the ways in which health authorities and general practice purchasers now make their decisions, so that recommendations that are made can be translated into practice. A National Council for Health Care Priorities should draw on this information and experience from other countries in developing methods for determining priorities and monitoring how they are set while protecting training, research, and development.

LESLIE TURNBERG

President

MAURICE LESSOF

Chairman of working party on priorities in health care

PETER WATKINS

Honorary secretary of working party on priorities in health care

Royal College of Physicians,
London NW1 4LE

1 Royal College of Physicians. *Setting priorities in the NHS: a framework for decision making*. London: RCP, 1995.

Rationing in the NHS

Public does not always favour lifesaving, acute interventions

EDITOR,—I recently ran a series of seven focus groups on rationing and prioritising in the NHS, which were attended by members of the general public in the Cambridge and Huntingdon area. The results provide an interesting contrast to those of previous studies, including that by Ann Bowling,¹ which have consistently indicated that the highest priority is attached to lifesaving, acute interventions. I found that more investment in services for mentally ill and elderly people was considered to be essential and was accorded higher priority than cancer services and high technology surgery. A shorter life of higher quality was thought preferable to painful longevity, with patients' informed choice and control over treatment being seen as essential components of "quality of life."

Participants said that they would advise the health authority to base purchasing decisions on ensuring "the greatest good for the greater number." This meant trying low technology, alternative approaches before the more costly invasive treatments, even in life threatening circumstances.

One reason for these and other differences from Ann Bowling's findings may be the methods used. The focus groups lasted two or more hours, which allowed participants to undertake several discussion exercises. This enabled them to engage with complex issues and to encounter the diversity of opinion within the group before attempting to reach a consensus on purchasing options; this is not dissimilar to what happens in real purchasing by paid professionals. Although participants recognised their lack of technical information, most thought that, given more time and information, lay people could make a positive and unique contribution to debates about the allocation of resources in the health service.

The health authority's purpose in conducting the focus groups was to begin a long, continuous process of public involvement in and education about priority setting in the health service. The exercise was not intended to serve as the basis for immediate changes to purchasing. While we are interested in people's basic instincts, we are equally interested in developing their capacity as partners in the decision making process. The challenge presented by the public's involvement is to ensure that its views are heard, valued, and acted on appropriately.

SUE HAY

Public involvement officer

Cambridge and Huntingdon Health Authority,
Fulbourn Hospital,
Cambridge CB1 5EF

1 Bowling A. Health care rationing: the public's debate. *BMJ* 1996;312:670-4. (16 March.)

Social decisions associated with rationing are not yet acceptable

EDITOR,—The *BMJ* is a scientific journal, testing practice against theory and theory against practice and thus changing both in a verifiable progress towards the solution of human problems. These problems include two questions: how much should we spend on health care and what should we spend it on?

The usual scientific approach to any question is first to observe and measure reality, in dimensions that seem most likely from past experience to provide a basis for disprovable hypotheses. Endorsed enthusiastically by Richard Smith,¹ Professor Ronald Dworkin offers his "prudent insurance principle" as an innovative theory to clarify these two questions, based, he says, on five assumptions. These assumptions are not derived from any study of the real world and contradict all human experience.

He asks us to imagine a world in which wealth is justly distributed (the richest fifth of the population now gets 150 times the income of the poorest fifth, a difference that has doubled over the past 30 years); in which information is available to all on all aspects of medicine and its effectiveness (when doctors are now said to need to read 19 articles a day for 365 days a year just to keep up with internal medicine); and in which everyone makes decisions rationally, parents put their children's interests on the same level as their own, and nobody knows anything about genetic, cultural, or social predispositions to disease. Interestingly, he asks us to make two further assumptions, which are at least credible: that governments abstain from providing health care and that people would be left to make their own decisions on which insurance policies to buy, what health problems to insure against, and what intensity of treatment they should be covered for.

Dworkin is a professor of law in Oxford and New York. We are used to extraterrestrial flights of this sort from lawyers, concerned with adversarial justice rather than material truth, but his enthusiastic endorsement by Smith is serious. No refutable hypotheses can be derived from fantasies of this kind, but they lead directly to a list of social decisions that most of us have not yet learnt to accept.

JULIAN TUDOR HART
Professor

International Section,
Department of Primary Health Care,
Royal Free Hospital Medical School,
London NW3 2QU

1 Smith R. Being creative about rationing. *BMJ* 1996;312:391-2. (17 February.)

Debate over NHS-wide network is centred on wrong issue

EDITOR,—For some time the NHS and the BMA have been exchanging shots at each other about the NHS-wide network. The dispute about these technologies culminated in a heated argument after the presentation of a paper by Dr R J Anderson,¹ who seems to be the BMA's advocate against these technologies. Not being a partisan of either the NHS or the BMA, I wish to raise the issue that now seems to be almost forgotten—the real case for or against these technologies. Fortunately, there seems to be little dispute over the two most important points about the technologies: they entail risks with regard to security and privacy, and they could benefit patients' care substantially.

Debate might better centre on three questions. Do possible benefits to patients from the disputed technologies outweigh their possible risks? If the technologies are beneficial, are they

cost effective? If the technologies are beneficial and cost effective, how can a reasonable level of risk be maintained and what is the quickest reasonable way to implementation?

My opinion is that the likely benefits to patients from these technologies outweigh their known or potential risks. Even Anderson has recognised that the NHS-wide network "might occasionally save life,"² which seems to finish the argument conclusively in favour of the proposed technologies, given the weak risks presented.

Concerns about security and privacy are legitimate, especially with the powerful combination of the two technologies of computers and networking. The NHS has, however, considered network security carefully, and its policy³ seems at least on a par with good commercial practice. The Data Protection and Computer Misuse Acts offer effective legal recourse if security is unlawfully breached; a new European directive reinforces these acts and establishes a right to privacy.⁴ Unfortunately, the issue of cost effectiveness is unlikely to be resolved in the present climate. The NHS seems to be determined to proceed with implementation without inviting contributions from the public. Perhaps this is just as well, given the delays already encountered.

Raising anecdotal tales of alleged abuses of security or privacy⁵ or sensationalising in the press the serious issues concerning these technologies seems hardly responsible. If the argument is really over disclosure⁵ then why not debate that subject explicitly? The pity of this public and possibly misdirected squabble is that neither the NHS nor the BMA has been able to conduct a constructive or informed debate over technologies that could benefit patients so substantially.

M F SMITH

Professor of health informatics, Keele University

152 Southwark Bridge Road,
London SE1 0DG

1 Anderson RJ. Patient confidentiality—at risk from NHS-wide networking. In: Richards B, de Glanville H, eds. *Current perspectives in healthcare computing*. Weybridge: BJHC Books, 1996:687-92.

2 Anderson RJ. NHS-wide networking and patient confidentiality. *BMJ* 1995;311:5-6.

3 NHS Executive. *NHS-wide networking—security project: security guide for IM&T specialists*. London: Department of Health, 1995.

4 Smith MF. Data protection, health care, and the new European directive. *BMJ* 1996;312:197-8. (27 January.)

5 Anderson RJ. Clinical system security: interim guidelines. *BMJ* 1996;312:109-11. (13 January.)

Air pollution related to transport

Diesel is the main problem

EDITOR,—David V Bates's call for new clean air legislation in Britain¹ is made more urgent by the results of the two London based studies published in the same issue that show the relation between air pollution, daily mortality, and childhood wheezing.^{2,3} Ozone and particulates are most strongly related to daily mortality,² while ozone and sulphur dioxide are most strongly related to childhood wheezing, though the study by Roger Buchdahl and colleagues did not measure particulate levels.³ Unfortunately, particulates are also carcinogenic and are the most likely explanation for the relation between air pollution and annual mortality from lung cancer.⁴

The main problem is diesel. Historically diesel has been perceived as an environmentally benign fuel since it is 25-30% more efficient than petrol, contains no added lead, and produces virtually no carbon monoxide. In urban areas, however, it is the main source of particulate emissions, and in London 96% of black smoke comes from

traffic.⁵ As long ago as 1983, Ames tests carried out by the Swedish National Environmental Protection Board showed diesel to be 10 times more mutagenic than leaded petrol, which in turn was 10 times more mutagenic than emissions from a car running on unleaded petrol and equipped with a three way catalytic converter.⁶

Even more important from a public health point of view is that four fifths of the mutagenic effect resides in the particulate fraction of diesel exhaust, so that an effective trapping or filtering system will virtually eliminate the risk to health. Despite this, the European Union's current emission standards for taxis, buses, and lorries do not require the use of particulate traps; nor will the new standards scheduled for 1997. In its 18th report the Royal Commission on Environmental Pollution recommended the use of fuels such as liquid petroleum gas or natural compressed gas instead of diesel for urban based vehicles.⁷ The British government has done nothing to implement these proposals. Instead it has deregulated the bus services and left the choice of fuel to individual commercial operators.

Concern about diesel is not new. I quote from a memorandum submitted by Friends of the Earth to the House of Lords European Community Committee (Environment) in 1987: "There is a strong correlation between levels of total suspended particulates in the atmosphere and infant mortality, and clear evidence of particles aggravating disease among bronchitics, asthmatics, cardiovascular patients and people with influenza." While it is gratifying to read a *BMJ* editorial on the need for tighter legislation to control pollution, environmental pressure groups have been aware of similar data from the United States for over a decade.

ROBIN RUSSELL JONES
Consultant dermatologist

Atholl House,
Church Lane,
Stoke Poges,
Buckinghamshire SL2 4NZ

- 1 Bates DV. Air pollution: time for more clean air legislation? *BMJ* 1996;312:649-50. (16 March.)
- 2 Anderson HR, Ponce de Leon A, Bland JM, Bower JS, Strachan DP. Air pollution and daily mortality in London: 1987-92. *N Engl J Med* 1993;329:1753-9.
- 3 Buchdahl R, Parker A, Stebbings T, Babiker A. Association between air pollution and acute childhood wheezy episodes: prospective observational study. *BMJ* 1996;312:661-5. (16 March.)
- 4 Dockery D, Pope CA, Xu X, Spengler JD, Ware JH, Fay ME, et al. An association between air pollution and mortality in six US cities. *N Engl J Med* 1993;329:1753-9.
- 5 Swedish National Environmental Protection Board. *Chemical and biological characterisation of exhaust emissions from vehicles fuelled with gasoline, alcohol, LPG and diesel*. Stockholm: SNEPB, 1983. (Report No SNRPM 1635.)
- 6 House of Commons Transport Committee. *Transport-related air pollution in London. Sixth report*. London: HMSO, 1994.
- 7 Royal Commission on Environmental Pollution. *Transport and the environment; 18th report*. London: HMSO, 1994.

Doctors should support parliamentary bill

EDITOR,—David V Bates concludes that it may be public pressure and not the medical profession that leads to further clean air legislation in Britain.¹ Public pressure to reduce road traffic has already begun, and medical professionals should now add their weight to the campaign.

Last March saw the introduction to parliament of the Road Traffic Reduction Bill, which would require the government to set targets for reducing road traffic miles by a tenth by 2010. The bill was introduced by Mr Cynog Dafis. He has introduced similar bills in previous sessions of parliament, but they have always been opposed by the government. This bill will undoubtedly also be opposed. However, a campaign is now building behind the bill; this is being led by Friends of the Earth and the Green

party, which are trying to build enough public support to push it through.

Community based campaigns have succeeded before. Last year an alliance of local authorities, pensioners' groups, parish councils, and environmentalists managed to win government support for the Home Energy Conservation Bill, which it had previously opposed two years running. Now an act, this measure is leading to better insulated homes for a large number of people.

Doctors should be getting involved. Bates outlines our knowledge of the dangers of air pollution to health. Add to these the reduction in traffic accidents that would result from a reduction in traffic and the fitness benefits of cycling and walking, and we have a policy that doctors should back.

SARAH HILL
House officer

St Margaret's Hospital,
Epping,
Essex CM16 6TN

- 1 Bates DV. Air pollution: time for more clean air legislation? *BMJ* 1996;312:649-50. (16 March.)

Asthma epidemics and air pollution

Upper respiratory tract infection and fall in atmospheric temperature may lead to attacks of childhood asthma

EDITOR,—Adrian Bauman suggests that epidemics of asthma may yield clues to causal agents.¹ We report such an epidemic in east Birmingham in 1987.

Between 14 September and 7 October, 86 children meeting our case definition for asthma (reversible wheeze, reversible dyspnoea, or tachypnoea with wheezing) were admitted to Birmingham Heartlands Hospital, a rate 3.58 times higher than that in the preceding four weeks and 3.44 times higher than that in the same period in 1986. There were 12 patients aged under 2, 37 aged 2-4, 26 aged 5-9, and 11 aged ≥ 10 —a similar distribution to that in the previous year. More boys were admitted than girls (55 v 31; relative risk 1.77 (95% confidence interval 1.16 to 2.86)), as in the previous year. Sixty four children were white, 20 Asian, and two African-Caribbean, reflecting local birth data. Sixty eight had previously been diagnosed as having asthma (including eight aged under 2), and a further six gave a clear history of nocturnal cough or exercise induced wheeze, or both. Forty eight had been admitted before.

Seventy four met our definition for coexisting clinical respiratory infection (coryza, visualised pharyngitis, or cough with fever). However, only one of 86 throat swabs collected on admission yielded a positive result on bacteriological testing (*Streptococcus pyogenes*) and two of 32 throat swabs collected later in the child's illness (and only in the later part of the epidemic) yielded a positive result on viral testing (one adenovirus and one echovirus). Local meteorological data and pollution data for the period 1 August to 5 October showed that the largest single fall in mean air temperature between days (3.9°C) occurred on 13 September, the day before the start of the increase in admissions; it was accompanied by reduced humidity and increased barometric pressure but no rain and no relevant changes in monitored pollution levels.

This epidemic contrasts with that reported in London^{2,3} and an outbreak in Birmingham⁴ in that it occurred in autumn, affected children (mostly known to be asthmatic), and was associated with a high prevalence of presumed viral respiratory infection and a fall in temperature without a thunderstorm. Viral respiratory infection is associated with exacerbation of asthma,⁵

and the velocity of changes in temperature can predict hospital attendance for wheezing.⁶ Autumnal increases in acute attacks of asthma in general practice coincide with the seasonal rise in acute bronchitis.⁷ Taken with this epidemic, this supports the hypothesis that a combination of a causal agent (a virus) and a meteorological variable (fall in temperature) is more likely to lead to an attack of asthma than either in isolation.

JEREMY HAWKER

Consultant in communicable disease control

Birmingham Communicable Disease Unit,
45 Bordesley Green East,
Birmingham B9 5ST

JON G AYRES

Professor of respiratory medicine

Birmingham Heartlands Hospital,
Birmingham B9 5SS

- 1 Bauman A. Asthma associated with thunderstorms. *BMJ* 1996;312:590-1. (9 March.)
- 2 Thames Regions Accident and Emergency Trainers Association, Davidson AC, Emberlin J, Cook AD, Venables KM. A major outbreak of asthma associated with a thunderstorm: experience of accident and emergency departments and patients' characteristics. *BMJ* 1996;312:601-4. (9 March.)
- 3 Celenza A, Fothergill J, Kupek E, Shaw RJ. Thunderstorm associated asthma: a detailed analysis of environmental factors. *BMJ* 1996;312:604-7. (9 March.)
- 4 Packe GE, Ayres JG. Asthma outbreak during a thunderstorm. *Lancet* 1985;iii:199-203.
- 5 Horn MEC, Brain EA, Gregg I, Inglis JM, Yearland SJ, Taylor P. Respiratory viral infection and wheezing bronchitis in childhood. *Thorax* 1979;34:23-8.
- 6 Silber JH. Forecasting asthmatic wheezing using temperature velocity. *Pediatr Emerg Care* 1987;3:13-7.
- 7 Ayres JG. Trends in asthma and hayfever in general practice in the United Kingdom. *Thorax* 1986;41:111-6.

Epidemic of asthma was not associated with episode of air pollution

EDITOR,—Are epidemics of asthma caused by outdoor air pollution or do episodes of air pollution cause epidemics of asthma? These and other questions relating to asthma and air pollution were addressed in detail by a recent report,¹ but the answers emerge clearly from a simple inspection of data available for London in recent years.

Figure 1 shows daily concentrations of nitrogen dioxide in London in the winter of 1991 together with daily admissions to hospital for asthma. An episode of pollution occurred, during which nitrogen dioxide concentrations in central London reached historically high levels (423 ppb; one hour average), which were five times higher than the seasonal average. Particles increased to a similar degree. No obvious effect on hospital admissions for asthma was discerned.²

Fig 1—Daily admissions for asthma and nitrogen dioxide concentrations in London, November 1991 to January 1992

Figure 2 shows daily ozone concentrations in London in the summer of 1994 together with daily attendances for asthma at the accident and emergency departments of 12 hospitals in London (unpublished data). A striking epidemic of asthma occurred, during which attendances were nearly five times the seasonal average.