

The medicalisation of prevention: health promotion is more than a pill a day

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In an editorial published in the 5 May 2016 edition, the *Medical Journal of Australia* (MJA) sent out a challenge to all involved in health promotion and public health by stating: ‘An estimated one million Australians at high risk may not have been receiving recommended preventive treatments.’¹ The writers documented the large number of high-risk Australians not taking their antihypertensive and statin medications, but made no mention of the benefits that could be made by lifestyle modification, or a combination of medical and lifestyle strategies.

Prevention should not be about just taking two pills per day. Prevention must include a healthy lifestyle that reduces risk factors, promotes healthy relationships and optimises well being and longevity. The prevention of cardiovascular events needs more emphasis on practical public health and health promotion. We need to remember the importance of smoking cessation, reduced salt intake, increased fruit and vegetable intake and other nutrition improvements, being physically active, weight management and other lifestyle factors.

The recently released Australian Burden of Disease Study provides details of the behavioural risk factors associated with death and disease (see Table 1).² In the report, the effects of nutritional causes are documented individually, but they comprise about one-third (31.5%) of the burden of disease.² Physical activity is very important and interacts with nutrition and the overall environment to control overweight and obesity. For example, lifetime of moderate-intensity

physical activity reduces stress, cancer and obesity as well as cardiovascular risk. Physical activity is associated with a lower incidence of many conditions including breast cancer, cardiovascular disease, type II diabetes mellitus, and a slower rate of cognitive decline.^{3,4}

The evidence for community-wide health promotion programs is substantial. Song and Giovannucci have demonstrated a substantial decline in deaths from several cancers in populations of non-smokers, with a BMI of 17.5–27.5, moderate alcohol consumption and moderate-intensity physical activity.⁵ Community-based strategies for dietary change have reduced cardiovascular events and mortality.^{6,7} For the prevention of obesity, the Centre for Disease Control in the USA has identified the following community-based strategies: ‘1) strategies to promote the availability of affordable healthy food and beverages; 2) strategies to support healthy food and beverage choices; 3) a strategy to encourage breastfeeding; 4) strategies to encourage physical activity or limit sedentary activity among children and youth; and 5) strategies to create safe communities that support physical activity.’⁸ In an editorial in *Lancet* to mark World Health Day 2016, there was an emphasis on the pandemic of type II diabetes with the *Lancet* advocating a program of prevention.⁹

The first proposal for widespread medication of the community came from Wald and Law who advocated the widespread use of a pill containing an antihypertensive, a statin, aspirin and folic acid for reducing cardiovascular events.¹⁰ Since then evidence has emerged that folate is ineffective in reducing cardiovascular events.¹¹ Although there is some evidence for aspirin, we await the results of further large scale studies.^{12,13}

The obvious question is why has there been so much effort to medicate the population without first trying a widely-applied health promotion program? The evidence shows that physical activity, good nutrition and other lifestyle interventions can achieve as much, but health promotion in Australia has never been adequately funded and environmental change to promote healthy lifestyles has been lacking, with the exception of tobacco control. Why not spend funds on health promotion as well as on the medical services

Table 1. Proportion of total burden attributable to each risk factor in Australia in 2011²

DALY, disability-adjusted life year

Risk factor	Total DALY (%)
Tobacco use	9.0
High body mass	5.5
Alcohol use	5.1
Physical inactivity	5.0
High blood pressure	4.9
High blood plasma glucose	2.7
High blood cholesterol	2.4

that prescribe the medication? Is there something magical about waving the wand of 'a pill a day' compared with lifestyle advocacy? Perhaps society is enamoured with the way 'the pill' transformed society by changing reproductive health practises. But a total healthy lifestyle program that includes environmental change may achieve more in the longer term.¹⁴

The *MJA* editorial by Chow and Rodgers concentrates on statins and antihypertensive drugs for the 'lost' million Australians.¹ Their strategy is supported by the recently reported Hope Study that included men ≥ 55 years of age, women ≥ 65 years of age without cardiovascular disease and with at least one additional risk factor besides age, and women ≥ 60 years of age with at least two such risk factors.¹⁵ Death from cardiovascular disease or stroke was monitored for 5 years and was substantially lower in the combined therapy group than in the placebo group (hazard ratio = 0.71; 95% confidence interval: 0.56–0.90).

Treatment with medication of an entire population, though it might reduce the population event rate, may induce side effects in individuals who cannot benefit from the treatment because of a low absolute risk.¹⁶ No drugs are completely risk-free. Statins are associated with an increase in rates of diabetes and each week general practitioners see many patients with muscle aches as a result of statins.¹⁷ In one of the classic examples of observational epidemiology, an earlier statin (now withdrawn) was found to cause an increase in strokes.¹⁸ No medication is without some side effects. In a review of why the polypill for prevention has faded from view, Huffman discusses the adverse events, commonly experienced, of elevated liver enzyme levels, cough, and muscle pain.¹⁹ For hypertension, lowering of blood pressure is of considerable benefit²⁰ and can often be achieved by dietary and lifestyle changes. However, lifestyle changes are often neglected and drug treatment is initiated. In Australia, ACE inhibitors[†] are the most popular antihypertensive medicines prescribed, and these frequently cause a dry hacking cough (probably in 30–40% of patients²¹) that can cause distress to the patient until the cause is understood and the drug is changed. ACE inhibitors are often combined with a thiazide diuretic which increases diabetes rates, so there is always a possibility the client will end up a coughing diabetic!

The emphasis on the polypill has now shifted to include secondary prevention, as recommended in the *MJA* article.¹ There is good evidence that those who have had an adverse event, such as a heart attack, should continue to take medication to control risk factors. But the *MJA* article implies universal screening of blood pressure and cholesterol and then administration of a pill for many. Why not a universal lifestyle prescription instead (or in addition), with adequate funding of health promotion services to ensure their uptake in the community?

There is more than the 'missing million' for the *MJA* to write about. We think that the 'missing millions (of dollars)' that have been cut from prevention in Australia in the past decade also has significant ramifications for the health of Australians.^{22,23} Health promotion workforce and programs have been cut across Australia.^{3,24} Epidemiologists have diverted their energy to research on queuing theory to optimise waiting lists for surgery and surveillance at the primary health level has been reduced.²²

The cuts to prevention have diverted resources towards treatment options resulting in short-term-oriented hospital and health policies. In Australia, we need a commitment by all political parties to health promotion and prevention that will result in the continuing improvement in our health status. Yes, popping a pill may be a part of the answer, but let us also regain and improve true prevention.

The question for our society to answer is whether we want to promote pill popping or a healthy lifestyle. The advantage of living a healthy lifestyle is that it can reduce the risks of a cardiovascular event as much as a pill. At the same time it has no negative side effects but many other advantages. Lifestyle change sometimes involves complex and difficult choices, as the campaign against tobacco has shown. Although there is much that can be done now, long-term lifestyle change to promote health will involve such complex areas as city planning to encourage more activity and the control of fast food advertising and the availability of healthy food choices.¹⁴

Australia has the options before it to either proceed down the path of personalised medicine, potentially creating a nation of pill poppers, or to embrace a healthy lifestyle for the whole population. In an era when expenditure on prevention is declining in contrast to therapeutic medicine and its spinoff, the polypill, the debate that needs to be held in Australia is about the role that health promotion and lifestyle advocacy can play. Of course it is not an either–or debate, as medications have a legitimate role to play when lifestyle change is not enough. This journal is committed to promoting a larger role for health promotion in Australia. Evidence suggests that it is a cost effective way of improving health while bringing a better life to Australians.

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[†]ACE stands for angiotensin-converting enzyme.

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