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Treatments, good, bad or worthless – and how do we tell?

1.1 Treatments worthless – and worse

All who drink of this remedy recover in a short time, except those whom it does not help, who all die. Therefore, it is obvious that it fails only in incurable cases.

This aphorism is generally attributed to Galen (AD 130–200), a Greek physician, who was destined to dominate medicine for many centuries and who wrote with such conviction and dogmatism that few doctors dared to criticize him. He was a prodigious writer and in one of his many books he gives an account of his own parents, describing his father as amiable, just and benevolent, and his mother as thoroughly objectionable, a woman who was always shouting at her husband and displaying her evil temper by biting her serving-maids. His father had a dream that his son was destined one day to become a great physician and this encouraged him to send Galen to Pergamon and to Smyrna for a preliminary grounding in philosophy, and then on to Alexandria to specialize in medicine.

The veneration of dogma proclaimed by Galen and other authoritative people largely stifled any interest in experimentation or proper scientific exploration in medicine until well into the seventeenth century. Even the few who did attempt to increase their knowledge by close observation or simple experiment often interpreted their findings in the light of the currently accepted dogma. When, for example, Andreas Vesalius, a sixteenth-century Belgian physician, first dissected a human heart and did not find ‘pores’, said by Galen to perforate the septum separating the ventricular chambers, the Belgian assumed the openings were invisible to the eye. It was only several years after his initial investigation that Vesalius had the confidence to declare that ‘pores’ did not exist.

Similarly the announcement of the discovery of the circulation of the blood by an English physician, William Harvey, in 1628, met with violent opposition, since it contradicted Galen's view that blood flowed to and fro in a tide-like movement within arteries and veins. Even when it was admitted rather grudgingly that Harvey was probably correct, a defender of the established view wrote that if the new findings did not agree with Galen, the discrepancy should be attributed to the fact that nature had changed; one should not admit that the master had been wrong!

For the medieval physician, choice of treatment depended largely on the results of observing one or two patients or on reports from colleagues, again usually based on very limited numbers of observations. But since patients rather inconveniently vary in their responses to treatment, this was often the recipe for the development of treatments that were disastrously ineffective when applied more generally. Each proposed treatment (however absurd) might be taken up by enthusiasts only to be dropped when another (often equally absurd) became fashionable. Even the oath taken by Western physicians since the time of Hippocrates, in which they swear to protect their patients 'from whatever is deleterious and mischievous', has not managed to stop many assaultive therapies being given or to lessen the persistence of barbarous practices like copious blood-letting. Even the most powerful members of society were vulnerable to the ill-informed, if well-intentioned physician. At eight o'clock on Monday morning of 2 February 1685, for example, King Charles II of England was being shaved in his bedroom. With a sudden cry he fell backward and had a violent convulsion. He became unconscious, rallied once or twice and, after a few days, died. Doctor Scarburgh, one of the 12 or 14 physicians called to treat the stricken king, recorded the efforts made to cure the patient.

As the first step in treatment the king was bled to the extent of a pint from a vein in his right arm. Next his shoulder was cut into and the incised area was 'cupped' to suck out an additional 8 ounces of blood. After this, the drugging began. An emetic and purgative were administered, and soon after a second purgative. This was followed by an enema containing antimony, sacred bitters, rock salt, mallow leaves, violets, beetroot, camomile flowers, fennel seed, linseed, cinnamon, cardamom seed, saffron, cochineal and aloes. The enema was repeated in two hours and a purgative given. The king's head was shaved and a blister raised on his scalp. A sneezing powder of hellebore root was administered and also a powder of cowslip flowers 'to strengthen his brain'. The cathartics were repeated at frequent intervals and interspersed with a soothing drink composed of barley water, liquorice and sweet almond. Likewise white wine, absinthe and anise were given, as also were extracts of thistle leaves, mint, rue and angelica. For external treatment a plaster of Burgundy pitch and pigeon dung was applied to the king's feet. The bleeding and purging continued, and to the medicaments were added melon seeds, manna, slippery elm, black cherry water, an extract of flowers of lime, lily of the valley, peony, lavender and dissolved pearls. Later came gentian root, nutmeg, quinine and cloves. The king's condition did not

improve, indeed it grew worse, and in the emergency 40 drops of extract of human skull were administered to allay convulsions. A rallying dose of Raleigh's antidote was forced down the king's throat; this antidote contained an enormous number of herbs and animal extracts. Finally bezoar stone was given. 'Then', said Scarborough, 'Alas! After an ill-fated night his serene majesty's strength seemed exhausted to such a degree that the whole assembly of physicians lost all hope and became despondent; still so as not to appear to fail in doing their duty in any detail, they brought into play the most active cordial.'

As a sort of grand summary to this pharmaceutical debauch, a mixture of Raleigh's antidote, pearl julep and ammonia was forced down the throat of the dying king.

Occasionally serendipitous observations led to more suitable treatments being discovered. An example is provided by the Renaissance surgeon, Ambroise Pare, when treating wounds suffered by soldiers during the battle to capture the castle of Villaine in 1537. Pare intended to apply the standard treatment of pouring boiled oil over the wound but ran out of oil. He then substituted a digestive made of egg yolks, oil of roses, and turpentine. The superiority of the new treatment became evident the day after the battle:

I raised myself very early to visit them, when beyond my hope I found those to whom I applied the digestive medicament feeling but little pain, their wounds neither swollen nor inflamed, and having slept through the night. The others to whom I had applied the boiling oil were feverish with much pain and swelling about their wounds. Then I determined never again to burn thus so cruelly by arquebusses.

By the late seventeenth and early eighteenth century, some scientists and physicians began to adopt a more sceptical attitude to the pronouncements of authoritative figures, and medicine began a slow march from dogmatic, even mystical, certainty to proper scientific uncertainty. One of the most notable examples illustrating this change is provided by James Lind's investigation into the treatment of scurvy.

Scurvy is a disease characterized by debility, blood changes, spongy gums and haemorrhages in the tissues of the body. The symptoms come on gradually with failure of strength and mental depression. Then follow sallow complexion, sunken eyes, tender gums and muscular pains. These symptoms may continue for weeks, gradually worsening. Teeth fall out and haemorrhages, often massive, penetrate muscles and other tissues. The last stages of scurvy are marked by profound exhaustion, fainting and complications such as diarrhoea and pulmonary or kidney troubles, any of which may bring about death. In 1932 it was discovered that the cause of scurvy is deficiency of vitamin C and, even in desperate cases, recovery may be anticipated when the deficient vitamin is supplied, by injection or orally.

But 300 years ago physicians knew only that scurvy was common, was often fatal, and was a severe problem for mariners, causing more deaths in wartime than did the enemy. It is, for example, recorded that in 1740 Lord Anson took six ships on a world

cruise and lost some 1200 of his men to the disease. There was some speculation that scurvy and diet were connected but it was Lind who first investigated the relationship in a proper scientific fashion.

James Lind was a Scottish physician who took his MD degree at Edinburgh in 1748 and was physician at the Haslar hospital for men of the Royal Navy, Gosport, Hampshire, England from 1758 until his death. In his book, *A Treatise on the Scurvy*, published in 1754, he gives the following description of his landmark study:

On the 20th May 1747, I took twelve patients in the scurvy, on board the Salisbury at sea. Their cases were as similar as I could have them. They all in general had putrid gums, the spots and lassitude, with weakness of their knees. They lay together in one place, being a proper apartment for the sick in the fore-hold; and had one diet in common to all, viz. water-gruel sweetened with sugar in the morning; fresh mutton broth often times for dinner; at other times puddings, boiled biscuit with sugar etc. And for supper, barley and raisins, rice and currants, sago and wine, or the like. Two of these were ordered each a quart of cider a day. Two others took twenty-five gutts of elixir vitriol three times a day, upon an empty stomach; using a gargle strongly acidulated with it for their mouths. Two others took two spoonfuls of vinegar three times a day, upon an empty stomach: having their gruels and their other food well acidulated with it, as also the gargle for their mouths. Two of the worst patients, with the tendons in the ham rigid (a symptom none of the rest had) were put under a course of sea-water. Of this they drank half a pint every day, and sometimes more or less as it operated, by way of a gentle physic. Two others had each two oranges and one lemon given them every day. These they eat with greediness, at different times, upon an empty stomach. They continued but six days under this course, having consumed the quantity that could be spared. The two remaining patients, took the bigness of a nutmeg three times a day of an electuary recommended by a hospital-surgeon, made of garlic, mustard-feed, rad. raphan, balsam of Peru, and gum myrr; using for common drink barley water well acidulated with tamarinds; by a decoction of which, with the addition of cremor tartar, they were greatly purged three or four times during the course. The consequence was, that the most sudden and visible good effects were perceived from the use of the oranges and lemons; one of those who had taken them, being at the end of six days fit for duty. The spots were not indeed at that time quite off his body, nor his gums sound; but without any other medicine, than a gargle of elixir vitriol, he became quite healthy before we came into Plymouth, which was on the 16th June. The other was the best recovered of any in his condition; and being now deemed pretty well, was appointed nurse to the rest of the sick.

In spite of the relative clear-cut nature of his findings, Lind still advised that the best treatment for scurvy involved placing stricken patients in 'pure dry air'. No doubt the reluctance to accept oranges and lemons as treatment for the disease had something to do with their expense compared to the 'dry air' treatment. In fact it was a further 40 years before Gilbert Blane, Commissioner of the Board of the Care of Sick and Wounded Seamen, succeeded in persuading the Admiralty to make the use of lemon juice compulsory in the British Navy. But once again the question of cost quickly became an issue with limes, which were cheaper, being substituted for lemons. Economy thus condemned the British sailor to be referred to for the next 200 years as 'limeys'.

The characteristics of Lind's investigation which make it so notable for the time are its *comparison* of different treatments and the similarity of the patients at the commencement of the study, i.e., they were all at a similar stage of the illness and were all on a similar diet. As we shall see in the next chapter these characteristics are much like those demanded in a modern clinical trial.

But Lind's systematic approach to treatment evaluation was, in the eighteenth century, the exception rather than the rule, and personal observation was still highly regarded by most clinicians as the most appropriate way of providing suitable procedures for alleviating the suffering of their patients. The result was the continuation of such 'treatments' as blood-letting, purging, complicated diets and even starvation. It was not until the beginning of the nineteenth century that a few courageous physicians acknowledged that personal observations on a small number of patients, however acutely made, are unlikely to tell the whole story, and pronounced that most treatments then in use were essentially worthless. Pierre-Charles-Alexander Louis, for example, became famous for rejecting the established doctrine of blood-letting as a medical treatment. Through observation he showed that slightly more people who were bled died than people who were not. Clinicians were increasingly forced to admit that the cupboard of specific remedies was virtually bare, and so concentrated their efforts on accurate diagnosis and prognosis rather than treatment. During the next 100 years or so *some* progress was made in identifying effective treatments for particular conditions, for example, the heart drug digoxin from the foxglove and aspirin from the bark of the willow tree. But the real therapeutic revolution has occurred in the last 75 years or so and has seen the introduction of effective treatments for a vast range of diseases. The reasons behind this revolution involve a complex mixture of progress in pharmacology and medical technology well described in Le Fanu (1999). But as more and more potential treatments were developed, the need grew for some scientifically acceptable form of procedure by which their advantages and disadvantages could be assessed. Fortunately this need was met in the 1930s/1940s by the introduction of the *controlled clinical trial*, the story of which we take up in Chapter 2. Here we move on to say a little more about treatments specific to that branch of medicine with which this book is largely concerned, namely *psychiatry*.

1.2 A brief history of treating the mentally ill

The mentally ill have always been with us – to be feared, marvelled at, laughed at, pitied or tortured, but all too seldom cured. (Alexander and Selesnick, 1966)

In his dictionary of psychology, the late Professor Stuart Sutherland defines psychiatry as 'the medical speciality that deals with mental disorders'. An almost

equally brief definition appears in Campbell's *Psychiatric Dictionary*, namely, 'the medical speciality concerned with the study, diagnosis, treatment and prevention of behaviour disorders'. In terms of either definition it would appear that psychiatry has a long history; Pythagoreans, for example, employed a form of music therapy with emotionally ill patients (see Gordon, 1949), and Aretaeus (AD 50–130) observed mentally ill patients and did careful follow-up studies on them. As a result, he established that manic and depressive states often occur in the same individual and that lucid intervals generally exist between manic and depressive periods.

But a thousand years on such a seemingly enlightened approach to the mentally ill had been largely abandoned in favour of viewing the insane as wild beasts who should be kept constantly in fetters. Indeed according to Foucault (1961), 'madness borrowed its face from the mask of the beast'. In early medieval times beating, incarceration and restraint were the 'treatments' endured by the majority of the mentally ill. Insanity was almost universally regarded as a spiritual trial which one had to undergo as a punishment for vice, a test of faith, or a method of purging sin – a form of purgatory on earth – which could be dealt with only by spiritual remedies such as exorcism or being locked up in a church overnight. Gradually other approaches to treatment were introduced although most were equally harsh; bleeding, vomiting and purging for mentally ill patients were common, as were more whimsical forms of treatment such as whirling or spinning a madman round on a pivot. These treatments were in addition to the continued use of manacles and chains for restraint. Apart from their harshness, what these treatments also had in common was that they were almost universally ineffective.

It was not until the seventeenth century that the tide of opinion seems to have turned against rough treatment. For example, on 18 July 1646 the Court of Governors of Bethlem Hospital ordered 'that no officer or servant shall give any blows or ill language to any of the mad folks on pain of loosing his place' and at the same hospital in 1677 the governors propounded a rule that 'No Officer or Servant shall beat or abuse any Lunatic, nor offer any force to them, but upon absolute, Necessity, for the better governing of them' (see Russell, 1997). As a substitute for coercion, some institutes housing the insane began to offer kindness, attention to health, cleanliness and comfort. Reformers such as John Monro pioneered the introduction of 'moral treatment', which stressed the value of occupation to combat the dangers of idleness, and the need for patients to be dealt with tenderly and with affection. Such an approach was now considered to be more likely to restore reason than harshness or severity.

But although there was an increasing desire for caring to replace constraint in dealing with the mentally disturbed, drugs such as corium, digitalis, antimony and chloral were still used to quieten disruptive patients, replacing physical fetters with pharmacological ones. And despite the best efforts of the advocates of the moral

treatment approach, asylums housing the insane often remained depressing and degrading places until well into the twentieth century, as is illustrated by the following account of a visit by a newly appointed psychiatrist in 1953 to the chronic ward of a mental hospital in Cambridge in the United Kingdom (given in Le Fanu, 1999):

I was taken in by someone who had a key to unlock the door and lock it behind you. The crashing of keys in the lock was an essential part of asylum life then just as it is today in jail. This led into a big bare room, overcrowded with people, with scrubbed floors, bare wooden tables, benches screwed to the floor, people milling around in shapeless clothing. There was a smell in the air of urine, paraldehyde, floor polish, boiled cabbage and carbolic soap – the asylum smell. Some wards were full of touselled, apathetic people just sitting in a row because for twenty years the nurses had been saying ‘sit down, shut up’. Others were noisy. At the back of the ward were the padded cells, in which would be one or two patients, smeared with faeces, shouting obscenities at anybody who came near. A scene of human degradation.

Sadly many early twentieth-century treatments for the mentally ill patient appear in retrospect equally as harsh as those used centuries earlier and, in the main, almost equally ineffective in producing a cure. One positive change from earlier times, however, was that now some clinicians began to take the first small steps to evaluating treatments scientifically by making qualitative and quantitative observations and measurements. Empiricism was, at last, about to play a role in psychiatric practice. Both the harshness of treatment and the attempt at a more scientific approach to evaluation can be illustrated in the context of the theory relating focal infection to mental disorders proposed by Dr Henry A. Cotton in the 1920s. According to Dr Cotton:

The so called functional psychoses we believe today to be due to a combination of many factors, but the most constant one is the intra-cerebral, bio-chemical cellular disturbance arising from circulating toxins originating in chronic foci of infection, situated anywhere in the body, associated probably with secondary disturbance of the endocrin system. Instead of considering the psychosis as a disease entity, it should be considered as a symptom, and often a terminal symptom of a long continued masked infection, the toxæmia of which acts directly on the brain.

Dr Cotton identified infection of the teeth and tonsils as the most important foci to be considered, but the stomach and, in female patients, the cervix could also be sources of infection responsible, according to Dr Cotton’s theory, for the mental condition of the patient. The logical treatment for the mentally ill resulting from Dr Cotton’s theory was surgical elimination of the chronically infected tissue, all infected teeth and tonsils certainly and, for many patients, colectomies. Additionally female patients might require enucleation of the cervix, or in some cases complete removal of fallopian tubes and ovaries. Such treatment was, according to Dr Cotton, enormously successful; out of 1400 patients treated, only 42 needing to remain in hospital.

The focal infection theory of functional psychoses was not universally accepted, neither were the striking results said to have been obtained by the removal of these infections. So in 1922 Drs Kopeloff and Cheney of the New York State Psychiatric Institute undertook a study to investigate Dr Cotton's proposed treatment in the spirit of, in their own words: 'an approach free from prejudice and without preconceived ideas as to the possible results'.

To achieve this laudable if somewhat pious aim, Kopeloff and Cheney planned their study in the form of an experiment. All the patients were divided into two groups as nearly identical as possible. All members of one group received operative treatment for foci of infection in teeth and tonsils, while members of the other group received no such treatment and consequently could be regarded as controls. No doubt Kopeloff and Cheney's study would have been hard pressed to have gained ethical approval today, but despite its ethical and probable scientific limitations it did produce results (summarized here in Table 1.1) that cast grave doubts over removal of focal infections as a treatment for some types of mental illness and, indirectly at least, drove a nail into the coffin of Dr Cotton's theory as to the cause of these conditions.

Dr Cotton's suggested treatment for patients with functional psychoses was severe, but not more so than other 'physical therapies', which became popular in the 1930s and 1940s. Insulin coma, for example, required patients to be given large doses of insulin, which, by lowering the blood sugar, induced a comatose state from which they would be rescued by a large dose of glucose (if they were among the lucky ones – some patients died). According to Sargent and Slater (1944), 'reliable statistics are mostly in favour of the treatment', although this claim needs to be considered alongside their recommendation as to how to select patients for treatment: 'It is rarely indeed that facilities will exist for the treatment by a full course of insulin of all schizophrenics coming under observation, and it is therefore important not to waste the treatment on patients not very likely to respond while denying it to the favourable cases.'

Table 1.1 Results from Kopeloff and Cheney's study

	Dementia praecox		Manic depressive	
	Controls	Operated	Controls	Operated
Number of cases	15	17	15	9
Recovered	—	—	5	4
Improved	5	5	8	1
Total benefited	5	5	13	5
Unimproved	10	12	2	4
Left hospital	3	5	6	3

Reproduced from Kopeloff, N., Kirby, H.G. (1923) *American Journal of Psychiatry*, 3, 149–97 with permission from The American Psychiatric Association

Perhaps the most severe of the physical therapies was a lobotomy, where the brain was cut with a knife. The operation was pioneered by Egas Moniz, a Lisbon neurologist, and later taken up enthusiastically by psychiatrists such as William Sargent of St Thomas's Hospital in the United Kingdom. Evaluation of the effectiveness of the therapy was largely anecdotal, and even an enthusiast such as Sargent knew that the operation was often performed at a price:

It is probable that the highest powers of the intellect are affected detrimentally, and if the patient shows little sign of this in his day-to-day behaviour it may be because the daily routine of existence makes little call on his best powers. We recognize too that temperamental qualities also are not unaffected, that the reduction in self-criticism may lead to tactless and inconsiderate behaviour, and that the more immediate translation of thought and feeling into action can show itself in errors of judgement. The damage, once done, is irreparable. (Sargent and Slater, 1944)

Both insulin therapy and lobotomies were slowly phased out as treatments for the mentally ill, but another of the physical therapies introduced in the mid-twentieth century, electric shock (ECT) remains in use to this day largely because it has been found to be effective in a number of studies (see next chapter). This treatment, introduced by Cerletti and Bini in the late 1930s, consists of producing convulsions in a patient by means of passing an electric current through two electrodes placed on the forehead. The idea that such convulsions might help the mentally ill patient was not new; as long ago as 1798, for example, Weickhardt had recommended the giving of camphor to the point of producing vertigo and epileptic fits.

ECT was (and is) used primarily in the treatment of patients with severe depression. Early claims for its effectiveness bordered on the miraculous. Batt (1943), for example, reported a recovery rate of 87 per cent. Fitzgerald (1943) was only slightly less optimistic, suggesting the figure was 78 per cent. In neither report, however, was there any attempt to gather data on recovery rates in concurrent controls. Despite this, other psychiatrists accepted the quoted recovery rates as an indication of the effectiveness of ECT. Typical is the following quotation from Napier (1944):

'It is a remarkable advance that a type of case in which the outlook was formerly so problematical can now be offered with some confidence the prospect of restoration in a matter of weeks.'

Some researchers attempted to evaluate ECT by comparing their results with those from *historical controls* (see Chapter 2) or from concurrent patients who for one reason or another had not been offered the treatment of choice (ECT). But such studies largely only illustrated the weaknesses of such an approach. That by Karagulla (1950), for example, compared results for six groups of patients. Two groups, men and women, had been treated at the Royal Edinburgh Hospital for Mental and Nervous Disorders in the years 1900–39 (before the advent of ECT). The other four groups had been treated in the years 1940–48, two (men and women) by ECT and two others (men and women) not using ECT. It requires little imagination to suppose that the

historical controls seen during the period 1900–39 are of little use in evaluating ECT; any difference between the recovery rates for the periods 1900–39 and 1940–48 in favour of the latter could be explained by many other factors than treatment with ECT. The differences between the ECT groups and the concurrent controls are also virtually impossible to assess since the decision to use ECT on a patient was a subjective one by the clinicians involved. There is no way of knowing whether the treated and untreated groups are comparable. (More comments and criticisms of historical control studies will be found in the next chapter.) A scientifically acceptable study of the benefits or otherwise of ECT had to wait until 1965 as we shall recount in Chapter 2.

At the end of the 1940s and the beginning of the 1950s, the physical treatments introduced into psychiatry 30 years earlier still formed the core of most psychiatrists' treatment armoury. But matters were about to change; in the 1950s several entirely new types of drugs were to be introduced in psychiatric practice. In the main the discovery of these drugs was not based on a scientific knowledge of brain chemicals, rather their discovery was for the most part serendipity, resulting from acute observations made by clinicians such as Henri Laborit (the effects of the antihistamine promethazine, from which developed chlorpromazine), and John Cade who first described the value of lithium in manic depression by observing its effect on a number of patients. The tricyclic antidepressants and the selective serotonin reuptake inhibitors or SSRIs, which had fewer side effects in treating depression were also discovered in the 1950s. Finally, almost by accident, Leo Sternback in 1957 identified the benzodiazepines for treating mild anxiety.

The need to establish whether or not these newly discovered compounds were effective in treating mentally disturbed patients greatly increased most psychiatrists' appreciation of the need for acceptable procedures for evaluating treatments. And after 1960 the increasing need to satisfy regulatory authorities (prior to 1960 only the United States had such a body overseeing the introduction of new drugs into general use, but the thalidomide tragedy changed the situation dramatically) meant that the controlled clinical trial, the subject of Chapter 2, increasingly became viewed as the 'gold standard' for evaluating competing therapies. A quotation from one of the psychiatric champions of this approach, Michael Shepherd (1959), remains almost the perfect model for the modern scientific view that psychiatrists should have in the evaluation of psychotropic drug therapies, in particular, and in the evaluation of psychiatric treatments in general:

The clinician is compelled to hold the balance between the scales of laboratory data on the one hand and stochastic theory on the other. Though his experience and judgement are essential it will be necessary for him to adopt a more experimental role in the future if he is to co-operate fully with the pharmacologist and the statistician whose techniques he should understand if full weight is to be given to observations made in the clinical setting.

1.3 Summary

In the last 50–60 years, medicine has made giant strides in finding effective treatments for a range of conditions. In the 1940s, for example, death in childhood from polio, diphtheria and whooping cough were commonplace but is now thankfully rare (at least in most of Europe and the United States). And the treatment of the mentally ill has also made great progress. Drug treatment of schizophrenia, depression and anxiety disorders have been found to be effective and have done much to alleviate the misery of these conditions. Drug treatment of mental illness works by altering in some way the chemistry of the body. Chlorpromazine, for example, has been shown to interfere with the action of the neurotransmitter dopamine. But the modern view of mental illness, that it has both psychological and physical dimensions, implies that effective treatment must aim to ease the suffering of the mind as well as correcting possible abnormalities of chemistry. And so, in the 1970s, behavioural psychotherapy began to be used to treat particular disorders. More recently cognitive therapy has been introduced. This provides a simple, straightforward treatment regimen which lasts weeks rather than years, and above all permits the patients to make sense of, and thus hopefully control, their psychological problems.

A cornerstone of the improvements in treatment in medicine in general and psychiatry in particular has been the introduction of an acceptable scientific approach to treatment evaluation, i.e., the clinical trial. Such trials are also the cornerstone of the modern *evidence-based medicine* movement (see Sackett *et al.*, 1996). Initially clinical trials in psychiatry largely involved the evaluation of drug treatments, as we shall see in Chapter 2. More recently, however, psychological therapies have also been subjected to the rigours of the clinical trial, although there has been a growing awareness that the logistical problems of such trials differ from those of the average drug trial. The reasons why the clinical trial approach is so essential in the evaluation of competing therapies are taken up in Chapter 2.

