Promoting change in clinical care

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Not all change is for the good; so before analysing how change can be promoted it is important to make clear that the changes I am concerned with are those based on sound evidence, whether in terms of patients' health status or satisfaction or in terms of organisational or economic benefits to the NHS. Nevertheless, studying processes can help in promoting good clinical care and in understanding and perhaps gaining more control over changes that are not good for patients or for the organisation as a whole.

A second assumption is that if clinicians are given sound evidence that a practice is better they will adopt it or, conversely, stop a practice shown to be of little or no benefit or even to be harmful. Clinicians, like others, do not behave in this entirely rational, scientific way. In this paper I have assumed that clinicians want to do what is best for their patients but that what is thought to be right is very varied. As Ogden Nash put it, "I believe that people believe what they believe they believe."

The range of beliefs and actions are a concern, then, in delivering clinical care. We know that there are many sins of omission – things that should be done that are not – and sins of commission – things that are done that should not be done. We are also well aware of an enormous amount of ignorance about what is and is not beneficial. To improve clinical care we need not only sound information but also to understand how people react to change and the processes and influences that can be used to bring about change.

There is much in the literature on change, particularly how individual practitioners adopt different practices¹ and on what makes organisations change,² recognising of course that organisations are composed of people, each of whom assess a particular change in their own terms. If we want to promote change in clinical care we need to look at the environment in which the change occurs, the characteristics of the change and the process of change, and the way people behave within it.

Environment

Individuals practise medicine, nursing, chiropody, and so on, both in a local environment and in wider professional, national, and international environments. An early lesson for many people trying to bring about change is that the local or wider climate of opinion has to be right. It may be better to concentrate on changing the wider environment before pursuing a specific change. For example, there was early hostility towards regional secure units in psychiatry

because they were seen as retrograde, imposing new levels of security just after psychiatric wards had been opened.³ Later, when psychiatric hospital closure was under discussion and hospitals began to see a secure unit as a way of saving their hospital the climate of opinion towards secure units changed.

A more recent example might be the idea of making outcomes for individual hospitals or even individual surgeons available to patients. Such an experiment would probably have been thought outrageous five years ago. The climate of opinion has changed appreciably and the right of the patient and the public to information is thought of quite differently now, although this change would still be difficult to make.

Local environments are also important. A practitioner who runs the risk of being ostracised for undertaking a new procedure will think twice about it. However, in an environment where change is viewed positively specific innovations may be easier to get accepted. If attempts were being made nationally to change some aspect of clinical practice the place to start would not be that with the most hostile environment.

Characteristics of change

In talking of change it is easy to assume that some people accept change and others do not but that all change is equal. This is obviously not true. Changes may have very different implications for different people in the process. Rogers highlighted five characteristics of innovation which influence their adoption, each of which may be considered differently by each individual in deciding whether or not to change.⁴

RELATIVE ADVANTAGE

If a practice is shown by research to be more effective than another then that ought to give it relative advantage, although in reality it is not quite so simple. A medical innovation may be perceived to have advantages or disadvantages well beyond the benefit to patients' health status – it may give security or reassurance to professionals, reduce time pressures, require new skills, increase or decrease income, etc. Also, an advantage to one group may be seen as a disadvantage to other groups – for example, routine induction of labour was seen as a benefit to professionals and some women but was not accepted by other groups.

COMPATIBILITY

A fundamental obstacle to adopting a change

occurs when the change is incompatible with beliefs or working practices. This may be why research findings do not have the impact they might have – they may not be accepted because they are incompatible with long held philosophies and practices. In terms of compatibility changes in the environment may be necessary to alter something more fundamental before a specific new idea is acceptable.

COMPLEXITY

Complexity is also a negative characteristic. If a change requires the involvement of disparate people and actions then the many negotiations will be complex and each individual's prestige and influence may be affected. Change will then be difficult. For example, changing patients' waking times in hospitals is essentially a simple idea but one which turns out to be complex. The change requires the involvement of virtually all staff in a hospital – namely, day and night nurses, caterers, cleaners, doctors, and various departments such as the x ray and physiotherapy departments, where patients may be taken. Predictably, that change has been difficult, especially when led by people such as ward sisters, who have relatively little power to influence these other groups of staff.

In my own research, however, the most difficult, incompatible, and complex changes have been the most interesting. Once the change is made it tends to be maintained. So many people have been involved and have needed to compromise and adapt their philosophies that there is no going back. The opposite occurs with the very simple, add on technologies. They may be adopted more quickly, but once the "champion" leaves practice drifts back easily to its former activity.

OBSERVABILITY AND TRIALABILITY

Observability (can you see the innovation in operation?) and trialability (can you try it out

Fig 1 Diffusion of uptake of innovations

on a limited basis?) are the last two characteristics. From my own research these seem to be of lesser importance than the others, though still influential. Innovators certainly recognise the need for observability, often running open house sessions, and the champions may take teams of people to see an activity in operation to show that it is possible. This does not always have the desired effect, especially if the "observed" site has additional resources. Trialability also has negative aspects. Sometimes ideas which can be tried in a limited way may help to persuade people to adopt them, though building up the commitment for a large "once and for all" change may help to maintain complex changes.

Characteristics of farmers in five categories of adopters*

Adopter category	Personal Characteristics	Salient values and social relationships	Communication behaviour
Innovators	Highest social status; largest and most specialised operations; wealthy; often young; well educated; often experience in non-farming environment	"Venturesome," willing to accept risks; some opinion leadership; cosmopolitan	Closest contact with scientific information sources; interaction with other innovators; relatively greatest use of impersonal channels of information
Early adopters	High social status; often large and specialised operations	"Respected"; regarded by many as model and an influential; greatest opinion leadership of any adopter category in most communities	Greatest contact with local change agents (including extension or advisory services, commercial technical advisers, etc); competent users of mass media
Early majority	Above average social status; average-sized operations	"Deliberate"; willing to consider new ideas only after peers have adopted some opinion leadership	Considerable contact with change agents and early adopters; receive mass media
Late majority	Below average social status; small operations; little specialisation; relatively low income	"Sceptical"; overwhelming pressure from peers needed before adoption occurs; little opinion leadership	Interaction with peers who are mainly early or late majority; less use of mass media
Laggards	Little specialisation; lowest social status; smallest operations; lowest income; often oldest	"Traditional"; oriented towards the past; avoid risks; little if any opinion leadership; almost isolated socially	Neighbours, friends and relatives with similar values are main information source; suspicious of change agents

*Based on findings of several British studies, and confirmed by many studies in other countries.

From: Open University. *Decision making in Britain III. Agriculture*. Milton Keynes: Open University Press, 1973:42.

Finally, in my own work I have found that adaptation to local circumstances and maintaining flexibility about exactly what should be done can help change to be adopted. This may be a problem for research findings, which are often seen as an external influence, and when research findings are incorporated into guidelines and standards. Without local adaptation they may be totally unacceptable.

Process of change in individuals

The uptake of changes or innovations in any social system is known to follow a broadly similar pattern (figure), comprising an S shaped curve, with the first adopters being innovative, venturesome, and sometimes seen as rather maverick by their peer group. If an innovation is to diffuse it must be accepted by early adopters, who are often, though not necessarily, the opinion leaders of the group. Only then will the majority accept the change, leaving some laggards untouched.

Much is known about the characteristics of people in these categories. The table summarises this for farmers as adopters of change, but only minor amendments are required for its application to health practitioners, and work on doctors has shown that these characteristics apply.^{5 6} The communication behaviour column is important because it begins to show why it is that information is only a necessary but not sufficient condition for change. The adopters in the early and late majority categories are much more influenced by other people than they are by publications.

The change process also follows a point source phenomenon.⁷ A map of how innovations are taken up demonstrates how they seem to emanate from several separate point sources. This process is more understandable if communication behaviour is recognised. The innovators and early adopters are the people who attend national or international meetings. They adopt a different practice and, depending on their local status, local peers in their own or neighbouring districts start to accept the practice too.

Process of change in organisations

A great deal then, is understood about why individuals accept change. Change becomes more complex when the decisions stems not from one person as an autonomous practitioner but from several people in an organisation. Significant issues about power then begin to emerge. Power is not absolute but depends a great deal on the change issue. For example, establishing regional secure units required, most importantly, the agreement of local clinicians but also trade union groups and local and regional managers. Some changes founder because they do not have the support of the relevant powerful individuals or groups. For example, changing waking times of inpatients, might be seen as an issue which a ward sister has power over, but this change is not achievable unless led by more senior nurse managers or strongly supported by them

and other powerful groups, such as consultants, because it requires changing work patterns across a range of staff groups.

Sometimes, however, although no one may fundamentally object to a change, it may not occur unless supported by people who really believe in its importance. Just how important "champions" of particular changes are in ensuring that change is kept on the agenda when everyone else would like it dropped and in making alliances and shepherding the change through internal processes and systems has been recognised.³

Promoting change in clinical practice

Several strategies have been tried in promoting change in clinical practice⁸⁻¹⁰;

These include:

- Providing information – about the results of research and feedback on individual practice
- Education – vocational and continuing
- Peer review and audit methods
- Person to person contact – by respected peers or opinion leaders, patients, drug representatives
- Financial incentives.

INFORMATION AND EDUCATION

Researchers often believe that if their results are widely disseminated people will change their practice accordingly. There is plenty of evidence that this is not the case – for example the work of the Office of Technology Assessment in the United States reviewing the impact of clinical trials.¹¹ Sometimes research evidence does change practice quickly, perhaps when there is indication of significant harm – for example, studies in the United States showed a large and rapid decline in the use of chlofibrate and oral antidiabetic agents after the results of clinical trials of these drugs became known,¹² probably because of fear of malpractice.

Feedback to individual doctors about their own practice compared with that of other doctors has been used to try to influence practice. Again there are exceptions to the rule, but unless something else is added – for example, an audit process – passive information feedback is not likely to produce change.¹³ Information and change has been reviewed by Mugford *et al.*¹⁴

Education is, of course, an important influence on practitioners' beliefs and philosophies. A literature review of the extent to which vocational and continuing education had an impact on specific skills and behaviours concluded that deficiencies are far more likely in performance than in knowledge.⁹ If behaviour is to be changed personal contact with a prestigious and committed teacher is important and the learner must be convinced of the reason for change.

PEER REVIEW AND AUDIT METHODS

Although some studies have shown that audit of practice by peers can change practice, at least during the period that the intervention is being supported and the issue remains on the

agenda,¹³ other studies, particularly one in Canada,¹⁵ have raised more scepticism of this approach of this approach to change. The Canadian study used two strategies to try to alter deliveries of babies to women who had already had one caesarean section, the purpose being to increase trial of labour and vaginal birth rates. In the audit and feedback group criteria were agreed by the doctors, and practice was audited against them. Unfortunately, this group's behaviour did not change compared with that of the controls. The other strategy, which was more successful, used local medical opinion leaders identified by the doctors themselves. They were given training and information to help them encourage their colleagues to change their practice by contact and educational activities. Both trial of labour and vaginal delivery rates were higher in this experimental group than in the other groups.

The lack of effect of audit and feedback is obviously of concern, given the current strategy towards audit in the United Kingdom. As Lomas *et al* pointed out, most studies that achieved change through audit were concerned with laboratory testing, diagnostic radiology, and drug prescribing rather than medical or surgical practice.¹⁵ That the Canadian study did not alter practice does not mean that audit in the United Kingdom cannot achieve change. Presumably, this depends partly on the doctors concerned agreeing to change, when necessary; the strength of peer influence locally; and so on. If audit is seen as an administrative procedure with no clear criteria about practice and no commitment to change it is unlikely to have the desired effect.

PERSON TO PERSON CONTACT

All of us are influenced by people we respect. The categories for adopting change described earlier illustrate how different adopters get messages; for most, respected colleagues are a key source. The Canadian study described showed that by applying this knowledge practice could be changed. Other people have contact with clinicians, though, and these are also effective agents of change. One group of such contacts are drug representatives, although data on their effectiveness are hard to find.

The other important group are, of course, patients, and there is much anecdotal evidence of practice being changed by questioning or even demanding patients. The most interesting example is from Switzerland, where in one canton a media campaign aimed at patients succeeded in appreciably reducing rates of hysterectomy.¹⁶

The conclusion is that person to person contact, particularly with various givers of the message, is one of the more effective ways of changing clinical practice.

FINANCIAL INCENTIVES

The other successful method of implementing change is to use financial incentives. The use of fee for service payments in the United

States and Germany has shown how important an influence this can be. Recently, similar effects have been shown in the United Kingdom in payments to general practitioners for reaching target rates for immunisation. This method does raise some concerns, however, in that behaviour can be changed irrespective of evidence about clinical benefit. Since the underlying intention is that clinicians should base their practice on scientific evidence using financial incentives can have the negative by product of discouraging practitioners to think about their practice.

Promoting change

What sort of strategy then needs to be devised to promote change in clinical care?

The first analysis needed is that of the particular change. Is it a straightforward addition to practice, with clear benefits? Perhaps the use of streptokinase after myocardial infarction or of corticosteroids in mothers giving birth to preterm infants are such examples. In these cases all that might be needed is widespread dissemination and change in practice by opinion leaders. Other changes may have serious obstacles, and these need to be analysed to see whether they can be overcome. For example, the change from open to minimally invasive surgery may require a massive retraining exercise; many surgeons, whose practice is safe with open surgery, feel understandably nervous about trying new methods without training.

Some changes may need such a fundamental shift in beliefs and practice that widespread change may first require attention to the wider climate of opinion. It is here that national policy can have an influence. For example, though some dismiss the patient's charter as mere rhetoric, the statement that patients should have rights to information about their treatment and care including the alternatives available, puts that issue on the agenda in a way that it has not been before. Some patients do have such information some of the time, but to realise this right for all patients will take a long time to achieve, requiring experimentation with different approaches to providing the information as well as attention to the underlying assumptions of both doctors and patients about their relationship.

Assuming that understanding the characteristics of a change suggest that practice could be influenced, what approaches would be used? Reviewers of the methods conclude that using a single method is probably much less successful than a combination of approaches. In the United Kingdom various audiences could be targeted, including policy makers, managers, clinicians, and patients. Purchasers could be persuaded to use their influence to change practice through service agreements; doctors could be encouraged to review their practice through audit (endorsed by a royal college or other relevant institution); opinion leaders could be sought and asked to use their influence; and patients could be

targeted through the media and consumer and self help groups.

In conclusion, ensuring success requires a range of interventions, and some judgment will have to be made about which changes require and are worth this amount of effort. Simply disseminating information will not have the desired effect.

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