability of effective preventive interventions; and relevance for health inequalities)

Risk factor	Percentage of total DALYs lost in WPR (WHO data ¹)	Risk factor ranking in previous NZ work (Ministry of Health ²)	Available and effective preventive interventions identified in the literature ¹	Relates to Māori vs non-Māori health inequalities ¹	Final ranking for new NZ research	Comments
1) Tobacco use	8.4	2 nd	++	Yes	1	Highly relevant to health inequalities (see graph)
2) Alcohol use	6.9	13 th (with other drugs)	++	Yes (hazardous use)	2	
3) High blood pressure	5.7	5 th	++	Yes	3	
4) High blood glucose	4.8	8 th (pre-diabetes)	+	Yes	8	Down-ranked because of lower strength of evidence of likely effectiveness and cost-effectiveness of preventive interventions, and this risk factor will be partly addressed by considering other risk factors such as weight and physical activity
5) Overweight & obesity	3.8	6 th	++	Yes	5	
6) Physical inactivity	3.6	7 th	++	Yes	6	
7) High cholesterol	2.6	4 th	++	Yes	4	
8) Occupational risks	2.1	19 th	+ (but very setting specific)	Yes		Excluded because setting specific
9) Low fruit & vegetable intake	1.3	10 th	++	Yes	7	
10) Urban outdoor air pollution	1.0	12 th (all air pollution)	+	Possibly	-	Excluded because of uncertain relevance for inequalities
11) Iron deficiency	0.9	Not listed			-	
12) Child sexual abuse	0.9	14 th (all violence)			-	
13) Illicit drugs	0.7	See alcohol above	Not studied further due to relatively lower burden of DALYs lost			-
14) Unsafe health-care injections	0.6	Not listed			-	
15) Unsafe sex	0.6	20 th			-	

+ Cost-effective intervention/s reported

++ Cost-saving intervention/s reported

Methods

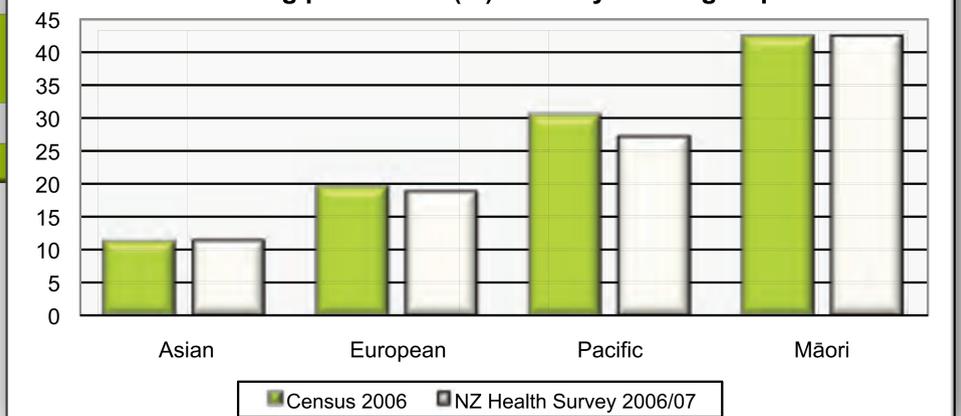
Using WHO data for high-income countries in the Western Pacific Region (WPR), the burden of disease in disability-adjusted life years (DALYs) associated with leading risk factors was used as a starting point. Subsequent prioritising steps included: (i) considering the existing evidence for effective and cost-effective preventive interventions for each risk factor; and (ii) the contribution of the risk factor to health inequalities between Māori (the indigenous people of NZ) and non-Māori.

Conclusions

This approach to identifying and prioritising risk factor areas for further research is somewhat simplistic, but has the advantage of being relatively straightforward. It may be applicable to other countries, both developed and developing.

Our approach recognises that the selection of interventions to evaluate in the first instance is critical to the final decision-making process. A further desirable step (which we have started to explore in NZ) is obtaining stakeholder input around the acceptability of potential preventive interventions.

Smoking prevalence (%) in NZ by ethnic group



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References

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