

gaining access, to deliberate attempts to breach security. Mindful of this potential threat to our research data our Department undertook to test our computer security by challenging a hacker to gain access to our files.

Our chosen hacker works in the University Computing Unit and has considerable experience with our type of computer and of protecting files against unauthorized access. Our hacker gave an undertaking not to disclose any personal information which he obtained during the course of the study.

Following an invitation from us the hacker attempted to 'access' and read the information stored on our files using a University mainframe terminal. The timing of this exercise was carried out without prior arrangement. After a first casual browse our hacker than used his privileges as a member of the computing staff to access and examine any file of his choosing. Our hacker than submitted a confidential report on our departmental computer security.

The first part of the report indicated that our hacker was able to obtain some computer file names and to guess their purpose but he was unable to obtain access to their contents. At this stage he did not seek to override protection by passwords. In the second part of the report our hacker, using his privileges, was able to look at all the files and their contents but was unable to identify individuals, or to interpret the data relating to them. The report then outlined suggestions for additional safeguards.

The patient information held would appear to be relatively safe from hacking, even by wreckers. We have subsequently added additional security programmes to make access even more difficult. Following his search the computer expert was able to give us professional advice on how best to do this. One suggestion was to protect the programme for processing data and thus prevent unauthorized users obtaining computer file names and guessing their purpose. This protection would prevent someone accidentally seeing file titles and thus being tempted to access file contents.

Perhaps other clinical and research departments might try inviting a friendly hacker to test their computer security systems. The ability to maintain confidentiality of patient information stored on computer is an essential prerequisite for maintaining research standards and ultimately patient care.

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Small computers can be useful in large practices

Sir,

It has been claimed by some computer experts, not least the College's ICI Research Fellow, Dr Norman Stoddart, that home computers are inadequate for the tasks demanded of large general practices.¹ Our practice has found that this is not the case, as our experience over the past year shows.

In April 1985 our practice acquired a computer for the sole purpose of repeat prescribing. Although we are a large group practice of 10 partners looking after 22 500 patients, we decided on a small system for this single purpose as an inexpensive introduction to general practice computing. We chose a BBC 'B' microcomputer with a dual disc drive and dot matrix printer, using the 'G and G' software for repeat prescribing.

The practice is run from two separate surgeries and the computer is used at one surgery only where six doctors look after 14 500 patients. After collecting carbon copies of all our repeat prescriptions over a seven-week period, we calculated that about 2000 patients received repeat prescriptions, which meant that all the patients' details could be stored on one floppy disc. Initially a drug formulary was constructed using the *British national formulary* and with the agreement of each partner. The drug names in our formulary are predominantly generic names and the tear-off portion of the FP 10(comp) is used as a repeat prescription card, issued to the patient in a plastic wallet.

The program has excellent search facilities which make it possible to identify patients who are receiving various drugs by age and sex, so acting as a limited disease register for conditions such as diabetes, epilepsy, hypertension and myxoedema. This has provided useful material for clinical audit and trainee projects.

The BBC Subgroup of the Primary Health Care Specialist Group has been helpful in providing free software and we have found the trainee assessment programs especially useful. We have also utilized some of the commercial programs available for the BBC microcomputer. One is a general purpose data base which serves admirably as a cervical smear call and recall system, linking up with the in-built word processor to produce standard

letters and address labels. Another program is used to construct graphs, bar charts and pie charts displaying statistics of consultation rates, immunization uptakes, births and deaths, referrals, night visits and so on, for inclusion in our practice annual report.

I have been delighted by the versatility of the BBC microcomputer and the total cost of our system, including software, was only £1500 or £83 per partner after tax relief. There are disadvantages, of course, compared with larger systems but I feel that home computers are an excellent first step for practitioners who are unsure about the benefits, and are wary of the cost of computerization. The relatively inexpensive experience that they offer will enable doctors to make informed decisions when stepping up to integrated systems.

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Plasma fibrinogen in a diabetic population

Sir,

The recent paper by Stone and Thorp (December *Journal*, pp. 565-569) provides further evidence from a tightly controlled prospective study that plasma fibrinogen is an independent risk factor for coronary heart disease. Its importance is equated with that of blood pressure, cigarette smoking and serum cholesterol. Patients suffering from diabetes mellitus were rightly excluded from this study as they may form a heterogeneous subgroup with other risk factors operating. It is well known that diabetes mellitus is associated with an increased risk of coronary heart disease and this is particularly so for the non-insulin dependent patient. The explanation of this increased risk is not entirely satisfactory.

We have recently conducted a cross-sectional study of 95 male and 53 female non-insulin dependent patients from a diabetic clinic population. All the patients were assessed for the presence of macrovascular disease (that is coronary heart disease and/or peripheral vascular disease) by means of a standardized symptoms questionnaire, a resting electrocardiogram and the measurement of ankle systolic blood pressure.

In the male group, mean plasma fibrinogen (measured by radial immuno-