these issues nationally have, likewise, been weakly supported. Networks are established and then closed down. Training in Health and Race (which was supported by the Health Education Council (now the Health Education Authority) and others) and the black health unit (which was at the National Community Health Resource (now Community Health UK)) are both now defunct. At present national initiatives include the King's Fund Centre's "share project" and the Health Education Authority's black and ethnic minority groups database, which provide information resources. These are welcome developments but suffer from insecure funding. Even the Department of Health's new ethnic health unit, which offers more general support, has been established for only three years.

Knowledge of good practice needs to be consolidated over time. To make this possible there must be consistent infrastructural support to help the health service, local authorities, and the voluntary sector to avoid reinventing the wheel.

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- 1 Senior PA, Bhopal R. Ethnicity as a variable in epidemiological research. *BMJ* 1994;309:327-30. (30 July.)
- 2 McKenzie KJ, Crowcroft NS. Race, ethnicity, culture, and science. *BMJ* 1994;309:286-7. (30 July.)
- 3 Tang M, Cuninghame C. *Focus groups, access to primary health care and the Deptford Vietnamese health project*. London: Save the Children, 1994.
- 4 Healthy Communities. *Initial research findings: work on service delivery in Elswick and Scotswood*. Newcastle: Save the Children, 1994.

Ethnicity revolves around culture

EDITOR,—Both the editorial and the article on the place of race, ethnicity, and culture in medical research incline to the view that race, even as a biological notion, does not exist.^{1,2} This is self evidently an overstatement. In so far, however, as there are no specific qualities that anyone possesses simply by virtue of his or her race alone, race itself falls short of meeting the criteria for a sound epidemiological variable.

As both articles agree that ethnicity is simply a matter of group identification, I am surprised that Peter A Senior and Raj Bhopal go on to propose its elevation to the status of an epidemiological variable.² Taken in relation to their criteria for such a variable, ethnicity is not measurable and does not itself distinguish between populations in any characteristics relevant to health. Besides, ethnicity, being a matter of self definition, cannot be assigned by others. Ethnicity is not in its own right a valid epidemiological variable.

Culture, which is "the totality of socially transmitted behaviour patterns, arts, beliefs, institutions, and all other products of human work and thought characteristic of a community or population,"³ does differentiate human populations in characteristics relevant to health. McKeown makes a sound case for the centrality of culture in the origins of human diseases by showing the different patterns of disease in hunter-gatherer, agrarian, and industrialised societies.⁴

But culture is expressed in geographical locations, and the environment in which people live contains the greatest threats to their health. Given this consideration, race and ethnicity are still relevant, for ethnic subgroups of racial groups tend to live together and evolve a culture in relatively defined geographical regions. In accepting, and being accepted by, a community an individual shares in the benefits and risks of that community's culture and environment.

In summary, culture and geographical location, defined as one factor, provide the most valid and most important epidemiological variable available

today. The current development of language permits us, however, to name cultures only by using racial, ethnic, or national labels. Thus ethnicity is relevant as part of an epidemiological variable if, and only if, we equate it with culture: after all, the group identification that constitutes ethnicity revolves around culture.

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- 2 Senior PA, Bhopal R. Ethnicity as a variable in epidemiological research. *BMJ* 1994;309:327-30. (30 July.)
- 3 *Reader's Digest great illustrated dictionary*. London: Reader's Digest Association, 1984.
- 4 McKeown T. *The origins of human disease*. Oxford: Basil Blackwell, 1988.

No secular decline in fecundity has occurred in Sweden

EDITOR,—Stephen Farrow's editorial highlights the important epidemiological issue of whether human fertility is threatened by environmental pollution or occupational exposure.¹ The methodological problems in studies of this are well recognised and include the study design, measures of exposure, reproductive and developmental outcomes, interaction, participation, and recall bias.² How then could we address the hypothesis of a possible secular decline in fertility?

A decline in the twinning rate has been suggested to be related to increased rates of miscarriage and environmental pollution.³ The changed distributions of age and parity of mothers, however, explain the secular decline in the twinning rate from the 19th century until 1960 in Sweden, while the continued decline during the 1960s remains unexplained.⁴

Time to pregnancy, with live birth as the outcome variable, could be a more valid and consistent measurement for analysis of secular trends in fecundity. We have studied fecundity among Swedish peasant women in the 19th century,⁵ and a sample of Swedish women born in 1936-60,⁶ and have also studied the fecundity of women in Umeå who gave birth to a liveborn child in 1992 within the collaboration project of the European study of infertility and subfecundity. When we compared the different birth cohorts there was no secular decline in the cumulative incidence of pregnancy within one year among Swedish women born during the 19th century, 1936-45, 1946-60, or 1963-72 and having their first child at the age of 20-29. In addition, there was no negative time trend when the fecundity of women in the three last cohorts was compared (table). Thus we did not observe any secular decline in fecundity in Sweden.

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Life table analysis of fecundity per month in women aged 20-29 by density method (rates adjusted by Mantel-Haenszel method)

	1936-45	1946-60	1963-72
No of live births	1202	1694	385
Person time (months)	5645	8148	1770
Crude rate per month	0.21	0.21	0.22
Adjusted rate	0.21	0.20	0.26
Relative risk (95% confidence interval) (%)	100	94 (87 to 102)	120 (107 to 135)

- 1 Farrow S. Falling sperm quality: fact or fiction? Answering even simple questions is difficult. *BMJ* 1994;309:1-2. (2 July.)
- 2 Kiely M, ed. *Reproductive and perinatal epidemiology*. Boston: CRC Press, 1991.
- 3 James W. Has fecundability been declining in recent years in developed countries? *J Biosoc Sci* 1981;13:419-22.
- 4 Högborg U, Wall S. Secular trends of twinning rate in Sweden. *J Biosoc Sci* 1992;24:487-96.
- 5 Högborg U, Åkerman S. Reproductive pattern among women in the 19th century Sweden. *J Biosoc Sci* 1990;22:13-8.
- 6 Högborg U, Sandström A, Nilsson N-G. Reproductive patterns among Swedish women born 1936-1960. *Acta Obstet Gynecol Scand* 1992;71:207-8.

Value of data provided for health promotion programmes

EDITOR,—Family health services authorities have recently received an unprecedented amount of clinical data from general practitioners as part of the new health promotion and chronic disease management programmes. Yet the value of these data remains undetermined. For monitoring purposes general practitioners are required to provide data about risk factors, interventions offered, the prevalence of some major chronic diseases, and, for chronic disease management, the numbers of sufferers and treatments provided.

In theory the provision of such data should, in the long term, not only enable monitoring of the practices' level of preventive activity but also give information on the prevalence of major chronic diseases and of "risky" behaviours. As nearly 80% of patients visit their general practitioner in a given year,¹ these programmes could provide data on behaviour that are greatly superior in terms of coverage to those gained by local surveys.

This benefit, however, remains theoretical. Lack of clear definitions for the data has meant that practices enter and extract information in different ways, and consequently comparisons among practices are largely meaningless. Some far sighted family health services authorities may have specified their requirements in detail; most will not have done.

A cogent example is provided by the asthma chronic disease management programme. The standard fees and allowances specify that numbers of "current asthma sufferers" should be provided. Many software companies have developed specific programs to search for the data, but a personal survey of seven major software companies established that the two biggest companies differed substantially in their criteria for identifying patients: one used patients who had ever had a diagnosis of asthma recorded, while the other used patients treated within the previous year. Such different criteria could produce figures varying by up to 30% for populations with the same actual prevalence. Similarly, the criteria for raised blood pressure and coronary heart disease are unclear.

Use of the data in aggregated form for planning, epidemiology, or other purposes could be seriously misleading. Yet a considerable amount of time, energy, and money is being spent in primary care on recording and extracting this information. There is a tremendous opportunity to encourage general practitioners to record information on computer that will be of use clinically and to gain access to extensive data on the prevalence of disease and risk factors that have not previously been available. Much of this opportunity, how-

ever, will be wasted if clearer guidance is not forthcoming to ensure that the data are meaningful and comparable at practice, local, and national levels.

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1 Office of Population Censuses and Surveys. *Morbidity statistics from general practice 1991/92 (MSGP4)*. London: OPCS, 1994. (OPCS Monitor MB5 94/1.)

Locally determined performance related pay

EDITOR,—The NHS has now existed for 46 years. Thus no medical staff currently employed as consultants have experienced employment in any other service in Britain. For this reason they cannot know anything of the anxiety that was experienced by specialists employed in hospitals run by local authorities before the introduction of the NHS. As a retired consultant who was one of these specialists, I well recall the general anxiety that the status or pay scale for consultants in the NHS would differentiate adversely between the specialties and that doctors not working in surgery or medicine would be offered contracts of inferior quality.

One of the most constructive actions of the then minister of health, Aneurin Bevan, was to unify conditions of employment and pay across all the specialties and to make the basic pay scale independent of the place of employment. This enabled the development of truly consultant services throughout Britain and transformed the relations among specialties.

The scheme of merit awards, which Bevan also introduced, was designed to recognise the excellence of individuals in their specialty and indirectly promoted the development of centres of excellence. No scheme can work perfectly, but the merit award scheme has, on the whole, proved satisfactory. Any system of locally determined performance related pay will prove unsatisfactory and will divide the unity of the medical profession.¹ It should be resisted to the utmost.

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1 Smith J, Simpson J. Locally determined performance related pay. *BMJ* 1994;309:495-6. (20-27 August.)

Consultant contracts

EDITOR,—Robert W Clarke and Carl Gray, in reviewing forms of consultant contract, concentrated on structure and expected remuneration rather than proper incentives to improve the health of the population and the health of the organisation.¹ While Jane Smith and Jenny Simpson claim that the NHS is not ready for performance related pay,² incentives for both managers and clinicians clearly need to be more closely aligned to ensure the effective delivery of health care.

The use of fee for service contracts is fraught with difficulty, given the variation in work flow throughout the year. The adoption of this method provides a clear incentive to do more even when this is not appropriate. In the United States ever more companies are moving away from this as the percentage of managed care increases.

Consultants should share the risk to the trust that the current number and mix of consultants are not right for the future. Fixed term contracts enable hospitals to shed overhead costs by releasing staff if local health needs change or contracts

are awarded to competitors. Hospitals should be released from the burden of historical patterns of staffing. Similarly, a hospital should not be required to fund merit awards based on performance assessed in private that does not meet the needs of the hospital or the population it serves.

If the main purpose of performance related pay is to improve the cost effectiveness of the service then other methods should be considered. Major gains in terms of a reduction in costs and improvement in quality can be expected from focusing on the variation in practice among consultants. While a wholesale attempt to persuade consultants to adopt national guidelines may not be the best approach, much can be done in house by making professional and managerial audit a real exercise. The Mayo Clinic is focusing on decreasing variation as a means of improving quality and lowering cost to improve the performance of its salaried doctors and stay competitive.

A flexible contract with an appreciable proportion of income being based on locally defined criteria for professional achievement and group effort could serve as a useful model. Medical managers and their managerial colleagues should collaborate on developing criteria linked to the purpose of the organisation and on the annual assessment of performance.

For a hospital to survive, new contracts need to reflect the needs of purchasers. When purchasers start to buy outcomes and not activity then consultants and managers should be rewarded accordingly. Only then can managers and clinicians genuinely claim that they are working in the best interests of patients.

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1 Clarke RW, Gray C. Options for change in the consultant contract. *BMJ* 1994;309:528-30. (20-27 August.)
2 Smith J, Simpson J. Locally determined performance related pay. *BMJ* 1994;309:495-6. (20-27 August.)

Working long hours and conflict of interest

EDITOR,—The approach of the *BMJ* on conflicts of interest is to be welcomed.¹ The *BMJ*'s policy, which now addresses potential conflicts of interests among contributors, including letter writers,² by asking such authors to declare any potential conflicts, is an important and positive development. Readers should be entitled to know whether authors are receiving or have received funding from commercial, governmental, or non-governmental organisations relating to their published work. This should not detract from the value of such editorials but will alert readers to potential conflicts of interest in the piece. This ensures public and professional confidence in scientific and health journals.

Difficult problems raised by sponsored research and consultancy work undertaken by authors or institutions cannot be tackled without an open policy on potentially conflicting interests. These problems include possible influences on research questions, design, analysis, and findings. In some instances, funded research may deliberately ignore key questions and play down different views on the topic under investigation.³ In other instances, research findings that do not support commercial or governmental organisation thinking may be suppressed. How precisely these problems can be addressed by scientific and medical journals remains problematic.

J Malcolm Harrington's recent editorial on working hours raises several important points.⁴ However, it seems to present a potential and

undisclosed conflict of interests. The conflict may well be more apparent than real. Nevertheless, if the *BMJ* wishes to pursue a policy of openness in editorials, such a policy should be uniformly and consistently applied by the journal and observed by authors.

Harrington has received funding from a government department to carry out a study of the European Union Working Hours Directive. A government minister made it clear in a statement in the House of Commons in May that "the [commissioned] study forms part of the Government's legal challenge" to that directive.⁵ It is difficult to tell whether the minister's department commissioned the research specifically to challenge the directive; whether the department believed the results of the research, when completed, would support the government's political case; or whether the outcome of the research has produced results which do not fit the government's current objectives. *BMJ* readers are entitled to know on what basis the research—as it seems to be the source for Harrington's editorial—was commissioned, what its aims and objectives were, and when it will be published or open to public scrutiny.

For information, no one has consulted me or paid me to do research on this directive.

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1 Smith R. Conflict of interest and the *BMJ*. *BMJ* 1994;308:4-5. (1 January.)
2 Brandon S. Halcion trial wasting valuable resources. *BMJ* 1994;308:1301.
3 Watterson AE. Chemical hazards and public confidence. *Lancet* 1993;342:131-2.
4 Harrington JM. Working long hours and health. *BMJ* 1994;308:1581-2. (18 June.)
5 Forsyth M. Working hours. Written answers. *House of Commons Official Report (Hansard)* 1994 11 May;168:col 2.

Pets and passive smoking

EDITOR,—The risks of passive smoking are becoming increasingly well recognised,^{1,2} but attention has been focused almost exclusively on the risk to humans. I recently saw a patient who had smoked over 40 cigarettes a day until she developed bronchial carcinoma. Two of her pet dogs had died of lung cancer (one after undergoing pneumonectomy and intensive chemotherapy), and her cat had suffered from chronic wheezing that resolved when the patient discontinued smoking. Some of my colleagues can provide similar anecdotes.

Household exposure to environmental tobacco smoke seems to be associated with an increased risk of lung cancer in pet dogs, particularly those with short and medium length noses.³ Unfortunately, most cigarette smokers are probably unaware that their habit may seriously affect their pets' health. Given that awareness of the risks of passive smoking to humans can undoubtedly change smokers' behaviour⁴ and that people often seem to be more sympathetic to the plight of animals than they are to that of humans, does this not suggest a powerful weapon with which to assail smokers who own pets?

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1 Chapman S, Woodward S. Australian court decision on passive smoking upheld on appeal. *BMJ* 1993;306:120-2.
2 Charlton A. Children and passive smoking: a review. *J Fam Pract* 1994;38:267-77.
3 Reif JS, Dunn K, Ogilvie GK, Harris CK. Passive smoking and canine lung cancer risk. *Am J Epidemiol* 1992;135:234-9.
4 Butz AM, Rosenstein BJ. Passive smoking among children with chronic respiratory disease. *J Asthma* 1992;29:265-72.