Ethics and law in clinical pharmacology

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An English judge of the 18th century tells us that 'A competent knowledge of the laws of that society in which we live is the proper accomplishment of every gentleman and scholar'. I express no opinion on whether clinical pharmacologists are gentlemen, but they certainly should be able to claim that they are scholars. Sir William Blackstone's opinions may now be expressed as—'professional people should understand the legal and ethical framework within which they work'. Too often, preoccupied with scholarship, they do not do so sufficiently. I began to realise this for myself when I participated in the initiative that led the Royal College of Physicians (RCP) in 1967 to recommend that research involving human beings ought to be subject to independent ethical review, and I have seen what this means to investigators during my service on a research ethics committee since it was set up in 1969. Then, more than 10 years ago, I became conscious of the possible significance for the practice of medicine of the forthcoming report of the Royal Commission on Civil Liability and Compensation for Personal Injury that was then sitting; in particular of the importance of the imposition of strict liability for injuries due to medicines and due to participation in research. I drew the attention of the RCP to the matter just before the publication of the Commission's report in 1978. The RCP suggested I should attend the press conference that launched the report as a representative of its journal. Thus I became a journalist for a day.

The synopsis of the report that was precirculated, in dealing with medicines (other than vaccines), discussed only accidents which justified the withdrawal of a drug. It did not mention serious injuries due to medicines that were allowed to remain available because their overall benefits outweighed their overall risks.

At the press conference it was extremely difficult to catch the eye and hold the ear of the

chairman and questions had to be short and provocative if they were to be noticed. Eventually I succeeded with, 'What does the Commission have to say about a sudden death following an injection of pencillin?' The chairman's reply was, 'It depends on whether the effect was one which the patient could be expected to accept without complaint.'

I knew then that the Commission had not addressed an important aspect of medicinal injury and that we were in for a long haul, as events have confirmed. The Royal Commission's report of 1978 has been ignored, except for vaccines, by the government, but the subject of compensation is at last gaining increasing and organised public attention.

Because of these two longstanding interests, research ethics committees and the demand for compensation for injury due to drugs, I am glad to take the opportunity of the Lilly lecture to consider aspects of ethics and law that I believe particularly to deserve the attention of clinical pharmacologists.

Before I address specific topics I will attempt to define five terms: *ethics, law, right, duty and privilege*.

Ethics comprises the moral values of human conduct and the rules and principles that govern it. It is concerned with intentions and motives and with the obligations or duties that people have to their fellows (neighbours). Morals (ethics) are sanctioned, if at all, by social pressure, except they be so fundamental that society chooses to make them enforceable by law. Thus ethics provides standards which the legal system is devised to promote. Ethical reasoning may appropriately be touched by emotion, but legal reasoning should be dispassionate.

Law is a body of principles for the regulation of conflicting interests. It is concerned mainly with external conduct and standards deemed essential to the functioning of society. Its rules,

whether by formal enactment or by custom, are binding and enforceable by external coercion. Ethics and law, often overlapping, have a common concern—justice. The term ‘natural justice’ derives from the ancient concept of ‘natural’ law binding on all human beings independent of any laws laid down by human organisations. For example, in the case of licensing hearings the Medicines Commission is adjured to ensure that its proceedings are consistent with natural justice, i.e. fairness.

The term *right* tends to have a different meaning according to whether the person using it is speaking of himself or of others. The best definition that I can find is that a right is a claim that should be recognised by natural justice, principles of morality and/or by law. A moral right is not necessarily protected by law. A legal right is protected by the legal system and may or may not have a moral basis.

Some philosophers dislike the language of rights as promoting a self-righteous demanding stance in individuals and prefer to substitute for the rights that we claim, the duties that we owe to each other. No moral right is absolute, for rights can conflict, and this is the reason why rights are so contentious.

A *duty* is that which is owed or due to another. It may be moral or legal, and the test of the latter is that a court would recognise it. Rights often impose duties on their holder as well as on others.

Breach of a moral right or a moral duty does not give a right of action in the courts of law and this is why there is now a demand for a legally enforceable Bill of Rights of Patients, to ensure that certain moral rights are sustained and are enforceable.

Clinical pharmacologists advance knowledge by research on human subjects, but, whatever their duty to their university, or industrial, employer, do they have a right to conduct research on patients and healthy subjects? Certainly there is no moral duty on members of the public, sick or well, to submit themselves to research that carries any risk (there may be a limited moral duty to collaborate in research of obvious utility that carries only trivial inconvenience, e.g. questionnaires or surveys).

Clinical pharmacologists may have a permissive moral right to conduct research on human subjects; and society accepts, by not making a law to prohibit it, that clinical pharmacological research is a useful activity. But we may be sure that this permission is dependent on investigators fulfilling both moral and legal duties to research subjects. I would call clinical pharmacological research not so much a right as

a *privilege* in the sense that clinical pharmacologists have an advantage beyond the common advantage of others and that they have this privilege because, properly used, it is in the interest of society that medicinal therapeutics should advance. But it is a privilege that can be limited or withdrawn at any time.

Let us therefore consider the relationship between the clinical pharmacologist and research subjects.

Religion teaches, as a moral duty based on divine law, that we should love our neighbour, meaning the whole of humankind: a noble concept. A judge has written, ‘But acts or omissions which any moral code would censure cannot in a practical world be treated so as to give a right of every person injured by them to demand relief. In this way rules of law arise which limit the range of complainants and the extent of their remedy. The rule that you are to love your neighbour becomes in law, you must not injure your neighbour; and the lawyer’s question, Who is my neighbour? receives a restricted reply. You must take reasonable care to avoid acts or omissions which you can reasonably foresee would be likely to injure your neighbour. Who, then, in law, is my neighbour? The answer seems to be—persons who are so closely and directly affected by my act that I ought reasonably to have them in contemplation as being so affected when I am directing my mind to the acts or omissions that are called in question’ (Lord Atkin, 1932). Plainly, subjects of clinical pharmacological research are our neighbours. I choose to quote directly from lawyers in this lecture because I believe we non-lawyers would be wise to accustom ourselves more to their, to us, idiosyncratic ways of telling things of importance.

The law imposes on us all a *duty of care* towards others. If we are found to be in breach of this duty to the extent that somebody within the concept of ‘neighbour’ is injured, we incur liability to make restitution or compensate the injured person. The liability is based on negligence, i.e. failure to exercise the standard of care that a reasonable clinical pharmacologist or drug developer should have exercised in the circumstances, i.e. there is fault. But sometimes the law imposes liability regardless of fault, i.e. strict liability, as in the Consumer Protection Act 1987, affecting manufactured products, including medicines.

I now turn to *six* specific topics.

1. Consent of subjects to enter research

Proper use of the investigator’s privilege to conduct research on human subjects must include

the duty to respect the most fundamental of human rights, that of all individuals capable of self-determination to *autonomy*, that is, to free choice in all matters affecting themselves where this is not detrimental to others. It includes a right to be told, in a form adapted to their understanding, whatever is material to the decision to participate in research, including knowledge of the alternative therapies in a clinical trial and the mode of allocation to them, e.g. randomisation, and the right to decline to participate. Or, if you prefer, the investigator has a duty to respect research subjects' autonomy. Recently there has been reason to think that there has been an imbalance between the right of the individual patient and the good of patients as a whole. Investigators feel a duty to both, and so do research ethics committees. They may have been putting too much weight on the good of future patients and have been too much influenced by other arguments.

Arguments in favour of entering patients into therapeutic research without their knowledge include:

- (a) That the uncertainty of the investigator as to which treatment is best renders consultation pointless even where the treatments being compared are surgery and drug therapy and where patients may have very decided opinions on what they will accept.
- (b) That the patients cannot properly understand the issues anyway.
- (c) That full information will cause unnecessary or excessive anxiety, ignoring the anxiety that could be caused in patients by the belief that investigators might be entering them into research without their knowledge, and the effect of this on individual and public confidence.
- (d) The spectacle of individual clinicians using unvalidated treatments without hindrance, and yet an investigator who decides scientifically to find out which is best being hampered, as some see it, by the need to consult research ethics committees.

An articulate patient suffering from breast cancer has recently put the issue thus:

'Many patients, including myself, would be only too willing to participate in beneficial research, but surely it must be the patients' choice as to whether they wish to benefit future generations of patients.

'I argue that no-one has the right to make such a decision on my behalf, and I cannot believe it to be ethical to put a hypothetical potential patient's interest before the interest of present

patients' (Evelyn Thomas, Observer, 16 October 1988).

But nevertheless there are special situations where research may be justified in the absence of consent of the subject. At one end of the scale are some medical emergencies and psychiatric disorders, and at the other is research involving anonymous use of medical records.

Individual investigators and many local research ethics committees, though they have lay membership, are often ill-fitted rigorously to analyse the moral philosophical issues involved, nor are they able to ascertain the public mind. Authoritative analysis of issues and general guidance for investigators and research ethics committees are therefore required so that each ethics committee can apply them to the specific research projects put before them, e.g. what should subjects be told of research conducted without consent when they become able to comprehend? The guidance should be generated in a central 'think tank', co-opting members according to the topic under consideration, in which medical professionals and scientists are not in a majority. We do not have such an arrangement at present. These are matters where society, properly informed of the issues, should decide how the professionals should conduct affairs rather than *vice versa*. The inevitable degree of paternalism that is acceptable as part of the doctor-patient relationship in medical practice is less appropriate in research.

It is doubtful whether a patient entered into therapeutic research without valid consent has, on discovering this, any right of legal action or any claim to compensation unless actual injury due to the study can be proved, and proved to have been preventable by withholding consent. Resentment, anger, hurt feelings and moral outrage are not compensatable in law. It is public concern on this and other matters that has led the Council of Europe's Committee on Progress in Biomedical Matters to set up about 3 years ago an expert working group on medical research on human subjects. This group has prepared a document on principles which it has sent to the Committee. Also, the European Parliament has debated a Charter on the Rights of Patients (January, 1988). Though it has no status to pursue the matter, which has not been sent to it by the European Commission (which has authority), and matters of public health are outwith the Treaty of Rome unless they can be brought under the provision referring to the objective of constant improvement of living conditions, the Commission has already expressed a favourable opinion on the question of patients' rights. Its Legal Affairs Committee considers it

logical to pursue the matter, refers to the commitment of the Community to human rights and welcomes the idea of giving legal expression to the rights of patients within the European Community. Plainly there is increasing public concern and a distinct possibility of laws being introduced that affect the practice of clinical pharmacology. I wonder if Clinical Pharmacologists will be ready for this or will be taken unawares.

2. Written consent

Consent to research may be oral or written. Written consent has two protective functions, for subjects (who, if they read what they are signing, can be in no doubt they are entering research), and for investigators (who may use it to show that an effort to obtain valid consent has been made, and who may therefore be less vulnerable to litigation). Written consent as ordinarily used is not a contract. That patients may mistakenly think that it is, because of what may be felt as the intimidating formality of signing, is one reason why some dislike it, saying that its use is almost entirely to protect investigators in the event of a dispute and so is not in the patients' interest. My experience of the wording of some forms put before a research ethics committee lends support to this view. Written consent is quite appropriate for healthy volunteers.

There are various opinions on the value of written evidence of consent in the event of a legal action arising out of a clinical investigation. The likelihood is that a court of law would look at the document in the context of the whole investigation and might at best regard it as evidence that the investigator has seriously endeavoured to meet his responsibilities, and at worst dismiss it as meaningless or misleading. The withholding of material facts invalidates any consent. A written consent in no way reduces the responsibilities of an investigator and does not remove the ordinary rights of the subject.

3. Compensation for injury caused by participation in a research study

I will begin with the brightest spot in the landscape—the Association of the British Pharmaceutical Industry (ABPI) Guidelines for Medical Experiments in Non-Patient Human Volunteers (1988). These recognise the enormous service healthy volunteers do to drug developers, and recommend that the sponsor company 'enters into an unqualified undertaking to pay compensation to the volunteer on proof of causation,

having previously protected its right to recourse against the research establishment in its agreement with that establishment', i.e. the sponsor will look after an injured subject even if the injury is caused by the negligence of an independent investigator, in which event it will seek to reimburse itself from the investigator later, at leisure. It is sometimes administratively convenient for a company sponsor to appoint the investigator its agent to sign the contract on its behalf.

The Guidelines also recommend that the contract with the healthy volunteer should include a simple arbitration clause whereby any dispute can be resolved with a minimum of formality. Research ethics committees should insist on acceptance by companies of these guidelines whether or not the company is a member of the ABPI. The wording of the recommended draft contract sometimes causes difficulties with contract research companies which are not eligible for membership of the ABPI, or with overseas companies, and an alternative version may be acceptable always provided it delivers at least the protection offered by the ABPI draft contract. It will be necessary to obtain a lawyer's opinion on whether this requirement is met.

As to proof of causation of injury the Royal College of Physicians, in its report, *Research on Healthy Volunteers* (1986), departs from the standard legal approach. It writes, 'Normally [proof of] causation is based on the balance of probability. In the case of healthy volunteers the reasonable inference should be that any unexpected injury or harm suffered during or shortly after the study is due to participation in the study. In marginal cases we believe the benefit of the doubt should be given to the volunteers', i.e. the burden of proof should be reversed.

The RCP considers that what is good enough for the industry is good enough for publicly funded bodies such as the Department of Health and universities. But these bodies are at present unwilling to say more than that they may consider an *ex gratia* payment in cases of injury. An *ex gratia* payment is one that is made without admission that it is legally due, and the stance of these bodies appears grudging in relation to that of industry. They take refuge in statements such as that they are not 'empowered' to make such a commitment in advance of events. However, publicly funded bodies are more accessible to political pressure and to the democratic process than are industrial companies, and this may allow limited confidence that they will behave well in the event, but the difference in stance remains stark. Pressure on publicly funded

bodies to be more forthcoming should be sustained. Healthy volunteers engaging in studies where injury is possible should be told in writing of arrangements, or lack of them, for compensation for injury, since this may be relevant to their decision to participate. A study conducted by the Clinical Section of the British Pharmacological Society has shown that serious, even life-threatening, adverse events occurred in 0.04% of healthy volunteers (*Br. J. clin. Pharmac.*, **27**, 125–133).

A contract, which may be written or oral, is an agreement between two parties intended to create a legal obligation and to be legally enforceable, and it is easy to make one with a healthy volunteer as the ABPI advises. The only way a legally enforceable commitment to individual patients could be entered into would be by a contract with each. The complexities of the law of contract are such that this cumbersome procedure with people who may be feeling ill—and from which most, suffering no harm, would not ultimately benefit—is widely considered inadvisable and unworkable, though it has been urged for therapeutic trials. The law does not recognise a contract between a research sponsor and an investigator to benefit a third party (patients), that would entitle patients to sue on the contract, but it may be worth investigating the practicability of a sponsoring pharmaceutical company appointing the investigator its agent so that a contractual obligation to the patient could be entered into as part of the consent procedure.

The position of the ABPI with regard to the testing on patients of drugs prior to the issue of a product licence is far less precise. It offers guidelines, which it recommends its members to accept 'without legal commitment', to 'favourably consider' compensation for injury attributable to the company's medicine. The whole process is hedged by restrictions on that commitment, for there are great differences in the reasonable expectations of, and risks acceptable to, patients using an ointment for minor disease or a hypnotic, or seeking relief from advanced cancer. Nevertheless, I believe there is scope for improvement here and I understand these Guidelines are under review.

The position of the Department of Health appears to be similar both for volunteer patients and for healthy volunteers.

4. Strict liability in respect of medicines in medical practice and research

Strict liability is defined as liability irrespective of the negligence of the defendant, based solely on proof that he caused a loss or injury. It is

imposed by statute law which may allow certain defined defences. The European Community Directive on Product Liability was issued in 1985 and the UK has responded to it, as it is obliged to do, by the Consumer Protection Act of 1987, which applies to products in general, including medicines. The preamble to the Directive states that 'liability without fault on the part of the producer is the sole means of adequately solving the problem, peculiar to our age of increasing technicality, of a fair apportionment of the risks inherent in modern technological production', and that 'the defectiveness of the product should be determined by reference not to its fitness for use, but to the lack of the safety which the public at large is entitled to expect'. Defects can be either of manufacture or of design, i.e. inherent to the product. The concept of 'defectiveness' of a medicine due to manufacturing error that results in deficiency of quality is familiar, but use of the term to imply that a drug inherently lacks safety because its 'designer' has failed to do the job properly for the safety of the public puts the matter in a curious way that is unlikely to sit comfortably in the minds of pharmacologists. Nevertheless the Act rests on safety in determining 'defectiveness', the test being whether a product is as safe 'as persons are entitled to expect'. In deciding this question 'all the circumstances shall be taken into account'.

Immediately this raises the question, who will decide what are the relevant circumstances? The answer is that lawyers will decide and that there have not yet been cases before the Courts in which the issues have been clarified. But we can get a little more background from the Act which mentions the manner and purposes of marketing, the product's presentation, instructions and warnings, and what might reasonably be expected to be done with it at the time it was supplied by the manufacturer. Thus a product may be 'defective' when used in one situation, but not in another.

The European Community Directive allows individual countries to permit to a producer a defence against strict liability on the grounds of the impossibility of avoiding the 'defect', i.e. 'development risk' defence, where a manufacturer successfully shows that the state of scientific and technical knowledge was insufficient to allow discovery of the risk so that he should not be held responsible for what no-one could prevent or foresee. The reason given for allowing this defence is to avoid discouraging the development of socially desirable new products.

The defence has long been available in negligence actions where it has become known as the 'state of the art' defence.

But the two defences, 'development risk' and 'state of the art' are, it appears from the Royal Commission Report, not quite the same. 'State of the art' may refer to standard practice of other drug developers, to compliance with official regulatory requirements, to what is reasonably feasible, or to the highest possible standards. 'Development risk' may refer only to the risks of the unknown inherent in the development of new products (Diamond, 1984, in *Consumer Law in the EEC*, ed Woodroffe, G. London: Sweet and Maxwell). Neither of these is a technical legal term and therefore, lawyers tell us, no one can be quite sure what they mean.

The UK is one of a minority in the European Community that has opted to allow the development risk defence, and there is considerable criticism of it for doing so. But the Minister for Corporate and Consumer Affairs in 1986 stated that a true development risk defence will be rare (if so, why allow it and penalise innocent victims?) 'and should not be confused with 'state of the art criteria' based on changing expectations of relative safety standards'—a Delphic utterance.

The Royal Commission (above) observed that 'to exclude development risks from a regime of strict liability would be to leave a gap in the compensation cover, through which, for example, the victims of another thalidomide disaster might easily slip.'

Apart from uncertainties on the application of the Consumer Protection Act to medical practice there is the question how it will apply, if at all, to research injury, where, by definition, what safety research subjects, particularly patients, are 'entitled to expect' must be particularly nebulous.

In passing we may note that the medical protection organisations will always advise members, but will pay compensation only for negligent acts or omissions; they are not in the business of no-blame accident insurance, i.e., of social engineering.

5. The responsibilities in law of research ethics committees

There can be no serious doubt that research ethics committees and the authorities appointing them owe a duty of care to research subjects, i.e., a duty to take reasonable care to protect them from injury. Failure to do so may lead to a claim for negligence. An appointing authority probably has a duty to ensure proper membership and working practices of committees.

An ethics committee has no legal personality and cannot be sued as an entity, so it would be necessary for a plaintiff to issue a writ against each member. However the appointing authority is likely, in the end, to be either vicariously liable or directly liable for the members according to whether they are non-employees or employees.

These matters are not purely theoretical, for the temper of society is changing and although actual injuries due to research are rare, they are not unknown. The likeliest scene for action would seem to be an allegation that, but for the negligence of the committee in failing to ensure that proper information was given to the subject and that proper consent procedures were used, the subject would have refused to participate and so would have escaped injury.

The risk to members of ethics committees is not confined to the no doubt remote one of having to pay compensation for negligence—an event more serious for lay members than it is for medical members who are also members of medical protection organisations—but to having the worry and considerable expense of handling a writ, however unjustified it may eventually turn out to be. Again, medical members can rely on their protection organisations for advice and assistance, but lay members, providing altruistic but essential services, could find that the expense of handling a writ may fall on themselves even where the case is eventually withdrawn, or where any ultimate liability to pay compensation falls upon the appointing authority.

It is known that some enlightened health authorities and university institutions have formally accepted responsibility for the acts of their ethics committees. Lay members, at least, lacking such commitment, would be wise to make a prompt request to their appointing authority and to accept only an unequivocal reply.

Medical protection organisations will help their members in any professional difficulty, but, in the event of a court award against a member they are likely to seek to fix the responsibility for paying it on to the appointing authority.

6. The rise in the use of healthy volunteers in drug development

I have no doubt that the use of healthy volunteers in drug development is a growth industry, and that contract research for the biological sciences industry is now big business with an increasing number of contracts above £1m.

There are now said to be above one hundred contract research organisations in the UK and they now have their own newsletter and their own trade association.

The demand for healthy volunteers for the development of novel and generic medicines is particularly strong. Bioavailability and bioequivalence studies have been conducted in private houses, in hotels and in purpose-built laboratories.

Advertisements have appeared in the public press and in a university staff newspaper, and companies have sought permission to recruit by notices in undergraduate colleges.

In 1984 University College London became concerned at the recruitment of its students and its Council issued advice to students and to organisations seeking to recruit them, including matters relating to ethical review, contractual obligation to compensate for injury and interference with academic work.

Also in 1984 the Medicines Commission became concerned, and under its terms of reference to advise Health Ministers where it considers it expedient, or a Minister requests advice, it looked at the matter of healthy volunteer studies in drug development.

Remaining concerned, but lacking hard data, it sought a professional view from the Royal College of Physicians which, in 1986, published a report on Research on Healthy Volunteers (covering all, not only drug, research). The Commission advised the Minister of Health at the end of 1986. Its advice was published in 1987. It did not recommend statutory control of healthy volunteer studies in drug development at present but considered there was need for better self-regulation, collection of data and monitoring. It advised the setting up of a voluntary list of organisations, university departments or individuals who conduct healthy volunteer studies, the preparation of annual returns and other matters.

The Medicines Commission advised research ethics committees to refuse applications which make inadequate provision for compensation for injury, and that government (which does not insure on the principle of carrying its own risk) should indicate that sympathetic and comparable [with industry] consideration would be given to the position of any healthy volunteers for injury due to participation in studies carried out by publicly funded bodies (discussed above). If the government can bring itself to take this modest step it may avoid the escalation of the cost of medical research threatened by an enthusiastically active insurance industry now promoting insurance for all research in human subjects.

The ethics committee on which I serve has received promotional literature from an insurance broker.

Most of the healthy volunteer studies to which I refer are done for the purpose of obtaining a Product Licence or a Clinical Trial Exemption (CTX), and these are now a normal phase of the development of medicines, as the Licensing Authority is aware. But these studies are out-with the Medicines Act 1968, and the Licensing Authority lacks power to guide, to control or to require them, though it is aware that bioavailability studies of, for example, antibiotics or antiepileptics, cannot in practice be made on patients having the relevant disease, and indeed the attempt to do so would be unethical. Thus its official position is that it does not require healthy volunteer studies to be carried out, though if they have been done they must be reported in any application for a licence. Disclaimers by the Licensing Authority are unlikely to change the belief amongst drug developers that studies in healthy volunteers are a prerequisite for easing the grant of licences for both generic formulations and new chemical entities.

Official guidance is deemed necessary for studies on animals and on patients, but not for those done on healthy humans. I do not doubt that if a Medicines Act were being drafted now, it would embrace studies in healthy volunteers.

The position is anomalous, and when I am told by people I trust, of unemployed young people from the UK and Republic of Ireland travelling to the mainland of Europe to act as professional subjects in multiple drug studies, I find it a matter of concern—concern that grows when I see advertisements by contract research companies offering to the pharmaceutical industry unhealthy subjects with renal or hepatic insufficiency apparently for pharmacokinetic studies of drugs not required for their treatment.

The perceived expectations of official regulatory bodies influence what companies do in order to obtain licences, and raise ethical and scientific issues that need frank discussion between the parties, which is inhibited at present by the twenty-year-old Medicines Act.

It is my opinion that some studies, particularly those often designated as safety or tolerance studies involving continuous administration of new drugs for weeks, are often of low scientific quality and ethically dubious.

Serious accidents in studies involving healthy volunteers are rare. But many thousands of studies are done, commercial competition is increasing and accidents will occur in the future.

The usual stimulus to government intervention is public demand following a scandal. I wish

I could be as sure as some of my colleagues that this will not be the scenario for the future.

One day healthy volunteer studies in drug development will receive attention from the regulatory authority.

In the meantime what, if anything, should be done?

I can read an extensive literature discussing the scientific value in drug development of studies in animals and in patients. But I can find no similar literature on the scientific role of studies in healthy volunteers. It is needed. It would provide guidance to research ethics committees as well as to regulatory authorities.

I would like to see an international consensus conference on the scientific role of studies on healthy volunteers in the development of new and generic medicines.

Conclusion

Whilst clinical pharmacologists do not ignore legal and ethical issues affecting their professional practice I am not sure that they are giving them the concerted attention that is prudent. In this lecture I have outlined some areas of interest and of concern. I believe that legal and ethical concerns are going to increase in importance. I therefore suggest that the British Pharmacological Society Clinical Section would be wise seriously to consider providing a regular or occasional forum for identification, discussion and review of both ethical and legal issues of concern to the practice of clinical pharmacology.

[I am grateful to legal friends for useful conversations, but errors are mine alone.]