TABLE II—Mean weighted attributable risks* for mortality from coronary heart disease, total mortality, and non-infarct mortality in drug trials

	Coronary mortality		Non-fatal coronary disease		Non-infarct mortality		Total mortality	
	Attributable risk per 1000 annually (95% confidence interval)	p Value	Attributable risk per 1000 annually (95% confidence interval)	p Value	Attributable risk per 1000 annually (95% confidence interval)	p Value	Attributable risk per 1000 annually (95% confidence interval)	p Value
All	-0.72 (-2.09 to 0.77)	0.33	-1.56 (-2.57 to -0.46)	0.006	1.67 (1.24 to 2.14)	<0.001	1.30 (-0.45 to 3.16)	0.15
Primary prevention†	-0.44 (-0.86 to 0.11)	0.11	-1.91 (-2.36 to -1.44)	<0.001	0.96 (0.29 to 1.81)	0.003	0.53 (-0.28 to 1.49)	0.22
Secondary prevention‡	-0.68 (-3.31 to 2.18)	0.63	-0.60 (-2.51 to 1.54)	>0.5	2.11 (0.55 to 3.91)	0.006	1.74 (-1.52 to 5.27)	0.30

*Risk difference, calculated as (odds ratio-1)×(average control group incidence).

Average coronary mortality and non-fatal coronary disease in control groups: ‡2.24 and 7.91 per 1000 annually, †31.9 and 18.3 per 1000 annually.

occurs in both primary and secondary prevention trials that used drugs.

Table II shows that the (significant) increase in non-infarct mortality is considerably greater than the (non-significant) reduction in coronary mortality, be it in primary or secondary prevention trials. The excess number of non-infarct deaths is even greater than the number of non-fatal infarctions prevented, the balance being especially unfavourable in secondary prevention. Prevention of about two coronary events is at the cost of 1000 treatment years. Thus the treatment of patients with hypercholesterolaemia over five years will benefit only one in 100. Ninety nine patients, without the chance of benefiting from treatment, are exposed long term to potentially adverse effects of drugs.

Various hypotheses for possible adverse effects of cholesterol lowering treatment have been advanced, but none has found general acceptance. The fact that the excess of non-infarct deaths equals the number of non-fatal infarctions prevented and far exceeds the number of fatal infarctions, however, may be more important than the lack of an accepted explanation for this strikingly consistent phenomenon. Patients are more concerned with not dying than with whether medicine can explain the mechanism of their dying.

JOHANNES G SCHMIDT

CH-8840 Einsiedeln,
Switzerland

1 Ravnskov U. Cholesterol lowering trials in coronary heart disease: frequency of citation and outcome. *BMJ* 1992;305: 15-9. (4 July.)

Health checks for people over 75

EDITOR,—In his editorial on health checks for people over 75 Andrew Harris draws attention to the widespread misconception that the main objective of screening in elderly people is to identify previously unrecognised disease (although good clinical care remains the bedrock of this work). He draws attention to the need for programmes to focus more on functional disability.¹

Harris makes one serious omission. Though it is true that the outcomes in controlled trials have generally been inconsistent owing (probably) to the heterogeneous nature of these studies, they have been consistent in one respect. All five trials looking at this indicator have shown that screened populations of elderly people spend less time in institutional care than control groups,²⁻⁶ and in only one of these trials was the difference not significant.³ This benefit alone would make properly organised screening of older people worthwhile since most old people dread spending their last years in a home or hospital. Furthermore, care of frail, dependent old people in an institution is very expensive, which is why the government has privatised this sector of the NHS.

Harris's article was subtitled "The doubt persists." This is true, and consequently the Medical Research Council hopes to do a cost-benefit evaluation of screening of elderly people in 108 practices in Britain, starting next year.

Pending the results of this study, it is important for family doctors—who are often pessimistic about the value of screening elderly people—to recognise this established and important benefit which the editorial does not mention.

ALISTAIR TULLOCH

Unit of Health Care Epidemiology,
Department of Public Health and Primary Care,
University of Oxford,
Oxford OX3 7LF

- Harris A. Health checks for people over 75. *BMJ* 1992;305: 599-600. (12 September.)
- Tulloch AJ, Moore V. A randomised controlled trial of geriatric screening and surveillance in general practice. *J R Coll Gen Pract* 1979;29:335-59.
- Row OC, Bieren K, Bjørnsen LE. Eldreomsorgens nye giv-et. Eksperiment med styrket innsats i primærhelsetjenesten i Oslo. Oslo: Gruppe for Helsestetstetforskning, 1983. (Report No 6.)
- Hendriksen C, Lund E, Stromgard E. Consequences of assessment and intervention among elderly people: a three year randomised controlled trial. *BMJ* 1979;289:1522-4.
- Rubenstein LZ, Josephson KR, Wieland GD, English PA, Sayre JA, Kane RL. Effectiveness of a geriatric evaluation unit. A randomised controlled trial. *N Engl J Med* 1984;310:1664-70.
- Pathy MSJ, Bayer A, Harding K, Dibble A. Randomised trial of case finding and surveillance of elderly people at home. *Lancet* 1992;340:890-3.

EDITOR,—In his editorial on health checks for people over 75 Andrew Harris discusses methods of assessing the functional state and mental health of elderly people,¹ but by confining his attention to the clinical professions he misses an important point. Social services departments are required by the NHS and Community Care Act 1990 to revise their assessment procedures. Separate development could result in old people being interviewed by a succession of different agencies asking similar questions, each using different instruments to obtain and record the same information. This could be avoided by widespread adoption of standardised assessment scales that can be used by people with varying backgrounds and training.

A health check schedule devised in 1990 by the Oxford collaboration on assessment of elderly people (OxCASSE) incorporates the Barthel scale of activities of daily living² and the abbreviated mental test,³ two scales recommended in a report⁴ that was discussed in M J Bendall's editorial on improving the care of elderly people.⁵ An evaluation by the King's Fund College ranked the OxCASSE health check in the top six of 54 assessment schedules rated for sensitivity to both health and social functions and for suitability of use with different care groups, by different agencies, and by assessors from a broad range of professions.⁶

Effective care of elderly people requires local and health authorities to work closely together. Whatever else they are intended to do, annual health checks should contribute to the development of a common language of assessment.

SIMON WINNER

Department of Clinical Gerontology,
Radcliffe Infirmary,
Oxford OX2 6HE

SIMON PLINT*

19 Beaumont Street Practice,
Oxford OX1 2NA

1 Harris A. Health checks for people over 75. *BMJ* 1992;305: 599-600. (12 September.)

- Mahoney F, Barthel D. Functional evaluation: the Barthel index. *Maryland State Med J* 1965;14:61-5.
- Qureshi K, Hodkinson H. Evaluation of a ten-question mental test in the institutionalized elderly. *Age Ageing* 1974;3:152-7.
- Working Group of the Royal College of Physicians and the British Geriatrics Society. *Standardised assessment scales for elderly people*. London: Royal College of Physicians, 1992.
- Bendall MJ. Improving the care of elderly people. *BMJ* 1992;305:434-5. (22 August.)
- King's Fund College. *Buckinghamshire care assessment project. First interim report*. London: King's Fund College, 1991.

Social class differences in infant mortality

EDITOR,—D A Leon and colleagues provide an interesting comparison of the scale of socio-economic differences in infant mortality in Sweden and in England and Wales.¹ Their conclusions, however, partly reflect the measures of inequality used. Simple comparisons of differences in mortality between contrasting classes in each country are vulnerable to the criticism that they compare mortality in dissimilar proportions of each country's population and take no account of how consistent the mortality gradient is across the population as a whole.

The best solution to this problem seems to be to follow Pamuk's use of the "slope index of inequality."² This is the slope of the linear regression of mortality across all classes weighted for the proportion of the population in each class. According to this measure, the degree of inequality in both neonatal and postneonatal mortality is appreciably smaller in Sweden than in England and Wales. This is true whether the mortality gradient is measured in terms of the absolute change in mortality across all classes or divided by the mean

Scale of social class differences in infant mortality: Sweden compared with England and Wales. *In England and Wales this category comprised births registered by mother only. In Sweden it comprised principally births to mothers for whom no cohabitant could be identified

to produce a measure of relative differences in each country. The figure combines the data for neonatal and postneonatal mortality and shows that England and Wales have a steeper and more consistent gradient of mortality across social classes than Sweden. The width of the "steps" is proportional to each class's share of total live births.

The differences in total mortality and its socio-economic distribution in the two countries are both consistent with the suggestion that Sweden's more egalitarian income distribution might be influential.¹ Mortality in each social class will be affected by the scale of relative deprivation in each. Social classes are heterogeneous with respect to income: there are unemployed and low paid workers in social class I occupations just as there are occasional well paid unskilled workers in social class V. Therefore, while having its greatest impact lower down the social scale, a more egalitarian income distribution may be expected to produce a small reduction in the burden of relative deprivation on mortality even in the upper classes. Though Leon and colleagues seem to assume that smaller differences in income should lead to a relative rather than an absolute diminution in differentials in mortality, if relative deprivation is regarded as a risk factor like any other, an absolute effect may be more plausible. This would also be consistent with its impact on total mortality.

RICHARD G WILKINSON

Trafford Centre for Medical Research,
University of Sussex,
Brighton BN1 9RY

- 1 Leon DA, Vagero D, Otterblad Olausson P. Social class differences in infant mortality in Sweden: a comparison with England and Wales. *BMJ* 1992;305:687-91. (19 September.)
- 2 Pamuk ER. Social class inequality in mortality from 1921 to 1971 in England and Wales. *Population Studies* 1985;39:17-31.
- 3 Wilkinson RG. Income distribution and life expectancy. *BMJ* 1992;304:165-8.

EDITOR,—D A Leon and colleagues found that in the mid-1980s social class differences in infant mortality were largely similar, in relative terms, in Sweden and in England and Wales, even though neonatal and post-neonatal mortality differed considerably in the two areas.¹ Babies born to mothers of lower social class had about an 80% increased risk of death during the first year of life compared with babies born to women of higher social class.

Evidence largely consistent with these findings emerges from analysis of Italian data on all births and infant deaths routinely collected and published by strata of maternal education (a rough approximation to social class) by the Italian Central Institute of Statistics.^{2,3} Infant mortality in women reporting no education or only primary education was 23.7/1000 live births in 1975 and 14.8/1000 in the four years 1980/3. In comparison, the rates in women with college education were 9.2 and 8.1/1000 live births respectively (table). The mortality ratio tended to decrease from the mid-1970s to early 1980s, but in 1980-3 it was still 1.8 for babies born to women with no or primary education compared with those born to women with a college education.

These differences between less and more educated women were not attributable to birth

weight—for example, in 1980-3 infant mortality adjusted for birth weight was 14.4/1000 for women with no or primary education and 8.7/1000 for women educated at college. The proportion of infant deaths that would have been avoided if all babies experienced the mortality of the babies of women educated at college was 55% in 1975 and 32% in 1980-3; this estimate for 1980-3 is consistent with findings from Sweden and England and Wales.¹

This evidence suggests that the differences among groups classified by social class or education are largely similar in relative terms in populations characterised by important differences in stillbirth rates and infant mortality (mortality in the first year of life was 13.5/1000 live births in Italy in 1980-3 and 9.5/1000 live births in England and Wales in 1983-5^{1,3}). This supports Leon and colleagues' suggestion that differences in the home environments of infants, rather than inequalities in health care, are the main determinants of mortality in the first year of life in babies born to women of lower social class.

FABIO PARAZZINI

Istituto di Ricerche Farmacologiche "Mario Negri,"
20157 Milan,
Italy

- 1 Leon DA, Vagero D, Otterblad Olausson P. Social class differences in infant mortality in Sweden: comparison with England and Wales. *BMJ* 1992;305:687-91. (19 September.)
- 2 Parazzini F, Imazio C, Pampallona S, La Vecchia C. Trends in perinatal, neonatal and postneonatal mortality in Italy, 1955-84. *Soz Präventivmed* 1987;32:286-90.
- 3 Parazzini F, Pirota N, La Vecchia C, Bocciarelli L, Fedele L. Determinants of perinatal and infant mortality in Italy. *Rev Epidemiol Sante Publique* 1992;40:15-24.

Screening for Down's syndrome

EDITOR,—Tower Hamlets was one of the districts that participated in the demonstration project for antenatal maternal serum screening for Down's syndrome.¹ When the research funding ended we were asked for £40 000 to continue the service. An audit of Down's syndrome cases in Tower Hamlets revealed a cautionary tale that supports some of the concerns raised by correspondents.²

In Tower Hamlets the screening programme did not reduce the prevalence of Down's syndrome during the 18 months of the study. All five cases in this period had had the triple test. One woman requested amniocentesis on the basis of her age alone before the results of her test were known and terminated her pregnancy. Two women were offered amniocentesis on the basis of a high risk estimate (one on age alone) but declined. The remaining two women had a low risk estimate on the triple test but subsequently delivered babies with Down's syndrome. One of these is exploring the possibility of litigation (as in the case of Michelle Huberman³).

One major reason for the low detection rate was the low uptake of amniocentesis. The acceptance of amniocentesis following a positive triple test was 53% in Tower Hamlets and 75% in the demonstration project overall. This raises important questions about how the test is being offered, especially to non-English speaking women: nearly

half the babies born in the district are to Bangladeshi women.

In a survey of women using the maternity services in Tower Hamlets, less than 10% of non-English women knew they were having a test for a congenital abnormality.⁴ In a separate survey conducted by the community health council, only 30% of English speaking women knew they were having a blood test for congenital abnormalities.

The funding quoted does not include the costs of staff training, counselling, costs to women and families, or the opportunity costs. The original estimates quoted in Wald's article also excluded the cost of routinely offering amniocentesis to women 37 years and over. We do not think it is ethical to withdraw a screening programme that detects 100% of cases and replace it with one that detects only 70% of cases, and therefore we will continue to offer amniocentesis to women over the age of 37 years. This increases the costs.

Finally, like other correspondents, we questioned whether the results supported the conclusions that every district in the NHS should give priority to funding the programme.

LUISE PARSONS
J RICHARDS
R GARLICK

Tower Hamlets Health Authority,
London E3 2AN

- 1 Wald NJ, Kennard A, Densen JW, Cuckle HS, Chard T, Butler L. Antenatal maternal screening for Down's syndrome: results of a demonstration project. *BMJ* 1992;305:391-4. (15 August.)
- 2 Correspondence. Antenatal screening for Down's syndrome. *BMJ* 1992;305:768-70. (26 September.)
- 3 The right to a perfect baby [editorial]. *Independent* 1992 August 22:13.
- 4 Akin-Deko ALS. *Maternity services liaison scheme: working for the community*. London: MSLS, 1991.

EDITOR,—N J Wald and colleagues' paper on antenatal screening for Down's syndrome¹ has provoked copious correspondence.² None of it considers the individual pregnant woman's view. When confronted with the simple information that if her fetus has Down's syndrome the biochemical risk assessment (not a screening test in itself) plus a midtrimester invasive procedure has only a one in two chance of diagnosing this and, even if it hasn't, a one in 20 chance of recommending an amniocentesis, most women decline the test. Population statistics are all very well, but what we are dealing with is one woman and her pregnancy. People want facts, not probabilities.

MARK SELINGER

Nuffield Department of Obstetrics and Gynaecology,
John Radcliffe Hospital,
Oxford OX3 9DU

- 1 Wald NJ, Kennard A, Densen JW, Cuckle HS, Chard T, Butler L. Antenatal maternal serum screening for Down's syndrome: results of a demonstration project. *BMJ* 1992;305:391-4. (15 August.)
- 2 Correspondence. Antenatal screening for Down's syndrome. *BMJ* 1992;305:768-71. (26 September.)

Decreasing quality of semen

EDITOR,—The investigation by Elisabeth Carlsen and colleagues¹ sounds alarm bells and has received worldwide attention. The authors assert that there has been a genuine decline in sperm quality during the past 50 years. However, whether such a conclusion is valid depends on the quality of semen analyses performed more than 30 years ago. How good was quality control in andrology laboratories in the 1940s and 1950s? Today few andrology laboratories have ongoing quality control programmes for sperm concentration determinations, and even using contemporary techniques there can be an error of about 25% in measurements.^{2,3}

The authors doubted the existence of a secular trend in technique based on comparison with

Numbers of registered deaths of infants, infant mortality, and mortality ratio according to maternal education in Italy, 1975 and 1980-3

Maternal education (years)	1975			1980-3		
	No of registered deaths	Rate/1000 live births	Mortality ratio	No of registered deaths	Rate/1000 live births	Mortality ratio
College	184	9.2	1*	902	8.1	1*
≥ 12 (high school)	1 079	11.5	1.3	4 615	8.9	1.1
8-11 (secondary school)	3 510	16.7	1.8	11 255	11.6	1.3
< 7 (primary school or none)	11 431	23.7	2.6	17 820	14.8	1.8

*Reference category.