coping." Guidelines on referral can help to overcome such difficulties.

Any suggested inquiry into death rates should cover all providers of long stay care. This would allow a comparison of the rates across all providers, thus keeping results for nursing homes in context. Death rates in nursing homes may not be appreciably different from those for other providers of long stay care. We must be careful when discussing the many factors that influence death rates, and particularly in any attempts to link death rates to care previously given.

We agree with Bowman that our survey shows that the population in nursing homes is dynamic and changing. More research is required to address some of the points raised generally by our survey and the response to our paper.

JENNY HENRY
Research assistant
ISOBEL MACPHERSON
Research fellow
SHEENA DONALD
Research fellow

Priority Services Research Team,
Department of General Practice,
University of Aberdeen,
Aberdeen AB9 2AY

Potential risks of health food products containing yohimbe extracts

EDITOR,—We wish to express our concern about the availability of yohimbe preparations on the health food market. We submitted capsules that contained yohimbe extracts (imported from France by Nutramin, Amsterdam) to thin layer chromatography and high performance liquid chromatography and recovered, besides several other alkaloids, at least 1 mg of yohimbine per capsule. The recommended daily dose of 8-10 capsules would therefore provide at least 8-10 mg of yohimbine a day, and the other alkaloids might also contribute to the effect.

The label describes the product as a vitalising agent for men, but off label advertising advocates the product for the treatment of male impotence. While yohimbine has shown favourable results in this condition, it is not universally accepted as an effective aphrodisiac and is not sufficiently safe to be freely available for uncontrolled use. When given to healthy volunteers 15-20 mg of yohimbine orally is usually needed to increase blood pressure and to induce anxiety, but in patients taking tricyclic antidepressants hypertension may occur at 4 mg three times a day, and the toxicity of yohimbine can be enhanced by other drugs, such as phenothiazines.¹ A dose of 5 mg is sufficient to produce adverse effects in patients with autonomic failure,² and 10 mg can elicit manic-like symptoms in patients with bipolar depression.³ Furthermore, daily doses of 15 mg have been associated with bronchospasm⁴ and a lupus-like syndrome.⁵

The label of the capsules that we investigated does not provide any warning about such health risks, and off label advertising presents yohimbine merely as a peripheral vasodilator which can potentiate other agents that lower blood pressure. In reality, however, the α_2 adrenoreceptor antagonistic properties of the alkaloid reverse the effects of clonidine and similar antihypertensive drugs.

In view of these data, we have requested the Dutch department of health to take steps against the uncontrolled availability of health food products containing yohimbe extracts, and we hope that authorities in other countries will also take action. Doctors should also be aware that such preparations may not have the composition that is declared on the label. When we analysed a second product on the Dutch market (imported from the United States by Body Food, Ridderkerk) it yielded only caffeine and no yohimbine, even

though the label claimed that 500 mg of yohimbe bark extract was present in each tablet.

PETER A G M De SMET
Drug information pharmacist
OSCAR S N M SMEETS
Quality control pharmacist

Royal Dutch Association of the Advancement of Pharmacy,
2514 JL The Hague,
Netherlands

- 1 Lacomblez L, Bensimon G, Isnard F, Diquet B, Lecrubier Y, Puech AJ. Effect of yohimbine on blood pressure in patients with depression and orthostatic hypotension induced by clomipramine. *Clin Pharmacol Ther* 1989;45:241-51.
- 2 Onrot J, Goldberg MR, Biaggioni I, Wiley RG, Hollister AS, Robertson D. Oral yohimbine in human autonomic failure. *Neurology* 1987;37:215-20.
- 3 Price LH, Charney DS, Heninger GR. Three cases of manic symptoms following yohimbine administration. *Am J Psychiatry* 1984;141:1267-8.
- 4 Landis E, Shore E. Yohimbine-induced bronchospasm. *Chest* 1989;96:1424.
- 5 Sandler B, Aronson P. Yohimbine-induced cutaneous drug eruption, progressive renal failure, and lupus-like syndrome. *Urology* 1993;41:343-5.

Contamination of bone marrow transplants from peripheral blood

EDITOR,—We agree with Tessa L Holyoake and Ian M Franklin that transplants of peripheral blood stem cells may transform medical oncology, but their infective risks were not mentioned.¹ Harvested bone marrow may contain bacteria,^{2,5} and grafts of peripheral blood stem cells may do too. In two cases recently, contaminated grafts were infused uneventfully when the patients received prophylaxis with antibiotics.

Peripheral blood stem cells were harvested with full aseptic precautions being taken. Duplicate samples were taken before and after cryopreservation and cultured directly and by broth enrichment for conventional and psychrophilic bacteria. Isolation of the same organism from both duplicate samples was considered to be significant. Since August 1993 we have monitored 59 harvests of peripheral blood stem cells from 31 patients. Contaminants were isolated from 10 harvests from 10 patients (coagulase negative staphylococci (six cases), *Bacillus* spp (two), *Staphylococcus aureus* (one), and *Pseudomonas putida* (one)); none of the patients had clinical infections.

Four harvests from two patients yielded positive results. Four days after the harvesting the first patient became feverish, and *Xanthomonas maltophilia* was isolated from both aerobic bottles of a four-bottle blood culture set. Two samples were cultured in duplicate after freezing, and the same bacterial strain was isolated from three cultures from these. Fourteen days later the graft was infused, the patient being given imipenem and gentamicin. One possible source of the contamination was found: iodine in 70% isopropyl alcohol used for skin antisepsis was kept in undated 500 ml bottles with screw tops. Mixed organisms including *P. stutzeri* were grown from the bottle tops. Alcoholic iodine is now supplied in small volume bottles, which are discarded within one week.

The second patient had no signs of infection when two harvests of peripheral blood stem cells were obtained on consecutive days. *Enterococcus faecalis* was isolated from both duplicate cultures of the first sample after freezing and from one culture of the second. Thirty one days later the graft was infused, the patient being given benzylpenicillin and gentamicin for 72 hours.

In both cases blood cultures were sterile during and after the uneventful infusions and engraftment was rapid.

Bacteria may enter cellular grafts at the time of collection (from bacteraemia in the patient (unpublished observations) or during collection

or processing²) or during storage or thawing.³ Significant growth may be difficult to distinguish from the background contamination inevitable with enrichment culture, so duplicate processing of direct and enrichment cultures may aid interpretation. As a result of our use of this protocol only two of 10 patients with cultures that yielded positive results received prophylaxis with antibiotics. The addition of antibiotics to grafts in vitro is ineffective.⁴ We therefore recommend that significantly contaminated grafts of peripheral blood stem cells can be infused safely if two prophylactic antibiotics active against the pathogen are given for 72 hours. We would use vancomycin alone for appreciable growths of coagulase negative staphylococci. Blood samples are cultured at the time of infusion, and prophylaxis would be prolonged to a course of treatment if these yielded positive results.

M FARRINGTON
Consultant microbiologist

I MATTHEWS
Chief medical laboratory scientific officer

R MARCUS
Consultant haematologist

M A SCOTT
Chief medical laboratory scientific officer

Addenbrooke's Hospital,
Cambridge CB2 2QQ

E CAFFREY
Medical director

C J HUNT
Clinical scientist

East Anglian Tissue Bank,
Blood Transfusion Service,
Cambridge CB2 2PT

- 1 Holyoake TL, Franklin IM. Bone marrow transplants from peripheral blood. *BMJ* 1994;309:4-5. (2 July.)
- 2 Rowley SD, Davis J, Dick J, Braine HG, Charache P, Saral R, et al. Bacterial contamination of bone marrow grafts intended for autologous and allogeneic bone marrow transplantation. *Transfusion* 1988;28:109-12.
- 3 Lazarus HM, Magalhaes-Silverman M, Fox RM, Creger RJ, Jacobs M. Contamination during in vitro processing of bone marrow for transplantation: clinical significance. *Bone Marrow Transplantation* 1991;7:241-6.
- 4 Stroneck DF, Fautsch SK, Lasky LC, Hurd DD, Ramsay NKC, McCullough J. Adverse reactions in patients transfused with cryopreserved marrow. *Transfusion* 1991;31:521-6.
- 5 Wilcox MH, Winstanley TG, Spencer RC. Transfusing *Yersinia enterocolitica*. *BMJ* 1992;305:1095.

Ethnicity in epidemiological research

Similar methodological problems exist in health services

EDITOR,—Peter A Senior and Raj Bhopal's article and the accompanying editorial by Kwame J McKenzie and Natasha S Crowcroft draw together important methodological problems that arise in research into the interaction of ethnicity and health.¹² The same process is also needed in relation to the issue of fair access to health services and to services that determine health, such as education and housing.

Over the years many efforts have been made to build on action by, and with, ethnic minority community groups to develop better services. For example, Save the Children recently completed two needs assessment exercises, in partnership with local people and statutory authorities, with Vietnamese refugees in south London³ and with south Asian people in Newcastle.⁴ Further work is being developed with traveller communities and with other refugee and ethnic minority communities in Britain.

Progress has been made in extending services for some ethnic minority groups and in improving the policies of some purchasers and providers, but two things constantly hamper this kind of work: financial support to groups has been small and inconsistent and is characterised by short term grants that are not renewed.

Efforts to coordinate what has been learnt about