article was to detail flaws in one particular method of rationing that is such—namely, agism.

Lilford writes about two patients in an accident and emergency department. At triage (which this effectively is) it could be acceptable to treat the younger person, but this should not be extrapolated to become a general policy.

Lilford asks whether age should be an acceptable criterion for rationing. I have shown that the arguments for adopting agist policies are flawed. I accept that age (unlike race, for instance) may occasionally be a relevant factor in decisions about the allocation of scarce resources, but it should not be used as the sole reason for denying someone treatment. Lilford also implies that I am not offering guidelines for doctors. On the contrary, I am putting my head firmly above the parapet by saying (and backing this up with strong and convincing arguments) that agism is untenable and should not be practised.

With regard to Bill Bytheway's letter, why is referring to "elderly people" being agist? My whole article attacked agist assumptions. Bytheway writes that "all of us are affected by the introduction of rationing on grounds of age." Maybe; but, as far as I am aware, elderly people are the only group who are refused treatment as a policy.

On reflection, it would have been better for me to ask how we justify spending funds on a population that is "nearer to death" rather than on "those who are dying." I accept that another of my phrases was agist and should not have been used.

I cannot understand why Bytheway thinks that the demographic explosion that I refer to will cause problems only "if society chooses to make them so." The increasing number of elderly people will force us to question how to distribute our finite medical resources fairly. The choice that society has is how to make the distribution; my contention is that it should not be decided on the basis of age alone.

MICHAEL M RIVLIN Research student

Department of Philosophy, University of Leeds, Leeds LS2 9JT

Integrating pharmacy into the primary care team

"One stop clinic" has advantages for patients

EDITOR,—We agree with Steven Ford and Kevin Jones that the policy of integrating pharmacy into the primary care team has much to recommend it.¹ Genitourinary medicine clinics have pioneered the concept of "one stop care," with on site medical, nursing, laboratory, pharmacy, counselling, psychology, and social work facilities. With the ever increasing numbers of patients with HIV infection attending, these in house services have increased to include dietetic, dental, and ophthalmic care.

Integrated pharmacies have had a key role in the provision of services in genitourinary medicine clinics from the beginning. There is a satellite dispensary in many larger clinics, staffed by a full time pharmacist, who is responsible for all prescriptions. In other smaller units prepacked drugs are dispensed direct by medical or nursing staff from an in house pharmacy, although this system is not ideal.

Integrated pharmacy has many advantages for patients, as shown by a study carried out in an HIV outpatient clinic to assess clients' experience of outpatient dispensaries versus distribution of drugs in clinics (D G Webb et al, scientific meeting of Medical Society for the Study of Venereal Diseases, Dublin, June 1992). Distribution based in clinics was perceived to be superior in terms of

waiting time, quality of advice, availability of information leaflets, and confidentiality, and the overall satisfaction ratings for the service were These factors are especially important for frail, sick patients such as those with HIV infection, but they would also be appreciated by people with busy work schedules, mothers with babies, and many other groups of clients. The benefits to medical staff should not be forgotten and include help with difficult management problems, drug interactions, and drug resistance and the provision of other specialised drug information. There are some disadvantages with this system, in that small clinics and primary care surgeries may not be able to afford the service of a full time pharmacist, but this could be overcome by having a pooled pharmacist covering several small units. Integrated pharmacies have served a useful purpose in genitourinary medicine clinics for many years, and their incorporation into primary care settings should be seriously considered.

should be seriously considered.

G CROWE
Senior registrar
C J HARRIS
senior pharmacist
senior pharmacist
Infection and Immunity Clinical Group,
Ambrose King Centre,
Royal London Hospital,
London E1 1BB

1 Ford S, Jones K. Integrating pharmacy fully into the primary care team. BMJ 1995;310:1620-1. (24 June.)

Freedom from the dispensary is essential

EDITOR,—I was pleased to read the title of Steven Ford and Kevin Jones's editorial, "Integrating pharmacy fully into the primary care team," as I work full time in a fundholding general practice as a primary care pharmacist exactly as envisaged by Marinker and Reilly. On further reading, however, I was disappointed to learn that the authors envisage just salaried dispensing pharmacists to save money on the nation's drugs bill because dispensing fees would be abandoned.

A pharmacist needs to be freed from the dispensary to achieve real integration. My present activities include domiciliary visiting and counselling of patients; running an anticoagulant clinic; audit; developing a formulary; monitoring prescribing analysis and cost (PACT) data; repeat prescribing; and answering a constant stream of queries from patients, partners, staff, community pharmacists, nursing and residential homes, etc. I could not run a dispensary as well.

As a result of my work the practice's latest PACT report shows that its costs are currently 19% and 11% below the average for the family health services authority and the national average respectively, although I like to think that the improved care that patients receive is more important.

MARIAN BRADLEY
Practice pharmacy manager

Northgate Medical Centre, Aldridge, Walsall WS9 8QD

1 Ford S, Jones K. Integrating pharmacy fully into the primary care team. BMJ 1995;310:1620-1. (24 June.)

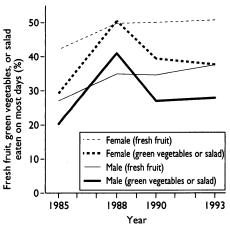
2 Marinker M, Reilly P. Judging rational prescribing. In: Marinker M, ed. Controversies in health care policies, challenges to practice. London: BMJ Publishing, 1994:89-110.

Healthy eating in Wales

EDITOR,—Health Promotion Wales supports efforts to produce unambiguous and scientifically based advice on fruit and vegetable consumption for the public and agrees that accurate information on current intakes is needed. Carol Williams is incorrect, however, in stating that there were no national numerical goals for fruit and vegetable

consumption before the Committee on Medical Aspects of Food policy published its report in 1994.² In Wales a population target for the consumption of green vegetables and salad was adopted in Health Promotion Wales's "health for all in Wales" strategy in 1990.³ Furthermore, we have monitored progress towards most of our health targets through lifestyle surveys conducted every two to three years since 1985.⁴

The data from Wales support the conclusion that fruit and vegetable consumption is considerably lower than the "five a day" advice that is advocated but that we are moving in the right direction from our baseline of 1985 (figure).



Percentage of population eating fresh fruit and green vegetables or salad on most days of week (six or seven days), Wales, 1985-93.

Further progress towards achieving the dietary changes recommended in health for all in Wales, the Health of the Nation, and the Scottish diet will be achieved only by adopting a coordinated and consistent approach to nutrition messages for the public across the United Kingdom.

CHRIS TUDOR-SMITH
Director of research and development
JOHANNA CLARKSON
Senior development specialist

Health Promotion Wales, Llanishen, Cardiff CF4 5DZ

- Williams C. Healthy eating: clarifying advice about fruit and vegetables. BMJ 1995;310:1453-5. (3 June.)
 Department of Health. Nutritional aspects of cardiovascular
- 2 Department of Health. Nutritional aspects of cardiovascular disease: report of the cardiovascular review group, Committee on Medical Aspects of Food Policy. London: HMSO, 1994. (Report on health and social subjects 46.)
- 3 Health Promotion Authority for Wales. Health for all in Wales. Part C. Strategic directions for the health promotion authority. Cardiff: HPAW, 1990.
- 4 Health Promotion Wales. Health-related behaviours in Wales, 1985-1993: findings from the health in Wales surveys. Cardiff: HPW, 1994. (HPW technical reports No 8.)

Misleading meta-analysis

EDITOR,—In their response¹ to our editorial on misleading meta-analysis² A Perry and R Persaud state that we ignored the degree of heterogeneity among different studies. We examined the case of intravenous magnesium in acute myocardial infarction, a treatment recently shown to be of no benefit in a trial.³ We argued that the asymmetrical funnel plot (a plot of the estimates of effect sizes against the sample size) should have alerted meta-analysts to the possible presence of bias. The erroneous conclusion that magnesium treatment represents an "effective, safe, simple and inexpensive" intervention could thus have been prevented.⁴ 5

Perry and Persaud argue that, rather than funnel plots being used, a statistical test of homogeneity should be performed to help decide whether the results of meta-analysis of small trials should be

BMJ VOLUME 311 16 SEPTEMBER 1995 753

endorsed or distrusted. They seem, however, to be unaware of the extensive literature about the limitations of this test. The test for homogeneity advocated by Perry and Persaud would have failed to detect significant variability among the results of trials carried out before the fourth international study of infarct survival (P=0.15) in the magnesium meta-analysis despite the striking asymmetry in the funnel plot.

Two factors are involved in generating this apparent discrepancy. Firstly, the test of homogeneity is notorious for its lack of statistical power, and an important degree of heterogeneity cannot therefore be excluded on the grounds of a nonsignificant result of the test.5 Secondly, the funnel plot examines a specific feature of variability in meta-analyses of randomised controlled trialsnamely, that the spread of the results should be symmetrical around the combined effect estimate and become less as the sample size increases. In other words, the plot should resemble an inverted funnel. The biases leading to asymmetrical funnel plots such as the selective publication of small studies with positive results and non-publication of small studies with negative results (publication bias), may decrease variability among studies. Clearly, the application of any test for homogeneity is futile in this situation.

In conclusion, contrary to Perry and Persaud's assertion, the simple visual examination of a funnel plot, although subjective, is often more useful than the statistical manoeuvre entailed in testing for homogeneity. It is unfortunate that funnel plots are not more widely used and that too much faith is placed in the results of tests for homogeneity. The development of numerical measures embracing the information contained in funnel plots, together with a statistical test for symmetry, may help to address this issue in future.

MATTHIAS EGGER Senior research fellow

Department of Social and Preventive Medicine, University of Berne, CH-3012 Berne, Switzerstand

GEORGE DAVEY SMITH Professor of clinical epidemiology

Department of Social Medicine, University of Bristol, Bristol BS8 2PA

- 1 Perry A, Persaud R. Misleading meta-analysis. BMJ 1995;310: 1604. (17 June.)
- 2 Egger M, Davey Smith G. Misleading meta-analysis. BMJ 1995;310:752-4. (25 March.)
- 3 ISIS-4 Collaborative Group. ISIS-4: a randomised factorial trial assessing early oral captopril, oral mononitrate, and intravenous magnesium sulphate in 58050 patients with suspected acute myocardial infarction. Lancet 1995;345:669-85
- 4 Yusuf S, Koon T, Woods K. Intravenous magnesium in acute myocardial infarction. An effective, safe, simple, and inexpensive intervention. Circulation 1993;87:2043-6.
- 5 Egger M, Davey Smith G. Magnesium and myocardial infarction. Lancet 1994;343:1285.

NHS computer network will breach venereal disease regulations

EDITOR,—Ross Anderson raises the serious concern of potential breaches of confidentiality because the proposed NHS network has insufficient safeguards to protect patient information.¹ Aggregated databases containing the records of tens of millions of patients will be a great temptation for dishonest NHS employees, who could access the network to find sensitive medical health records to sell. It would be a dream come true for the blackmailer. Breaches of confidentiality of the kind envisaged in the editorial have the potential to cause much harm to the individual patient.

I have grave concerns about the network and its proposed extension of access to the wider NHS. The changes, if implemented, will be a serious breach of the NHS (Venereal Diseases) 1974 Regulations. Service provision in genitourinary medicine is based on confidentiality, and this has encouraged patients to seek medical advice. It is not enough to concede that databases on patients with AIDS should not be connected to the network. Because of absolute statutory confidentiality, genitourinary physicians have been able to reassure patients of confidentiality of service and encourage patients and their consorts to attend clinics. There are moral, legal, and ethical arguments in maintaining patients' confidentiality within general medicine and genitourinary medicine and HIV and AIDS in particular. Patient confidentiality, if compromised, will considerably damage confidence in the NHS, destroy the trust that is crucial for a successful clinical relationship, and have a serious impact in the control and prevention of sexually transmitted diseases and HIV infection.

> R BASU ROY Consultant in genitourinary medicine/HIV/AIDS P SRISKANDABALAN Senior registrar

Pannel Suite, Royal Bournemouth Hospital, Bournemouth BH7 7DW

1 Anderson R. NHS-wide networking and patient confidentiality. BMJ 1995;311:5-6. (1 July.)

Definitions in palliative care

EDITOR,—The recent correspondence about palliative care services for cardiology fails to differentiate between the three distinct yet interacting aspects of palliative care.

The palliative approach is relevant to all patients with incurable conditions. It emphasises the importance of considering psychosocial and spiritual aspects as well as the purely physical. It includes consideration of family and domestic carers. Most specialties and all general practitioners look after patients with life threatening disease; attention to the patients' concerns and fears can guide management and ensure appropriate interventions. A palliative approach should be a core skill of every clinician, who may seek expert specialist help to ensure the best possible quality of life for the patient.

Palliative interventions aim to improve the control of symptoms—for example, palliative surgery, radiotherapy, or chemotherapy. They are usually carried out and monitored by specialists in the relevant discipline.

Specialist palliative care is delivered by clinicians who have specialist accredited training. Specialist palliative care teams are multidisciplinary and relate to both general and hospital practice, being available to provide advice and support that bridges the divide between home and hospital and to provide hospice care.³ They cooperate with others rather than take over from them. Specialist palliative care has a duty to carry out research and, through effective education, to disseminate widely the lessons learnt. It must be available to support those giving care with a palliative approach.

The importance of recognising these definitions is twofold. Firstly, in many areas confusion exists about the conditions that are the legitimate province of palliative care. Recognition of the difference between the general palliative approach and specialist palliative care can reduce this difficulty. If the cardiology example is pursued, general practitioners and hospital doctors treat patients with end stage ischaemic heart disease with a palliative approach; angioplasty in this context is a palliative intervention done by specialists a palliative medicine physician may become involved by advising on opioids and sedation for intractable dyspnoea and chest pain and helping with psychosocial distress, including family

support. Secondly, because purchasers are uncertain how to contract for palliative care, distinction between the three categories may encourage logical decisions.

I G FINLAY Consultant in palliative medicine

Consultant in palliative medition.

Holme Tower Marie Curie Centre,

Cardiff CF64 3YR

R V H JONES Honorary senior lecturer

Department of General Practice, Exeter University, Exeter EX2 5DW

- 1 Gannon C. Palliative care in terminal cardiac failure. BMJ 1995;310:1410-1. (27 May.)
- 2 Beattie JM, Murray RG, Brittle J, Catanheira T. Palliative care in terminal cardiac failure. BMJ 1995;310:1411. (27 May.)
- 3 Department of Health and Welsh Office. A policy framework for commissioning cancer services. Report of the expert advisory group on cancer to the chief medical officers of England and Wales. London: DoH, 1995.

Emergency delays

EDITOR,—Commenting on Luisa Dillner's news item1 on a report by the Clinical Standards Advisory Group on urgent and emergency admissions to hospital,2 Christine H Dearden states that accident and emergency staff should be given admitting rights for patients seen as emergencies in the accident and emergency department.3 I chaired the group that prepared the report, and we concluded, "Assessment of need for admission by a house officer of [emergency] patients referred through the accident and emergency department has been described as inappropriate since the need for admission has already been assessed by a more senior doctor in the accident and emergency department." In our recommendations we proposed that handover arrangements should be agreed so that patients may be admitted without repeated examination by junior trainees from other departments.

There is no doubt that the practice of not trusting the accident and emergency department is widespread and causes distress. As Dearden writes, "this has no benefit to either the hospital or the patient."

MICHAEL ROSEN
Honorary professor of anaesthesia

Cardiff CF2 6SZ

- 1 Dillner L. Emergency delays need urgent attention. BMJ 1995;310:283. (4 February.)
- 2 Clinical Standards Advisory Group. Urgent and emergency admissions to hospital. London: HMSO, 1995.
- 3 Dearden CH. Emergency delays. BMJ 1995;310:1199. (6 May.)

Hepatitis C and haemophilia

EDITOR,—In her editorial on hepatitis C and haemophilia Christine A Lee states that recombinant factor VIII "cannot transmit bloodborne viruses." Although this belief is widely held, it is not correct. All biological substances can harbour infectious agents, and consequently all biopharmaceutical products carry some risk of infection, however small. Recombinant factor VIII is prepared from mammalian cell lines containing viral DNA; in addition, substances of bovine, murine, and human origin may be used at several stages in the manufacturing process. Even when technology that inactivates viruses is used, each of these substances has at least a theoretical risk of transmitting infectious agents.

Haemophiliac patients were infected with hepatitis C before effective technologies to inactivate viruses had been developed and at a time when the risk and severity of viral infections from coagulation factor concentrates were not fully appreciated. The degree of safety of plasma derived concentrates in which viruses have been inactivated is now reasonably well established through extensive and detailed follow up of their