

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 odds 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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