Letters

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Evaluating "payback" on biomedical research

Biomedical funding decisions should be audited

EDITOR—Grant et al note that organisations that fund biomedical research assume that the research they support will lead to an eventual improvement in health.[1] Because clinical guidelines represent one of the final links between basic research and actions to improve health, they looked at which studies were cited in guidelines.

Although their analysis is a valuable move away from the naive use and abuse of citation counts and impact factors, they may have attempted to bridge too great a distance in assessing which publications in the serial peer reviewed literature were cited in guidelines. Guidelines should be based on systematic reviews of all the studies relevant to particular clinical questions. They should not be based on the biased subsets of reports of primary research included in bibliographic databases or those that are sufficiently concise to be published in serial journals.[2]

It would be helpful if Grant et al would indicate the extent to which references to systematic reviews were cited in the guidelines they studied. The "payback" from primary studies might then be studied by assessing their contribution to these systematic reviews. For example, was a primary study judged to be of sufficiently high quality to have been included in a systematic review at all? If so, what contribution did it make to the totality of the relevant evidence?

Grant et al suggest that an alternative to the retrospective approach that they used for assessing payback would be "to identify a body of basic research published some time ago and follow its subsequent knowledge flow." A more informative approach would be to identify a body of basic research funded some time ago. Payback could then be assessed not only in terms of whether it led to an eventual improvement in health but also whether it was completed and published.

Failed research and failure to publish successful research are costs to the public. Yet I am not aware of any public or charitable organisation that funds biomedical research that routinely publishes audits of its investment decisions using criteria such as these.

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1 Grant J, Cottrell R, Cluzeau F, Fawcett G. Evaluating "payback" on biomedical research from papers cited in clinical guidelines: applied bibliometric study. *BMJ* 2000;320: 1107-11. (22 April.)
2 Clarke M, Chalmers I. Discussion sections in reports of controlled trials published in general medical journals: islands in search of continents? *JAMA* 1998;280: 280-2.

Authors' reply

EDITOR—Chalmers asks what proportion of references cited in the guidelines we studied were systematic reviews. The answer is 68/2501 (2.7%). We made this calculation by using the keywords "systematic" (for systematic review) and "meta" (for meta-analysis) in the title of the publication. Interestingly, there was no difference between publications in peer reviewed journals (56/2043; 2.7%) and the so called grey literature (12/458; 2.6%). Although Chalmers argues that clinical guidelines should be based on systematic reviews of the literature, these data show that authors of guidelines are citing the primary research.

The Cochrane Database of Systematic Reviews could provide a useful resource in undertaking applied bibliometric studies. Chalmers notes that the prospective tracing of funded research, as opposed to that only published, may be more informative in auditing the outcomes of public or charitable funding of biomedical research. We agree.

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Pragmatic approach is effective in evidence based health care

EDITOR—We agree with Guyatt et al that providing evidence based answers to clinical questions requires intensive study and application if the process is seen in the context of a systematic review of the original literature.[1] The main stumbling block remains the difficulty of constructing complex searches appropriate for a range of potential sources.

We suggest that many typical clinical questions can be answered by using a limited range of extracting, evaluating databases, which can be interrogated with simple two step or three step search formulations. Typically these sources contain several thousand references, as opposed to several millions on large databases such as Medline or EMBASE with their unfavourable signal to noise ratio.

The three sources that in our experience have a high yield of material related to evidence based health care are the clinical queries option in PubMed[2]; the Cochrane Library with its four sections (systematic reviews, the CRD (Centre for Reviews and Dissemination) database of reviews of effectiveness, the register of controlled trials, and the NHS economic evaluation database)[3]; and the TRIP (turning research into practice) database from the Centre for Research Support, Cardiff.[4]

These three databases typically retrieve fewer than 10 references provided that two or at most three relevant and discriminating terms are selected for a simple search. We often suggest to trainees that they should formulate their searches as if they were sending a telegram: which two or three words would you transmit to a colleague to ensure that he or she can imagine the clinical question? Thus the question "How efficient is a single dose of a steroid for outpatient croup?" suggests the search "croup and outpatient," which identifies small sets

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(<10) containing a target reference[5] on any of the three databases mentioned above.

This pragmatic approach, although no substitute for systematic reviews for those undertaking more extensive searches, is influenced by William of Occam's principle of "if in doubt keep it simple" and is a valid option for busy clinicians.

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Evidence should be accessible as well as relevant

EDITOR—National policy on research and development encourages the delivery of health care that is of proved efficacy and based on research.[1] Barker and Gilbert say that evidence of clinical effectiveness has to be relevant to health professionals for it to be incorporated into clinical practice.[2] We conducted a survey of community nurses and community based professionals allied to medicine (PAMs) employed by one east London community trust to identify the areas of their work where they see evidence as important.

We adapted a postal questionnaire survey that we used in 1997 among general practitioners and practice staff in teaching practices.[3] In all, 124 completed questionnaires were returned (51%). Respondents were asked for their views on the role of evidence and the sources of evidence that they accessed and were also asked to list up to three areas where research evidence would be relevant to their work.

Eighty one per cent of the respondents showed a positive attitude to the use of research evidence in the daily management of patients and clients and in the planning of services. This compares with 90% of general practitioners in the 1997 survey. There were differences between these two groups in the sources of evidence that were accessed (table).

Colleagues were used as a source of evidence by a similar proportion in each group, but community nurses and PAMs were less likely to consult experts or journals. Nor did these professionals access the internet for evidence: 64% (77/121) reported never having used the internet for any purpose. Computer projects such as PRODIGY are bringing evidence based decision making into clinical settings.[4] However, half of our respondents (58/117) reported having no access to a clinical computer system.

Community nurses and PAMs are interested in having access to evidence that is relevant to their work, especially in areas such as community mental health interventions, appropriate timing of developmental checks in children, prevention of falls among elderly people, pain management, intervention of health visitors in postnatal depression, foot and leg ulcer care, and music and art therapy. Training courses in evidence based health care need to consider the effectiveness of interventions in these areas. We agree with Barker and Gilbert that the impact of evidence based health care depends on its relevance to the work of practitioners in the field, but practitioners also need access to such evidence.

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Costs are as important as outcomes

EDITOR—History provides the framework within which meaning is generated in any system, and the issue of the *BMJ* focusing on doctors and nurses in the NHS (15 April) showed the complex interplay of stakeholders and their motives. Against a background of increasing demands on limited resources, however, decisions about the doctor-nurse skill mix should be made on the basis of cost effectiveness, not historical precedent.[1] To facilitate this process, Venning et al showed that there were no differences in outcomes whether nurses or general practitioners provided care in minor illness and that health service costs were similar.[2]

The perspective of a study defines which costs to count. For questions that have implications for long term skill mix, all NHS costs should be considered irrespective of who bears them. For example, the estimated cost of training annuitised over the expected working life is £4735 a year for a nurse and £21 215 a year for a doctor.[3] Including these values will alter this study's conclusion and show that nurses are more cost effective than general practitioners for the treatment of minor illness.

The important lesson is that when interpreting studies that influence health service delivery, researchers and decision makers must not focus on a comprehensive measurement of outcomes at the expense of an inadequate consideration of costs.

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Sources of evidence accessed at least weekly. Values are percentages (numbers)

Source	Community nurses and community based PAMs (n=119)	General practitioners (n=129)
Colleagues	63 (75)	77 (99)
Experts	37 (44)	91 (117)
Journals	35 (42)	95 (123)

PAMs=professionals allied to medicine.

Breast cancer screening

Screening has to be combined with good surgical and oncological services

EDITOR—Dickinson in her editorial stated that there are serious doubts about the contribution of breast screening to a fall in breast cancer deaths.[1] This statement is based on the controversial article by Gotzsche and Olsen,[2] which at the time of its publication attracted much media attention. The repetition of this allegation without a more balanced view is erroneous, seems to support the findings of this article unequivocally, and has the potential to undermine confidence in the breast screening programme.

The article by Gotzsche and Olsen was based on a meta-analysis of eight randomised trials of breast screening including half a million women. Because of the randomisation process and using age as a marker of imbalance, Gotzsche and Olsen believed that only the trials from Malmö and Canada were methodically correct, and because these two trials failed to show a survival advantage in the screened group, they concluded that breast screening was not justifiable. The article can be criticised on several points including its own methods,[3] the inclusion of the Canadian trial, which was a combined mammogram and physical examination compared with physical examination and should therefore not have been included in an analysis of trials of mammography alone, and the exclusion of the most recent data from the Malmö trial, which had shown a relative risk of death from breast cancer of 0.81 and a 26% reduction in breast cancer mortality. The study is also at odds with other meta-analyses such as that by Wald et al, which showed a 24% lower mortality related to breast cancer in women aged over 50 years invited for mammography.[4]

In the United Kingdom the known facts are that breast cancer in women over the age of 50 is being detected earlier since the national screening programme was introduced[5] and that there has been a clear reduction in mortality from breast cancer. Screening, however, is one factor, along with adjuvant chemotherapy and hormonal treatment, that is contributing to the reduction in breast cancer related mortality. On the basis of current evidence and consensus opinion, women aged over 50 should be encouraged to take up breast screening, but this has to be combined with the provision of adequate specialist surgical and oncological services to ensure prompt and optimal treatment.

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1 Dickinson HO. Cancer trends in England and Wales. *BMJ* 2000; 7239: 884-5. (1 April.)
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Author's reply

EDITOR—In their meta-analysis of breast cancer screening trials Gotzsche and Olsen assessed the adequacy of randomisation mainly through the comparison of baseline characteristics in the screened and control groups and the consistency in reported numbers.[1] They may have set overly strict criteria for these, failing to appreciate that very small age differences in large screening trials easily become significant[2] and that continuous cleaning of large databases results in changes in reported numbers. Nevertheless, they raised many serious concerns about the quality of cancer screening programmes.

Palmieri and Fishpool point out that the meta-analysis by Gotzsche and Olsen is at odds with that which Wald et al reported five years earlier.[3] Wald et al did not assess the adequacy of randomisation and included both the Edinburgh study, which should be excluded from such meta-analyses because its cluster randomisation resulted in large differences in the socioeconomic characteristics of the screened and comparison groups,[1 2] and the New York study, which suffered from imbalance in exclusions after randomisation.[1]

Palmieri and Fishpool point to the earlier detection of tumours and the reduction in mortality from breast cancer in the United Kingdom as evidence that screening reduces mortality, whereas neither of these effects is a definitive argument for such a causal association. Earlier detection does not necessarily reduce mortality. A reduction in mortality after the introduction of screening could be the result of many other temporally changing factors. In acknowledging that improved treatment is likely to have contributed to the reduction in breast cancer mortality, Palmieri and Fishpool are making the same point as I made: that it is difficult to estimate the proportion of the recent reduction in breast cancer mortality that is attributable to screening rather than improved treatment.[4 5] The only valid way to assess whether screening reduces breast cancer mortality is by randomised controlled trials, properly designed, run, evaluated, and reported, and it is regrettable that many trials have fallen short on these criteria.

Gotzsche and Olsen have highlighted the basic but often neglected issues of statistical design, data quality and adequate recording of technical detail. Journals are pressed for space and are often forced to present only a superficial treatment of these issues. With the facility to put such technical detail on the web, we now have the means to rectify this.

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Non-steroidal anti-inflammatory drugs

Article was inconsistent

EDITOR—Gøtzsche's review on non-steroidal anti-inflammatory drugs contains some inconsistencies that we would like to highlight.[1] In the summary section on interventions Gøtzsche states that H_2 blockers are likely to be beneficial in high risk patients who cannot avoid non-steroidal anti-inflammatory drugs, albeit to a lesser extent than omeprazole. This statement is misleading and contradicts the clinical evidence presented later in the review.

The author describes two randomised controlled trials comparing ranitidine with omeprazole[2] and misoprostol.[3] The results of these trials showed that ranitidine was inferior to both of these drugs in reducing ulcers induced by non-steroidal anti-inflammatory drugs. A systematic review quoted by Gøtzsche showed that H_2 blockers did not reduce the risk of gastric ulcer induced by non-steroidal anti-inflammatory drugs although they did reduce the risk of duodenal ulcer.[4] From the evidence, H_2 blockers do not seem to be beneficial for high risk patients who cannot avoid non-steroidal anti-inflammatory drugs.

In his comment on the effects of cotreatments to reduce the risk of gastrointestinal adverse effects of non-steroidal anti-inflammatory drugs Gøtzsche states that the clinical relevance of the randomised controlled trials that he describes is doubtful. He contradicts himself by stating that the trial that used clinically relevant outcomes such as perforation, gastric outlet obstruction, or bleeding found a significant reduction in these outcomes with misoprostol compared with placebo in high risk patients (age >75; history of peptic ulcer, bleeding, or cardiovascular disease).[5] In other words, patients at high risk of complications induced by non-steroidal anti-inflammatory drugs would seem to benefit from active cotreatment.

The inconsistencies in this review should be clarified. H_2 blockers are unlikely to be of benefit in high risk patients who cannot avoid non-steroidal anti-inflammatory drugs. Cotreatment to reduce the risk of gastrointestinal adverse effects of non-steroidal anti-inflammatory drugs does seem to be beneficial in high risk patients and so is surely clinically relevant.

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Author's reply

EDITOR—It is not inconsistent to say that H_2 blockers are likely to be beneficial in high risk patients who cannot avoid non-steroidal anti-inflammatory drugs; a systematic review found an effect of these drugs on the risk of duodenal ulcer in patients receiving non-steroidal anti-inflammatory drugs compared with placebo. And it is pretty obvious from my review and its summary statements that H_2 blockers seem to be inferior to omeprazole and misoprostol. The reason I wrote "high risk patients" in the summary statement is that the effect of all of these drugs is so small that it would be difficult to justify their routine use.

I do not contradict myself, although Ferguson and Tham make it look like that by quoting me selectively. I wrote that "The

clinical relevance of these findings is doubtful. The only trial that used clinically relevant outcomes found little difference between active drug and placebo, except for high risk patients." This is the reason why I stated in the summary that misoprostol is beneficial in high risk patients who cannot avoid non-steroidal anti-inflammatory drugs. So where is the disagreement with Ferguson and Tham?

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Generalisations on benefits of aspirin are dangerous

EDITOR—The publication of the pulmonary embolism prevention (PEP) trial has created considerable interest in the medical and lay press about the optimal thromboprophylactic strategy to minimise the substantial morbidity and mortality experienced by patients with hip fractures.[1] Minerva's interpretation of the trial is misleading,[2] and we wish to counter each of her four claims.

Firstly, the claim that the trial showed clearly that aspirin prevents deep vein thrombosis and pulmonary embolism and saves lives is misleading. Although the primary efficacy end point of the trial was all vascular deaths, this primary efficacy finding is not clearly stated in the *Lancet* manuscript. Aspirin did not reduce vascular deaths (hazard ratio 0.72, 95% confidence interval 0.29 to 1.79), clearly disproving the assertion that aspirin saves lives.

Secondly, the interpretation that aspirin works, whether or not patients are given other prophylactic drugs, including subcutaneous heparins, is wrong. The trial showed that patients receiving concomitant low molecular weight heparin and aspirin did not experience a reduction in symptomatic venous thromboembolism compared with heparin alone. Furthermore, bleeding in patients receiving concomitant anticoagulant treatment was a concern. Aspirin was associated with a 12 per 1000 excess of transfused bleeds among patients also receiving subcutaneous heparin (48% increase).

Thirdly, orthopaedic surgeons who are now wondering whether or not to continue with their traditional perioperative protocols as well should consider the following: The meta-analysis of thromboprophylaxis with heparin by Collins et al showed a 67% reduction of fatal pulmonary embolism in patients having orthopaedic surgery, a 64% reduction in the rates of deep vein thrombosis in patients having traumatic surgery, and a 21% reduction in overall mortality.[3] This compares with a 29% proportional reduction of deep vein thrombosis in the pulmonary embolism prevention trial with no reduction in overall mortality.

Finally, readers may wish to consider the following when reading the assertion by the trial investigators that patients with hip fracture should be given perioperative aspirin—the main outcomes of the trial are that aspirin did not reduce vascular deaths, had no significant effect on major non-fatal vascular events other than deep vein thrombosis, but did result in an excess of 6 (SD3) per 1000 postoperative transfused bleeds.

We believe that the pulmonary embolism prevention trial does nothing to alter accepted and proved benefits of perioperative and extended thromboprophylaxis with heparin and that commentaries on it should be carefully considered. Dangerous generalisations about the benefits of aspirin have been made that unfortunately may have dire consequences for patient care.

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Detecting tuberculosis in new arrivals to UK

Occupational health screening of doctors must be improved

EDITOR—In her letter Hargreaves says that screening for tuberculosis among refugees and asylum seekers must be improved.[1] The number of cases detected by screening of new arrivals in the United Kingdom is, however, low.[2] In this health district, which screens on average 40% of 110 new arrivals per year, no case of tuberculosis has been detected in five years. Screening new arrivals for tuberculosis is not easy, given the lack of resources identified by Hargreaves. In addition, refugees and asylum seekers (and their general practitioners) are unlikely to consider screening for tuberculosis to be either their most important or their most immediate health need.

Another group of people for whom tuberculosis screening is important, and in whom it should be easier to implement, is doctors. All doctors are required to undergo pre-employment screening,[3] and this provides a backup for doctors recently arrived in the United Kingdom, who might not have been screened through the imperfect port health system.

Recently there have been three cases of smear negative pulmonary tuberculosis within a six month period among doctors living in the doctors' residence of a local hospital in this district. All three doctors had arrived in the United Kingdom within the preceding three years. With the help of DNA typing of isolates from the three cases, the incident team was able to establish that these were unrelated sporadic cases. A risk assessment concluded that screening should initially be restricted to close contacts of the three doctors, among whom no secondary cases have been detected. The occupational health screening details of the three doctors were not easy to obtain, and some details were incomplete. Two of them had previous BCG vaccinations, and the BCG status of the third (a locum) was unknown. Current guidelines recommend Heaf testing for healthcare workers without prior BCG testing and chest radiography only for those with suspicious symptoms.[3]

Doctors from the Indian subcontinent working in Britain have a high incidence of tuberculosis (17 per 10 000 per year), which is thought to represent a high ethnic rather than occupational risk.[4] In view of the risk to patients from doctors with tuberculosis, we need to be confident that occupational health departments are screening doctors effectively and that systems are in place so that the screening status of any doctor working in the NHS can be readily identified.

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Screening is of doubtful value

EDITOR—Hargreaves expressed concern over the lack of screening for tuberculosis in refugees and asylum seekers arriving in the United Kingdom.[1] There is little evidence that port of arrival screening has been effective in detecting tuberculosis.[2] The ideal place for screening is the general practitioner's surgery, but as Hargreaves points out general practitioners have shown little enthusiasm.

Before we embark on an expensive and complex scheme of screening for tuberculosis, evidence of its benefits must be shown. Equating tuberculosis with asylum seekers and refugees and subjecting them to unnecessary radiological examinations may well raise issues of human rights.

Tuberculosis epidemiology in Birmingham shows a declining incidence from year to year. New transmission of tuberculosis infection has come to a halt in white children and is declining rapidly in children of south Asian origin. The increase in the number of new cases in the south Asian community in the past three decades reflects an increase in the size of the population, not a higher incidence of the disease. Also to be taken into account are the ageing of the Asian population and the prevalence of maturity onset diabetes, which are contribut-

ing factors.[3 4] Tuberculosis in elderly people, rather than being new infection, arises most commonly through endogenous reactivation of long dormant pulmonary foci. Screening will not reveal these dormant foci.

Early diagnosis, vigorous treatment, and follow up have long been the linchpins of the World Health Organization's strategy for controlling tuberculosis. Population screening is not recommended by the WHO.[5] I am confident that the tuberculosis programme in Birmingham is robust enough to deal promptly with evidence of tuberculosis in new arrivals. We have no programme for screening of refugees and asylum seekers and do not intend to introduce one.

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Failure to register with a general practice compounds the problem

Editor—Tuberculosis is increasing in London. Almost a quarter of people with tuberculosis in east London arrived in the United Kingdom in the previous year (East London Tuberculosis Service database, unpublished data). The availability of cheap housing has made Hackney a common first destination for new entrants, refugees, and asylum seekers. Hargreaves notes that the port of arrival scheme detects few cases and recommends screening of new arrivals by general practitioners.[1]

Since April 1972 the Lower Clapton Health Centre has been screening everyone registering at the practice for tuberculosis.[2] New arrivals and patients with a high risk of tuberculosis are identified through verbal screening, and this is followed by tuberculin skin testing of those under 35 years if required. In this period there have been 12 cases of tuberculosis in this practice of 10 500. Four were identified through the screening process (there are approximately 1000 new registrations each year). Two of these patients had positive results on sputum smear testing and were therefore potentially infectious; the other two had pulmonary tuberculosis despite negative smears, suggesting that screening is important in the early diagnosis of tuberculosis, before the infectious state arises. One patient developed lymph node tuberculosis six weeks after the initial screening, at which the patient had had a grade 2 Heaf test and showed no symptoms. A further three patients were refugees who had been in the country for 2, 4, and 5 years. Thus, screening for tuberculosis in new arrivals in general practice is effective in detecting cases early.

However, of 348 patients who presented for treatment of tuberculosis at the Homerton Hospital in Hackney since 1997, 29 had not registered with a general practitioner. This number includes all four patients with multidrug resistant tuberculosis—three were new arrivals and one had been a refugee since 1993. Sixteen who had arrived in the Britain in the past year and two longstanding refugees were identified as having tuberculosis through the port of arrival scheme and have not yet been able to register with a general practice. Three of the 29 without a family doctor have since died, and the group included five children and one man aged 91 years. These facts illustrate the "inverse care law," whereby those in greatest need of health care find access most difficult or fail to attend for health screening.[3]

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Ulcerative colitis should be investigated differently in children

Editor—Ghosh et al have written a useful review of ulcerative colitis, but we wish to make some points regarding paediatric practice.[1] It is particularly important to make these points in a general journal as a recent survey by the British Paediatric Surveillance Unit showed that inflammatory bowel disease is a common childhood condition, with an incidence of 4.7/100 000/year in children under 16.[2] It also showed that 28% of children with the disease do not have a consultant paediatric gastroenterologist involved in their care.

We disagree with using rigid sigmoidoscopy with or without sedation as a diagnostic method in outpatient practice in the paediatric population. Many children (and their parents) have been traumatised by the procedure because of insufficient preparation and sedation. There is little time in outpatient departments to give adequate preparation and explanation to children and their families; these are essential before any invasive procedure is undertaken in children. As children are more likely to have more extensive disease they will need further investigation involving full colonoscopy anyway, regardless of findings on proctoscopy.[1]

All children with possible inflammatory bowel disease, ulcerative colitis, or other such diseases merit investigation with upper gastrointestinal endoscopy, ileocolonoscopy, and small bowel radiological imaging. There is therefore little need for investigation with double contrast barium enema except in specific clinical circumstances. Our preference would be to perform the endoscopies under general anaesthesia, which allows accurate diagnosis and causes less distress for patients and parents. We would not suggest this for adults because of the different patient profile and the greater time constraints in adult gastroenterological practice.

Lastly, all children and adolescents with ulcerative colitis must have accurate measurement of height and weight plotted on a centile chart, together with pubertal staging. This has been highlighted by Ghosh et al previously.[3]

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Ending genital mutilation

Women in Africa have many other problems besides genital mutilation

Editor—Abboud et al have confirmed the continuing existence of traditional genital surgery for men and women.[1] Targeting the social and political situation of women at risk is needed in order to question and eliminate these practices. This requires some insight into traditional ceremonies and their importance and not, as Abboud et al suggest, the complete prohibition of the procedure. It also means looking at many more problems and human rights abuses than only female genital mutilation.

As the title of, and the picture in, Abboud et al's personal view show, this particular aspect of oppression arouses voyeuristic interest, being both gory and titillating. Similar titles of meetings, documentary films, and articles have succeeded in creating an alien, repulsive image of people living in traditional societies,[2] a bit like those that follow reports of cannibalism.

This sort of publicity is unhelpful and often results in "do-gooders" from rich countries appearing in Africa and behaving once again like patronising colonialists. An attempt to understand women's everyday problems can elicit a surprising number of complaints about polygamy or poor reproductive health. Such problems seem less bizarre and generate much less media attention yet cause much suffering and loss of lives and are much more readily accepted as real problems by the women concerned.

Where are the human rights of a teenager who is the third wife of a man the age of her grandfather who will not allow her to use contraception even though her last confinement nearly killed her? Having been "circumcised" is the last thing she is likely to worry about, so why would she be responding to the educational efforts of an initiative to end female genital mutilation?

Female genital mutilation must be seen as one of many harmful practices affecting women in traditional societies, and the planning of programmes for its abolition must involve the women concerned and their own perception of wellbeing and improvement.[3 4] One successful method is the introduction of "initiation without mutilation" in the Gambia (Y Sompo-Ceesay, BAFROW (Foundation for Research on Women's Health, Productivity and Development), Gambia, personal communication) and similar procedures elsewhere.[5] Women in developing countries are facing a multitude of suffering; we need a more wholesome approach in order to reach the ultimate goal of a dignified and healthy life for all women, everywhere.

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Male genital mutilation in any society is surely abhorrent too

EDITOR—The French doctors and midwives who wrote this personal view should be commended for understanding, as their interviewees did, that male genital mutilation (euphemistically called circumcision) is the same as female genital mutilation.[1] The perceived similarity between these two mutilations is the norm in African societies, where both these practices are common. In Western societies, on the other hand, especially those that mutilate most of their males, such as in the United States and Israel, male genital mutilation is considered to be desirable and female genital mutilation abhorrent.

It is easy to perceive the actions of others from less sophisticated cultures as immoral and one's own, similar actions as justified. After all, African religions are primitive, and African doctors are only quack doctors who cannot publish the medical justifications for mutilation in respectable medical journals.

French doctors and others should have no moral or ethical dilemma when it comes to mutilating non-consenting minors. If they think that religious demands for genital mutilation are superior to human rights, why respect Judaism and Islam but not African religions? If they know that human rights are superior to professing one's religion on the bodies of others, why are they discriminating against me as a victim of Jewish male genital mutilation? Are my human rights and suffering less important than those of African girls?

The lower morbidity and mortality of male genital mutilation in a hospital setting compared with the traditional setting can also be achieved for female genital mutilation. The French doctors need only convince their government to respect the cultural and religious norms of all groups and allow female genital mutilation in hospitals. The higher health toll of traditional female genital mutilation can thus be eliminated. They suggest that male genital mutilation be tolerated because it is widespread, but should crimes be tolerated just because there are many perpetrators?

If we go along with their logic we should aim to eliminate female genital mutilation only in Western societies, where it is rare, and not in African countries, where it is widespread. The authors say that male genital mutilation does less harm, but this is true only if it is compared with excision or infibulation. If it is compared with the most common form of female genital mutilation, the Sunni circumcision, the harm is the same. Indeed, unlike male genital mutilation, which is much more publicly verifiable, female genital mutilation is often only a symbolic procedure with no physical mutilation.[2 3]

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Speed of treatment affects outcome in anaphylaxis

EDITOR—Sadana et al give undue emphasis to the role of intravenous adrenaline in the treatment of acute anaphylaxis,[1] which detracts from the essential points made by Hughes and Fitzharris in their article on managing anaphylaxis.[2] The problem is not how to give adrenaline but to ensure that first responders give this life saving drug early, rather than just giving steroids and antihistamines.

An internal audit carried out in this hospital among 28 junior doctors of all specialties who would be called on to treat anaphylaxis in an emergency showed that only 15 (54%) knew how to do so appropriately, by giving adrenaline first and at the correct dose. Asked specifically about giving adrenaline for anaphylaxis of moderate severity, 11 (39%) would give it intravenously, 11 (39%) intramuscularly, and six (21%) subcutaneously.

Of major concern was that six doctors would have used an intravenous adrenaline dilution of 1:1000, and, as if to emphasise this danger, a 23 year old man was admitted under my care recently with ventricular tachycardia after an intravenous injection of 1:1000 adrenaline given for mild anaphylaxis. There is no question over the use of appropriately diluted intravenous adrenaline in life threatening anaphylaxis or during anaesthesia, but these are the minority of cases that are seen,[3] and the Resuscitation Council has addressed appropriate treatment with simplicity and clarity.[4] It is the speed of treatment that affects outcome, and it is more important that our front line staff know the essentials of anaphylaxis treatment rather than hesitate as they try and absorb the finer points of complex flow charts[5] or await the decision of experienced senior doctors. Initial adrenaline in the quadriceps is better than cardiac arrest after overzealous and incorrect use of intravenous adrenaline—or death with no adrenaline given at all.

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Why is speculation so awful?

EDITOR—In their article on the discussion section in medical papers Skelton and Edwards discuss ways of controlling speculation.[1] Please can someone give me an explicit and well argued statement as to why speculation is so awful? If speculations are wrong they attract no following and disappear. If they are right they can be the beginning of new fields of knowledge.

ANGELA SMITH

There is a serious asymmetry in the consequences of suppressing speculation and allowing it to run riot. Speculation that is disseminated yet is wrong does no harm apart from irritating a few people who are so

unimaginative that they do not know how to speculate. Speculation that is broadly correct but is suppressed can lead to the crippling of innovation.

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All antihistamines cross blood-brain barrier

EDITOR—With reference to the paper by Mann et al,[1] the dichotomy between antihistamines of the first and second generation was introduced to indicate a big pharmacological difference between these drugs. The second generation antihistamines were less soluble in lipid and thus less readily penetrated the blood-brain barrier. When given to people in therapeutic doses, terfenadine produced about 17% occupancy of histamine H_1 receptors in the frontal lobe whereas the first generation antihistamine chlorpheniramine produced about 77% occupancy.[2] In rats receptor binding increases with the dose of several first and second generation antihistamines until full receptor saturation occurs.[3] Thus the "non-sedating" title of the second generation antihistamines refers to a low tendency to diminish central arousal when taken in therapeutic doses. There is no reason to believe, however, that all non-sedating antihistamines have exactly the same low tendency to cross the blood-brain barrier. The study by Mann et al illustrates this point.[1] Their prescription-event monitoring study showed that second generation antihistamines differ in their potential to produce sedation. The odds ratios for the incidence of sedation were 0.63 for fexofenadine, 2.79 for acrivastine, and 3.53 for cetirizine compared with loratadine.

Although we share Mann et al's conclusion that fexofenadine and loratadine may be more appropriate for people working in safety critical jobs, we would like to add that any antihistamine may produce performance impairment if H_1 receptor occupancy exceeds a certain criterion. The antihistamine effects on performance have previously been measured in an actual driving test in normal traffic.[4,5] The primary outcome variable of the test is standard deviation of lateral position, a measure of "weaving" or road tracking error. Results of these studies show that the extent to which second generation antihistamines affect driving varies with the drug, its dose, and its dosing regimen. Acrivastine, cetirizine, and mizolastine mildly affected driving performance when given at therapeutic doses. Ebastine, fexofenadine, loratadine, and terfenadine did not have clinically significant effects after recommended doses but had at least measurable effects after doses that were twice as high. Patients who have seasonal allergic rhinitis and urticaria often use higher doses.

We therefore believe that warnings about antihistamines' possible adverse effects on driving and other potentially dangerous activities should not be waived for the second generation drugs. Most patients are unlikely to experience untoward reactions affecting their driving safety, but if some will be affected all patients should receive an appropriate warning.

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More public education and more intubationists will prevent prehospital deaths

EDITOR—In his letter in response to my editorial[1] Deakin[2] quotes Hussain and Redmond's study, which showed that at least 39% and up to 85% of preventable prehospital deaths may be due to airway obstruction.[3] He did not, however, note the finding in that study that all the prehospital deaths occurred before medical or paramedical help arrived. Neither an anaesthetist nor a paramedic would have been of any use. There is no reason to suspect that the airway problems were complex: they might have been resolved by simple manoeuvres. The deaths might have been prevented if the public was able to undertake simple airway manoeuvres.

Deakin is correct in saying that present training allows paramedics to intubate only those people with a Glasgow coma scale of 3/15, a group who have a high mortality. Those who will benefit most from early intubation and assisted ventilation are those who will require neuromuscular blocking agents. Traditionally these have been given by anaesthetists. In prehospital care, like most areas of medicine, however, territorialism is a poor argument for continuing a tradition; measured outcome is far more effective an argument. Other groups such as accident and emergency staff and immediate care doctors are now being trained in advanced airway control with the use of drugs. The Royal College of Anaesthetists and Faculty of Accident and Emergency Medicine are working together on this educational initiative. In the United States graduate paramedics successfully use these techniques.

Operationally, the challenge is how to get these skilled staff to the patient quickly. Trauma needing advanced airway intervention is still relatively rare. How are we to get a qualified intubationist to the patient or vice versa within a few minutes of his or her accident?

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The NHS: last act of a Greek tragedy?

Government that puts money into redressing inequalities is worthy of support

EDITOR—How sickeningly predictable is the editor's response to more funding for the NHS.[1] Having spent decades demanding more money; the journal then rubbishes the government that finally comes up with it; predicting that the much loved British institution is going to sink.

Primary care groups were formed only last year, and fundholding unravelled at the same time. Since then, in my primary care group, we have put in place "gold standard" care for diabetes, which will reduce morbidity and mortality, and reviewed funding at practice level to ensure it is led by workload and needs. Furthermore, we are set to launch a primary care group wide programme for the management of ischaemic heart disease and asthma, which should be up and running by Christmas. This was done with no expectation of the kind of funding announced recently and was about a desire to achieve high standards for its own sake.

I would remind the editorial board of the *BMJ* that the only reason that there has been criticism of this government about mortality from heart disease and cancer is because clinical outcomes have been prioritised—for decades, it was only money which mattered.

I also remind you of the fiasco of the Tomlinson report of 1994, which pushed down bed numbers in London relentlessly despite protest from general practitioners, hospital juniors, and patients, and in the face of a 300% rise in the use of the emergency bed service. Well paid researchers and managers, who did not bear the clinical responsibility for 95% bed occupancy, insisted on this policy until the current government was persuaded by the evidence to abandon it; it has since published accurate estimates of bed numbers which have been most unfairly used against it.

If the current leadership of the medical profession wants something to really whine about, the displacing of the current administration and the installation of the Conservative Party's leader, William Hague, and his party colleagues will give it to them in abundance; but I will not be among those assisting Mr Hague to achieve his ambition.

For those of us working in the inner city a government that finally recognises the link between health and social deprivation (see the lecture given by the Health Secretary, Alan Milburn, to the London School of Economics on 8 March 2000) and puts money into redressing these inequalities is worthy of support. The remaining years of my practice will be a challenge to make that which is good better—a prospect that I had hardly dared to contemplate.

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1 Editor's choice. The NHS—last act of a Greek tragedy? *BMJ* 2000;320:1246-50. (1 April.)

Creativity is not valued in public sector

Editor—With reference to the editor's comments on the government's increased funding for the NHS,[1] raising the morale of the NHS workforce is now imperative. The direct affirmation of this by the King's Fund is a breath of fresh air in an environment where, despite the prime minister's recent statement about a feature of Britishness being creativity, the exact opposite is the experience of many in the public sector.

Many caring "canaries" are breathing their last in an atmosphere of top down, reactive, and downstream attitudes. In the past few months I have read about two doctors who committed suicide and two young teachers who left suicide notes mentioning impending Ofsted inspections.

Instead of revaluation and plaudit, we have revalidation and audit. Instead of advocacy and support, we have governance and punishment. We need all these surely, evenly applied, if we are to achieve a balance?

Of course, we all want to live in a healthier culture where care is more evenly apportioned and better delivered, but the evidence is mounting that this will be increasingly realisable through the motivation of individuals, teams, and collaborations in a culture of respect and not by the constant politicisation of the NHS, short-term populist agendas, and high tech medical interventions.

It is not as if most people, including healthcare professionals, wish to be mediocre. It is rather that most have high hopes and aspirations initially, to then have them frequently frustrated and dashed by training and working in an uncaring system. The fact that the doctor described as exemplifying "patient centred behaviour" and "patients' unvoiced agendas" is known to me and has just left the NHS for precisely these reasons is a glaring demonstration of the truth of this.

The fact that the NHS Executive still, after many years of lobbying by many concerned individuals and organisations, has produced barely an inch of movement in a positive direction on the morale and health issue of the NHS workforce and the introduction of an independent occupational health service, is indicative of the truth of what the King's Fund is saying.

We know enough about human needs and aspirations to be moving this forward. With less unhappiness, people would be more fulfilled, more productive, and less inefficient.

Many of us are highly committed to this issue, and the endorsement of the need for a new approach is warmly and genuinely welcomed.

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1 Editor's choice. The NHS—last act of a Greek tragedy? *BMJ* 2000;320:1246-50. (1 April.)

NHS should be abolished

Editor—The NHS is not the subject of a Greek tragedy, only an anachronism.[1] It served the purposes of a nation exhausted by war in 1948. It is ill suited to the needs of one of the richest free market economies in the world. All discussion of the NHS is so bedevilled by Orwellian doublethink that it needs to be stated loud and clear: the NHS is long past its sell by date and should be abolished.

I put forward some propositions for discussion.

- The NHS is not good value for money. It is cheap because it provides a low level of service
- The NHS is not the "envy of the world." British people are, rather, travelling elsewhere to get their treatment
- The general practice service rations care and limits access to specialist opinion, and hence is loved by the government as it saves money
- General practitioners are forced to be "Jacks of all trades," which is impossible in modern medicine
- It is insulting to a learned profession and its clients to expect a professional medical opinion to be given in a pressured 10 minute interview
- A general practitioner cannot be expected to be a paediatrician, obstetrician and gynaecologist, general physician, and surgeon rolled into one
- General practitioners working in groups should specialise, so that someone with a sick child sees a doctor who sees sick children every day. Much of the work presenting at practices can be done by nurses while doctors get on with being doctors
- The concept of family medicine should be abandoned. When I see a doctor I want my complaint put right, I do not want a discussion with a social worker. A good doctor takes a family history
- Central manpower planning has failed. It is a device to ration the supply of doctors, which should be opened up to market pressures, so that, for example, there are more than enough orthopaedic surgeons to satisfy the demand for joint replacements, cardiologists and cardiac surgeons for heart disease, and so on. Plenty of doctors are keen to train for these specialties. The NHS will not, and cannot, pay for them
- There is nothing morally wrong with having a basic tax funded service to ensure that life saving care is available to all while other treatments are provided by an insurance based system. People can then get what they want without interminable and distressing waiting. Why are men going to France for their prostate operations?
- The medical profession does not want to lose the NHS because it provides secure employment for life—and a copper bottomed pension to round it of—but I fear that it no longer serves the needs of our patients as it should.

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1 Editor's choice. The NHS—last act of a Greek tragedy? *BMJ* 2000;320:1246-50. (1 April.)

Students learn infection control on the job

Editor—Those of us involved in teaching medical students and dealing with provisionally registered house officers frequently bemoan their total lack of knowledge of infection control. Imagine our delight here in Bristol suddenly to find medical students to whom MRSA, VRE, MDRTB, and *C difficile* are not part of a foreign language and handwashing is not a totally alien concept. Have they all been on the road to Damascus?

No, the answer is one of basic economics. Since the abolition of grants and the introduction of tuition fees medical students have been moonlighting as paid healthcare assistants. Healthcare assistants are now at the forefront of nursing and were recently targeted by this trust as a group in need of infection control training. For whatever reason, these medical students are more susceptible to absorbing microbiological instruction via this alternative pathway. Perhaps this way of teaching reaches the parts that other ways cannot reach.

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