

## Commentary on ‘The impact of a cardiovascular risk awareness campaign on statin prescribing – good news / bad news’

Statins are an important part of the treatment of cardiovascular risk<sup>1</sup> – alongside diet, other lifestyle factors, and other preventive treatments. Two of PHARMAC’s legislated functions are to promote the responsible use of pharmaceuticals and to engage in research to meet its objectives.<sup>2</sup> Whilst PHARMAC had removed Special Authority eligibility requirements for simvastatin in April 2002, it was concerned about ongoing non uptake of statins amongst eligible patients<sup>3</sup> and in particular Maori and Pacific populations;<sup>4</sup> hence the cardiovascular risk awareness campaign.

We agree that the awareness campaign approach as piloted needs refining, to focus on targeting high risk groups more effectively.<sup>5</sup> Social marketing alone appears ineffective in itself, and we believe that the social marketing component must be embedded into and by communities, as a necessary part but in combination with other wider activities also shown to be effective (for example work by the Cochrane Effective Practice and Organisation of Care Group at <http://www.update-software.com/abstracts/EPOCAbstractIndex.htm>).

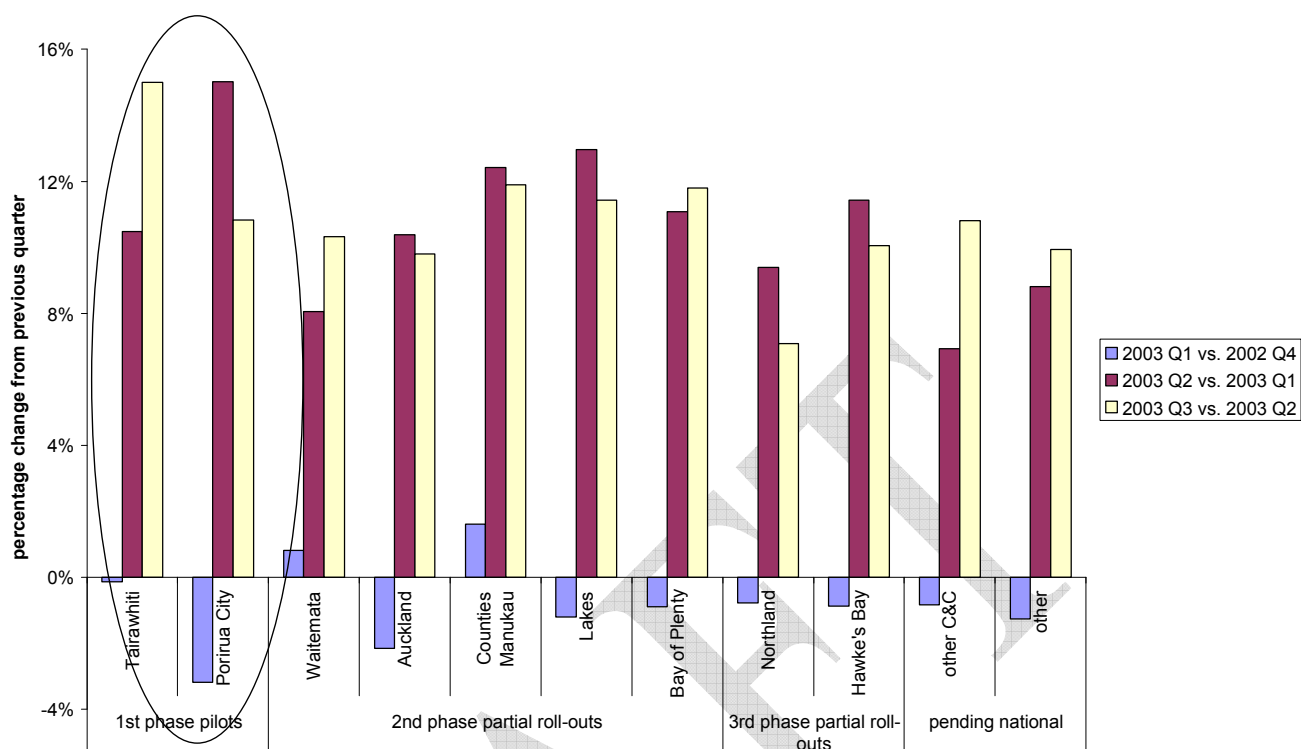
Further details on methods and results of the evaluation can be found in the formal report to PHARMAC on the CBG and PHARMAC websites at [www.cbg.co.nz](http://www.cbg.co.nz) and at [www.pharmac.govt.nz](http://www.pharmac.govt.nz)

PHARMAC based its decision to use a mass media approach directed at consumers to raise awareness. This was on the premise that traditional communication methods had failed to ensure that enough patients with a high cardiovascular risk receive therapy with statins, especially Maori and Pacific. The competing effects of other possible contributing factors on end statin dispensing were not examined, such as: patients’ perceptions and beliefs around the use of preventive medication in general; patients’ perceptions generically about, comfort with, access to and affordability of primary health care services; prescriber awareness and behaviour and other primary health care organisational features; socioenvironmental factors; the effects of community cohesion and impacts on health promotion; access to and comfort with pharmacies; and the financial impacts of part charges. The mass media approach did have qualified support from a Cochrane review last updated in 2001 of the effects of mass media interventions on the utilisation of health services,<sup>6</sup> but the review implied that mass media should be an adjunct to other interventions – not as a stand-alone programme.<sup>7</sup>

The lack of an increase in patient numbers in the evaluation’s intervention sites (when compared with control sites) did differ from more aggregated NZHIS Pharmhouse national dispensing data. Pharmhouse data indicate that the number of prescriptions for statins in both Porirua City and Gisborne for March 2003 to September 2003 increased by higher percentage than for the total New Zealand population, 27% versus 21%, and for comparable areas (see figure 1). In addition, these national data probably underestimate the extent of true increase in statin prescribing in Porirua associated with the pilot programmes, in comparison with background increases occurring elsewhere, because Porirua City includes areas not exposed to the pilots.<sup>8</sup>

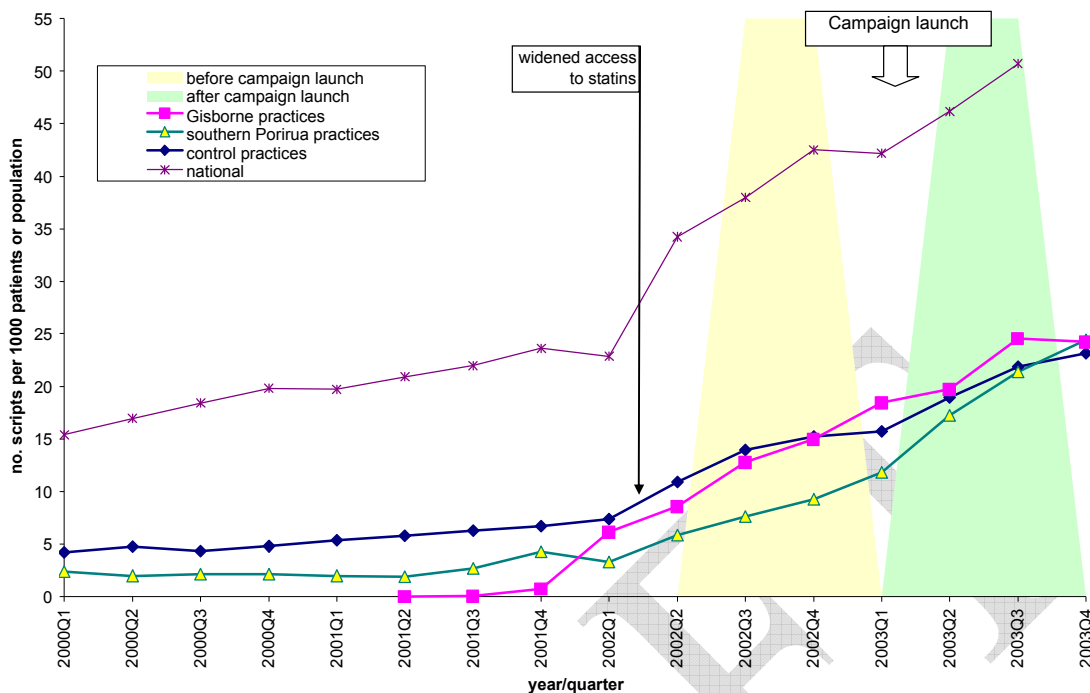
Figure 1. Change in volume of prescriptions for statins from previous quarter

Change in statin prescription numbers, 2003, by quarter



In the evaluation, both intervention and control sites had low statin prescribing rates than nationally (figure 2). The prescribing increase in Gisborne appears to have happened at a later stage than for Porirua. For most populations (total NZ, Gisborne practices, control practices in the evaluation), most of the increase in statin prescribing occurred well before the campaign, relating rather to the April 2002 widening of access to statins with the relaxing of Special Authority criteria. However, statin prescribing in southern Porirua had not had such growth following widened access, and instead was subject to catch up after the start of the pilot campaign.

Figure 2. Comparison of study sites with national data



PHARMAC also commissioned some before/after population telephone surveys of men aged 45+ in Porirua and Gisborne. Results suggested raised awareness of CVD was a significant issue for the target group, but this did not translate to them reporting increased visits to the doctor. There was also an independent survey of public knowledge and attitudes undertaken by 5<sup>th</sup> year medical students in Porirua (Peter Crampton, personal communication). No similar before-and-after survey data were available for prescribers in either of the two intervention areas – where for instance the use of absolute CVD risk calculation still appears to be low amongst prescribers in New Zealand [insert reference from PREDICT data indicating rates were initially 4% and increased to reach 8% following attempts to implement PREDICT software by ProCare practices]

The evaluation's finding of a reduction in proportions of patients with symptomatic CVD and in mean 5-year cardiovascular risk is concerning – suggesting again the need for a more targeted approach. PHARMAC analysis of HBL (now HealthPAC) statin Special Authority approvals data at March 2000 indicates that 79% of statin users were certified by prescribers as having established CVD.<sup>9</sup> By contrast, the evaluation sampling of practices during 2002-03 showed 44% of new users had symptomatic CVD – which we estimate equates to maybe 62% of all statin patients (new and existing).<sup>10</sup>

Applying the above figures to total numbers of patients using statins for New Zealand does suggest that statin uptake has increased appreciably for high risk groups.<sup>11</sup>

This is not the first time that health promotion programmes for cardiovascular health have not been demonstrated to achieve the success desired. We are not aware of similar published evaluated programmes in New Zealand (we would welcome information counter to this), and know of one programme in Australia (which did not look at statin uptake).<sup>12</sup> However, the experience in New Zealand here appears to have similarities with that of the Heartbeat Wales programme<sup>13</sup>, with little change between intervention and control areas; contamination in control groups was cited as a possible cause.<sup>14</sup> A Cochrane review updated in 2006 has shown marginal effects from many multiple risk factor cardiovascular health promotion programmes.<sup>15</sup>

Partly as a result of the preliminary findings of the evaluation, a wider-ranging partial roll-out targeted at high need regions occurred in August 2004. This involved a combination of social marketing through mass media with community-level initiatives emphasising community development and other aspects of health promotion.<sup>16</sup> Each of the PHO / community based projects includes an evaluation component; none of the work has yet been evaluated.

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**Conflict of interest:** Scott Metcalfe is externally contracted to work with PHARMAC for public health advice; he had no involvement in the design or implementation of the pilot programme. CBG Health Research Limited (Barry Gribben) conducted the evaluation, which was funded by PHARMAC.

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## References/Endnotes

<sup>1</sup> Baigent C, on behalf of the Cholesterol Treatment Trialists' (CTT) Collaborators. Efficacy and safety of cholesterol-lowering treatment: prospective meta-analysis of data from 90,056 participants in 14 randomised trials of statins. *The Lancet* Early Online Publication, 27 September 2005 DOI:10.1016/S0140-6736(05)67394-1. <http://www.thelancet.com/journals/lancet/article/PIIS0140673605673941/>

<sup>2</sup> New Zealand Public Health and Disability Act 2000, Section 48(d) and (c) Functions of Pharmac. <http://www.legislation.govt.nz/>

<sup>3</sup> Metcalfe S, Moodie P. (2002) More about cardiovascular disease and lipid management in New Zealand. *N Z Med J* 116(1185):U662;115:U203

<sup>4</sup> Moodie P, Metcalfe S, McNee W. (2003) Response from PHARMAC: difficult choices. *N Z Med J* 116(1185):U662;116:U361

<sup>5</sup> Gribben B, Jackson R, Arroll B, Metcalfe S, Goodyear-Smith F. Cardiovascular risk awareness campaign: good news / bad news. *NZ Med J* 2005;

<sup>6</sup> Grilli R, Ramsay C, Minozzi S. Mass media interventions: effects on health services utilisation. *The Cochrane Database of Systematic Reviews* 2002, Issue 1. Art. No.: CD000389. DOI: 10.1002/14651858.CD000389

<sup>7</sup> The Cochrane review stated that despite the limited information about key aspects of mass media interventions and the poor quality of the available primary research, there is evidence that these channels of communication may have an important role in influencing the use of health care interventions. The review also suggested that although its findings may have been affected by publication bias, those engaged in promoting better uptake of research information in clinical practice should consider mass media as one of the tools that may encourage the use of effective services....

<sup>8</sup> Porirua City includes (higher income) Whitby and other areas northwards, not specifically targeted in the pilot ("southern Porirua" being the community of interest). These other areas account for 39% of Porirua City's population. Southern Porirua comprises Titahi Bay North/South, Onepoto, Elsdon-Takapuwahia, Porirua City/Central/East, Ranui Heights, Cannons Creek North/South/East, Waitangirua, and Ascot Park census area units (28,803 population at 2001 census). Arguably, given that data for Porirua City are contaminated by populations not exposed to the pilots, the true increase for southern Porirua might be as high as 32% – over half again as large as the increase nationally. Note, however, that this heightened increase in southern Porirua was in the context of it having lower statin usage rates to begin with (and hence greatest potential for increase) – for the first quarter of 2002, Gisborne District alone had uptake rates 75% of national, Porirua City alone had 63%, and southern Porirua practices measured in the evaluation had uptake rates just 17% of national.

<sup>9</sup> statin Special Authority approvals to March 2000 (where NHF group status known)

NHF group	no.	%
A1.1-2	41,486	75.4%
A1.3-4	2,384	4.3%
A2	6,683	12.2%
A3	900	1.6%

B	1,168	2.1%
C	787	1.4%
D	820	1.5%
E	748	1.4%
H (heart transplants)	28	0.1%
total	55,004	100.0%
established cardiovascular disease (CVD) (NHF groups A1, H)	43,898	79%
non-CVD, 20+% 5-year CVD risk (NHF groups A2, A3, B)	8,751	16%
non-CVD, <20% 5-year CVD risk (NHF groups C-E)	2,855	5%
total	55,504	100%

<sup>10</sup> Data from the evaluation and national Special Authority data for statins are not directly comparable because different populations (intervention and control practices using MT32 vs. all NZ) and different data collection methods (case note review vs. not Special Authority approvals).

<sup>11</sup> There were 43,900 patients with established CVD treated with statins in March 2000 (which was 79% of all 55,500 statin users<sup>9</sup>), which increased to 117,400 symptomatic CVD patients by October 2003 (178,300 x 66% estimate). In other words, gains in numbers of patients have been substantial (maybe 3.5 times as many users in October 2003 than early 2000), including but less marked for those patients in most need – that is, with symptomatic CVD. We estimate there would have been 131,300 patients at the time with established CHD (and total cholesterol >5.5) and another 24,000 patients with stroke or claudication (without concurrent established CHD) with total cholesterol >6; hence we estimate that the uptake of statins amongst patients with established cardiovascular disease likely to benefit from these agents had improved to maybe 76% (est 117400/(131300+24000)).

<sup>12</sup> McDermott R, Rowley KG, Lee AJ, Knight S, O'Dea K. Increase in prevalence of obesity and diabetes and decrease in plasma cholesterol in a central Australian aboriginal community. *Med J Aust.* 2000 May 15;172(10):480-4. [http://www.mja.com.au/public/issues/172\\_10\\_150500/mcdermott/mcdermott.html](http://www.mja.com.au/public/issues/172_10_150500/mcdermott/mcdermott.html)

<sup>13</sup> Tudor-Smith C, Nutbeam D, Moore L, Catford J. Effects of the Heartbeat Wales programme over five years on behavioural risks for cardiovascular disease: quasi-experimental comparison of results from Wales and a matched reference area. *BMJ* 1998; 316: 818-822. <http://bmj.bmjournals.com/cgi/content/full/316/7134/818>

<sup>14</sup> Ebrahim S, Smith GD. Effects of the Heartbeat Wales programme. Effects of government policies on health behaviour must be studied. *BMJ.* 1998 Sep 26;317(7162):886. <http://bmj.bmjournals.com/cgi/content/full/317/7162/886>

<sup>15</sup> Ebrahim S, Beswick A, Burke M, Davey Smith G. Multiple risk factor interventions for primary prevention of coronary heart disease. *Cochrane Database of Systematic Reviews* 2006, Issue 4. Art. No.: CD001561. DOI: 10.1002/14651858.CD001561.pub2. <http://mrw.interscience.wiley.com/cochrane/clsysrev/articles/CD001561/frame.html>

<sup>16</sup> The partial roll-out targeted at all men aged 35+ years in Auckland, Bay of Plenty, the central North Island, Porirua, and Northland (media and radio coverage only). The mass media component was completed in October 2004, and the campaign has been extended into 2005 to various locations in response to the engagement with PHOs and Maori and Pacific providers and church groups in the target areas. Mass media has included Maori and Pacific radio advertisements, panel discussions and talk back shows. Health promotion tools were developed through community engagement by a PHARMAC-appointed Maori community coordinator and a Pacific community coordinator. Support of cultural experts has tried to ensure that culturally credible and culturally valid resources were produced. The community development approach engaged with a wide range of community organisation through expert advisors and to build on and contribute to existing community activities. Networks have been established with health providers such as Primary Health Organisations, Maori health providers, Pacific health providers and groups such as Te Hotu Manawa Maori and the National Heart Foundation.

#### **Extra background material:**

PHARMAC staff have completed the cardiovascular campaign community consultation with key stakeholders in each of the target regions. In each of the regions the stakeholders have identified specific projects and we have agreed to contract small, defined and discrete projects that are time bound and relate to activity, nutrition and smoking cessation type projects. The process used is a community development approach in which PHARMAC staff met with individual providers and then brought them together with other agencies (such as SPARC, DHB's, Māori and Pacific providers and Regional Public Health) to fine-tune the ideas into actual projects.

The following outcomes are sought from the community projects;

- an increase in Green Prescriptions for the target group (Māori and Pacific men aged 35+);

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- an increase in statins prescribing, uptake and knowledge of use;
  - increased awareness of cardiovascular risk and behavioural change;
  - relationships with key stakeholders and communities;
  - increased number of men having CV risk assessment; and
  - participation in activities by men and their family / whanau / aiga.

PHARMAC will develop these projects in each of the target regions, Auckland, Bay of Plenty, Central North Island and Porirua. In addition we achieved national coverage with the Māori and Pacific radio campaigns.

The Porirua projects will be delivered through three organisations, PHARMAC staff have worked closely with SPARC staff on this project and they have agreed to contribute funding to support these projects. PHARMAC staff have met with Capital & Coast DHB staff to brief them on the projects, gain their support and explore options for further collaboration projects.

**Porirua Plus Primary Health Organisation** – members are, Porirua Union Health service, Maraeroa marae Māori health provider, Pacific health Porirua and Ora Toa (Ngati Toa Māori health provider). This PHARMAC supported project is a six-month cardiovascular risk assessment for 60% (of a total 1580) of the men in the target group (Māori and Pacific aged 35+). The PHARMAC project supports each of the organisations to identify the target group and to facilitate access to cardiovascular risk assessments. This will be done through direct kanohi ki te kanohi (face to face) engagement with the target group in the home setting as well as sports clubs and places of employment.

**Tumai mo te Iwi Primary Health Organisation** – members are ten general practices (31 GPs members of WIPA, Te Roopu Awhina ki Porirua Māori health provider, Vai Ola – Taeaomanino Trust Pacific provider and Porirua Healthlinks.

This PHARMAC supported project is an eight-week intensive clinically monitored health promotion and education programme with nutrition and activity programme for 50 participants.

**Congregational Church of Samoa** – members are approximately 700 people

This PHARMAC supported project is a fourteen-week physical and nutrition project for 50 participants with health education and promotion components.

In Central North Island and Bay of Plenty PHARMAC will support a range of wellness hui and fono (meetings), the focus will be on health education / promotion and awareness raising and behavioural change.

In addition PHARMAC staff have visited regional prisons in the Central North Island region to meet with staff and inmates to provide information as well as resources on the cardiovascular campaign.

In Auckland PHARMAC staff are working with Waitemata DHB staff and Health West PHO staff to facilitate a key stakeholder meeting. The result of this meeting will be another set of community projects similar to the Porirua projects supported by PHARMAC