Letter to the Editors

Statins down under

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Use of statins in Australia is markedly higher than in Europe [1], although overall expenditure on cardiovascular drugs is less than that of many European countries [2]. A high rate of statin use is consistent with extensive trial evidence suggesting that the statins produce significant health gains. However, in practice, achieving those gains will require doctors to prescribe appropriately, eligible patients to receive treatment and patients to persist with treatment.

In order to make international comparisons, we applied the standard international method for estimating drug use across populations, the defined daily dose (DDD), to national data on community statins dispensed, from 1990, when they were first introduced in Australia, to the end of 2004. The DDD is the assumed average maintenance dose for a drug for its main indication [3].

We do not know if Australians enjoy better health outcomes as a result of their high statin use. For example, we lack Australian studies to compare with the work of Unal & colleagues who estimated that statins contributed 6.5% to reduced coronary heart disease mortality in England and Wales from 1981 and 2000 [4]. In 2000, Australia's use of statins was three times higher than that given by Walley & colleagues [1] for England (79.5 vs. 23.9 DDDs/1000/day). Higher use of statins in Australia might be reflected in a greater contribution of statins to reductions in mortality, although this could be modified by differences in prescribing practices, patients' persistence with treatment and the effect of dietary and other factors.

In 2003, Australian use of statins was 25% greater than the highest rates across EU countries, and in 2000

it was 40% higher [1]. Even before the marked increase in statin utilization rate in 1997/1998, which corresponded to the introduction of atorvastatin to the Australian Pharmaceutical Benefits Scheme, Australia had higher statin utilization than Finland, Italy, Norway and Sweden [5]. From 1991 to 1997, Australian utilization increased from 5.2 to 25.3 DDDs/1000/year representing a mean annual increase of 3.6 DDDs/1000/year. From 1998 to 2004, the increase was from 39.1 to 162.1 DDDs/1000/year, a mean annual increase of 19.5 DDDs/1000/year (Figure 1).

The DDD has not altered since statins were introduced. Thus if, for example, some patients were prescribed twice the DDD, utilization rates would double even though no more people were taking statins. Walley & colleagues observed that apparent variation between countries might in part be explained by the rise in relative use of more potent statins, particularly atorvastatin [1]. Using commercial data sources they calculated that on average two thirds of the DDD increase in statin use, related to increases in prescribed daily dose (PDDs).

In Australia there was a trend to greater strength tablets for all statins. Atorvastatin 40 mg experienced a six-fold market share increase (2–12%) from 2001 to 2004, while simvastatin 40 mg almost tripled its market share (5–14%). Over the same period, atorvastatin 10 mg market share fell from 17% to 13%, although the absolute number of prescriptions dispensed remained steady, while simvastatin 10 mg fell fourfold (26% to 6%) although the absolute number of prescriptions fell only twofold. In 2004, atorvastatin 20 mg had the highest market share (18.5%) overtaking simvastatin 20 mg in 2002 (data available on request).

An objective assessment of the outcomes from the use of greater strength tablets in the population is overdue, especially in view of the IDEAL trial in which patients randomized post-myocardial infarction to atorvastatin 80 mg day⁻¹ did not achieve a significant reduction in major coronary events compared with those taking simvastatin 20 mg day⁻¹ [6].

Figure 1

Australian community utilization of individual statins and all statins combined, DDDs/1000 population/day, yearly from 1990 to 2004. Source: DUSC database, August 2005

The Australian health care system provides universal cover for pharmaceuticals listed on the Pharmaceutical Benefits Scheme (PBS), so statins have been widely available. However, we need person-level linked data to explore fully the distribution of statin use and associated cardiovascular outcomes in Australia. These data are collected nationally but studies linking drug use prescription data to health data require ethical clearance before data custodians can release data. It is difficult to study demographic patterns of use as this requires linkage of databases: one utilization study for 7 months of 2002 has been conducted, showing differential statin utilization across age, sex and socioeconomic groups [7].

The marked increase in statin use in Australia over the past decade raises the question: how much higher are they likely to rise? Currently, the PBS listing for all statins restricts doctors to prescribing them according to cholesterol or triglyceride concentrations which differ for different patient categories. If PBS restrictions for

statins were expanded to accord with clinical evidence supporting absolute risk as the basis for prescribing [8], further increases in statin utilization could reasonably be expected.

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