in better paediatric care, education, or social environment, which are more likely than in vitro fertilisation to maximise utility. When resources for health care are scarce we need to consider the opportunity costs of any investment. While infertility can cause psychological distress, a better use of resources may be to offer counselling to allow couples to accept their condition, or to attempt to alter the expectations of relatives and friends.

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Existing children are treated differently from embryos

EDITOR,—Tony Hope and colleagues rightly point out that the analogy drawn between assisted conception and adoption is false since in the case of adoption the child already exists.[1] They themselves, however, go on to draw a similar analogy when they quote society's reluctance to take children into care except under the most dire circumstances. But again, the child already exists. Does society usually consider that "the level of parenting would have to be very low for it to be preferable not to exist at all rather than exist as a child of those parents"[1] when it comes to the ethics of aborting potential children?

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Lowering patients' cholesterol

Excluding patients from trials increases uncertainty

EDITOR,—In their editorial Michael Oliver and colleagues rightly emphasise the important results of the Scandinavian simvastatin survival study,[1] which shows that overall mortality can be reduced by simvastatin in patients with existing coronary artery disease.[2] They do not, however, mention the problem of patients with heart failure, who were specifically excluded from the study, presumably on the premise that the mortality in such patients was likely to be determined more by their ventricular function than their serum lipid profile.

Coronary artery bypass grafting produces a similar relative reduction in mortality in patients with normal and abnormal ventricular function.[3] Since mortality is higher in those with impaired left ventricular function, the absolute benefit of revascularisation is higher in this group. By analogy, lipid lowering treatment may also confer greater absolute benefit on those with heart failure, making the exclusion of this group from the Scandinavian simvastatin survival study particularly unfortunate.

Thus, according to the principles of evidence based medicine, treatment to reduce mortality after myocardial infarction should be selected according to left ventricular function. If the ventricle is normal we should treat raised cholesterol concentrations with simvastatin. If it is impaired we should use an angiotensin converting enzyme inhibitor, but should we apply the study strictly and ignore the lipids?

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Few eligible patients currently receive treatment

EDITOR,—Michael Oliver and colleagues' editorial states that there is no longer any controversy over the treatment of patients with hypercholesterolaemia and coronary heart disease.[1] Since few published data exist on current practice with regard to treatment of hypercholesterolaemia in patients with coronary heart disease, we wish to report our findings derived from a computerised patient database and from health authorities' records.

After the benefits of lowering cholesterol concentrations had been proved convincingly we started a project to optimise the treatment of hypercholesterolaemia in patients with coronary heart disease at the health centre in Kuusankoski in southeastern Finland. The health centre is responsible for the primary care of 22 000 people. In the first phase of the project we analysed current practice. Our objective was to find out, firstly, how many patients visited a physician at the health centre during 1994 for suspected or diagnosed coronary heart disease; secondly, how many of these patients had their cholesterol concentration measured during 1994; and, thirdly, how many of these patients were receiving cholesterol lowering drugs at the end of 1994. The table shows the preliminary results.

In addition to showing gross undertreatment, the analysis showed insufficient measurement of the patients' cholesterol concentrations. Even though we suspected that the treatment might be inadequate, the true degree of undertreatment was disquietingly high. Unfortunately, we believe that the situation is no better in other municipal primary open care units in Finland.

Interestingly, the statistics of the Social Insurance Institution of Finland indicate that in Kuusankoski there are 621 patients who are entitled to preferential reimbursement for drugs used to treat coronary heart disease (including nitrates, β blockers, and calcium antagonists). The health centre's database on patients thus seems to provide a relatively comprehensive record of coronary heart disease in the municipality.

As the second phase of our project we have started a structured intervention to improve the inadequate treatment. We urge all primary care units and hospitals to do the same because treatment of hypercholesterolaemia in patients with coronary heart disease saves lives and reduces clinical events, revascularisation, and admission to hospital.[2]

Number of patients visiting physician at Kuusankoski Health Centre because of suspected or diagnosed coronary heart disease in 1994 and number (percentage) of these patients who had their cholesterol concentration measured in 1994 and who received cholesterol lowering drugs by end of 1994

	Total	Age (years)		
		<65	65-	≥75
Patients visiting physician	631	132	240	259
Cholesterol measured	147 (23·3)	68 (51·5)	60 (25·0)	19 (7·3)
Cholesterol lowering drugs prescribed	NA	13 (9·8)	NA	NA

NA=Not available as analysis not yet completed.

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Extrapolating results of trial of simvastatin gives room for doubt

EDITOR,—In their editorial Michael Oliver and colleagues clearly state the case for cholesterol lowering treatments in the secondary prevention of coronary heart disease.[1] From the information presented there indeed seems "little justification for inertia" or room for "controversy." Are there some important unanswered questions, not addressed in the editorial, that will inevitably lead to delay in the implementation of the research findings discussed?

Firstly, as a three to six month trial of diet is recommended, most patients requiring cholesterol lowering drugs after infarction will probably have the treatment initiated by their general practitioner. There is limited evidence on how results from randomised controlled trials in highly selected patients in secondary care translate to unselected patients in primary care.

Secondly, how well can the results of the Scandinavian simvastatin survival study be extrapolated to women? Although simvastatin reduced the risk of major coronary events in women, it failed to reduce mortality, the primary outcome measure. There was a 6% mortality in women taking placebo compared with a 7% mortality in those taking active treatment. The only definite conclusion from this has to be that the study lacked sufficient power to detect a significant difference in mortality in women.

Thirdly, about 40% of subjects were ineligible for inclusion in the Scandinavian simvastatin survival study because they had arrhythmias, heart failure, previous strokes, etc—all common accompaniments to established cardiovascular disease. Randomised controlled trials require a reasonably homogeneous population so that hypotheses can be adequately tested. How far can these results then be extrapolated to patients who would not have met the strict criteria for entry to the study? Do we need to validate the results of the controlled trials by studies of a heterogeneous unselected population in primary care or can we assume that it does not matter?

Finally, "number needed to treat" analysis is becoming increasingly popular. Ferner and Neill estimate that 162 patients need to be treated for one year at a cost of £60 500 for one life to be saved.[2] This analysis does not affect the optimum treatment recommended but is a factor that of necessity will determine the implementation of cholesterol lowering treatments into everyday practice.

The results of the trials discussed in the editorial