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# **POSSIBLE NZACE-PREVENTION INTERVENTIONS FOR STAKEHOLDERS TO CRITIQUE**

**Burden of Disease Epidemiology, Equity and Cost-  
Effectiveness Programme**

**Technical Report: Number 2**

**NZACE-Prevention Team**

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## Introduction and suggestions around stakeholder input

This document focuses on the top three risk factor areas that we have initially been selected for NZACE-Prevention analyses (tobacco, blood pressure and cholesterol – see the *Technical Report on Risk Factor Selection* on the BODE3 website). As the NZACE-Prevention Project progresses, there will be opportunities for stakeholders to critique the interventions associated with other risk factor areas (eg, alcohol, physical inactivity and overweight/obesity etc).

Within each of the three risk factor areas considered here, there are around 20 potential interventions that have been selected for initial consideration (see the next section for selection rationale). Stakeholders bring many different and valid perspectives to the prioritisation process. At this stage we would encourage you to focus on just the *relevance* of introducing the intervention in the NZ setting (and putting aside other criteria as listed in the Table below).

Criteria for intervention evaluation	Suggested approach	Comment
1) Likely <b>relevance*</b> of the intervention in the NZ setting over the next 5 years	<b><i>For stakeholders to consider now</i></b>	Some interventions (eg, an increase in Quitline service) may seem very relevant, while a tobacco endgame strategy might be much less so.
2) Likely size of <b>health benefit</b>	For NZACE-Prevention team to calculate	To be based on DALYs and intervention effectiveness.
3) Likely <b>cost-effectiveness</b> of the intervention	For NZACE-Prevention team to calculate	To be based on DALYs, intervention effectiveness, and economic analyses.
4) Likely cost-effectiveness of the intervention in <b>reducing health inequalities</b>	For NZACE-Prevention team to calculate	To be based on DALYs (by ethnicity & SES), intervention effectiveness, and economic analyses.
5) Likely <b>wider benefits</b> to society (outside health) of the intervention	For stakeholders to consider at a future stage (once a list of these potential benefits are outlined by the NZACE-Prevention Team in a draft report)	Eg, an iwi-based health intervention may have wider benefits in building capacity for Māori development.

\* Relevance in terms of: (i) That a decision on the proposed intervention is likely to be made in the next 5 years, and (ii) That an economic evaluation may be influential in that policy making process (ie, cost and cost-effectiveness will matter for policy making, as opposed to a policy decision that is largely a matter of political will).

**Suggested process:** It would be ideal if all PAG members ranked the proposed 20 interventions in each risk factor area from “most relevant” to “least relevant”. But such ranking is rather demanding on time and mental effort, and so a simpler approach is to undertake the following:

- Ticking what you think are the **top five most relevant interventions** (next 5 years in NZ), within each of the three tables.
- Crossing out what you think are the **five least relevant interventions** (next 5 years), within each of the three tables.
- Adding any **critical comment** if you think that there are problems with the argument for considering a particular intervention.
- Providing any **new intervention ideas** you have.

It is ideal if your selection is done before the PAG meeting in mid-November, but you might wish to discuss issues at the meeting before making a final decision. If you have completed your assessment, then please bring along the hard copy of the tables (a separate document supplied to you with columns for doing the ticks and crosses), for us to collect. Otherwise this can be handled after the PAG meeting by email.

## Methods for developing these lists of potential interventions

These lists of potential interventions were based on considerations of likely effectiveness, likely cost-effectiveness and likely potential to reduce health inequalities. In particular they arose from the following:

- Details from published ACE-Prevention interventions from Australia (especially the September 2010 Report<sup>1</sup>). But relevant aspects of Australian ACE-Prevention work has also been published in the journal literature in such topic areas as: alcohol use,<sup>2 3</sup> overweight and obesity (particularly for children/adolescents),<sup>4-10</sup> skin cancer,<sup>11</sup> pre-diabetes<sup>12</sup> and physical inactivity.<sup>13</sup>
- Personal experience of the ACE-Prevention Team members (particularly in the area of tobacco control) and research around innovative edges of tobacco control.<sup>14 15 16</sup>
- Personal experience of the ACE-Prevention Team members in pharmacological interventions and pharmacoeconomics.
- Frontier scanning for innovative interventions in cardiovascular disease prevention, particularly from Scandinavian countries (Google Scholar and Medline searches).
- Consideration of the literature around the co-benefits to health from climate change interventions (eg, reference<sup>17</sup>) which are likely to benefit cost-effectiveness from a societal perspective.
- Within-team review of the draft lists of possible interventions.

## Tobacco control interventions

New Zealand has often been at the forefront of tobacco control interventions, but a lot of work remains to be done.<sup>18</sup> There is potential to consider additional incremental advances in established interventions, along with endgame approaches (eg, a 10 year long tobacco sales phase out).<sup>14</sup>

### Background issues

- **Cost-saving interventions:** There are some interventions that are very likely to be cost-saving to government (eg, increased tobacco taxation<sup>19</sup>). ACE-Prevention (Australia) work found that a “National Tobacco Campaign” would be cost-saving<sup>20</sup> along with increased tobacco tax.<sup>1</sup> Tax payers should particularly support cost-saving interventions.
- **Health inequalities:** Māori suffer higher age-standardised mortality rates (compared to non-Māori) for nearly all the major tobacco-related diseases: ischaemic heart disease, cerebrovascular disease, chronic obstructive pulmonary disease, lung cancer, stomach cancer and cervical cancer.<sup>21</sup> Fortunately, there is major scope in NZ for reducing such ethnic inequalities in health with improved tobacco control.<sup>22 23</sup> Some of the specific interventions being considered for our modelling have already been shown to successfully engage Māori smokers (eg, Quitline promotion campaigns<sup>24</sup> and mass media campaigns such as the “Its About Whanau” campaign<sup>25</sup>). Furthermore, in terms of the proposed tobacco tax increase intervention, the international evidence increasingly favours tobacco tax being a pro-equity strategy, given the findings of a systematic review.<sup>26</sup> Subsequent published work to this review also suggests that higher tobacco prices are “egalitarian” in their impact in the United States,<sup>27</sup> and reduce social disparities in Australia.<sup>28</sup> In terms of endgame approaches (eg, ending tobacco sales in 10 years<sup>14</sup>), there is also Māori political leadership on this issue.<sup>29</sup>
- **NZ experience:** There is existing momentum for enhanced tobacco control in NZ and the government includes one aspect (“better help for smokers to quit”) in its 2009 targets for DHBs.
- **Relevance to ABC-CBA:** There is overlap with cancer prevention (especially such major cancers as lung cancer but also many others of relevance to health inequalities eg, stomach and cervical cancer).
- **Relevance to Pharmac:** Pharmac may have some interest given its historical expenditure on smoking cessation treatments and its very large expenditure of pharmaceuticals used for cardiovascular disease treatment.

**Table 1: List of potential tobacco control interventions for stakeholders to critique**

Specific intervention	Further details on the intervention	Comment
<b><i>Intervention used already in NZ but at different level / audience</i></b>		
1) Higher tobacco tax	One-off increases in the current level of tobacco tax at the 25%, 33% and 50% levels (with on-going annual inflation adjustments in the tax level as per normal).	One of the top priority interventions for expansion in NZ. <sup>18</sup> Tobacco tax increases are reported to be cost saving. <sup>19 1</sup>
2) Mass media campaigns	Doubling and halving of the current expenditure on mass media campaigns (with campaign content including Quitline number details).	One of the top priority interventions for expansion in NZ. <sup>18</sup>
3) <b><i>Māori focus:</i></b> Mass media campaigns	Running a new mass media campaign that is designed for a Māori audience (ie, building on the experience of the “Its About Whanau” campaign).	The “It’s About Whanau” campaign was designed by Māori for Māori and successfully stimulated Quitline calls. <sup>24 25</sup>
4) New and larger graphic health warnings (GHWs)	Requirement to maximise consumer information around health risks by introducing a new set of GHWs that cover 95% of pack surface area (with annual rotation of 4 different sets of 10 warnings).	Likely to be cost-saving as the on-going cost is nearly entirely borne by the manufacturer.
5) Expanded use of the Quitline	Both a 25% and 50% increase in the mass media promotion of the Quitline service and both a 10% and 25% increase in its operating capacity (ie, 2 versions).	This service is already in use and promoted via the mass media. This intervention is also considered in the ABC-CBA cancer research study.
6) Smoking cessation provision (ABC)	NZ reaching the target for DHBs of 80% of smokers receiving the ABC approach for smoking cessation.	This intervention is also considered in the ABC-CBA cancer research study.
7) <b><i>Māori focus:</i></b> Smoking cessation	Reaching an 80% target for Māori smokers via targeted training for Māori health workers and those health workers serving populations with a high proportion of Māori.	This intervention could also be considered in the ABC-CBA cancer research study.
8) Promotion of varenicline	Reaching a 5% target of annual quit attempts which make use of varenicline.	A form of this intervention was found to be “very cost-effective” in Australian work. <sup>1</sup>
9) Promotion of bupropion	Reaching a 5% target of annual quit attempts which make use of bupropion.	A form of this intervention was found to be “very cost-effective” in Australian work. <sup>1</sup>
10) Promotion of nicotine replacement therapy (NRT)	Reaching a target of 25% increased use (over current levels) of NRT in annual quit attempts.	A form of this intervention was found to be “very cost-effective” in Australian work. <sup>1</sup>
<b><i>Intervention used already in other OECD jurisdictions</i></b>		
11) A complete ban on point-of-sale display marketing	There is a comprehensive ban on point-of-sale tobacco displays at all outlets.	One of the existing major interventions with opportunity for expansion in NZ. <sup>18</sup>
12) Restrictions on pack-based marketing	Restrictions to limit tobacco pack-branding to: 1% of the pack (virtually “plain packaging”) or to 10% of the pack.	This type of level is being achieved via large pictorial health warnings eg, as used in Brazil and Uruguay.



Specific intervention	Further details on the intervention	Comment
13) Expanded smokefree areas	An upgrade smokefree environments law that banned smoking in cars with children and smokefree areas around bars and restaurants would have various modelled benefits for reduced tobacco consumption and reduced exposure to secondhand smoke. The justifications are to protect children, to protect hospitality workers and to increase hospitality setting choices for the majority of adult consumers who are non-smokers.	These new types of smokefree areas are increasing being adopted in North American jurisdictions eg, see a review. <sup>30</sup> There is some progress in NZ at the local government level (eg, smokefree parks and beaches).
14) Restricting retail outlets	A licensing law could reduce the number of tobacco retailers by varying amounts eg, 50%, 75% and 95%.	Of note is that France has under half the numbers of tobacco retail outlets per capita than NZ does. <sup>31</sup>
<b>Interventions not yet used in any OECD jurisdictions</b>		
15) Alcohol tax (reducing smoking as a side effect)	A higher alcohol tax (used primarily for alcohol control) would have various modelled co-benefits for reduced tobacco consumption.	There is some evidence for this association. <sup>32</sup> NZ smokers are relatively poor compared to other OECD countries and so may be even more price sensitive. The opposite of this intervention is also considered in the interventions for alcohol (see below).
16) Mandatory retailer promotion of smoking cessation & NRT	Various regulatory options include promotion by (i) all tobacco retailers; (ii) licensed retailers (assuming licenses are required and this reduces retailer numbers by 90% - see the retailer reduction intervention elsewhere in this table).	Other potential work (in a draft proposal to the HRC) may explore the feasibility of this option further.
17) Fully-subsidised new NRT product	Modelled use of a safer oral nicotine product for smoking cessation eg, an oral nicotine sachet (Zonnic) which has been studied in NZ. <sup>33</sup>	Pharmac would be asked to offer advice on possible products. NZ smokers have some curiosity concerning new products. <sup>34</sup> This option increases choices for smokers wanting to quit.
18) Phasing down nicotine levels in tobacco	In it conceivable that phasing down nicotine levels in tobacco (via taxation of nicotine or by regulation) would reduce uptake by youth and facilitate quitting. This approach has already been modelled in the NZ setting. <sup>35</sup>	This approach would require regular monitoring to ensure that the tobacco industry was following the regulatory requirements.
19) An endgame strategy of ending tobacco sales in 10 years	A law that requires a sinking lid on annual tobacco imports so that no tobacco is imported or sold after a 10 year period (ie, equivalent to an absolute 10% reduction in supply each year). <sup>14</sup> This general approach has been promoted by a US Republican Senator <sup>36</sup> and the government in Finland has announced such a phase-out plan <sup>37</sup> but there is no implementation experience reported.	This approach has some support by some political leaders <sup>29</sup> and in the NGO tobacco control community <sup>38</sup> but may have more limited general support at the political level. This intervention is also considered in the ABC-CBA cancer research study.

## High blood pressure prevention interventions

Risk factors for high blood pressure (HBP) include: diet (especially excessive salt), alcohol, physical inactivity and obesity. There is therefore overlap with some of the other intervention areas (eg, with some of these being considered in the later stages of the NZACE-Prevention Project).

### Background issues

- **Cost-effectiveness:** There is some evidence that reduction of salt in processed foods is one of the most cost-effective public health interventions possible.<sup>39</sup> Indeed, a recent US study suggested it would be cost-saving even if only a modest salt reduction were achieved after a decade.<sup>40</sup> Canadian work estimated that if levels of sodium consumption were reduced to recommended levels then this would save about 2 billion dollars annually in health care costs (when just considering hypertension-related cardiovascular events and no other salt-related health outcomes).<sup>41</sup> Mandatory salt limits were considered to be cost saving in ACE-Prevention (Australia) work.<sup>1</sup>
- **Health inequalities:** There is scope for reducing health inequalities given that high systolic blood pressure levels contribute to more avoidable cardiovascular disease mortality (both ischaemic heart disease and stroke) among both Māori men and Māori women (compared to non-Māori).<sup>42</sup>
- **NZ experience:** For the proposed salt-related interventions (see the Table below), there is some existing momentum for these given the salt reduction in some processed foods in NZ as a result of the Heart Foundation working with the food industry. Also, the NZ Food Safety Authority (NZFSA) is exploring the salt in food issue [Personal communication Jenny Reid, October 2009]. There may also be minimal risk of consumer resistance for modest annual reductions in salt levels in processed foods (since there is evidence that consumers do not notice small annual reductions in sodium levels).
- **Relevance to Pharmac:** Pharmac may have some interest in this area since this intervention may reduce the need for pharmaceutical expenditure on anti-hypertensives. The potential economic impact of a polypill is also relevant.
- **Relevance to ABC-CBA:** Reduced salt as an intervention against high blood pressure will also have stomach cancer prevention benefits. Also for fruit and vegetable promotion interventions against high blood pressure, there are likely to be benefits for cancer prevention.
- **Consumer preferences:** The salt reduction interventions (see below) may benefit consumers in that there is evidence that as salt intake is reduced, people appear to prefer food with less salt.<sup>43</sup>

**Table 2: List of potential blood pressure reduction interventions for stakeholders to critique**

Specific intervention	Further details on the intervention	Comment
<b><i>Intervention used already in NZ but at different level / audience</i></b>		
1) Community Heart Health Programme (intensified)	Mass media campaigns covering both nutrition and physical activity. As per ACE-Prevention (Australia) work. <sup>1</sup>	The level of intensity could possibly be extended to that which has been used in Finland. See also the next table (on cholesterol).
2) Voluntary reduction of salt in processed foods by industry (intensified)	NZ food industry lowers the sodium level in processed food by 10% within two years (as a result of voluntary collaboration with the health sector). This would expand on successful work done to date by the Heart Foundation in NZ.	The evidence for salt contributing to stroke and total cardiovascular disease is now strong. <sup>44</sup> The “cost” component would be health sector work force time involved in collaboration and on-going monitoring and evaluation. Successful collaborative arrangements with the food industry on salt reduction have been described for Finland, France and Canada. <sup>45</sup>
3) Expansion of the fruit/vegetables in schools programme to all primary and secondary schools	Modelling would assume some persisting dietary change going into adulthood (based on updated literature review work).	There is good evidence concerning a diet high in fruit and vegetables and decreased blood pressure. <sup>46</sup> Some countries have extensive school lunch programmes with some focus on desirable nutrition composition. A fruit/vegetable distribution programme is already in place for a small number of NZ schools.
4) <b>Māori focus:</b> Expansion of the fruit/vegetables in pre-schools and schools	This intervention would be for all Kohanga Reo and Kura Kaupapa with the latter covering Kura Tuatahi (primary schools) and Kura Arongatahi (composite schools).	As above, there is already NZ experience with fruit/vegetable distribution in some NZ schools.
5) <b>Māori focus:</b> Community programme (“Let’s Beat Diabetes” model)	“Let’s Beat Diabetes” is a community package of interventions – with nutritional ones likely to impact favourably on blood pressure in Māori.	This intervention package is running in Counties Manukau DHB. <sup>47</sup> Appropriate evaluation data would be required if this was to be modelled.
6) Dietary advice on salt (>140 mmHg)	As per ACE-Prevention (Australia) work. <sup>1</sup>	–
7) Dietary counselling by a dietician (for different levels of CVD risk)*	As per ACE-Prevention (Australia) work. <sup>1</sup>	–

Specific intervention	Further details on the intervention	Comment
8) Dietary counselling by a GP (for different levels of CVD risk)*	As per ACE-Prevention (Australia) work. <sup>1</sup>	–
9) Expanding / reducing the use of a low-dose diuretic (for different levels of CVD risk)*	As per ACE-Prevention (Australia) work. <sup>1</sup> The choice of the low-dose diuretic to model and the change in coverage would be based on advice from Pharmac.	This work would consider drug and non-drug interventions that impinge on both blood pressure and cholesterol (see also the next table).
10) Expanding / reducing the use of a beta blocker (for different levels of CVD risk)*	As above.	As above.
11) Expanding / reducing the use of a calcium-channel blocker (for different levels of CVD risk)*	As above.	As above.
12) Expanding / reducing the use of an ACE inhibitor (for different levels of CVD risk)*	As above.	As above.
13) <b>Māori focus:</b> Enhanced identification of, and treatment for, high blood pressure	Funding Māori health workers and other health workers serving Māori communities to double the coverage of annual blood pressure checks.	There is some experience in NZ with increasing annual checks for people with diabetes.
<b>Intervention used already in other OECD jurisdictions</b>		
14) Traffic light system for food labelling	Requirement to enhance consumer choice by having an easy-to-understand graphic labelling system on the front of food packaging (that encompasses a warning of high sodium foods).	Simple and effective consumer-friendly colour labelling (eg, red for high salt content) is being implemented in several UK food chains. <sup>45</sup> Current food labelling systems in NZ are probably suboptimal and there is scope for improvements. <sup>48</sup>

Specific intervention	Further details on the intervention	Comment
15) Mandatory reduction of salt in processed foods	Various reductions to minimal acceptable levels eg, phased in over 5 years (to be informed by further literature review work around the experience from Finland). <sup>49</sup>	Likely to be cost-saving according to US work <sup>40</sup> and ACE-Prevention (Australia) work. <sup>1</sup> Some modelling work (that included a price intervention) in Norway also suggested that this a cost-saving intervention. <sup>50</sup>
16) Mass media campaigns to improve consumer knowledge of the need to reduce dietary salt	Adopting the public education campaigns that have been reported to be effective in Finland and the UK. <sup>45</sup>	This intervention could be seen as synergistic to the food labelling one described above (with countries such as the UK doing both). It would be more focused than the Community Heart Health Programme messages (see above).
17) Salt substitution (domestic and in processed foods)	Adopting the approach used in Finland to replace table salt with low sodium potassium-enriched salt replacement products. <sup>49</sup> At least 14 salt replacement products are commercially available <sup>51</sup> and some are used by food manufacturers.	There is support for this intervention in markedly reducing cardiovascular events from a cluster randomised trial. <sup>52</sup> This study also identified cost savings from in-patient costs. At least two brands of this type of salt substitute are sold on the NZ market (ie, "No Salt" and "LoSalt").
18) <b>Māori focus:</b> Targeted education of food preparers and salt substitution	Campaign to educate food preparers and to replace all salt in marae-based food preparation with low sodium potassium-enriched salt (eg, as per the above).	There is some NZ experience with improving nutrition and food safety in the marae setting (eg, training and resources prepared by Te Hotu Manawa Māori and NZFSA's Te Kai Manawa Ora - Marae Food Safety Guide).
19) Excise taxes (variable levels) on high fat/high sugar/high sodium processed foods	This intervention (at 10% and in line with inflation) was considered cost saving in ACE-Prevention (Australia) work. <sup>1</sup>	In 2010 Denmark added taxes to certain such foods <sup>53</sup> and such taxes are being considered in Taiwan (according to 2010 media reports).
20) Removing GST from fruit and vegetables	This intervention would be more focused than a previous proposal in the NZ setting (for removing GST from "healthy food" and which was voted down by the Parliament at 64 votes to 56 in September 2010).	There is some evidence favouring food pricing interventions in a recent review. <sup>54</sup> There is NZ price elasticity and other data. <sup>55</sup>
21) Promotion of fruit and vegetable intake via community-based events and sponsorship	This intervention was considered cost saving in ACE-Prevention (Australia) work. <sup>1</sup>	For some of the evidence see a study in deprived areas in the UK. <sup>56</sup> See also the approach for Māori above (ie, the "Let's Beat Diabetes" model).
<b>Interventions not yet used in any OECD jurisdictions</b>		
22) "Tick" programme just to reduce salt intake from processed food	Found to be cost saving in ACE-Prevention (Australia) work. <sup>1</sup>	A "tick" programme just for salt may be more acceptable to the food industry (than a tick programme covering all food hazards).
23) Excise tax on salt	Salt taxes at various levels would be considered (building on modelling work in Norway <sup>50</sup> ).	Salt taxes have previously been used for revenue generation but not for public health reasons. A tax on the sodium level may encourage a shift to salt replacement products (see above).

Specific intervention	Further details on the intervention	Comment
24) Vouchers for subsidised fruit and vegetables (low-income groups)	Providing vouchers on smart cards for reduced cost fruit and vegetables (eg, 25%, 50%) for all welfare recipients.	See the above intervention on removing GST from fruit and vegetables.
25) Introduction of the polypill** (for different levels of CVD risk and age levels)*	Estimated levels of effectiveness would come from recent work. <sup>57</sup> Found to often be cost saving in ACE-Prevention (Australia) work. <sup>1</sup>	There is some expertise on this intervention in NZ (Auckland University colleagues). Access to this medicine would provide improved consumer choice options. See also in the next table (re: cholesterol).
26) <b>Māori focus:</b> Introduction of polypill**	The focus would be to consider ethnicity (in addition to CVD risk* and age)	As above.

**Notes:**

\* Different levels of risk for cardiovascular disease events (CVD) for absolute 5 year risk at: ">5%", ">10%", and ">15%" (with cardiovascular events being stroke, heart attack or serious angina).<sup>1</sup>

\*\* As per ACE-Prevention (Australia) work, the polypill would be a combination of three generic blood pressure lowering drugs (a diuretic, a calcium channel blocker and an ACE (angiotensin-converting enzyme) inhibitor) – at half strength and a statin in a single pill.<sup>1</sup>

## Cholesterol reduction interventions

New Zealanders have a relatively high saturated fat intake – largely related to high dietary intake of meat and dairy products (eg, butter). Indeed, the NZ diet has been described as being of the most atherogenic and thrombogenic in the OECD.<sup>58</sup>

### Background issues

- **Cost saving:** It is quite plausible that some of the interventions in this area would be cost-saving to government (eg, given high levels of health sector spending on drugs such as statins). Tax payers should particularly support cost-saving interventions.
- **Health inequalities:** There are opportunities to reduce health inequalities in that cholesterol levels contribute to more avoidable cardiovascular disease mortality (both ischaemic heart disease and stroke) among both Māori men and Māori women (compared to non-Māori).<sup>42</sup>
- **Relevance to Pharmac:** Pharmac may have some interest as this intervention may possibly reduce pharmaceutical expenditure on cholesterol-lowering medication. The potential economic impact of a polypill is also relevant.
- **NZ experience:** The specific intervention of the agricultural sector paying greenhouse gas charges (methane and nitrogen oxides) is already built into existing NZ climate change legislation (as of 2009). This new law is likely (in the long-term) to lead to price increases for foods high in saturated fats (ie, ruminant-based meat and dairy products). There is international interest in such interventions where climate change responses may provide health co-benefits eg, Friel et al.<sup>17</sup> Furthermore, this particular work by Friel et al also provides relevant methodological background (it used a comparative risk analysis approach). For the UK it found that a 50% reduction in agricultural emissions would decrease the burden of ischaemic heart disease in the UK by “about 15%” (equivalent to 2850 DALYs per million population in one year).

**Table 3: List of potential cholesterol reduction interventions for stakeholders to critique**

Specific intervention	Further details on the intervention	Comment
<b>Intervention used already in NZ but at different level / audience</b>		
1) Community Heart Health Programme (intensified)	Mass media campaigns covering both nutrition and physical activity (but which will impact on cholesterol via the nutrition component). As per ACE-Prevention (Australia) work. <sup>1</sup>	The level of intensity could possibly be extended to that which has been used in Finland.
2) <b>Māori focus:</b> Community programme (“Let’s Beat Diabetes” model)	“Let’s Beat Diabetes” is a community package of interventions – with nutritional ones likely to impact favourably on cholesterol	This intervention package is running in Counties Manukau DHB. <sup>47</sup> Appropriate evaluation data would be required if this was

Specific intervention	Further details on the intervention	Comment
	levels in Māori.	to be modelled.
3) Dietary counselling by a dietician (for different levels of CVD risk)*	As per ACE-Prevention (Australia) work. <sup>1</sup>	–
4) Dietary counselling by a GP (for different levels of CVD risk)*	As per ACE-Prevention (Australia) work. <sup>1</sup>	–
5) Greenhouse gas emissions charges (agricultural sector)	Various modelled increases in the cost of ruminant-based foods (dairy products and various meats by 10%, 25%, 50%) occurring in the baseline year as a result of agricultural emissions charges built into existing NZ legislation (but with modelling bringing these forward in time and increasing the level).	Modelling approaches would build on work by Friel et al. <sup>17</sup> (A related intervention on an excise tax on saturated fat is discussed below).
6) Expanding / reducing the use of statins (for different levels of CVD risk)*	We would consult Pharmac regarding the priority statins to consider closer to the time and the changes to coverage levels.	Comparability with Australian work <sup>1</sup> would be a goal. We will take into account the range of drug and non-drug interventions that impinge on both blood pressure and cholesterol (see also the previous table).
7) The use of statins and ezetimibe (for different levels of CVD risk)*	As per ACE-Prevention (Australia) work. <sup>1</sup>	–
<b>Intervention used already in other OECD jurisdictions</b>		
8) Ban on trans fatty acids in processed foods	This intervention would involve introducing a ban on trans fats (as per the law in North American jurisdictions). It would impact on dietary intake of both trans fats and saturated fats. The current levels of trans fats in NZ foods would need to be reviewed (NZ has historically had relatively low levels).	This intervention is already in place in some European & North American jurisdictions. <sup>59 60</sup> There is systematic review evidence concerning the harm of trans fats. <sup>61</sup>
9) Traffic light system for food labelling	Requirement to enhance consumer choice by having an easy-to-understand graphic labelling system on the front of food packaging (that encompasses a warning of foods high in saturated and trans fats).	Given UK developments (see the previous table) the current food labelling systems in NZ are probably suboptimal and there is scope for improvements (see various work <sup>48 62</sup> ).
<b>Interventions not yet used in any OECD jurisdictions</b>		
10) Excise taxes (variable levels) on high fat/high sugar/high sodium processed foods	This intervention (at 10% and in line with inflation) was considered cost saving in ACE-Prevention (Australia) work. <sup>1</sup>	In 2010 Denmark added taxes to certain such foods <sup>53</sup> and such taxes are being considered in Taiwan (according to 2010 media reports). There would need to be exemptions for foods with healthy fatty acid profiles (eg, olive oil, nuts, fish etc).
11) Excise taxes (variable levels) on just saturated fat levels	The modelling work would identify the differences between a more general tax (as above) and one more specifically on saturated fat.	As above.
12) Mass promotion of the use of margarines with phytosterols	Mass media campaign by the health sector to promote such margarines over alternative spreads. (Possibly in conjunction with manufacturers of such products).	There is high quality evidence that plant sterols and stanols are potent hypocholesterolaemic agents. <sup>46</sup> There are also lipid profile benefits for those who are already on statins. <sup>46</sup>
13) Requirements for minimal levels of	Requiring all margarines to achieve at least the level of phytosterols	See above.



Specific intervention	Further details on the intervention	Comment
phytosterols in margarines	(8%) used in some current NZ margarine brands.	
14) Subsidies for margarines with phytosterols via prescription (differing levels of CVD risk)	The subsidy level would make the product 20% cheaper than butter. A range of health workers could provide the prescription.	See above.
15) <b>Māori focus:</b> Vouchers for subsidised fruit and vegetables	Providing vouchers on smart cards for low-income Māori who are welfare recipients (eg, 25%, 50% reduced cost).	A variant of this approach would be where the vouchers only apply to locally-produced food (hence potentially providing employment for food produces in local Māori communities).
16) Introduction of the polypill** for different levels of CVD risk*	Estimated levels of effectiveness would come from recent work. <sup>57</sup> Found to often be cost saving in ACE-Prevention (Australia) work. <sup>1</sup>	Access to this medicine would provide improved consumer choice options. See also the notes in the previous table.
27) <b>Māori focus:</b> Introduction of polypill**	The focus would be to consider ethnicity (in addition to CVD risk and age)	As above.

**Notes:**

\* Different levels of risk for cardiovascular disease events (CVD) for absolute 5 year risk at: “>5%”, “>10%”, and “>15%” (with cardiovascular events being stroke, heart attack or serious angina).<sup>1</sup>

\*\* As per ACE-Prevention (Australia) work, the polypill would be a combination of three generic blood pressure lowering drugs (a diuretic, a calcium channel blocker and an ACE (angiotensin-converting enzyme) inhibitor) – at half strength and a statin in a single pill.<sup>1</sup>

Ezetimibe - a drug that lowers cholesterol which is currently on the NZ market.

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