required in each group, otherwise follow up for at least a further six years would be necessary.

Hence also the wide confidence interval of the relative risk from 0.68 to 1.35. How the error in the authors' calculation was made is immaterial. What is important is that the reader be aware that the trial had a 50% chance of missing a real 25% reduction in mortality. This implies, firstly, that the findings of the trial as a whole may be an aberration of its design; and, secondly, that if the trial as a whole is too small any interpretation of subgroup results is a doubly futile and ill considered exercise.

The authors admit that 24% of the control group had undergone mammography and that 20% of the control group cancers were detected by mammography. This, together with the compliance rate of 74% at first screening and 70% subsequently, means that the trial does not compare a policy of offering screening with one of not doing so: it compares 74% screening with 24% screening.

In conclusion, the present results of this trial should not cause concern as the low statistical power, the poor compliance, and the contamination of the control group mean that any other results at the predetermined end point would have been unlikely a priori.

Given these problems, any conclusions from this study about the effect of screening on mortality from breast cancer are unwarranted at this time.

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1 Anderson I. Mammographic screening and mortality from breast cancer: the Malmö mammographic screening trial. *Br Med J* 1988;297:943-8. (15 October.)

AUTHORS' REPLY.—The implicit questions in the assessment of the Malmö trial were, "Do women attend?" and "Are existing tumours detected at a curable stage?" Our answers are that in an urban population such as Malmö 30% of the invited women do not attend and 17% of the tumours are detected in the interval between screenings. From a practical preventive perspective these are two important observations in the Malmö trial.

Another important observation is that in a city such as Malmö almost a quarter of the women are referred for mammography outside the screening programme. To us this is an answer to the important public health question, "How much does the screening programme add to the breast diagnostic activity that is already going on in a city such as Malmö?" and not evidence of a flaw in the design of the study.

Given that invited women would attend, that existing tumours would be detected, and that mammographic screening in the city would be restricted to the designed screening programme, the trial would have a 90% power to detect a 35% (not 25% as was erroneously stated in the original paper) reduction of the expected 0.7% mortality from breast cancer in the control group. When the code was broken the breast cancer mortality in the control group was very close to 0.7%. For comparative reasons we have chosen to exclude from the tables and figures on mortality women with previously detected breast cancer. The number of women years in the Malmö trial exceeds the number of women years in the Health Insurance Plan study,¹ in which the reduction in mortality was 30%.

We conclude that it is difficult to use the results from one study to calculate the expected benefits in another population. We are well aware of the degree of uncertainty around the estimated poten-

tial benefit for women over 55. Considering the results in other programmes, we still think that it is fair to conclude that in an urban population such as in Malmö invitation to mammographic screening may lead to a reduced mortality from breast cancer in women aged 55 and over.

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Mastectomy or conservation: the patient's choice

SIR,—Several points arise from the paper by Mr Ronald G Wilson and others.¹ Firstly, the figure of 35% for women choosing conservation treatment for their breast cancer is rather low compared with our experience. From September 1986 to September 1987, 38% of all patients presenting with T₁ or T₂ breast cancer to this unit underwent wide excision and axillary clearance as surgical treatment for their breast carcinomas. All patients who underwent conservative surgery had been offered the alternative of mastectomy and axillary clearance. The choice was theirs.

Secondly, to say that a proper trial comparing mastectomy with conservation has still not been done is to misunderstand the study by Fisher *et al.*² Although its title includes segmental mastectomy, thorough reading of the paper shows that the treatment was similar to that offered by Mr Wilson and others. In fact, one result of the study by Fisher *et al* was a thorough appraisal of the factors that led to an excellent cosmetic result in conservative surgery for breast cancer.¹ Patients in this study, as in ours, however, underwent wide excision and full axillary clearance rather than node sampling.

Thirdly, in view of the findings of the recent Scottish tamoxifen trial³ we would be interested to know if Mr Wilson and others propose to continue their policy of no adjuvant treatment in patients undergoing surgical treatment of primary breast carcinoma. The findings of this study indicate a small but significant survival advantage in those patients given adjuvant tamoxifen for five years postoperatively.

Finally we are interested in the certainty with which the authors expressed the view that in situ lesions are always best treated by mastectomy. We believe that most authorities would consider this to be a contentious statement.

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- 1 Wilson RG, Hart A, Dawes PJD. Mastectomy or conservation: the patient's choice. *Br Med J* 1988;297:1167-9. (5 November.)
- 2 Fisher B, Bauer M, Margolese R, *et al*. Five-year results of a randomised clinical trial comparing total mastectomy and segmental mastectomy with or without radiation in the treatment of breast cancer. *N Engl J Med* 1985;312:665-73.
- 3 Margolese R, Poisson R, Shibata H, Pilch Y, Lerner H, Fisher B. The technique of segmental mastectomy (lumpectomy) and axillary dissection: a syllabus from the national surgical adjuvant breast project workshops. *Surgery* 1987;102:828-34.
- 4 Scottish Cancer Trials Office. Adjuvant tamoxifen in the management of operable breast cancer: the Scottish trial. *Lancet* 1987; ii:171-5.

SIR,—The contention of Mr Ronald G Wilson and colleagues that conservation of the breast is suitable in "less than 20% of women with early

breast cancer"¹ is exceedingly odd. Research on a series of patients treated at Barts,^{2,3} mostly more than 50 years ago, was sufficient to convince me that breast conservation was feasible in many patients. In that series, of those patients treated by the late Sir Geoffrey Keynes (many with supplementary radium or during the earlier days of external radiotherapy), a little over half had had only local excision of the tumour without prejudice to overall survival. As a result of that Barts research from 1953 onwards I began to treat a growing proportion of my patients by local excision of the tumour while Dr George Crile Jr, in the then far more hostile surgical environment of the United States, pioneered Keynesian principles there.^{4,6}

In their letters Drs G G Ribeiro¹ and Margaret F Spittle⁶ covered well the important aspects of the implications of the paper by Mr Wilson and others (especially with regard to selection and informed consent in relation to the "unknown risk" in those with in situ cancer) with which I am in agreement. Sadly, after all these years you would have hoped that the profession had appreciated that, though length of survival is little affected by the precise method of treatment, the quality of that survival most assuredly is. It is exceedingly discouraging to find that, half a century after Keynes was achieving such remarkable results with the early tools of irradiation, women in this country may still be denied adequate choice of treatment.

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- 1 Wilson RG, Hart A, Dawes PJD. Mastectomy or conservation: the patient's choice. *Br Med J* 1988;297:1167-9. (5 November.)
- 2 Williams IG, Murley RS, Curwen MP. Carcinoma of the female breast: conservative and radical surgery. *Br Med J* 1953;iii:787-96.
- 3 Murley RS. Carcinoma of the breast: the assessment of results. *Can Med Assoc J* 1956;74:427-32.
- 4 Keynes G. Conservative treatment of cancer of the breast. *Br Med J* 1937;iii:643-7.
- 5 Crile G. *A biological consideration of treatment of breast cancer*. Springfield, Illinois: Thomas, 1967.
- 6 Crile G. Primary treatment of breast cancer. *Bull NY Acad Med* 1979;55:492-7.
- 7 Ribeiro GB. Mastectomy or conservation. *Br Med J* 1988;297: 1471. (3 December.)
- 8 Spittle MF. Mastectomy or conservation. *Br Med J* 1988;297: 1471. (3 December.)

RU486

SIR,—We draw your attention to three factual errors in the report from Alexander Dorozynski on Roussel's abortifacient RU486.¹

Firstly, the results of reproductive studies do not support the comment that RU486 "is teratogenic in several animal species."

Secondly, no child has been born with malformations to a mother treated with RU486 during pregnancy.

Finally, the brand name of RU486 in France will be Mifegyne, not mifepristone, which is the generic name.

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- 1 Dorozynski A. Tempest in a pill box. *Br Med J* 1988;297:1291-2. (19 November.)

Health economics: the end of clinical freedom?

SIR,—New York state law may shed some light on Professor Alan Williams's question.¹

Here, we're required to use our best judgment in making our medical orders. We may do neither less nor more, and we may not weigh costs and benefits. So clinical freedom is meaningless: there's no freedom and no choice, and rightly so.