trained to do the work, as a teaching resource and for students to be better briefed about the work of other health care professionals. Vocational training should also be more oriented to the special needs of the elderly with trainers seeking to ensure that trainees get more experience in community care of older people. Day-release courses could place more emphasis on the importance of paramedical problems in the clinical care of elderly people. They could also focus more on the importance of identifying disability and promoting rehabilitation and independence in old age. During the trainee year, attention also needs to be drawn to carer stress, better health education and improved information systems.

These suggestions for improving the training system should lead to doctors entering general practice with a more balanced view of elderly people and their problems. One hopes that it would also encourage a more active approach to the identification and management of the diverse problems mediating ill-health in old age, the maintenance of patient function and independence and the continued integration of elderly people in society. Only then can the elderly continue to be independent in their chosen setting for as long as possible, to fulfil their aspirations and to lead the best life open to them — the ultimate objectives of care in old age.

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Medical practice and the double-blind, randomized controlled trial

OVER recent decades doctors have become increasingly aware of the range of prognostic variability in patients and the sheer magnitude of the placebo response. Thus, it has been realized that determining the effectiveness of a given therapy is a rather less straightforward matter than was once supposed. The search for a scientific basis to medicine has led to the double-blind, randomized controlled trial being proposed as the 'gold standard' for the evaluation of therapeutic interventions. Clearly this represents a major advance towards a systematic and cumulative consensus for clinical management, based on criteria more objective than anecdotal experience.[1]

However, the question arises as to why, if the double-blind randomized controlled trial is such a powerful technique for providing objective data, medicine still relies to a large extent on individual experience, opinion and unvalidated treatment. Does this resistance to the hegemony of the double-blind randomized controlled trial result from mere nostalgia, inertia and irrationality? Or are there good reasons for a viewpoint which sees the role of the double-blind randomized controlled trial as vital, but of restricted applicability to medicine?

We must first remember that the double-blind randomized controlled trial is only employed in conditions of clinical unpredictability. When an obviously effective treatment emerges there is no need for a controlled trial to establish its usefulness. The value is obvious either because the treatment has a predictable effect or because the disease has a predictable prognosis which can only be influenced by the new treatment. For example, if a surgeon is able to sew back and restore the function of an amputated limb, there is little doubt of the treatment's effectiveness. We can call such paradigm cases 'empirical' medicine, because they derive primarily from observation with the minimum of theory. Historically, such objectively valid treatments have been most frequently generated and explained by the system we call Western medicine, which probably explains why this is our most successful export to other cultures.

From empirical and primary observations a whole range of rational and secondary questions are derived by a process of logical extension — the optimal dose and regimen of a drug, the morbidity rate following surgery, the long-term outcome of

a treatment, and so on. These questions are the legitimate province of the controlled trial. The double-blind randomized controlled trial is also appropriate for evaluating interventions suggested by anecdotal observation, but where the effect of treatment or the prognosis are more unpredictable.

Double-blind randomized controlled trials give us a statistical probability of the effect of treatment on a group of subjects. This probability is derived from treated patients compared with control subjects; such groups must be constructed on the basis of common, shared criteria. These criteria should be as few, simple, objective and reproducible as possible if results are to be generally applied. In addition, the treatment regimen must be standardized between patients.

In other words, there is a price to pay for the objectivity of the double-blind, randomized controlled trial. Gain in objectivity is achieved by simplification and at the cost of completeness. General results are only produced by a process of reductionism. The whole philosophy of the double-blind randomized controlled trial is to exclude individual differences and concentrate on group similarities. Indeed, the exclusion should ideally apply to every aspect of the therapeutic encounter except for the specific intervention under assessment. All of this has unintended results: the patient is depersonalized, the doctor is deskilled, and the treatment is rationalized. Management tends to become the routine application of simple algorithms which could just as easily be carried out by an appropriately trained technician with a computer. The double-blind randomized controlled trial, therefore, aspires to a world where effective medicine is so simple that the vagaries of doctor expertise and patient peculiarity are rendered unimportant compared with the objective probabilities established by rigorous evaluation.

But this is not, and never has been, the whole of medical practice, which is something that happens between individual people. Medicine uses science, but is not itself a science. Doctors are unwilling to have their greatest and oldest allies — natural remissions and the placebo effect — discounted from their clinical armoury.[2] After all, the magnitude of the placebo response is not a fixed quantity — unique personal charisma plays a part; and furthermore enough is known of the nature of placebo factors for doctors to maximize them.[3] This is as valid a part of effective medicine as the application of results from a double-blind randomized controlled trial; indeed it has been the way of good medicine since antiquity.

From the patient's viewpoint the deficiencies of the approach led by the double-blind randomized controlled trial are even more obvious. When patients tell the doctor 'their story', they find that it is either ignored completely in favour of more objective physical signs and laboratory results, or is at best filtered for those few discriminatory symptoms which have been subjected to group trials. In effect, the doctor may listen; but does not take notice.

And what of the brilliant doctor who gets better results than anyone else, yet cannot explain how? It is not unreasonable to imagine that some medical skills are just too subtle to be measured and codified. These may be transmissable by a prolonged and intensive apprenticeship, but sometimes they must simply die with their possessor. Think of John Snow's extraordinary results using chloroform — no fatalities, and just one death from anaesthesia in any form in a busy lifetime as a pioneer practitioner.[4] Are we to deny the existence of such genius, or to deny patients the benefit of such ability?

Given the major, and variable, influence of spontaneous recovery and the power of suggestion, we must conclude that even the ideal double-blind randomized controlled trial cannot be better than a rough guide to the prognosis of any individual intervention. It is inevitable that a comprehensive and rational system of medicine, although derived by logical processes from objective and empirical data, must extend beyond scientific facts if it is to be anything more than a disconnected collection of isolated observations. Significant results from well-conducted trials should always be present as the necessary background to a consultation. Such factual knowledge constitutes the minimum and essential core curriculum for medical training, but is not a sufficient condition of good medicine. As Richard Asher pointed out, there may be a trade-off between therapeutic effectiveness and critical thinking: doctors who believe in their treatment are likely to get better results.[5]

But there is more to it than this. We insist that a student doctor attend clinical practice as an apprentice, rather than just completing a correspondence course, because we recognize that clinical practice is not susceptible to abridgement and abstraction without the loss of something important: exactly that which makes the difference between reading a textbook of medicine and consulting an experienced physician.[6] Indeed, our conviction that experience is valuable depends upon recognizing the existence of factors which cannot be obtained from a book — nor subjected to double-blind randomized controlled trials. Thus, the attempt to derive rational practice from group studies will always be incomplete when applied to the individual consultation, because so many clinically important factors have been excluded in conducting a group trial.

This radically incomplete role for the double-blind randomized controlled trial must be made absolutely explicit during training, or the sheer prestige of scientific medicine will impose itself by default to the exclusion of subjective considerations. Medical education must emphasize that reductionist science is not the only form of rationality — the choice does not lie between science and chaos — but that there are philosophically valid modes of non-scientific reasoning which are intimately linked with that 'traditional wisdom' inculcated by the complex process of professionalization.[6]

If, however, the limitations of group studies are ignored, then medicine disowns its oldest and greatest allies — individual expertise, natural remission and the placebo effect. Doctors will cease to regard their patients as people, only as examples of a group, and there are plenty of alternative therapists who would be only too pleased to step in. Although alternative systems, such as homoeopathy, acupuncture and herbalism lack those objective, predictable and repeatable 'miracle cures' which are distinctive to modern Western medicine, their practice tends to use individualistic factors far more effectively than either the harassed general practitioner in a five minute consultation or the hospital consultant who puts technology first. The message is clear: if there is no place for individuals in 'conventional' medicine, then patients — and their doctors — will begin to look elsewhere.

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