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Number who benefit per unit of treatment may be a more appropriate measure

EDITOR,—Like Richard J Cook and David L Sackett¹ and many others,^{2,3} we are enthusiastic about the advantages of using the “number to treat” as a clinically useful measure of the effect of treatment. It is not, however, a universal panacea. In research into health services in which the unit of treatment or intervention and cost is a group or population (such as a regional trauma centre) rather than an individual, it surely remains more appropriate to report the number who benefit per unit of treatment rather than the number of treatments per unit of benefit.

Furthermore, since the number needed to treat is the reciprocal of a more traditional measure of effectiveness—absolute risk reduction—those who use it should be aware of the statistical tricks that reciprocals can play. Most importantly, the average of the reciprocals is not the same as the reciprocal of the average. For example, if two trials of identical size and quality are conducted, one of which shows an absolute risk reduction of 0.1 and therefore a number needed to treat of 10 and the other an absolute risk reduction of 0.025 and associated number needed to treat of 40, what is the best overall estimate of the number needed to treat? Averaging the figures gives an overall number needed to treat of 25, while averaging the absolute risk reduction and then taking the reciprocal gives a number needed to treat of 16. If the trials were identical and conducted in the same population the best estimate is obtained by pooling the results, yielding a number needed to treat of 16.

The lesson for combining trial results is that when taking an (appropriately weighted) arithmetic mean is the correct method for combining absolute risk reductions it is not the correct method for combining numbers needed to treat; these must be calculated by taking the reciprocal of the summary absolute risk reduction.

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Making routine data adequate to support clinical audit

EDITOR,—The message of our editorial on routine clinical data seems to have been misunderstood and may need restating.¹ We have no argument with J G Williams and Michael Joffe and colleagues when they note that data systems that are “owned” by clinical staff are likely to be of higher quality than those that are not.² Indeed, we said this in the editorial. The relevant point, which the authors of both letters have missed, is that the value of clinical

data, whether they are owned by clinicians, managers, or anyone else, is limited by differences in what the diagnostic codes actually represent. Unfortunately, doctors often disagree about diagnoses. As long ago as 1965 Geoffrey Rose showed that three cardiologists could agree about whether 57 men with chest pain had angina in only 75% of cases.³ More recently, Sackett *et al* have provided many other examples.⁴ Such disagreements arise at least partly because doctors use different diagnostic criteria and their decisions are subject to a variety of biases. While we are never likely to achieve universally agreed criteria for all diagnoses, we need at least to recognise that this is a problem and, when appropriate, to make a start at a local level with the commoner conditions so that those working in the same hospital or general practice speak the same language.

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- 3 Rose GA. Ischaemic heart disease. Chest pain questionnaire. *Millbank Mem Fund Q* 1965;43:32-9.
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Risk factors for breast cancer

EDITOR,—In their reply to my letter on risk factors for breast cancer¹ McPherson and colleagues entirely miss the crucial difference between natural progesterone and progestogens.² To quote from my original letter: “synthetic progestogens have very different effects on the body from progesterone itself.” As the administration of progestogens results in a lowering of serum progesterone concentrations I entirely agree that giving progestogens to women at high risk of breast cancer is potentially hazardous.

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Electoral reform of GMSC

EDITOR,—Many people may think that, in his quest for electoral reform of the General Medical Services Committee, David Roberts has followed a strange route, but that does not invalidate his arguments in favour of reform.¹ There is a real feeling at grass roots level in general practice that the GMSC is not truly representative of general practitioners' views, and whether this is true or false it is being used extensively as propaganda against the GMSC.

Evidence suggests that the present electoral college system of electing regional members to the committee throws up some odd results. To use the argument that local medical committees fund the GMSC and therefore have some sole right to elect its members is clearly fallacious as it is the constituents of the local medical committees whose funds are used for this purpose. As chairman of a local medical committee I would welcome open elections for the regional seats as I believe that—as

for the regional elections for the BMA's council—the process would be more transparently democratic.

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- 1 Roberts D. Electoral reform of GMSC. *BMJ* 1995;310:938. (8 April.)

Medical students fight increase in course fees

Will discriminate against less affluent applicants

EDITOR,—We were concerned to read about the expected rise in fees for medical students.¹ As recently qualified mature students, we are aware of the difficulty of raising money to fund a medical course, even with the fees at around £700 a year, as they were for us. An increase in the fees will make entry into medical school as a mature student possible only for those from affluent backgrounds.

The current exodus of disillusioned doctors from the profession must partly be due to many of those people having chosen their career at too early an age. At a time when there is a shortage of junior doctors, admission tutors would be well advised to consider sources of potential medical students other than the 18 year olds heading for high grades at A level. This might mean foraging among the ranks of graduates. As the General Medical Council has said, “opportunities should be afforded to those who decide on a career in medicine after gaining experience in other fields.”²

For this to be possible, fees should be kept to a minimum for those students financing themselves. In addition, more positive measures need to be taken to encourage a greater diversity of people to enter the profession—for example, the setting up of a central educational fund specifically aimed at mature medical students.

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- 1 Beecham L. Medical students fight increase in course fees. *BMJ* 1995;310:334. (4 February.)

Amended funding has forced college to this position

EDITOR,—Linda Beecham's item concerning increases in course fees for medical students who are pursuing their medical course as a second degree refers to a doubling of fees for the clinical course at King's College London.¹ I would like to clarify the situation. For a limited period in the early 1990s higher education institutions were provided with additional funds to allow them to compensate home students who were responsible for funding their own course (usually students doing a second degree course) who would be adversely affected by the introduction of new fee bands. The fee band rate for clinical subjects was considerably higher than the rate that had applied previously because funding from the Higher Education Funding Council for England was reduced commensurately.

In common with other institutions King's College undertook to protect students who were continuing to finance themselves from the impact of the introduction of the increased fees in the new bands. Also in common with other institutions, while funding was available we attempted to protect new entrants similarly, having in mind the great difficulties experienced by students who