

Statins for all by the age of 50 years?



In *The Lancet*, the Cholesterol Treatment Trialists' (CTT) Collaborators report a relative risk reduction on statins of about 20% (RR 0·79, 95% CI 0·77–0·81) for major vascular events per 1 mmol/L reduction in LDL cholesterol across different levels of cardiovascular risk.¹ Men and women, old and young, and people with and without cardiovascular disease all benefit. These findings confirm the efficacy of statins for primary prevention, resolving concerns about possible serious adverse effects and potential sources of bias in randomised trials.² The report extends findings to lower levels of cardiovascular disease risk than is recommended by existing guidelines in the USA, Europe, and the UK, and shows that benefits of statins outweigh any conceivable serious adverse effects. The study raises questions for clinical practice. Are the opportunity costs in primary care acceptable? Can LDL cholesterol reductions of 1 mmol/L be sustained in routine primary care? Are statins cost effective for patients at low cardiovascular disease risk?

Physicians find it helpful to consider benefit and clinical effort needed in terms of the numbers needed to treat for 5 years. The CTT analysis predicts that six and 15 major vascular events would be avoided per 1000 people treated for 5 years in the two lowest baseline risk categories, respectively, giving numbers needed to treat of 167 and 67. These figures look encouraging and are similar to those for treatment of mild hypertension,³ which is widely accepted as a primary care task. However, half of men older than 50 years and 30% of women older than 60 years have a 10-year risk of cardiovascular disease equal to or higher than 20% in England, the present threshold for treatment.⁴ Adoption of a lower, 10% or more, threshold would classify 83% of men older than 50 years and 56% of women older than 60 years as needing a statin (Health Survey for England, 2003;⁵ Reecha Sofat, personal communication). Currently, UK primary care struggles to treat patients with prevalent cardiovascular disease,⁶ or to use high-dose statins after acute coronary syndromes.⁷

In primary care, long-term reductions of the order of 1 mmol/L LDL cholesterol might be difficult to achieve. 2-year adherence rates to statins in people without evidence of cardiovascular disease might be as low as 25%,⁸ and use of lower than optimum doses of statins seems to be resistant to an audit-education intervention

for doctors.⁶ The CTT analyses provide reassurance for general practitioners to prescribe higher doses of statins to achieve greater benefit, and dissipate uncertainty about any potential serious adverse risks of statins, which might account for prescription of lower than optimum doses.

Low-cost generic statins are now widely available (figure) and cost-effectiveness studies show that statins are cost-saving in the USA, even in people at low predicted risk of coronary heart disease. To gain maximum effect from use of statins, 64 million people in the USA (just under half of the population older than 35 years) would need to be put on treatment at a cost of US\$2800 per QALY gained.⁸ These cost-effectiveness estimates are likely to be better for more potent statins and in lower cost health services.

Translation of the CTT findings into practice will necessitate more affordable ways to identify individuals for treatment and keep them on optimum regimens. Because most people older than 50 years are likely to be at greater than 10% 10-year risk of cardiovascular disease, it would be more pragmatic to use age as the only indicator for statin prescription, as was originally proposed for the polypill.¹⁰ This approach would avoid the costs, ranging from £7 to more than £700 per patient screened, of vascular screening checks recently implemented in the UK.¹¹ In low-income and middle-income countries, as they rapidly go through epidemiological transition, efforts to detect risk factors for cardiovascular disease using similar medical models are increasing, resulting in the same issues of volume of work and costs involved. In Latin America, 61%

Published Online
May 17, 2012
DOI:10.1016/S0140-6736(12)60694-1

See Online/Articles
DOI:10.1016/S0140-6736(12)60367-5

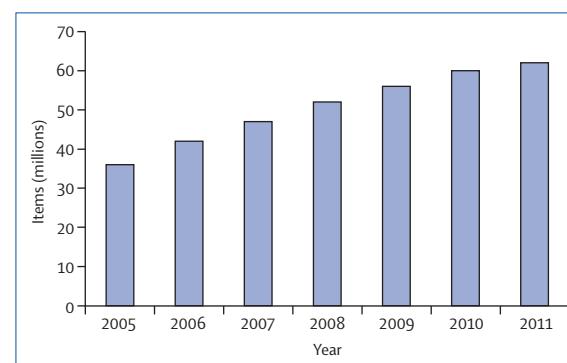


Figure: Lipid-lowering drugs prescribed in England
Prescription cost analysis, 2005–11.⁹

of men older than 55 years and 65% of women older than 60 years have a 10-year Framingham risk score for cardiovascular disease equal to or higher than 10% (Bautista L, personal communication).

An additional challenge is that identification of a new and larger proportion of the population for statin treatment could shift attention from existing high-risk groups (particularly those with established cardiovascular disease) that benefit most, in absolute terms, from statins, and in whom underuse of statins is still far too common.¹²

So should the UK National Institute for Health and Clinical Excellence (NICE) reconvene its guidelines development group urgently in view of these new findings? NICE guidance on statins was reissued in 2010 and is reconsidered every 2 years, so incorporation of these findings would fit neatly.¹³ Whether populations will be well served by present pharmacologically dominated research findings for lifestyle-related diseases is debatable. A change in the edible oil import policy from palm to soya oil rewarded the people of the small island of Mauritius with a 0·8 mmol/L reduction in total cholesterol at no cost and without the need to medicate the whole population with statins.¹⁴ But political will is needed to include health as well as fiscal outcomes in strategic decision making—something that does not seem to be on the agendas of richer countries or multinational corporations.¹⁵

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We declare that we have no conflicts of interest.

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