

## Out of hours primary care

### Attitudes are evidence of change

EDITOR—The formation of an out of hours cooperative in our large rural area has prompted a great deal of anxiety and concern among those likely to be affected. The cooperative has offered both descriptive and statistical evidence for its claim that life for general practice doctors has become so intolerable that few if any can be drawn to the profession in areas such as ours.

Perhaps that is so. But there is evidence of other kinds of change as well. In 1994 Hallam referred to “25 years of decreasing personal commitment [by general practitioners] and increasing reliance on rotas and commercial deputising services.”<sup>1</sup> Time spent on call out of hours by general practitioners had become a shrinking component of their workload, and by 1994, 57% of all general practitioners thought 24 hour care outdated.<sup>1</sup>

There is a problem, however—the patients. Many a university teacher, such as I am, has been known to say in an off moment: “This would be a grand job if it weren’t for the students,” and we perhaps

should not be too surprised if doctors say the same thing about patients. Out of hours cooperatives have increased from under 10 in 1991 to perhaps 140 today, “without reference to patients’ views, with no attempt to involve users in their planning and preparation, and with limited efforts to assess patient satisfaction.”<sup>2</sup> That serves pretty well as a description of the exercise we are witnessing—not participating in—today.

Nothing has struck me more about our cooperative’s proposals than the arrogance of its presentation, its failure to understand the appeal to consult with the users before starting the scheme, and its refusal to delay implementation to permit such consultation. These attitudes, it seems to me, stem from another era altogether, long predating the general practitioners of today who want to work from 9 to 5 like bankers and washing machine repairers—an era when the doctor enjoyed social respect, unquestioning compliance, and probably an inner conviction of the worth of her or his calling, an era when humane rather than high tech medicine promised relief from suffering and the profession was underwritten by mythologies that ran from Aesculapius and Hippocrates to Galen and Curie.

Perhaps it is as well in this postmodern world that these heroic narratives that have served to structure our relationships with the medical profession—and their expectations of us—should be deconstructed and dissolved. But once this process has begun we should not be surprised if it causes pain and incomprehension on both sides—with no readily identifiable doctor on call.

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1 Hallam L. Primary medical care outside normal working hours: review of the literature. *BMJ* 1994;308:249-53.

2 Hallam L. Out of hours primary care. *BMJ* 1997; 314:157-8. (18 January.)

### What patients like may not be what they need

EDITOR—If Lesley Hallam were to step outside the ivory tower and take a regular turn on call the misleading assumption of her editorial would have been avoided.<sup>1</sup> Stern criticism of general practitioners for lack of interest in patients’ views belies the fact that what patients like may not be what they need. Indeed, despite reported differences in satisfaction with various forms of out of hours care, health outcome was the

same.<sup>2</sup> Patients may be less satisfied now with out of hours care than previously, but this may be because their expectations and demands have drifted away from what general practitioners can reasonably provide while maintaining a high standard of care for those who will benefit from their efforts. Strong messages on radio, television, and, increasingly, the Internet that advise patients and parents to seek medical help early whenever any serious illness is suspected drives the demand for reassurance. Remarkably, a general practitioner can see 1000 children with feverish headache and still pick up the one with meningitis (unpublished data, 1989-96), but seeing 10 000 children with sniffles may so dilute the available time and alertness that vigilance fails and the crucial case is missed. Responding to patients’ desires is all very well but the medical profession must be in the lead, even at the risk of becoming less popular.

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1 Hallam L. Out of hours primary care. *BMJ* 1997;314:157-8. (18 January.)

2 McKinley RK, Cragg DK, Hastings AM, French DP, Manku-Scott TK, Campbell SM, *et al.* Comparison of out of hours care provided by patients’ own general practitioners and commercial deputising services: a randomised controlled trial. II. The outcome of care. *BMJ* 1997;314:190-3. (18 January.)

### Appropriateness of demand should be included in assessments of quality of care

EDITOR—While welcoming publication of six papers and an editorial on the change in out of hours care in the issue of 18 January, I must mention several important issues that have not been discussed. Lesley Hallam states: “In 1992 a stage had been reached at which the demands and expectations of patients for out of hours care had outstripped general practitioners’ willingness and ability to meet them.”<sup>1</sup> Later she also states that response times are slowing, that the equality of access to high standards of care is an important goal for primary health care, and that increasing variability in the organisation of out of hours services should increase equality.

There is no evidence to suggest that underlying serious disease has increased as a percentage of calls to out of hours primary care. It is therefore quite appropriate that the rate of consultation expressed as a percentage of patient contacts should fall, and also clearly appropriate that the number of queries dealt with by telephone advice as a percentage of contacts should increase. As for leading to increasing

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inequality, I suggest that the development of cooperatives will have precisely the opposite effect. Previously general practitioners operating alone or in small practice rotas were not assessed, were not subject to any monitoring, and were completely independent. This does not imply poor care. The development of cooperatives with their internal monitoring systems will lead to an increased enormity of care, overseeing both by their medical management and by informal peer review. Interestingly, the satisfaction questionnaire developed by R K McKinley and colleagues<sup>2</sup> bears a remarkable resemblance to the questionnaire that has been used in Kent for the past six years. However, the questionnaire of McKinley and colleagues makes no attempt to assess the appropriateness of the contact made with the out of hours service. There is bound to be a decrease in satisfaction with increased expectation but no underlying increase in illness requiring emergency assessment.

Although the debate on assessment of quality of care is to be welcomed, it must be placed firmly in the context of appropriateness of demand.

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1 Hallam L. Out of hours primary care. *BMJ* 1997;314:157-8. (18 January.)

2 McKinley RK, Cragg DK, Hastings AM, French DP, Manku-Scott TK, Campbell SM, et al. Comparison of out of hours care provided by patients' own general practitioners and commercial deputising services: a randomised controlled trial. II. The outcome of care. *BMJ* 1997;314:190-3. (18 January.)

### Study should have considered other published work, deprivation, seasonal variation, and need

EDITOR—In 1991 we published a one year audit of 6834 calls to the North East Cooperative Deputising Service in Glasgow during 1988-9.<sup>1</sup> We have now compared Chris Salisbury's data<sup>2</sup> against our baseline data.

The North East Cooperative Deputising Service comprised four practices and 22 general practitioners serving 37 300 patients in an area of social deprivation. Eleven subscribers worked regularly as deputies. Out of hours calls included those from 6 pm to 7 am on weekdays, those from 12 noon on Saturdays, and those from 7 am on public holidays.

The annual incidence of calls per 1000 population was 183 in Glasgow, which we estimate from Salisbury's data over two months to be more than twice that in the Kensington cooperative (3920 ÷ 271 000 × 6 = 87 per 1000 population).<sup>2</sup> We found considerable variation over the year; March had only 64% of the calls recorded in December. Fifty nine per cent of the calls in Kensington were at night compared with 78% in Glasgow. Patients calling the cooperative in Glasgow at night were three times more likely to be admitted than were those calling the cooperative in Kensington.

In the Glasgow cooperative 67% of all callers were seen within one hour and only

5% had to wait more than two hours. In Kensington 10% of patients waited nearly three hours and in Brent two hours. The percentage of calls managed by telephone was low in Glasgow in 1988-9: 1% compared with 5-57% in London in 1990<sup>3</sup> and 58% in Kensington in 1995.<sup>2</sup> We discussed possible reasons, including low telephone ownership and educational level.<sup>1</sup> A higher proportion of calls resulted in a prescription in Glasgow (72%) than in Kensington (38%) and Brent (52%).

Unlike our study and that of Lockstone,<sup>4</sup> Salisbury's study did not examine diagnostic categories. In our study three clinicians ( $\kappa = 0.42$ ) classified 12% of calls as emergencies, 65% as reasonable, and 23% as unnecessary from a purely medical or diagnostic point of view.

Salisbury gives overall Jarman scores but does not analyse calls by deprivation category.<sup>2</sup> In our study neighbourhood type seven<sup>5</sup>—which consists of postwar local authority housing with young families, high unemployment, and mainly unskilled workers—had a much higher rate of out of hours calls than did other neighbourhood types.<sup>1</sup>

Although Salisbury presented interesting data, he should not have claimed originality and he should have examined the effect of deprivation on patients' use of out of hours facilities, tried to overcome seasonal variation, examined need as well as demand for services, and taken more care with geography (his reference 10 is to health service indicators for England, not Britain).

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1 Soler M, Dowers A, Jones RB. Out of hours work in primary care: audit of an urban cooperative deputising service. *Health Bulletin* 1991;49:40-7.

2 Salisbury C. Observational study of a general practice out of hours cooperative: measures of activity. *BMJ* 1997;314:182-6. (18 January.)

3 McCarthy M, Bolland M. Telephone advice for out of hours calls in general practice. *Br J Gen Pract* 1990;40:19-21.

4 Lockstone DR. Night calls in a group practice. *BMJ* 1980;280:1518-9.

5 Forwell GD. *Annual report of the director of public health*. Glasgow: Greater Glasgow Health Board, 1990.

### Patients in inner city east London like primary care centres

EDITOR—Chris Salisbury's observational study comparing an inner city cooperative with a general practice deputising service

provides useful baseline data for other cooperatives in similar urban environments.<sup>1</sup> However, our experience in Tower Hamlets would challenge his assertion that patients are unwilling to attend out of hours primary care centres in inner city areas such as London.

The Tower Hamlets GP cooperative (THEDOC) is based in the accident and emergency department of the Royal Hospitals Trust (Royal London Hospital at Whitechapel) in an area of extreme social deprivation (the average Jarman Score in Tower Hamlets is 48.57). Our model is similar to other cooperatives except for the blurring of the interface between general practice and accident and emergency between 2300 and 0700, when a doctor trained in general practice is shared between both services.<sup>2</sup> Table 1 shows the numbers of contacts with the cooperative during its first six months from March to September 1996.

The total number of practices and patients has gradually grown, and by September about 85 000 patients were covered. The rate of attendance at the primary care centre over the first six months was 28.81% (95% confidence interval 29.93% to 27.68%); Salisbury's rate of attendance at primary care centres was 7.09% (7.91% to 6.27%).<sup>1</sup>

Unlike Salisbury<sup>1</sup> and Cragg and colleagues,<sup>3,4</sup> who found some evidence that patients were reluctant to attend these centres (7.1%,<sup>1</sup> 2.5%<sup>3</sup>), we have found quite high and rising rates of attendance (including through the night) at the primary care centre. This difference needs further study but may be due to several reasons, such as the location in a local accident and emergency department, the proximity to public transport routes, the comparatively compact area covered by the cooperative (which currently covers only Tower Hamlets), and as the cooperative has comparatively few doctors (61) they feel a greater sense of ownership. The other possibility is that we have had favourable coverage from the community health council and the local media.

The primary care centre was set up with the aspiration of providing good quality primary care for patients in a safe environment for staff and with controlled access (so as to limit excessive demand on the service). We thought that patient expectation for home

**Table 1** Numbers (percentages) of contacts with Tower Hamlets GP Cooperative during first six months of activity with numbers (percentages) of referrals and admissions

	Primary care centre	Home visits	Advice on telephone	Admissions and referrals
March (n=885)	162 (18.3)	81 (9.2)	642 (72.5)	46 (5.2)
April (n=977)	265 (27.1)	120 (12.3)	592 (60.6)	48 (4.9)
May (n=1120)	351 (31.3)	179 (16.0)	590 (52.7)	75 (6.7)
June (n=991)	317 (32.0)	171 (17.3)	503 (50.8)	75 (7.6)
July (n=1002)	336 (33.5)	175 (17.5)	491 (49.0)	98 (9.8)
August (n=876)	249 (28.4)	133 (15.2)	494 (56.4)	78 (8.9)
September* (n=466)	140 (30.0)	68 (14.6)	258 (55.4)	27 (5.8)
Total (n=6317)	1820 (28.8)	927 (14.7)	3570 (56.5)	447 (7.1)

\*Only first two weeks recorded.

visits would be slow to change, and so our expectations were low. Home visits are popular and probably essential to some groups—for example, those who are housebound—and desirable for others—for example, those with poor social support. However, the changes produced in the amendment to the statement of fees and allowances (out of hours development schemes 1995) and publicity about the out of hours problems faced by general practitioners have meant that the primary care centre seems to have been accepted by both patients and doctors as an acceptable way of delivering emergency care out of hours.

In line with the key messages from several of the papers on out of hours primary care published on the 18 January we intend to evaluate this service. The availability of a new valued tool<sup>5</sup> will help this process.

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- 1 Salisbury C. Observational study of a general practice out of hours cooperative: measures of activity. *BMJ* 1997;314:182-6. (18 January.)
- 2 Jones M. Primary care night services: getting it together. *Health Service Journal* 1996;106:33.
- 3 Cragg D, Campbell SM, Roland MO. Out of hours primary care centres: characteristics of those attending and declining to attend. *BMJ* 1994;309:1627-9.
- 4 Cragg DK, McKinley RK, Roland MO, Campbell SM, Van F, Hastings AM, *et al.* Comparison of out of hours care provided by patients' own general practitioners and commercial deputising services: a randomised controlled trial. I. The process of care. *BMJ* 1997;314:187-9. (18 January.)
- 5 McKinley RK, Manku-Scott TK, Hastings AM, French DP, Baker R. Reliability and validity of a new measure of patient satisfaction with out of hours primary medical care in the United Kingdom: development of a patient questionnaire. *BMJ* 1997;314:193-8. (18 January.)

### We gave our patients three different out of hours services and recorded their activity

EDITOR—Chris Salisbury measured the out of hours activity of one general practice population receiving care from a general practice cooperative and compared it with that of another general practice population receiving care from a deputising service.<sup>1</sup> A weakness of his study was that he compared the out of hours activity of two different populations that were offered two different

services. In our general practice we compared the activity of our patients with three different out of hours services.

Our general practice is a three partner semirural practice of about 6100 patients. The practice population grew from 6105 to 6142 over the 48 weeks recorded in table 1. The out of hours service during the first 16 weeks was provided by the practice partners. The service during the second 16 weeks was provided by an extended local rota of 5.5 whole time equivalent general practitioners. The service during the third 16 weeks was provided by a local general practitioner cooperative of 49 general practitioners.

Table 1 shows dramatic changes in our patients' out of hours activity with the different services. Interestingly, the number of night visits remained fairly constant throughout the 48 weeks, but the other activities changed dramatically, with a total reduction of 52%.

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- 1 Salisbury C. Observational study of a general practice out of hours cooperative: measures of activity. *BMJ* 1997;314:182-6. (18 January.)

## Exhibition of doctors' photographs

### Reminds us of how much they achieved

EDITOR—Last week I attended the opening of the exhibition of photographs of 20th century British doctors at the National Portrait Gallery in London.<sup>1</sup> I came away incredibly moved by the exhibition. If one of the aims of its organisers was to spotlight some of those men and women who have made outstanding contributions to British 20th century medicine they certainly achieved it. So much of what my generation (I am 30) takes for granted has been discovered, pioneered, and fought for by this remarkable group: controlled clinical trials; established links between smoking and cancers, and between poverty and ill health; meals on wheels; the hospice movement; the pill on prescription; the efficacy of certain drugs in treating renal transplant recipients; the recognition and treatment of postnatal depression.

Underlying all this talent and graft is also a passionate commitment to the NHS, its advocates fighting for it locally and nationally: on committees, in BMA reports and papers, in the press, and through parlia-

ment. Their medical, scientific, and political contributions have helped to maintain and promote a proper respect and understanding of what it is to be part of society, particularly in the past 15 years, when successive Conservative governments have done their damndest to undermine and devalue its very fabric.

I am writing because I wanted to say thank you to all those people for all their work: for their commitment, their vision, and their bloodmindedness, but above all—and most importantly—for their humanity.

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- 1 Loudon I. An axeman writes. *BMJ* 1997;314:909-10. (22 March.)

### Five female doctors should have been named in article

EDITOR—It was disappointing to discover that the five female doctors included in the *BMJ's* photographic exhibition of 20th century British doctors had been anonymised in Irvine Loudon's article.<sup>1</sup> Nine male doctors were named—not once but twice—and accorded the prestige of elder statesmen through being likened to "captains, judges, aristocrats, actors, and headmasters." Not so the five female icons of "intelligence, kindness, understanding, and absolute integrity." I could only wonder at the true identity of these nameless women who comprise this shining nebula appended to the great, grey, grizzly galaxy of 20th century male all-stars. The women doctors, we were told, "look like real doctors, and the kind of doctors you would want to consult if you were ill, or just anxious." One might be forgiven for thinking they are not, indeed, the "real" thing, a notion reinforced by their anonymity and the striking omission of any account of their individual attributes as doctors, scientists, or people.

My three daughters (aged 5, 8, and 11) were curious as to why the 20th century had produced only five female worthies and who they were. It looks as if we may have to attend the exhibition to find out.

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- 1 Loudon I. An axeman writes. *BMJ* 1997;314:909-10. (22 March.)

## Managing a fish induced injury

EDITOR—We read David Berger's account of the emergency treatment of a fish induced chest injury with interest.<sup>1</sup> In our area of the Scottish highlands patients are also frequently injured in remote areas where access to medical facilities may be limited and transfer complicated by distance, terrain, and weather. Help is readily available, however.<sup>2</sup> We think that an accompanying commentary from a traumatologist would have been helpful since the one by John

**Table 1** Out of hours activity of 6100 patients for three different services. Values are numbers (with percentage changes in activity from own practice service)

	Own practice (3 whole time equivalents)	Shared rota (5.5 whole time equivalents)	Cooperative of 49 general practitioners
Night visits 2200-0800	37	36 (-3)	31 (-16)
Telephone advice 2200-0800	42	45 (7)	15 (-64)
Home visits out of hours	88	69 (-22)	45 (-49)
Surgery consultations out of hours	45	52 (16)	87 (93)
Telephone consultations out of hours	361	164 (-55)	98 (-73)
Total No of contacts out of hours	573	366 (-36)	276 (-52)

Rees referred to spontaneous pneumothorax, an entirely different condition.<sup>1</sup> While admitting that the noble Scottish salmon rarely delivers more than a nasty suck, we would like to add our suggestions to the questions posed.

(1) What advice should have been given to the nurse over the radio?

(e) None of the above.

Use a big wound dressing and tape three sides.<sup>2</sup> (What was the military physician thinking? Pre-BATLS [British advanced trauma life support], obviously.)

(2) Would it have been safe to fly him out and, if so, to what altitude?

Yes, at 305 m. With a needle at the ready, a three way tap is unnecessary—and probably unavailable.

(3) How stupid was it to leave his wound uncovered...?

Not stupid at all for two main reasons.

Firstly, the patient was well. You should never miss a photo opportunity that is an aid to medical education.

Secondly, once a barracuda has had its filthy way with you, a little sea breeze can only be of benefit.

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 2 American College of Surgeons. *ATLS core course manual*. Chicago: ACS, 1989.

## Childhood leukaemia in US may have risen due to fallout from Chernobyl

EDITOR—Although numerous reports have uncovered a sharp rise in the incidence of childhood thyroid cancer starting five years after the accident at Chernobyl nuclear power plant in 1986, no increases have been documented for childhood leukaemia. Children aged under 15 years in Belarus, Finland, and Sweden—countries hit badly by fallout from the disaster—have shown no significant increases in leukaemia after April 1986.<sup>1,3</sup>

A recent report based on statistics from Greece, which received relatively low level fallout from Chernobyl, uncovered a significant excess of leukaemia in children aged under 1 year exposed to fallout in utero—

that is, those born in 1986 and 1987—on the basis of 12 cases. However, no leukaemia excess exists for this birth cohort between the ages of 1 and 4 years.<sup>4</sup>

Twelve American states and cities with active cancer registries in 1980, representing over 19% of all births in the United States, confirm patterns uncovered by the Greek researchers. The leukaemia rate among children aged under 1 year born in 1986-7 (62 cases) was 30% higher ( $P < 0.09$ ) than among other children born during the decade (table 1). The excess for children born in 1986-7 at age 1-4 years was only 6%, an insignificant difference ( $P < 0.44$ ). Radiation levels in Greece were about 100 times greater than in the United States.<sup>5</sup>

Although a precise "dose" to Americans affecting their risk of developing leukaemia is difficult to calculate, the cited European studies used caesium-137 fallout levels as a rough proxy. <sup>137</sup>Cs, with a half life of 30 years, has been termed "the most important nuclide in the fallout."<sup>3</sup> In May and June 1986, as fallout from Chernobyl entered the American environment, there was an average of 0.33 Bq of <sup>137</sup>Cs per litre of pasteurised milk, up from 0.10 in the same period of 1985. Recorded <sup>137</sup>Cs concentrations remained raised in the springs of 1987 and 1988 (0.24 Bq and 0.16 Bq respectively), before returning to the concentrations that existed before the accident at Chernobyl, according to data from the United States Environmental Protection Agency.

Studies of health effects in children since the accident at Chernobyl continue to yield new findings. Although any increases in leukaemia are likely to fall short of the sharp rises in thyroid cancer, possibly because elements like caesium were released in smaller quantities than iodine, more precise analyses should be pursued. Rises in disorders such as leukaemia may occur only many years after the accident or affect certain segments of the population. Specifically, children aged under 5 years are most vulnerable to radiation exposure.<sup>3</sup>

Attention to population size is also crucial in obtaining significant results. For example, the combined populations of Belarus, Finland, Greece, and Sweden (about 26 million) is only about half of the 12 American states and cities used in this report.

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**Table 1** Children of specified birth cohorts who developed leukaemia in seven states and five metropolitan areas in United States\* before and after accident at Chernobyl, with comparisons in percentage change with Greece

Birth cohort (years born)	Liveborn	Aged <1 year			Aged 1-4 years		
		Cases	Rate†	% Change in US (Greece)	Cases	Rate†	% Change in US (Greece)
Unexposed (1980-5, 88-90)	6 540 769	214	32.7	30 (160)	1497	76.2	6 (10)
Exposed (1986-7)	1 462 631	62	42.4		355	80.9	

\*States: Connecticut, Hawaii, Iowa, New Mexico, New York, Utah, and Wisconsin; cities: Atlanta, Denver, Detroit, San Francisco, and Seattle.

†Per 10<sup>6</sup> person years.

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 2 Auvinen A, Hakama M, Arvela H, Hakulinen T, Rahola T, Suomela M, *et al*. Fallout from Chernobyl and incidence of childhood leukaemia in Finland, 1976-92. *BMJ* 1994;309:151-4.  
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 5 Anspaugh LR, Catlin RJ, Goldman M. The global impact of the Chernobyl reactor accident. *Science* 1988;242:1518.

## How to minimise factitious hyperkalaemia in blood samples from general practice

EDITOR—Up to 30% of blood samples from general practice have serum potassium concentrations reported as above the quoted reference range. The most common cause of hyperkalaemia is factitious and occurs because of delay in separating red cells from serum.<sup>1,2</sup> Genuine hyperkalaemia is an unusual but potentially fatal condition which requires immediate medical intervention. General practitioners must therefore decide how much credence to give to a high serum potassium concentration; some ignore all reported serum potassium concentrations whereas others pursue an abnormal result with vigour.

An internal audit showed that almost all samples from health centres arrive at the laboratory at St Thomas's Hospital within four hours of being taken from the patient. This should be soon enough to avoid factitious hyperkalaemia caused by delay in separation. Why, then, was hyperkalaemia so common? Investigation showed that many samples were being placed in a refrigerator to await collection. Cooling blood to 4°C accelerates the rate at which potassium leaks out of red cells.<sup>1,2</sup> General practitioners who use St Thomas's facilities have now been given the following guidelines for phlebotomy:

- (1) Use a 21 gauge (green) needle
- (2) Transfer blood into collection tubes in the following order: tube destined to be used for potassium assay first, then the other tubes in any order. (This is because anticoagulants may contain potassium in high concentration—for example, potassium-EDTA for full blood—which may be transferred from one tube to the next on the tip of the needle)
- (3) Leave the sample destined for assay of serum potassium concentration at room temperature.

We now find that about 15% of samples from general practice have raised serum potassium concentrations and that these fall within the range 5.1-5.5 mmol/l. This is because samples have been left overnight in the general practitioner's surgery to await collection—that is, unavoidable delay in centrifugal separation of red cells from serum. Leaving samples destined for chemical pathology analysis at room temperature may not eradicate the problem of factitious

hyperkalaemia but it will at least minimise what is an annoying trait of stored blood.

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1 Goodman JR, Vincent J, Rosen I. Serum potassium changes in blood clots. *Am J Clin Pathol* 1954;24:111-3.

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## Do fetuses feel pain?

### Surgical terminations of pregnancy take place under general anaesthesia

EDITOR—Peter McCullagh<sup>1</sup> and P J Saunders<sup>2</sup> link the theoretical possibility that the fetus may feel pain (albeit much earlier than most embryologists and physiologists consider likely) with the procedure of legal abortion. Doctors for a Woman's Choice on Abortion consider this to be unhelpful to women and to the scientific debate.

In Britain virtually all surgical terminations of pregnancy take place under general anaesthesia, which will affect the fetus. The question of whether the fetus experiences pain is not an issue as far as abortion is concerned, although those experts in foeto-maternal medicine who are operating on the more mature fetus in utero need to consider whether women should have general anaesthesia for these procedures.

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1 McCullagh P. Do fetuses feel pain? *BMJ* 1997;314:302-3. (25 January.)

2 Saunders PJ. Do fetuses feel pain? *BMJ* 1997;314:303. (25 January.)

### Definition of pain needs clarification

EDITOR—Peter McCullagh<sup>1</sup> compounds the confusion of Vivette Glover and Nicholas Fisk over whether fetuses feel pain.<sup>2</sup> They show that a 25 week fetus responds to injury with an endocrine response. McCullagh now adds that response to trigeminal stimulation begins after several weeks. The confusion comes from the authors' eccentric definition of pain as simply a response to injury. This cannot be an adequate definition since adults under general anaesthesia respond to injury with movement and endocrine changes and yet have no sensation. A paraplegic person responds to caudal stimuli but has no sensation.

Any definition of pain in someone who cannot speak has to include a prolonged—even permanent—change of response. A neonate operated on with inadequate analgesia suffers prolonged abnormalities. A battered baby is recognised by his or her abnormal development. Where is the authors' evidence that a fetus shows any prolonged shift of response? A normal term

baby after vaginal delivery shows clear signs of tissue damage, especially if forceps have been applied. A normal term baby delivered by elective caesarean section seems unscathed. Where is the evidence that the baby delivered vaginally has suffered from its injuries when compared with the baby delivered by caesarean section?

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1 McCullagh P. Do fetuses feel pain? *BMJ* 1997;314: 302-3. (25 January.)

2 Derbyshire SWG, Furedi A, Glover V, Fisk N, Szawarski Z, Lloyd-Thomas AR, *et al.* Do fetuses feel pain? *BMJ* 1996;313:795-9. (28 September.)

### Analgesic and anaesthetic procedures are being introduced because of shoddy sentimental argument

EDITOR—Can the fetus feel pain? The authors of three of the four contributions to this article decided no.<sup>1</sup> Even the more cautious response suggested only a grey area during the second trimester. Now the authors of two letters argue for placing the development of fetal pain at somewhere around 6-12 weeks after conception.<sup>2,3</sup> Is their dissent logical and scientific?

Peter McCullagh and P J Saunders both argue that without interrogation we cannot know for sure what the fetus feels.<sup>2,3</sup> All science is uncertain; that is why it demands thought. An investigation of fetal experience should answer four questions: (1) How is the experience characterised or defined? (2) What is its underlying neurophysiology? (3) Is that neurophysiology present in the fetus? (4) Can we tie the characterisation to the fetus in a logical manner (or escape the "epistemological layby" as McCullagh puts it)?

McCullagh suggests taking the working definition of pain from "the community at large." Sadly, he does not explain further; presumably we should just know what pain is. I suspect that what McCullagh means is that any aversive behavioural response from any creature indicates pain. Such a definition is useless: pain is defined, tautologically, as the response to painful stimulation. The definition does, however, handily reduce the neurological complexity necessary for the processing of pain. Both McCullagh and Saunders suggest that the thalamus, independent of the cortex, may be sufficient for pain. A letter provides inadequate space to clear up this issue, but suggesting that a response by a sophisticated nervous system is unnecessary for pain is, at best, highly controversial. While the thalamus begins to mature early on in the fetus, further development needed to create the sophisticated nervous system comes much later.

Finally, only assertion is used to escape the epistemological layby. It is asserted as common sense that clinical practice be changed to avoid fetal pain. Disturbingly, gynaecologists around the world are being encouraged to introduce analgesic, anaesthetic, and maybe even surgical procedures into their practice not because of clinical trials proving their efficacy but because of

shoddy sentimental argument. At a recent meeting on fetal pain one of those attending rightly denounced such proposals as "emotion based medicine."

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1 Derbyshire SWG, Furedi A, Glover V, Fisk N, Szawarski Z, Lloyd-Thomas AR, *et al.* Do fetuses feel pain? *BMJ* 1996; 313: 795-9 (28 September).

2 McCullagh P. Do fetuses feel pain? 1997; 314: 302-3 (25 January).

3 Saunders PJ. We should give them the benefit of the doubt. *BMJ* 1997; 303 (25 January).

## Some patients may want to retain ownership of tissue removed from them

EDITOR—R D Start and colleagues make a valuable contribution to the debate on the ownership of human tissue removed from living subjects.<sup>1</sup> It should not be thought, however, that the views of the Nuffield Council on Bioethics are universally accepted as a definitive description of the state of the law on the ownership of human tissue, or indeed on whether human tissue can be owned.<sup>2</sup> Matthews, for one, has trenchantly criticised the council's analysis.<sup>3</sup> The council cites the American case of *Venner v the State of Maryland* to support its contention that tissue removed at operation should be regarded as abandoned by the patient. This case, however, had as its main issue not the ownership of tissue removed at surgery but the ownership of drug filled condoms swallowed by drug smugglers and passed per rectum.<sup>4</sup>

One situation that Start and colleagues did not put to their subjects when seeking their views on the ownership of the tissue removed from them is that which exists when litigation occurs after surgery. I suspect that most patients would consider that they had an unfettered right to the return of the tissue removed from them—that is, that they would consider such property to be theirs if they suspected that it had been removed from them inappropriately and they wished to obtain a further histological opinion in contemplation of litigation. "Abandonment is not something to be lightly inferred: property is abandoned only when the owner is indifferent to any future appropriation of the property by others."<sup>5</sup> There are many situations in which patients will not be indifferent to the use of the samples they provide during their diagnosis and treatment. To treat pathological specimens merely as property abandoned by the patient greatly reduces the patient's rights.

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1 Start RD, Brown W, Bryant RJ, Reed MW, Cross SS, Kent G, *et al.* Ownership and uses of human tissue: does the Nuffield bioethics report accord with opinion of surgical inpatients? *BMJ* 1996;313:1366-8. (30 November.)

- 2 Nuffield Council on Bioethics. *Human tissue: ethical and legal issues*. London: NCB, 1995.  
 3 Matthews P. The man of property. *Med Law Rev* 1995;3:251-74.  
 4 Venner v State of Maryland (1976) 354 A 2d 483 (Md CA).  
 5 Smith JC, Hogan B. *Criminal law*. 7th ed. London: Butterworths, 1992:535.

### Social deprivation increases workload in palliative care of terminally ill patients

EDITOR—I was interested to read Worrall *et al's* study of workload and social disadvantage.<sup>1</sup> A reported limitation of their study was the absence of terminally ill patients. At St Christopher's Hospice, we have analysed workload and found substantial differences in palliative care provided in the community that support their findings.

We provide daily care for over 300 patients living at home, and this is managed by three teams based at St Christopher's who share operational policies and exchange staff. The teams are organised geographically to serve Croydon, North Bromley and Lewisham, and Lambeth and Southwark. There are wide differences in social deprivation in the areas served by the teams, with Lambeth, Southwark, and Lewisham being the third most deprived health authority area in England as measured by the Jarman index.<sup>2</sup>

Our most recent review of activity covers the years 1995 and 1996. While the outcome as measured by deaths at home showed no major differences among the areas (all areas 38%, ranging from 34.7% in Lewisham to 39.8% in Croydon), there were substantial differences in activity, with patients in Lambeth and Southwark receiving twice as many daytime visits by the hospice's nurses as those in Bromley (see table 1).

This has important implications for the planning of palliative care services and the cost and funding of such care. In particular, it poses interesting problems for hospices in the voluntary sector that are providing greater services to populations with the least means to provide charitable gifts in return.

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- 1 Worrall A, Rea J, Ben-Shlomo Y. Counting the cost of social disadvantage in primary care retrospective analysis of patient data. *BMJ* 1997;314:38-42. (4 January).  
 2 *Annual Report of the Director of Public Health 1995/1996*. London: Lambeth, Southwark and Lewisham Health Authority, 1996.

### Bayesian statistics may inform public policy better than significant odds ratios

EDITOR—We agree with many of the points raised in the correspondence<sup>1</sup> commenting on our article<sup>2</sup> but not necessarily the conclusions. For example, Paul Brennan states that insufficient attention is generally paid to the possibility of bias and confounding when assessing epidemiological data, and we agree with D R Cox and V T Farewell that sensitivity analysis is thus important.<sup>1</sup> However, we see advantages in comparing the effects of a variety of assumed distributions for bias rather than a variety of fixed biases.

Cox and Farewell point out that conventional frequentist methods do not necessarily dichotomise results.<sup>1</sup> Yet despite several decades during which eminent medical statisticians have regularly gone into print to discourage the use of hypothesis tests in favour of confidence intervals, in our experience significance remains the aspect of an analysis that is credited with most importance by clinicians. There seems to be something inherent in the frequentist approach that encourages dichotomisation. The Bayesian approach gives easily interpretable parameter distributions which clinicians might be more easily persuaded to use.

Brennan and Cox and Farewell make the point that a decision should depend not only on data but on the likely consequences.<sup>1</sup> We strongly favour explicitly making the decision process as quantitative as possible—including prior beliefs, utilities, and the use of explicit assumptions when hard data are not available. The Bayesian viewpoint makes synthesis of these various types of input comparatively straightforward and, by means of decision theory,<sup>3</sup> provides a measure of the best alternative.

In our article we argued for a change in the way scientific medical evidence is assessed and presented for public assessment.<sup>2</sup> Clearly, as Stephen Senn points out, it was too late in the case of the studies on the third generation contraceptive pill.<sup>1</sup> Our paper showed how the evidence might have been assessed and presented.

The choice facing the Committee on Safety of Medicines was not only whether to warn but how to warn. In a future world where doctors thoroughly understand the Bayesian approach to synthesis of evidence, a presentation of the evidence such as McPherson's summary might be sufficient to enable them to update their priors.<sup>4</sup> In the

meantime a range of typical priors, other assumptions, and corresponding posteriors would ensure sufficient attention is paid to possible biases, any big chemical evidence, and additional benefits or costs such as the reduced risk of acute myocardial infarction with third generation pills. Such an approach might result in better decision making than presenting a significant odds ratio (even with a confidence interval), on which physicians trained in frequentist methods may feel forced to act, almost irrespective of any other evidence.

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- 1 Correspondence. Statistical basis of public policy. *BMJ* 1997;314:72-4. (4 January).  
 2 Lilford RJ, Braunholtz DA. The statistical basis of public policy: a paradigm shift is overdue. *BMJ* 1996;313:603-7.  
 3 Thornton JG, Lilford RJ, Johnson M. Decision analysis in medicine. *BMJ* 1992;304:1099-103.  
 4 McPherson K. Third generation oral contraception and venous thromboembolism. *BMJ* 1995;312:68-9.

### Benefits Agency always holds consent before approaching healthcare professionals for information

EDITOR—I cannot agree with Simon J Ellis's conclusion that a fifth of reports provided to the Benefits Agency are provided without the patient's full consent.<sup>1</sup> When dealing with a person's claim to a state benefit the Benefits Agency takes several steps to ensure that consent to obtain information from a third party is held. Consent has to be furnished on the various claim forms, questionnaires, and certificates used when a person applies for benefit. The agency will always hold consent before approaching a healthcare professional for information. The purpose of obtaining medical information is clearly set out for claimants, and our legal advice is that this is sufficient to enable the person signing the declaration to give informed consent.

Unlike reports for private insurers, reports for state benefits are excluded from the provisions of the Access to Medical Reports Act.<sup>2</sup> Consent thus does not depend on the patient having sight of the report before its dispatch to the Benefits Agency.

It is not clear whether Ellis informed his 10 patients that he had written confirmation from the Benefits Agency that consent was held for the release of medical details. It is also unclear whether Ellis or the two patients who refused consent for him to furnish a report on them were aware that such action might delay the processing of their applications for benefit.

Given the steps taken by the Benefits Agency to ensure that informed and explicit consent has been obtained before any approach is made to a third party for information, the Department of Social Security does not consider it necessary or cost efficient to enclose a copy of that consent with all requests for information. A doctor would not be at fault in releasing infor-

**Table 1** Terminally ill patients cared for at home by St Christopher's Hospice and nursing visits to them in 1995 and 1996

District	No of new patients			No of daytime visits			No of visits per patient
	In 1995	In 1996	Total	In 1995	In 1996	Total	
Southwark and Lambeth	285	298	583	3085	3333	6418	11.0
Lewisham	93	106	199	683	480	1163	5.8
Bromley	240	259	499	1431	1240	2671	5.4
Croydon	312	326	638	2136	2245	4381	6.9
Total	930	989	1919	7335	7298	14633	7.6

mation to the Benefits Agency under this mechanism. It follows that practitioners should have no need to write to their patients separately.

On the separate matter of fees, most hospital doctors are required to supply hospital reports to the Benefits Agency under "category lb," which does not attract an additional fee. If a patient is not currently under hospital investigation or treatment, or if a separate examination is required, a fee may be payable. General practitioners are under a statutory obligation to provide reports on patients claiming a state incapacity benefit to whom they have issued a medical statement, though reports for other benefits may attract a fee.

Any report requested by another agency, such as a Citizens Advice Bureau, or by the patients themselves would be subject to a private arrangement between the party concerned and the medical practitioner.

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- 1 Ellis SJ. 20% of patients may refuse consent to disclosure of information for Benefits Agency. *BMJ* 1997;314:376. (1 February.)
- 2 *Access to Medical Reports Act 1988*. London: HMSO, 1988.

## Interpersonal skills are being taught better, but more work is needed

EDITOR—Sally Magnusson reminds readers that the dysfunctional doctor-patient relationship is alive and well.<sup>1</sup> She may, however, be laying blame for the problem in the wrong quarter by blaming her friend's consultant. As those who have anything to do with the admission or teaching of junior medical students are aware, most students are not supercilious, unimaginative, or cold eyed when they enter medical school. They are in fact highly talented and committed and often have high ideals about the practice of medicine. They then undergo a metamorphosis in an educational system in which the acquisition of knowledge and technical know-how is valued over the development of interpersonal skills, empathy, and self awareness; a system that at worst may function like an abusive family system characterised by unrealistic expectations, denial, poor communication, rigidity, and isolation.<sup>2</sup> This is of particular concern in respect of those students whose motivation to study medicine is partly to compensate for unfulfilled emotional needs.<sup>3</sup>

It is little wonder, then, that the end product may be someone like the consultant whom Magnusson's friend saw, who was able neither to elicit his patient's concerns nor to mobilise an empathic response to her distress. This is bad news not only for the individual patient but also, should the consultant be a teacher, for society, given the importance of role modelling in the educational process.

The changes being implemented in most medical schools in Britain in response to the General Medical Council's document

*Tomorrow's doctors*<sup>4</sup> are encouraging: communication skills, ethical awareness, and other aspects of personal and professional development are at last being taken seriously. The cultural transformation that is required, however, will take time to achieve, and Magnusson's article reminds us that there is still much work to be done.

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- 1 Magnusson S. Oh, for a little humanity. *BMJ* 1996;313:1601-3. (21-28 December.)
- 2 McKegney CP. Medical education: a neglectful and abusive family system. *Fam Med* 1989;21:452-7.
- 3 Johnson WDK. Predisposition to emotional distress and psychiatric illness amongst doctors: the role of unconscious and experiential factors. *Br J Med Psychol* 1991;64:317-29.
- 4 General Medical Council. *Tomorrow's doctors. Recommendations for change in undergraduate medical education*. London: GMC, 1993.

## MeSH terms must be used in Medline searches

Joel Ray and Marian Vermeulen highlight the existence of misspellings of medical terms in Medline.<sup>1</sup> A problem also exists with methodological terms. Perhaps the most important of these for someone interested in patient care or the preparation of a systematic review is the truncated free text "random\*," which might identify reports of randomised trials. We searched Medline for some common misspellings of random to identify how often they occur and whether the retrieved records could have been found with appropriate MeSH terms.

We used the misspellings radnom\*, random\* random\*, and ramdon\*. We searched Medline Express for 1966 to December 1996 on SilverPlatter CDs and found 127 422 records containing the correctly spelt random\* in the title or the abstract. The misspelling radnom\* occurred once, random\* 11 times, randon\* 20 times, and ramdon\* once. From the titles and abstracts of these 33 articles it appeared that 23 were probably not reports of randomised trials, but 10 probably were. Five of these records did not contain either the MeSH descriptor "random allocation" or the publication type code "randomized controlled trial." A total of 95 183 records in Medline do contain one of these terms, so the proportion of randomised trials missed by a free text search because of misspellings is very small. Nevertheless, the actual studies missed could be crucial to a particular systematic review.

During our search we found a trial in patients with colorectal cancer which was reported twice in 1979. In one of these reports randomised was spelt correctly in the title<sup>2</sup> but in the other it was misspelt as randomised.<sup>3</sup> This misspelling was replicated in the relevant record in Medline and, even though the description of the methods is similar in each article (including a statement that it was randomised), only the one with the correct spelling of randomised in the title had the descriptor random

allocation assigned in Medline. Other methodological terms, not directly related to randomisation, would be needed to identify the report containing the misspelling.

Clearly, free text searching alone is not sufficient and additional terms, including appropriate MeSH terms, are needed. For example, all but one of the 10 probable randomised trials identified by one of the four misspellings would have been found by the Cochrane Collaboration's highly sensitive search strategy.<sup>4</sup> Unfortunately, this strategy generates several hundred thousand records in Medline.

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- 1 Ray JG, Vermeulen MJ. Mizspellin and Medline. *BMJ* 1996;313:1658-9. (21-28 December.)
- 2 Grage TB, Vassilopoulos PP, Shingleton WW, Jubert AV, Elias EG, Aust JB, et al. Results of a prospective randomised study of hepatic artery infusion with 5-fluorouracil versus intravenous 5-fluorouracil in patients with hepatic metastases from colorectal cancer: a Central Oncology Group study. *Surgery* 1979;86:550-5.
- 3 Grage TB, Shingleton WW, Jubert AV, Elias EG, Aust JB, Moss SE. Results of a prospective randomised study of hepatic artery infusion with 5-fluorouracil versus intravenous 5-fluorouracil in patients with hepatic metastases from colo-rectal cancer: a Central Oncology Group study (COG 7032). *Front Gastrointest Res* 1979;5:116-29.
- 4 Dickersin K, Scherer R, Lefebvre C. Identification of relevant studies for systematic reviews. *BMJ* 1994;309:1286-91.

## Caution is required when using new analgesics by the spinal route in children

EDITOR—In their review of recent advances in paediatric anaesthesia S C S Russell and E Doyle consider some of the ways in which new analgesic substances can be used to prolong the period of pain relief after a caudal epidural injection in children.<sup>1</sup> As they indicate, the evaluation of the injection of substances such as ketamine and clonidine within the vertebral canal is the subject of intense clinical research. I commend and support such activity absolutely, but I am concerned that the authors should promote the wider use of such agents without emphasising that they are not licensed for such use. Indeed, I have yet to see unqualified evidence that these agents do not have the potential for producing nerve damage, particularly when they are injected within the subarachnoid space, where the nerves and the spinal cord do not even have the final protection of a nerve sheath or the dura mater. Until these agents are licensed it is quite inappropriate to recommend their wider use without expressing caution, and some would even suggest that clinical research should be stopped until safety has been proved unequivocally.

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- 1 Russell SCS, Doyle E. Paediatric anaesthesia. *BMJ* 1997;314:201-3. (18 January.)