Careers advice for doctors

BMJ provides a new source of information

Although unemployment among doctors is rare, many doctors express dissatisfaction with their work. This mismatch between expectation and reality may in part be due to doctors not receiving adequate advice on their careers. This week we launch a new section in the *BMJ* designed to respond to this lack. Career Focus, as the new section is known, will be published each week in the classified advertising supplements and will help keep doctors abreast of the many possible avenues that their working lives may follow.

The one thing we know for sure about the NHS of the future is that it will be different from now. Last month the British Association of Medical Managers (BAMM) gathered together a team of hospital doctors and managers to play a game designed to simulate future careers in the NHS, creating an NHS very different from the present one. *BMJ* readers may be sceptical about learning from games—and so, at the beginning, were many of those who played. But by the end most players were convinced of the game's value—and disturbed by what they discovered.

The main finding was that the NHS is an inflexible employer at a time when flexibility is important. The work itself demands flexibility, and many of those working in the NHS want it too. But because the players were poorly advised and insufficiently aware of how the early decisions and the many vicissitudes that affect every career can have profound later consequences, many players in the NHS game ended up "in the wrong place." They felt that they had failed in an NHS intolerant of failure, offering no support, and no routes backwards or forwards. The players agreed that the game reflected reality and showed the need for radical rethinking of work and career patterns within the NHS.

Students enter real life medical schools with a complex pattern of motivations, generated in part by unrealistic portrayals of the profession in the media. The students then do not use their university careers service before graduation, instead relying on their experience of the specialties as a student to guide their choice of career.[1] The continuing dominance of hospital specialists over undergraduate training imprints a narrow set of values on students, often including the perception that career choices outside the specialties are for failures. After graduation, early work experience is poorly supervised and has limited educational value. It is often undertaken with only the vaguest of long term career plans.[2]

For those more advanced in their careers, or involved in the recruitment of doctors, the many changes in specialist training,[3] in the working styles of consultants,[4] and in primary care[5] mean that it is vital to stay abreast of employment changes. The world of work is changing rapidly, with increases in part time working, job sharing, teleworking, and flexible working.[6] The NHS has been slow to change but will have to catch up.

Although many sources seek to inform medical postgraduates of the choices available to them at each stage in their career, seeking them out may be difficult. Local institutions have specialty clinical tutors who are responsible for advising doctors in training; there are postgraduate tutors, deans, and advisers, but there is no coherent structure or source of information for doctors in training, particularly if it is apparent that a sideways move into another specialty or even another profession might be the right course.

The diversity of sources of information means that overloaded doctors may not benefit fully from any of them. The *BMJ*'s classified supplement is the definitive source of recruitment advertising in Britain and a logical place to publish not only career information but material that will assist in obtaining the self knowledge necessary for personal and professional development.

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Placebo mania

As medical knowledge accumulates, the number of placebo trials should fall

See p 36

When an effective treatment exists and then a new one comes along it is only common sense to ask whether the new treatment beats the old. As Bradford Hill suggested, who cares whether the new treatment is more or less effective than nothing?[1] Despite this common sense, the dogma persists that placebo control is part of the paradigm for evaluating new treatments. For example, Collier recently claimed that "placebo controlled trials offer the greatest scientific rigour for assessing the efficacy of a drug,"[2] and Jones *et al* in this issue (p 36), write that "the gold standard in clinical research is the randomised placebo controlled double blind clinical trial."[3]

Placebo control should no longer be part of the gold standard. In earlier times it made sense to urge investigators to compare new treatments with placebo, because typically the only alternative to the new treatment was no effective treatment at all. Introducing a placebo facilitated blind assessment and controlled for non-specific aspects of treatment—the "placebo" effect, itself a highly variable but often powerful phenomenon.[4] But if blind assessment can be achieved in a comparative trial of two active treatments is there any point to using a placebo group?

Suppose you had an old friend Bill, who you knew was tall, and a new friend Bob, who also seems tall. You wish to find out how tall Bob is in relation to Bill. Most people would ask Bill and Bob to stand back to back and measure the vertical difference between the tops of their heads. Suppose that Bill and Bob are not in the same place. You could use a tape measure

to measure Bill's height first, then visit Bob and measure his height, and then compare the two heights. Instead of learning the difference in height directly you learn the absolute height of each and use that to compare.

Which method is better? The back to back comparison eliminates some possible errors because you have both subjects under observation at once (which allows easier control of time of day, posture, and so on) and it requires you only to measure accurately the difference in height, which is less subject to measurement error than measuring each individual's height. On the other hand, measuring each individual's height gives more information than just measuring the difference. For example, from just the difference you could not say whether either Bill or Bob was tall.

But suppose that Bill and Bob are not in the same place and you lack an accurate measuring device. You might be able to say that either Bill or Bob is tall, but you are unlikely to know each of their heights with enough precision to know who is taller. This situation—an indirect comparison—is the one we usually face when we conduct placebo controlled trials. One might think that a placebo comparison, like a measuring tape, enables you to measure efficacy against a meaningful zero point. Thus if two treatments are both compared with placebo we know their efficacies both absolutely and relatively, just like knowing the absolute heights of Bill and Bob. This assertion is correct in principle but not in practice.

Placebo controlled studies are usually designed to find out only whether a new treatment is significantly better than placebo. Because the placebo effect is usually considerably different from that of an effective treatment a study does not have to be very large to find a significant difference. As a result, we may be able to say that the treatment beats placebo, but we can say little about how efficacious it is—that is, our estimate of its effect will have a wide confidence interval. The result is not like measuring height with a measuring tape: it is more like a hazy visual assessment of height that can conclude only that someone is short or tall.

To estimate comparative efficacy or to show equivalence there is no escape from designing studies that are much larger than the usual placebo controlled studies. We could either have large placebo comparison studies or omit the placebo group and have comparative trials of just the two effective treatments.

It is fortunate that we can assess comparative efficacy without placebos because when an efficacious treatment already exists it is unethical to assign placebo treatment to patients.[5] Doing so violates the ethical principle of equipoise, a state of uncertainty regarding which of the treatments studied is better.[6] Without equipoise any therapeutic trial is unethical, and if equipoise is lost during a trial we must stop the trial for ethical reasons.

Equipoise does not suffice, however. The Declaration of Helsinki states, "In any medical study, every patient—including those of a control group, if any—should be assured of the best proven diagnostic and therapeutic method."[7] Allegiance to using placebos has apparently prompted some writers to criticise the Declaration of Helsinki, which may be interpreted as precluding the study of any new treatment.[2 8] After all, how can a treatment be the best proved method if it needs to be studied? The answer is that equipoise between the new treatment and the existing treatment makes it ethical. But assigning a placebo is unethical unless placebo is thought to be as good a treatment as exists.

If we adhere to these ethical guidelines placebo controlled trials should become infrequent as medical knowledge accumulates. Then the scientific method of comparing active treatments against one another will be essential to understand. Towards that end Jones *et al*, their homage to placebo controls notwithstanding, have contributed a lucid description of the principles behind equivalence trials.[3]

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Measuring diastolic blood pressure in pregnancy

Use the fifth Korotkoff sound

The measurement of diastolic blood pressure during pregnancy offers plenty of scope for error. Most people still use a mercury sphygmomanometer, with all the pitfalls that are familiar outside obstetrics—"white coat" hypertension, digit preference, cuff size, differences between arms, and poorly calibrated equipment. To these should be added the influence of posture and gestation in a pregnant woman, so any advance in getting it right is to be welcomed. There is now good evidence to support using the fifth Korotkoff sound when measuring diastolic blood pressure in pregnancy.

Although measuring blood pressure and detecting hypertension remain at the core of antenatal monitoring, there has long been uncertainty about whether to record diastolic pressure as the point when the sounds muffle (Korotkoff phase IV) or when they disappear (phase V). The World Health Organisation recommends the use of phase IV,[1] while phase V is advised in a consensus report from the United States National Heart, Lung, and Blood Institute.[2] Phase V is closer to "real" diastolic blood pressure as recorded intra-arterially in pregnancy[3] and is routinely used outside pregnancy.[4] However, it has been argued that phase V is not suitable for use during pregnancy because in many women the sounds never disappear.[5] This assertion now seems to be unfounded. In a prospective study of 1194 nulliparous women blood pressure was measured five times at each of five different gestation times between 20 weeks and delivery.[6] Among the more than 25 000 readings in the sitting position, Korotkoff phase V was unobtainable in just three. The discrepancy between this finding and the earlier claims of frequent failure to obtain a phase V reading may well be a consequence of difference in technique: pressing the stethoscope diaphragm tightly on to the brachial artery will lead to a very low diastolic blood pressure being recorded.

Measurement of phase IV presents real problems of reproducibility. Diastolic blood pressure was recorded by two observers in a total of 556 readings in 58 women (42 hypertensive and 16 normotensive) at various stages of pregnancy.[7] The observers agreed on the presence of muffling in less than a third of cases and both found it harder to identify