there be more local negotiations and more questions about the new contracts but budget holding general practices and doctors employed by trusts will add yet further diversity. These new demands will require resources and manpower. Even if savings are made by streamlining the BMA central committees, members will probably have to pay higher subscriptions for the necessary investment.

What, finally, of the BMA's 200 divisions? These may be its democratic foundation but their activity varies from moderate to near moribund. Many are more social than medicopolitical, fitting uneasily into the local power structure. Yet the divisional structure is a ready made medicopolitical tool with the potential to unify the profession in the districts if only doctors can be persuaded to use it. The time is right for the BMA to inject both money and life into the divisions (and its faltering regional councils)—perhaps with a pump priming honorarium to the honorary secretaries.

Doctors must be convinced that the BMA is more than those peripatetic committee buffs in Tavistock Square: it is overwhelmingly the non-participating members in the divisions. Clearly many aspects of the 1991 NHS are unwelcome, but they provide a stimulus to the BMA to nurture its provincial roots. The Provincial Medical and Surgical Association was founded by provincial doctors fed up with London's dominance; 150 years later a return in their direction is not only opportune but overdue. It could underpin the association's continued prosperity in the twenty first century.

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Medicine's need for kaizen

Putting quality first

Within a couple of decades Japanese industry has come from almost nowhere to dominate world competition. The Japanese can produce goods that are simultaneously cheaper than those of their competitors and of higher quality. What is the secret? Important factors include cheap capital; a long term orientation; a family atmosphere within companies, where workers and managers work together rather than against each other; heavy expenditure on research and development; and government support. But if one factor must be picked out it is kaizen—a commitment throughout most Japanese corporations to continual improvement in quality.[1] Kaizen is one of the most commonly used words in Japan, and now it is beginning to be heard in corporations from San Francisco to Singapore. The idea is also emerging within medicine,[2,3] and there is every prospect that kaizen might do for health care what it has done for Japanese industry.

The idea at the heart of kaizen is that poor quality arises from bad systems rather than bad people. The product is defective not because the worker is lazy or stupid but rather because he or she is inadequately trained, has poor tools, or has insufficient time to do the job—or because of a myriad of possible system defects. To make kaizen work managers must create an environment in which people are enthusiastic to identify deficiencies and work together to right them. Fear must be abolished. "Every defect is a treasure" because once the defect is recognised work can begin on putting it right. Similarly, every patient complaint is a treasure because another key idea with kaizen is that the customer or patient defines quality. These are not the current attitudes within medicine.

Although the customer or patient is king or queen, kaizen begins with process rather than outcome. Ironically, the originators of many of the ideas that have come together to form kaizen were American,[4-6] and they emphasised data and statistical techniques. You start by charting the steps of your process (which is often revelatory in itself) and then measure those steps. You identify where the biggest improvements can be made and begin there on a process of measuring, trying an improvement, measuring again, and so on forever. Perfection is never reached, although you will arrive at a point where there will be more potential for improvement in another part of the system. The aim is to shift the whole process towards greater quality rather than attempt to improve quality by discarding the outliers. Outliers are not, however, ignored, and reasons why the measurements from a particular person, process, or machine are so far removed from the mean will be explored.

This process, which may sound annoyingly theoretical, can be imagined working in circumstances as familiar as British general practice. Imagine that the team wants to improve its preventive care. It defines and measures what it is doing and may decide that the biggest improvements could come in, say, managing high blood pressure. The team again measures what it is doing and discovers, say, that it records the blood pressure in only a small proportion of the men over 40 in the practice; it notices too that some partners do much worse than others. The reasons why some partners perform poorly will need to be explored, but at a team meeting the receptionist might suggest a system of marking the records of those whose blood pressure has not been measured, or maybe the nurse will suggest that she starts a well man clinic. An improvement —and often an unglamorous one—will be tried, and measurement will be repeated. And so the process will continue in an environment that sets great store by continual improvement, encourages people to look for and report defects, and feels happy to measure constantly what is happening. Although I use the fashionable word kaizen, some general practitioners will recognise these activities from their own practices. They are more unusual and probably more difficult in hospitals.

Kaizen's emphasis on process seems to conflict with health care's current emphasis on outcome, and in the United States the outcome proponents and the kaizen enthusiasts are inclined to be rude about each other. This conflict is mistaken, I believe, and we need both kaizen and outcome measures. Although kaizen concentrates on process, it does so merely as the most effective means to the end of a better outcome or produce. And Japanese industry exists within an environment where the outcomes of profit, market share, and stock price are visible to all and where the outcomes of bankruptcy or hostile takeover await those who perform poorly. Similarly, kaizen in health care may make more sense and be more likely to occur in an environment where outcome measures of hospitals and practices are known to all.

But surely kaizen should be more attractive to health workers than the pursuit and punishment of bad apples. We know how difficult it is always to perform well, how much we depend on teams and back up, and how crucial it is to keep learning and trying new ways. A system that helps us in these

endeavours must be better than one that waits until we perform badly and then punishes (or even retrains) us. Furthermore, quality is a banner that all are willing to rally round.

Despite these attractions health workers have been even slower than Western industry to come to kaizen. Partly this is because health workers are unused to learning from business. Another problem is that doctors "have difficulty seeing themselves as participants in processes, rather than as lone agents of success or failure."[2] R Jaffe (personal communication) has identified three broad reasons why doctors have difficulties with kaizen: failures of vision include doctors defining quality narrowly as medical decision making, and thinking (wrongly) that better quality must mean higher expenditure; many doctors are uncomfortable with systematic analysis of data; and implementation may be difficult because doctors are too used to controlling others. Doctors also lack a leadership determined, in the words of Ford, to make quality "job number one," and all the quality gurus agree that nothing works without a strong commitment from an organisation's leaders. Doctors need those leaders.

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Looking at the pictures

Not transparent windows on the past

Included in this anniversary issue are nearly 100 medical images. They differ widely in content, medium, and intention. About all they have in common—apart from "medical interest"—is that they were produced some time in the past 150 years.

Yet these pictures' presence alongside historical essays argues that what they say about the past is both sufficiently different from the written word and interesting enough to justify inclusion. Put more simply, this issue of the journal seems to endorse the popular notions that a picture is worth a thousand words and every picture tells a story.

But what story? And if we find out should we believe it? Just how trustworthy are medical images as historical documents? No more nor less than other humanly produced documents is the commonsense answer to this last question. As William Schupbach, curator of the Wellcome Institute's iconographic collections, recently wrote, "William Harvey's lecture-notes, the plays of Shakespeare, the paintings of Rembrandt and the meanest anatomical diagram all, to a degree, respond to the same tactics of informed interrogation."[1]

But this begs the question of what constitutes the informed interrogation of a medical (or any other) image. Schupbach admits, "In addition to the major ostensible themes of a work, the subject of a picture can include overtones, allusions, suppressions, distortions, implications and assumptions, and may also be shaped by stylistic traditions, artistic flair and, often, the wiles of the market place." Similarly, the catalogue of an exhibition drawn from the Wellcome's collections in 1978 warned against regarding the pictures as accurate representations of the medicine of the past: "Artists were often less concerned with accuracy than with beauty, morality, pathos, comedy or even ugliness. In using the pictures as evidence for medical history these factors must be discounted in order to isolate the documentary value of any item."[2]

Informed interrogation therefore turns out to be a tall order. And it carries with it the risk of throwing out the baby with the bathwater: if one has sufficient knowledge to cut out all the non-documentary content of a picture then what remains may be both lifeless and, given the knowledge necessary for the task, redundant. What is needed—as Roy Porter has argued for political prints—is an analysis of these images not only as "evidence" but also as "art," with its own conventions for expressing messages.[3]

Some of the images included in the journal have been provided with commentaries to help with the artistic conventions. "The Gross Clinic" by Thomas Eakins (p 707) makes more than a passing reference to Rembrandt's subject matter and technique. Whatever their medical interest, Picasso's "The Sick Child" (p 733) and Lewis's "Mother and Child (p 706) related to one of the main subjects in Western art—the Madonna and child. Barbara Hepworth's "Concourse No 2" (p 751) may refer to "Christ Among the Doctors" by Dürer.

Rapt contemplation of these images and a knowledge of art history, however, are not always enough to appreciate their meanings. For example, they shed no light on why the sick child is one of the commonest nineteenth century medical images (this issue contains no fewer than six examples). For that, one must go further afield—to the social and political context in which the images were produced. There one finds that the child at risk of injury, disease, or death was a popular focus of concern, not only of artists but also of writers—such as Dickens—and social reformers: see, for example, Behlmer's discussion of the mid-Victorian infanticide panic (p 711).

Childhood mortality may have been much higher in the nineteenth century than now, but it was no lower in previous centuries, which produced far fewer images of sick children. That Victorian sensibility may have had something to do with it is suggested by Topham's "Rescued from the Plague." Based on an incident recorded in 1665, it had to wait until 1898 to get painted.

Photographs hold out the promise of causing fewer problems than other images: after all, haven't they been regarded as the "norm of truthfulness" for the past 150 years? Well yes, agree recent historians of photography—which makes them the most untrustworthy images of all. They seem to "capture moments of unposed reality," but there is nothing straightforward about their historical interpretation, argue Fox and Lawrence in the first comprehensive assessment of medical photographs.[4] Medical photographs have been used to publicise, advertise, instruct, celebrate, and to create a personal or institutional record, they write. Knowing how photographs were originally meant to be used is crucial to understanding them.

Stoeckle and White show how this works in practice in *Plain Pictures of Plain Doctoring*, which provides a "historic, medical, and aesthetic context" for 80 medical photographs