(<http://brigit.os.qub.ac.uk/local.html>) has had to restrict its database of x ray films for legal and ethical reasons related to the use of patient data.¹ We are currently developing a neurological teaching programme on the Internet (<http://medweb.bham.ac.uk/clin-neuro.html>), which uses, among other multimedia modalities, video material of patients (including one of us (GW)). We are not aware of any other group on the web using such material. This is clearly much more contentious than the use of x ray films, and we are acutely aware of the issues involved, given recent articles regarding the consent of patients.^{3,4} We do not think that there is a problem provided that such material has been gathered prospectively and fully informed consent has been obtained from the patient.

Our local research ethics committee has approved our consent form, which is available to interested parties at <http://medweb.bham.ac.uk/http/depts/clin-neuro/teaching/consent.html>. However, given the tremendous interest in our site (some 300 users from over 30 countries download 3000 files every month), we clearly need to seek guidance from other bodies, and we are currently seeking the advice of the Royal College of Physicians, the General Medical Council, and the Medical Defence Union.

As patients and clinicians, we believe that the tremendous educational benefits of the Internet are a huge resource for all of us and that the confidentiality issues should not deter other groups from developing similar material provided that the General Medical Council's recent guidelines are followed⁵—that is, prospectively collected material should be used, with the patient's fully informed consent when he or she is identifiable; and any material collected retrospectively should be anonymised if the patient is identifiable in any way.

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Confidentiality of information on NHS network must be addressed

EDITOR,—It is disappointing that a number of doctors seem to find the BMA's approach to the confidentiality of computerised health records impractical, out of date, Luddite, or worse: the association believes that concerns must be addressed before confidential personal health information can be entrusted to the NHS network. The medical ethics committee is as anxious as every practising doctor must be to ensure that patients reap the full benefits that the new computer technology can bring to health care. The benefits of instant access to records in an emergency have probably been overstated, but few people would claim that there are no such benefits. Increasing the speed with which information is transmitted between health care professionals can only improve patients' care. Are these benefits so important,

though, that we should ignore the virtual certainty that some delicate personal details will fall into unauthorised hands, as has been suggested?

It is always uncomfortable to review the full meaning of any principle to which one is committed. It is even more uncomfortable when such a review shows that in health care we often tolerate practices of which our patients are unaware and to which they would almost certainly object. Perhaps to some people the fact that paper records are usually kept in one geographical location and are often difficult to access is a redeeming feature of such records. Computer records have no such inefficiencies.

The BMA has commissioned its own computer security expert (Ross Anderson) to make proposals, and these have been published.¹ It is good to know that they will soon be subjected to vigorous scrutiny at an international conference, since they have already been denigrated as unnecessary and impractical. I understand that the Department of Health's latest draft guidance makes no provision for a patient to refuse consent to the release of personal health information. Its emphasis on a "legal duty of confidentiality" cleverly disguises the fact that the civil law has never been tested in the health care field. It would be a risky and expensive route for an aggrieved patient to travel.

Doctors in Britain now have the opportunity to lead the world in producing effective security systems for health information—indeed, for personal privacy as a whole. It would be sad if a few doctors, dazzled by the excitement of the new technology, persuaded the profession to lose its nerve at such a critical time.

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Algorithm to detect left ventricular dysfunction after myocardial infarction

Low specificity of algorithm would lead to extensive overtreatment

EDITOR,—Several large studies have shown that angiotensin converting enzyme inhibitors reduce mortality in patients with left ventricular dysfunction after acute myocardial infarction.^{1,2} However, left ventricular dysfunction after acute myocardial infarction is difficult to detect on clinical examination, and McMurray and Rankin devised a clinical algorithm to help doctors.³ This algorithm emphasises the importance of a Q wave anterior infarction, previous acute myocardial infarction, and clinical evidence of left ventricular failure, but its accuracy has not been assessed in clinical practice.

We have assessed the algorithm in a retrospective study of 75 survivors of a recent acute myocardial infarction aged 40 to 88. The patients had no history of congestive heart failure. The clinical history (previous acute myocardial infarction) and results of electrocardiography (site of acute myocardial infarction and presence of Q waves) and laboratory tests were recorded within the first two days of admission. On day 2 after acute myocardial infarction an experienced independent clinician assessed whether the patients had left ventricular dysfunction on the basis of results of physical examination and radiological findings. The left ventricular ejection fraction was measured by transthoracic echocardiography or radionuclide ventriculography, or both, within five days of the acute myocardial infarction and was dichotomised as either $\leq 40\%$ or $> 40\%$. The ideal cut off point remains uncertain, but this was the cut off used

in the survival and ventricular enlargement trial,¹ which seems a reasonable guide for clinical practice.

Thirty of our 75 patients had an anterior Q wave myocardial infarction, 20 had a history of acute myocardial infarction, and 16 had clinical evidence of left ventricular failure. The left ventricular ejection fraction was determined in 67 patients (by echocardiography in 57 and by radionuclide ventriculography in 34). On the basis of McMurray and Rankin's algorithm 50 of the 67 patients would have been recommended an angiotensin converting enzyme inhibitor, whereas only 29 had a left ventricular ejection fraction $\leq 40\%$. Hence the clinical algorithm was highly sensitive (sensitivity 83%) but poorly specific (specificity 34%) in our patients.

McMurray and Rankin's algorithm was devised to select patients after acute myocardial infarction for treatment with an angiotensin converting enzyme inhibitor. The sensitivity of the algorithm (its ability to identify patients with left ventricular dysfunction) is probably more important than its specificity as overtreating these patients with angiotensin converting enzyme inhibitors is preferable to undertreating them: both the studies of left ventricular dysfunction and the survival and ventricular enlargement trial have shown that these drugs reduce episodes of reinfarction and unstable angina. With such a low specificity, however, the algorithm would lead to extensive overtreatment with angiotensin converting enzyme inhibitors.

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Authors' reply

EDITOR,—Because it has several flaws, Dawood Darbar and colleagues' study does not invalidate the algorithm proposed by two of us.

Firstly, we have doubts about the authors' gold standard for the diagnosis of left ventricular dysfunction. They calculated left ventricular ejection fraction by echocardiography in some patients and by radionuclide ventriculography in others, whereas radionuclide techniques alone were used in the survival and ventricular enlargement trial. There is only moderate agreement between these techniques for the identification of left ventricular dysfunction.¹ Furthermore, Darbar and colleagues used a cut off ejection fraction of 40% without stating the normal range and without any evidence that it corresponds to that used in centres taking part in the survival and ventricular enlargement trial.²

Secondly, their work is based on the assumption that only patients who have objective left ventricular dysfunction should be targeted to receive angiotensin converting enzyme inhibitors. The