

does not yet recognise virtue in farsightedness. NHS targets are geared towards improving clinical performance and cutting waiting times. No one gets fired for failing to reduce the carbon footprint of a hospital or clinic.

And so, in the name of health care, gargantuan sums of public money continue to be spent in ways that are careless of the physical and mental wellbeing of future generations. A longer term perspective suggests that this makes poor sense, not only for population health, but also for the business of running a national health service.

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Switching statins

Using generic simvastatin as first line could save £2bn over five years in England

Statins are one of the great success stories of preventive medicine. Extensive evidence, excellent safety, and high efficacy have resulted in an exponential rise in prescriptions for statins, currently increasing at 30% a year in England. Statins represent the largest drug cost to the NHS (£738 million (€1.1bn; \$1.4bn) in 2004).¹

Around 85% of all statin prescriptions in England are for simvastatin and atorvastatin, in roughly equal proportions, usually at moderate or low doses (98% of simvastatin is prescribed at ≤40 mg, 85% of atorvastatin at ≤20 mg). In May 2003 the UK simvastatin patent expired and the cost reduced eightfold for the 40 mg dose and 20-fold for the 20 mg dose. The maximum price of simvastatin 40 mg is now up to six times cheaper than atorvastatin (£3.89, £18.03, and £24.64 respectively for simvastatin 40 mg, atorvastatin 10 mg and 20 mg),² and simvastatin 40 mg can cost less than £1 per patient per month when purchased in bulk by hospitals. This price fall alone will save the NHS £1bn over the next five years. Atorvastatin remains on patent until 2011.

Guidelines this year from the National Institute for Health and Clinical Excellence (NICE) recommend statins for people with a cardiovascular disease risk of ≥20% over 10 years.³ This increases the number of people considered to need statins in England by 3.4 million to 5.2 million (14% of the adult population). If, as NICE estimates, half will be prescribed statins,⁴ 26 000 cardiovascular events a year will be prevented.

However, this will cost an extra £250m per year if prescribing patterns noted in 2004 continue (atorvastatin comprised 40% of all statins prescribed, simvastatin 45%, fluvastatin 2%, pravastatin 8%, and rosuvastatin 3%). If generic simvastatin was universally prescribed, as NICE proposes (in spreadsheet TA094 of the guidelines), costs would fall by £185m a year. Is there any justification to continue to prescribe atorvastatin 10 mg or 20 mg?

Strong clinical evidence for the effectiveness of atorvastatin 10 mg in patients with hypertension and diabetes comes from the ASCOT-LLA (Anglo-Scandinavian cardiac outcomes trial-lipid lowering arm)^{w1} and CARDS (collaborative atorvastatin diabetes study)^{w2} studies and for simvastatin 40 mg in patients with increased cardiovascular risk and after myocardial infarction from the HPS (heart protection study)^{w3} and 4S (Scandinavian simvastatin survival study)^{w4} studies. A head to head

comparison of atorvastatin and simvastatin, although underpowered, showed no difference between the drugs.⁵ No trial directly supports the effectiveness of atorvastatin 20 mg: the only study, which was conducted with diabetic patients receiving haemodialysis, did not find any benefit.⁶ Our own meta-analysis of clinical trials using simvastatin 40 mg and atorvastatin 10 mg showed no significant differences in mortality, death from coronary heart disease, or stroke.⁷

Dose for dose, atorvastatin is more potent than simvastatin at blocking the target enzyme, HMGCoA; this effect is overcome by using a higher dose of simvastatin. In controlled dosing studies, simvastatin 40 mg and atorvastatin 10 mg and 20 mg are equally effective.⁸⁻⁹ Simvastatin 40 mg lowers plasma concentrations of low density lipoprotein (LDL) cholesterol by 3% more than atorvastatin 10 mg and 4% less than atorvastatin 20 mg. Simvastatin 40 mg raises high density lipoprotein (HDL) cholesterol 0.8% more than atorvastatin 10 mg and 1.5% more than atorvastatin 20 mg. Epidemiological studies indicate that these beneficial effects on HDL cholesterol may be as important as those on LDL cholesterol.

Atorvastatin and simvastatin are safe at these doses.¹⁰ They are both metabolised the same way (by the cytochrome P450 mixed function oxidase system CYP3A4) and have the potential for the same drug interactions. Numerous studies show that tolerability, compliance, and the incidence of adverse events are the same.

For every new patient treated with simvastatin 40 mg rather than atorvastatin 10 mg or 20 mg the NHS saves £921-£1352 over five years—which means that 5-6 times as many people in primary care or 18-24 times as many people in hospital could be treated for the same cost. The only important difference between atorvastatin 10 mg and 20 mg and simvastatin 40 mg is cost. Changing the million patients who currently take atorvastatin 10 mg or 20 mg to simvastatin 40 mg should have no effect on health but would save £1.1bn over five years, and using simvastatin for the 1.6 million new prescriptions required to comply with the new NICE guidelines would save a further £950m over five years: a total saving of £2bn.

References w1-w4 are on bmj.com



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At University College London Hospitals NHS Foundation Trust, the use of medicines committee has endorsed a policy of switching from atorvastatin 10 mg and 20 mg (no longer stocked) under new statin guidelines.⁷ The first line statin is simvastatin 40 mg, which is substituted when a newly admitted patient has been taking atorvastatin 10 mg or 20 mg. If simvastatin is not tolerated or considered inappropriate, the alternative is pravastatin 40 mg, another cheap generic statin. This simple change will save the hospital trust £80 000 a year.

However, most statins are prescribed in primary care. In at least three London primary care trusts partnerships with local general practitioners and systematic switching programmes are in place to realise large scale savings. These important local initiatives need to be replicated nationally to realise the full economic benefits of generic simvastatin, as has happened in some European countries, most notably Germany.

It is time for the United Kingdom to implement therapeutic substitution of simvastatin 40 mg nationally by switching patients currently taking atorvastatin 10 mg and 20 mg, and prescribing generic simvastatin for new patients needing primary prevention of coronary heart disease. This policy would save £2bn, increase value for money, and release much needed resources to other areas of the NHS.

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The great medicines scandal

New initiatives offer hope that global inequity in access to medicines will be reduced

Sick people in poor countries are deeply disadvantaged. The millions who have “neglected” tropical diseases lack safe and effective drugs.¹ Those afflicted with “Western” diseases (and 80% of the 35 million annual deaths from chronic diseases occur in low and middle income countries²) can ill afford treatment, a new report states.³

The failure of pharmaceutical companies to invest in research and development of medicines for neglected diseases is long standing. A recent analysis shows that only 21 of the 1556 new chemical entities marketed between 1975 and 2004 were targeted at African trypanosomiasis, leishmaniasis, helminthic infections, schistosomiasis, onchocerciasis, Chagas’ disease, malaria, and tuberculosis.¹ Ten of the 21 drugs—including four of only five developed since 1999—were marketed for malaria and tuberculosis.

A different but no less bleak situation is exposed in a new report on medicines for chronic diseases.³ This presents data collected between 2001 and 2005 on the price, availability, and affordability (in both public and private sectors) of a core list of drugs used to treat diabetes, hypertension, asthma, epilepsy, and psychiatric disease in 30 low and medium income countries drawn from all six WHO regions.

Although the picture varies from country to country, common threads emerge. Governments are usually able to purchase drugs at prices close to their international reference price, but in many countries the availability of medicines in the public sector is extremely limited. In addition, the taxes and duties levied on medicines, and the mark-ups made by dispensing doctors and pharmacies, result in high—often prohibitively high—prices for patients. Availability is better in the private sector but prices range from three times to 100 times the international reference price.

The standardised methodology used in the surveys includes comparisons of the cost of a standard course of treatment in each country with the daily pay of the lowest paid unskilled government workers (see figure on bmj.com).⁴ The report’s findings make explicit what has long been recognised: that the cost of medical care impoverishes or is simply beyond the reach of many people in developing countries.⁵ Its recommendations thus are unsurprising. All countries, the report states, should measure and monitor the price, availability, and affordability of essential medicines and develop, implement, and enforce policies that lower costs and increase availability.

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