- 1 Davies RH, Harvey I, Newton-John H, Ward TA. Home ventilation of a child with motor and sensory neuropathy. *BMJ* 1996;313:153-5. (20 July.)
- 2 Goldberg AI, Faure EA, Vaughn CJ, Snarski R, Seleny FL. Home care for life-supported persons: an approach to program development. *J Pediatr* 1984;104:785-95.
- 3 Robinson RO. Ventilator dependency in the UK. *Arch Dis Child* 1990;65:1237-9.
- 4 Fields AI, Rosenblatt A, Pollack MM, Kaufman J. Home care cost-effectiveness for respiratory technology-dependent children. *Am J Dis Child* 1991;145:729-33.
- 5 Muir JF, Voisin C, Ludot A. Organization of home respiratory care: the experience in France with ANTADIR. *Monaldi Arch Chest Dis* 1993;48:462-7.

GPs need to be more proactive in providing health care to teenagers

EDITOR,—When asked what type of contraceptive services they want, teenagers say that they want services that are local and that are accessible every day and in an emergency. This type of service is more readily provided by general practice. In addition, general practitioners and their colleagues have the opportunity to discuss health issues in general with teenagers. There is evidence, however, that teenagers receive suboptimal care in general practice and that general practitioners frequently fail to make the most of the opportunities afforded by routine consultations.¹ As Anna Graham and colleagues have found, those teenagers most in need of help and information may be those least likely to receive them.²

Colleagues and I tried to address the problem of teenage health care in a deprived inner city population by running weekly teenage clinics in two general practices in east London over six months. This model has been tried with some success elsewhere, although published reports largely refer to middle class, affluent populations.³⁻⁵ Despite approaching all 13-17 year olds in the practices directly, we achieved only a 7% (63/867) attendance among all those invited. We had greater success when we targeted 15 and 16 year olds and invited them to the clinic for booster doses of tetanus and polio vaccine, achieving an attendance of 12% (43/349), as opposed to 2% (6/262) among those receiving general invitations. Colleagues attempting to run teenage clinics in similarly deprived areas have experienced similarly low attendance (personal communications).

Teenage clinics may therefore not be the answer to improving access to contraception and health care for high risk teenagers. General practitioners may need to be more proactive in routine consultations, allow flexibility in appointment systems, and, above all, ensure confidentiality. We may also need to acknowledge the public health dimension of unplanned pregnancy and be prepared to work in schools and other non-traditional settings, liaising more closely with other agencies both within and outside the health sector.

The most important consequences of unplanned pregnancy among teenagers are socioeconomic rather than medical, and the problem should be addressed at this level. Nevertheless, health professionals, particularly general practitioners, have an important role in health education and the provision of services. With the increasing concern about teenage health, we need to take up the challenge.

NICOLA COWAP
General practitioner

12 Parolles Road,
London N19 3RD

- 1 Jacobson LD, Wilkinson C, Owen PA. Is the potential of teenage consultations being missed? A study of consultation times in primary care. *Fam Pract* 1994;11:296-9.
- 2 Graham A, Green L, Glasier AF. Teenagers' knowledge of emergency contraception: questionnaire survey in south east Scotland. *BMJ* 1996;312:1567-9. (22 June.)

- 3 Donovan CF. Is there a place for adolescent screening in general practice? *Health Trends* 1988;20:64.
- 4 Hibble A, Elwood J. Health promotion for young people. *Practitioner* 1992;236:1140-3.
- 5 Campbell A, Edgar S. Teenage screening in a general practice setting. *Health Visitor* 1993;66:365-6.

Survival of patients initially resuscitated from out of hospital cardiac arrest

Study did not include patients admitted for intensive care

EDITOR,—Stuart M Cobbe and colleagues report their study of the survival of patients initially resuscitated from cardiac arrests that occurred outside hospital.¹ They do not mention the number of patients admitted to intensive care units after cardiac arrest. From the methodology their study seems to have included only those patients admitted to hospital wards. Patients admitted to intensive care units after cardiac arrest require continuing cardio-respiratory support and have suffered greater hypoxic cerebral injury. Inclusion of these patients in the study would have led to a higher incidence of neurological disability and a higher mortality.

I recently carried out an audit of patients admitted after cardiac arrest to the intensive care unit at Auckland Hospital, New Zealand. From the department's database I identified 63 patients as having required admission for intensive care during 1 January 1994 to 31 December 1995. Forty four patients who had had a cardiac arrest outside hospital were admitted to intensive care, of whom 29 died during their inpatient stay. The average age of survivors was 62 (range 28-90) and of non-survivors 59 (37-82). Advanced age was not found to be a bar to survival. Survivors were found to have had a higher initial Glasgow coma score on arrival in hospital.

IAN HATCHER
Specialist registrar

Department of Anaesthesia,
Royal Hallamshire Hospital,
Sheffield S10 3JF

- 1 Cobbe SM, Dalziel K, Ford I, Marsden AK. Survival of 1476 patients initially resuscitated from out of hospital cardiac arrest. *BMJ* 1996;312:1633-7. (29 June.)

Author's reply

EDITOR,—Our study entailed scrutiny of the discharge summaries from every acute hospital in Scotland, and it did not prove practical to obtain information on the time that patients spent in intensive care units. Indeed, the definition of intensive care differed between teaching and non-teaching hospitals. For the purposes of our survey, the phrase "admitted to a hospital ward" meant admission to any hospital ward, whether general medical, coronary care, or intensive care. The phrase was used to identify patients in whom spontaneous circulation returned for long enough for them to be admitted from the accident and emergency unit.

We agree with Ian Hatcher's observations that mortality in patients requiring admission for intensive care is higher than that in patients whose clinical condition is sufficiently stable to allow admission to a coronary care unit or a general medical ward.

S M COBBE

Walton professor of medical cardiology
Department of Medical Cardiology,
Glasgow Royal Infirmary,
Glasgow G3 7ER

Data on eligibility for thrombolytic treatment cannot be generalised

EDITOR,—John K French and colleagues conclude that only about half of patients admitted to coronary care units with definite or probable myocardial infarction are eligible for thrombolytic treatment, with most of the remainder presenting more than 12 hours after the onset of symptoms.¹ This rather low rate of eligibility, based on local data from Auckland, should not be regarded as a universal standard. At Newham General Hospital in east London the data entered prospectively into the coronary care unit's database are very different. Of 1184 patients with definite myocardial infarction in whom the duration of chest pain was recorded, 1120 (94.6%) were admitted within 12 hours of the onset of symptoms, compared with 576 (53.3%) of the 1081 patients in Auckland. This had important implications for treatment, with 869 (73.4%) of our patients receiving thrombolytic treatment compared with 470 (43.5%) in Auckland, although the hospital mortality in Newham was slightly higher (157 (13.3%) v 138 (12.8%).

There is unlikely to be a single explanation for these differences, but it is reasonable to deduce that patients are able to get to hospital quicker in the densely populated inner city area served by Newham General Hospital than in Auckland. The difference in mortality can probably be attributed to differences in the risk characteristics of the patients. For example, all the patients at Newham General Hospital had definite myocardial infarction (albeit according to slightly different criteria from those used by French and colleagues) and 242 (20.4%) were diabetic compared with 124 (11.5%) of the patients in Auckland.

A more important general point to be drawn from the differences between the two sets of data is that variables such as hospital mortality and the proportion of patients receiving thrombolytic treatment (which threaten to form the basis for hospital league tables in Britain) are often subject to influences beyond medical control and are not, therefore, amenable to simple comparison between units. Certainly, French and colleagues should not assume that their conclusions about eligibility for thrombolytic treatment in Auckland can be generalised to coronary care units in other parts of the world, where local geography and patient populations are likely to be different.

ADAM D TIMMIS
Consultant cardiologist

London Chest Hospital,
London E2 9JX

- 1 French JK, Williams BF, Hart HH, Wyatt S, Poole JE, Ingram C, et al. Prospective evaluation of eligibility for thrombolytic therapy in acute myocardial infarction. *BMJ* 1996;312:1637-41. (29 June.)

Sunscreens, suntans, and skin cancer

Local councils should remove sunbeds from leisure centres

EDITOR,—J M McGregor and A R Young's editorial on sunscreens, suntans, and skin cancer prompts me to make several observations.¹ The worldwide epidemic of skin cancer continues unabated, with reported cases of non-melanoma skin cancer and melanoma at least doubling every 10 years.^{2,3} There is little argument that ultraviolet B radiation is the prime promoter of non-melanoma skin cancer, but there is increasing evidence that ultraviolet A is a promoter of

skin cancer and melanoma in particular.⁴ In view of such evidence the risk-benefit ratio of using ultraviolet A sunbeds should be re-examined, and the medical profession should be more critical of sunbed salons that operate purely for financial gain. The Health Education Board in Scotland and the Department of Health are unequivocal in their advice that sunbeds should not be used for cosmetic tanning.

Disturbingly, a considerable number of sunbeds are still operated by local councils, often in the incongruous setting of a health and fitness suite in a leisure centre. The promotion of machines whose only function is to produce radiation damage to the skin, which may ultimately promote skin cancer, should play no part in the operational policy of modern local councils professing to have the best interest of their constituents at heart. Councils may argue that they are catering for a demand for sunbeds by the public, but this demand is led by ignorance and should be rejected. Caradon District Council removed the sunbeds from one of its leisure centres last February, and Dumfries and Galloway Council removed the sunbeds in five locations from south west Scotland in June. These councils are to be congratulated for putting the health of their constituents ahead of financial gain.

Now that a precedent has been set, all local authorities should seriously consider closing their sunbed facilities. Doctors, and dermatologists in particular, should pressure them to do so.

J F B NORRIS
Consultant dermatologist

Dumfries and Galloway Royal Infirmary,
Dumfries DG1 4AP

- 1 McGregor JM, Young AR. Sunscreens, suntans, and skin cancer. *BMJ* 1996;312:1621-2. (29 June.)
- 2 Ko CB, Walton S, Keczek K, Bury HPR, Nicholson C. The emerging epidemic of skin cancer. *Br J Dermatol* 1994;130:269-72.
- 3 Mackie RM. The march of melanoma. *Clin Exp Dermatol* 1993;18:2-4.
- 4 WHO International Agency for Research on Cancer. Solar and ultraviolet radiation. *LARC Monogr Eval Carcinog Risks Hum* 1992; No 55.

People do not apply enough sunscreen for protection

EDITOR,—Despite the conventional wisdom that sunscreens should be recommended to prevent cutaneous malignant melanoma, evidence supporting this is lacking. J M McGregor and A R Young¹ comment on the apparent increased risk of melanoma in people who use sunscreens.² They suggest that people who use sunscreens containing ingredients that mainly absorb ultraviolet B spend longer in the sun because of the reduced risk of sunburn and so increase their dose of ultraviolet A radiation and that this may increase their risk of melanoma. An alternative explanation why use of sunscreens might be linked to the risk of melanoma may simply be that consumers do not apply sunscreens correctly to achieve the expected protection and subsequently overexpose themselves to the sun. The protection offered by a sunscreen is indicated by the sun protection factor, which is assessed after phototesting in vivo at an internationally agreed application thickness of 2 µl/cm². To achieve the rated protection over the whole body a typical adult of surface area 1.73 m² would therefore need to apply 35 ml of the sunscreen—roughly one third of a bottle per application. Not surprisingly, several studies have shown that consumers apply much less sunscreen than this—typically an average of 0.5–1.3 µl/cm².^{3,4} Consequently, the protection received will be considerably less than that expected and in many cases will be closer to half that indicated by the sun protection factor. Fur-

thermore, a study that used the intrinsic fluorescence of sunscreens as a surrogate for application thickness found pronounced variations in thickness (and hence protection) within relatively small anatomical regions, such that many areas to which sunscreen had been hurriedly spread over the skin were protected to a very minor extent, while further areas were left unprotected.⁵

The reported relation between sunscreens and melanoma might be explained more reasonably by the fact that people are underprotected owing to careless application of the sunscreens and then overexpose themselves to the sun. Attention should be given to applying sunscreens liberally and uniformly and allowing them to dry. Products applied too thinly or rubbed vigorously into the skin will not provide adequate protection. Sunscreens should continue to be used in combination with clothing, shade, and appropriate behaviour to prevent excessive exposure to sunlight.

B L DIFFEY
Professor of photobiology

Dryburn Hospital,
Durham DH1 5TW

- 1 McGregor JM, Young AR. Sunscreens, suntans, and skin cancer. *BMJ* 1996;312:1621-2. (29 June.)
- 2 Westerdahl J, Olsson H, Måsbäck A, Ingvar C, Jonsson N. Is the use of sunscreens a risk factor for malignant melanoma? *Melanoma Res* 1995;5:59-65.
- 3 Stenberg C, Larkö O. Sunscreen application and its importance for the sun protection factor. *Arch Dermatol* 1985;121:1400-2.
- 4 Bech-Thomsen N, Wulf HC. Sunbathers' application of sunscreen is probably inadequate to obtain the sun protection factor assigned to the preparation. *Photodermatol Photoimmunol Photomed* 1992;9:242-4.
- 5 Rhodes LE, Diffey BL. Quantitative assessment of sunscreen application technique by in vivo fluorescence spectroscopy. *J Soc Cosmetic Chem* (in press).

Knowledge about sunscreens is inadequate

EDITOR,—J M McGregor and A R Young highlight important concerns about the ability of sunscreens to prevent skin cancer.¹ A further problem with sunscreens may be inappropriate application. We conducted a questionnaire survey of 656 parents of schoolchildren in Glasgow in May 1995 to assess their "sun awareness"—that is, their knowledge, attitudes, and behaviour—before a national sun awareness

Table 1—Parents' responses to questions about their knowledge of use of sunscreens

	Yes	No	Don't know
Sunscreens			
Work well for up to five hours	339	185*	112
Work better after swimming	59	501*	76
Work better if used with aftersun lotion	189	313*	134
Work better when you are sweating	12	482*	142
Factor 8 sunscreen			
Is stronger than factor 4 sunscreen	526*	49	61
Is the weakest sunscreen recommended for young children	129	335*	172
Is eight times more protective than no sunscreen	444*	76	116

*Most suitable answer.

educational initiative. Parents of schoolchildren aged 5–11 were approached by three interviewers in a local shop that sold children's clothes and at parent-teacher evenings in eight local comprehensive primary schools. The parents were asked to complete a questionnaire containing 36 multi-

ple choice questions and a single free text question and to give their age, sex, and occupation. Seven questions related specifically to knowledge of use of sunscreens. The participation rate was 97% (636/656). Table 1 shows the parents' responses.

Our findings show that, at least in our local population, there is confusion over the most suitable sunscreen to use in young children, the most appropriate interval for reapplication of sunscreen, and the use of aftersun lotion. This is a further indication that campaigns to prevent skin cancer should concentrate on changing attitudes towards getting a suntan and behaviour.

COLIN FLEMING
Registrar
RONA MACKIE
Professor

Department of Dermatology,
University of Glasgow,
Glasgow G11 6NU

- 1 McGregor JM, Young AR. Sunscreens, suntans, and skin cancer. *BMJ* 1996;312:1621-2. (29 June.)

Much effort is spent on treating drug misusers in prison

EDITOR,—Chris Ford writes about the allegedly poor treatment that a patient received during his stay in a remand prison.¹ As a former general practitioner, I can both appreciate and sympathise with Ford's feelings when a patient does not receive the treatment that Ford deems necessary. Nevertheless, I find Ford's diatribe against the professionalism and clinical acumen of prison medical staff to be unfounded, inflammatory, and at best an oversimplification of a problem that is all too common and affects the NHS as well as the prison medical service.

Health care standards for the prison medical service have been amended since 1994 to include full detoxification programmes for all substance misuse that is encountered in prisons. These documents are exhaustively researched with full NHS backing and have been thoroughly implemented throughout the prison service. I am interested that Ford asks for a review of these policies: I wonder whether Ford has read them in the first place. For 37% of my admissions, dependence on injected heroin is a substantial problem. A great deal of time, effort, and dedication is spent helping these prisoners with withdrawal and harm reduction; we do not just prescribe methadone, courting overdose or inadequate treatment, as Ford implies. Tabloid reportage about less than optimal health care of prisoners should be viewed with as much scepticism as would befit similar reportage of incompetence in general practice.

P L ARMITAGE
Medical officer

Dorchester Prison,
Dorchester DT1 1JD

- 1 Ford C. Drug users and people with HIV infection need better care in prison. *BMJ* 1996;312:1671. (29 June.)

Community leg ulcer clinics

Data were missing from paper

EDITOR,—Deborah A Simon and colleagues report encouraging data from their study of healing of leg ulcers treated in community clinics.¹ Several omissions, however, make interpretation of their findings difficult. The initial size of a leg ulcer has considerable influence on the time to healing. The authors should have indicated the size of the leg ulcers in each group at the onset of each study period and whether significant differences were present. The authors state that if healing did not progress the patient was immedi-