patients? Would another church support a member who withheld lifesaving treatment from a Jehovah's Witness? This was not a balanced treatment of an issue clearly introduced in the journal as an ethical dilemma.

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****When we ask people to comment on a case we try to select a range of relevant people—in this case an ethical expert, a lawyer, and a Jehovah's Witness—but we do not seek to know in advance what line they will take. We think that it is right to try to seek opinions from a range of disciplines and specialties but wrong to expect people to follow a particular line. The letters columns are open to those who want to take a different view.—ED, *BMJ***

Use of resources needs to be addressed

EDITOR,—Simon Finfer and colleagues' article and the accompanying responses seem to raise two distinct issues, which in my view should be kept separate: the wishes of the patient (and issues concerning consent) and the "moral" issue of use of resources. The only respondent who seems to have tackled the issue of use of resources is Michael A Jones; doctors need to consider this increasingly relevant question in the world of the internal market.

Had Finfer and colleagues' other patients been denied the use of resources required by the authors' first (surviving) patient, and had one of those patients or his or her representative chosen to sue for lack of adequate care, it would, presumably, in the first instance, be the health authority or trust, not Finfer and colleagues. It is interesting to conjecture how a trust might have chosen to respond. It could have argued that it was up to the medical staff to dispose of clinical resources more efficiently and thereby have implied that responsibility rested with its employees (as Jones, in his final paragraph, also seems to suggest the courts may imply). It could have accepted full responsibility for the lack of resources. Or it could have argued that the contract it held with its local purchaser was cash limited and that some responsibility lay with the purchaser or its contracts managers for not having built in sufficient flexibility to allow for this kind of situation. The purchaser could, of course, in turn argue that responsibility lay with central government for having cash limited its budget.

There are doubtless many other alternatives, but I am left wondering who does bear the moral responsibility so readily and bravely shouldered by Finfer and colleagues.

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Chemotherapy for haematological malignancies can be fatal

EDITOR,—Those of us who treat haematological malignancies are sometimes faced with equivalent dilemmas to that discussed by Simon Finfer and colleagues, although the time scale is different from that in acute trauma.¹ A few years ago I

attempted chemotherapy in a 19 year old woman who was a practising Jehovah's Witness. The implications of chemotherapy without the support of blood and blood products were fully discussed with her and her family. All remained steadfast in their refusal to accept any form of red cell transfusion. The patient received chemotherapy but, almost inevitably, died.

Managing such a patient proved difficult for all the staff concerned with the case. Nevertheless, the beliefs of the patient and her family were respected. It was therefore some comfort to the staff that the family wrote to the unit specifically to thank the staff for the way in which they had handled the difficult situation. The letter clearly gave the impression that the family had come to terms with the death in their own way, doubtless sustained by their faith.

Experience of this case leads me to agree strongly with the view expressed by David H Wilson²: that we must continue to inform such patients adequately about the consequences of their refusal to accept blood transfusion, but, equally, that we must respect their right to refuse this supportive treatment even if the consequence is likely to mean their death. In certain respects the death of this young Jehovah's Witness with malignant disease ultimately proved easier for staff to cope with than the deaths of other young patients with leukaemia in families with no particular religious or other faith enabling them to prepare for or accept death.

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Register of willing consultants is needed

EDITOR,—We agree with Simon Finfer that every hospital should maintain a list of consultants who are prepared to treat Jehovah's Witnesses.¹ These data could easily be collated with regional and national registers. The royal colleges might wish to have a role. Our recent experience of managing a Jehovah's Witness who required elective radical surgery is relevant.

In September 1993 a 45 year old Jehovah's Witness was diagnosed as having invasive vulval carcinoma. The gynaecologist under whose care the vulval biopsy was carried out declined to carry out radical vulvectomy (the preferred mode of management) because the patient refused blood transfusion. Instead he offered alternative management of radiotherapy and chemotherapy followed by simple vulvectomy. The patient received two pulses of chemotherapy but declined to continue with the rest of the chemotherapy and radiotherapy. At this stage, three months after diagnosis, her general practitioner referred her to our hospital for consideration for surgery.

Precautions were taken to minimise the perioperative blood loss. Radical vulvectomy with bilateral inguinofemoral lymphadenectomy was carried out by a team consisting of two consultant gynaecologists and two assistants. A cell saver autologous blood recovery system (Haemonetics Leeds) which is an acceptable method of conserving the blood lost, was used.² With this system blood lost was suctioned from the surgical field, anticoagulant was added, and tissue, clots, and debris were filtered out. The washed packed red cells were finally suspended in saline ready for reinfusion. As her preoperative haemoglobin concentration was 136 g/l and the estimated blood loss at surgery was only 500 ml, replacement was not required. Her postoperative period was uneventful except for minor wound infection.

The above case highlights the need for such regional or national registers so that referral and appropriate management can be undertaken. Two preconditions need to be met before the advantages of such a register can be fully exploited. Firstly, every health care provider should be willing to take cognisance of the religious beliefs of Jehovah's Witnesses; and, secondly, if surgeons are unwilling to operate on Jehovah's Witnesses themselves they should facilitate their referral to a surgeon who has the appropriate facilities and is willing to do so.

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Treatment of oesophageal cancer

Prognosis is not uniformly bad

EDITOR,—We agree with Seamus O'Reilly and Arlene Forastiere that surgery remains the standard treatment for resectable oesophageal cancer, but we do not agree that the outlook in such cases is almost hopeless.¹ The review of Earlam and Cunha-Melo spanned two decades of all types of practice, and the latest paper in that review was published 16 years ago. This review is now of only historic interest and should not be quoted as a reflection of modern practice. Nor do we agree that most patients have metastases by the time they present. The paper quoted in support of this statement was a necropsy study, which would have been biased in that direction.

Last year we saw 102 new patients with oesophageal cancer in our unit. Sixty two were secondary referrals from consultants and 40 were primary referrals from family doctors. Eighty eight patients were explored with a view to potentially curative resection, of whom 65 underwent successful resection (74% of those explored and 64% of the total). Twelve patients were considered to be unsuitable for surgery and had intubation as a primary procedure. Mortality at 30 days was 5% (three patients). Of the 40 patients referred by family doctors, 31 were explored and 27 underwent resection (87% of those explored and 68% of the total); nine patients (23%) were unsuitable for surgery and underwent primary intubation (as opposed to three patients (5%) in the group referred by consultants). Overall five year survival after surgery alone carried out in specialised units averages from 36%² to 58%,³ with higher rates for stage I disease.

Chemotherapy in various combinations with radiotherapy and surgery has been used over the past 20-30 years. The results are conflicting and the benefits unproved, as O'Reilly and Forastiere indicate. We agree that properly set up randomised trials are important to provide answers over the next decade. Because of the high toxicity of the available drugs, however, one should not be too optimistic about the outcome of such trials.

The treatment of cancer generally is patchy in Britain. It is encouraging that the government has recognised this and is trying to do something about it. Cancer of the oesophagus, like any other cancer, should be treated in specialised centres, where the patient stands the best chance of a cure. The future must lie in the development of agents that kill the tumours but spare the rest of the patient. Until

then the best advice for a patient with oesophageal cancer is to find a good surgeon.⁴

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Patients are unwilling to enter randomised trials

EDITOR,—The Medical Research Council is carrying out a trial comparing chemotherapy and surgery versus surgery alone in oesophageal carcinoma. Of the last six patients with oesophageal cancer with whom I have discussed this trial, only one has agreed to be randomised. The remaining five declined because they were not willing to risk a possible delay of six to eight weeks to their surgery should they have been randomised to the chemotherapy arm or because of disquiet over the possible side effects of chemotherapy during a period of natural anxiety before they underwent major surgery.

These genuine anxieties may well account for some of the poor rates of accrual to trials of treatment of oesophageal cancer.¹

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Uptake of influenza vaccine

Epidemic of 1989-90 improved uptake

EDITOR,—Martin Wiselka highlights the low uptake of influenza vaccine among people known to be at increased risk of influenza and its complications.¹ In particular, he draws attention to the extremely low uptake in high risk groups between 1983 and 1989, which generally ranged from 5% to 20%. The influenza epidemic that followed in the winter of 1989-90 was the largest since 1976, generating considerable medical and media attention. Such intense activity might well have been expected to change immunisation behaviour sufficiently to render any previous estimates of uptake obsolete. We present further data in this issue, which were not available in time for inclusion in Wiselka's paper.

In spring 1992 a large questionnaire survey of over 600 patients in Leicestershire with either chronic cardiovascular or respiratory disease or diabetes was performed, with a response rate of 82.6%. This showed that during winter 1991-2 the overall uptake of influenza vaccine in these designated high risk groups was 41.3% (95% confidence interval 36.9% to 45.7%).² A survey of elderly people in 1992 showed that, in the same season, around 42% of respondents with high risk conditions had been immunised.³ With respect to the only other large high risk group not covered by these contemporary surveys—elderly people living in residential care—information is now available from a recent survey of a random sample of 228 elderly residents living in 52 nursing and residential homes in Nottingham (response rate=66.2%). Our preliminary analyses indicate that this overall

uptake of influenza during the 1992-3 season was 39.6% (95% confidence interval 33.2% to 46%).

Collectively these data suggest that uptake of influenza vaccine in most high risk groups has increased substantially since the epidemic of 1989-90 and that an uptake of 40% is now a more realistic estimate. Further developments in both policies and practices for targeting influenza immunisation should result in even higher uptake in future.⁴

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New guidelines are needed

EDITOR,—Martin Wiselka points out that the rate of uptake of influenza vaccine is surprisingly poor.¹ In Grampian three factors contribute to this.

Firstly, analysis of all prescriptions for influenza vaccine in Grampian last autumn found that practice prescribing rates varied from 0.01 per 100 patients to 12.72 per 100 (data supplied by pharmacy practice division, Edinburgh). This variation did not correlate with the proportion of elderly patients in each practice, but small practices tended to have higher rates than larger practices. There was an appreciable difference between urban and rural practices, with all the practices with high prescribing rates being rural.

Secondly, a postal questionnaire survey of all 91 general practices in Grampian achieved a 91% response (88 responses). In 78 practices patients had refused the offer of vaccine last year (numbers ranged from one to more than 50).

Thirdly, 65 practices had had problems obtaining influenza vaccine last autumn. In 60 cases this was because pharmacy supplies were inadequate, particularly in November. Four practices thought that media publicity about flu had increased demand, and one thought that fit people claiming vaccine had caused problems of supply.

General practitioners have noted increasing demand for influenza vaccine from patients who are not in the high risk categories defined by the chief medical officer's guidelines.² Only one practice in Grampian had no requests last autumn from patients not in high risk categories; 14 had fewer than 10 requests, 51 had 10-50 requests, seven had 51-100, nine had more than 100, and six were unsure of numbers. Only one practice did not give vaccine to patients not in the high risk categories; 21 gave vaccine to fewer than 10 low risk patients, 47 to 10-50 patients, six to 51-100, seven to more than 100, and six were unsure of numbers.

Giving vaccine to only high risk patients may be a counsel of perfection: several practices said that refusing to give vaccine to low risk patients was difficult, while others thought that vaccine should be given on request to low risk patients or "if there was any vaccine left." Groups that practices thought should be offered influenza vaccine included 14 medical categories and also occupational groups: teachers, health workers, people

caring for elderly people, self employed people, and fishermen.

Present guidelines concentrate on reducing mortality, particularly among elderly people, but more research is needed on how much morbidity and absence from work might be prevented if vaccine was given to all those who request it. A double blind randomised controlled trial in general practice would answer this.

I thank the general practitioners for completing the questionnaire and David Walsh for the analysis.

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Social inequalities in uptake of immunisation

Use of odd ratio is inappropriate

EDITOR,—Richard Reading and colleagues conclude from their study of the uptake of childhood immunisations in Northumberland that inequalities in uptake are increasing.¹ This conclusion is not supported by their data. The authors debate whether the difference in uptake between the highest and lowest groups or the ratio of the odds of being immunised between two groups is the correct index of inequality to use. They state, "However, the actual data illustrate the points most clearly"; later, contradicting this, they state, "the absolute difference between rates is not the best means of measuring inequalities . . . it is bound to reduce as overall uptake approaches 100%." They then advocate the odds ratio as the appropriate measure. We propose that the odds ratio is misleading here.

Use of the odds ratio is appropriate for comparing uptake between two groups at the same time but not for tracking changes in two groups over time, as a simple example shows. Take two cohorts whose uptake always differs by 5%, starting at 60% and 65%. Here the odds ratio is $(65/35) \times (40/60) = 1.24$. As the uptake improves to 70%, 80%, and 90% in the lower group the odds ratio increases to 1.29, 1.42, and 2.11. In the extreme case of 95% against 100% the odds ratio becomes infinite. The apparently increasing ratio is an artefact of both proportions approaching 100%. The percentage difference between the highest and lowest groups is a much better measure and showed decreases over time for two of the three immunisations studied. It is not "bound to reduce" until overall uptake exceeds 95%.

The actual data, as opposed to the summary measures, offer another perspective: that a massive improvement in immunisation rates took place with little or no change in inequality. For contagious infections, herd immunity is a key factor and high overall uptake is the primary goal. There is still some way to go in the most deprived section of the population, but on the whole Northumberland Health and the local population ought to be satisfied with their achievement.

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