

ways: patients like email (and doctors can learn to love it too), and there was great interest at the meeting in group visits. Instead of being invited for an individual review, patients with chronic diseases come to a session with other patients, where there's an opportunity for education and peer support, as well as routine check ups and individual advice from the doctor or nurse if wanted. Through such measures practices have seen the average number of visits per doctor drop: they are replaced by telephone calls, emails, group visits—or they simply disappear because patients see their own doctor and know they can always get an appointment with him or her that day if needed (demand drops by about 15% by this alone, claims Murray).

Once you've got the patient seeing the doctor (or nurse) the system has to ensure the quality of the interaction with the patient and that the technical care is reliable. If all this is right then vitality, the fourth component, should follow—staff will be happier and eager to innovate and finances healthier. The trick, as Ed Wagner, leader of a parallel project on improving chronic disease care,⁷ put it, is to get systematic. And here British general practice already has many of the elements that help ensure good interaction and reliability: a registered population, an emphasis on consulting in ways that elicit patients' expectations and needs, some degree of electronic health record in nearly every practice, disease registers, access to summary evidence such as *Clinical Evidence*,⁸ and practice teams with nurses running chronic disease clinics.

But, even if the elements are already there, none of this happens by accident. It's hard work working off a backlog, it's hard work enthusing people. Some practices in these projects have fallen by the wayside. And there's still a way to go. The practices doing this work need to extend their own improvements—and the improvement and redesign need to extend beyond the

Transforming health care

Old rules	New rules
Patient often doesn't see own doctor	Patient nearly always sees own doctor
Patient comes cold to consultation	Patient is helped to prepare for visit
Appointment slots filled weeks ahead	Most slots open at start of each day
See a single patient	Group visits
Face to face care	Email, phone, fax, and web
Demand is patient driven	Demand can be shaped by doctors
More capacity needs more resources	Capacity increased by reducing waste, improving efficiency

pioneers. A specific aim of the UK primary care collaborative is to ensure the systematic transfer of knowledge about improvement to all practices in England, with project leaders and exemplar practices in all primary care groups. And in the United States IHI has just received \$21m for a further collaborative project to improve whole systems of health care.⁹ But maybe the core ingredient is leadership: as one speaker pointed out, the best leaders have a strong belief that they can change anything they want.

Jane Smith *deputy editor, BMJ*

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Implementing national guidelines at local level

Changes in clinicians' behaviour in primary care need to be reflected in secondary care

Both internationally and nationally, the introduction of clinical guidelines is seen as a means of improving healthcare outcomes and reducing costs.¹ In the NHS primary care professionals, hospital trusts, and health authorities are becoming increasingly involved in disseminating, implementing, and evaluating local clinical guidelines.^{2,3} Though evaluations of the most effective strategies by which to implement guidelines have been undertaken,^{4,5} few studies have evaluated the impact of such guidelines on both patient outcomes and health service costs.

Two evaluations of similar sets of clinical guidelines on the management of infertile couples (one of them in this week's *BMJ*) have now shown improvement in general practitioners' performance. Following the use of the

guidelines their performance in obtaining the clinical history and performing appropriate examination and investigations before referring patients to hospital had improved (p 1282).^{6,7} Compared with the earlier study in Aberdeen,⁷ the Glasgow study reported this week showed a more modest improvement in the proportion of referrals that had been appropriately managed.⁶ This difference in findings between the two studies seems to reinforce the importance of taking local factors into account when developing and implementing guidelines. Local factors suggested in the Glasgow study include the larger number of referral centres and a greater number of couples where partners were registered with different general practitioners, thereby making investigations more problematic.

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Also, in the Glasgow study effective implementation strategies, such as educational interactive meetings and practice visits,⁸ were taken up by only a minority of general practitioners in the intervention group. The use of such strategies was not mentioned in the Aberdeen study, though there was a strong history of research collaboration across the primary-secondary interface.

The novel message of the comparison between the two studies, however, is that a more comprehensive evaluation of the guidelines questions the underlying assumptions about improvements in terms of patient outcomes and reduced costs. Unlike the Aberdeen study, the Glasgow study also measured clinical behaviour in the secondary sector. Despite the increase in the rate of appropriate investigations carried out by the intervention practices, a high proportion of tests were repeated in hospital, even though the results were normal before referral.⁶ There was also no demonstrable difference between control and intervention practices in the number of hospital outpatient appointments needed before the management plan was agreed in secondary care for couples. This lack of the expected changes in clinicians' behaviour in secondary care may also explain the lack of reduction in direct NHS costs.

This disappointing finding might have been avoided if the secondary care professionals had taken part in developing the guidelines. Common clinical problems require shared management between primary care and the hospital teams. The importance of identifying all groups of professionals who may be affected by or who may influence the desired changes in practice cannot be overemphasised.⁵ These groups and individuals must be actively engaged, and specific individual and organisational barriers must be identified and addressed. The Glasgow authors suggest that hospital clinicians may repeat investigations with normal results because they mistrust results from unfamiliar laboratories. This problem could be eased by computerised access to the results of laboratory investigations and the use of high quality standardised laboratory procedures.

More studies are needed that evaluate guidelines in terms of changes in the behaviour of both primary and secondary care professionals. If guidelines on common problems are to deliver cost effective care, appropriate clinical management in primary care needs to substitute for and not to be in addition to traditional hospital management. The Glasgow study

suggests that, perversely, implementing guidelines may lead to a higher overall direct NHS costs per patient referred. Increased venesection and requests for specimens are also likely to have psychological costs for the patients. If the authors had not invested in evaluating these guidelines wider dissemination of the guidelines could have increased NHS costs. Clearly it cannot be assumed that well formulated and implemented guidelines will lead to lower expenditure in the NHS.

The national service frameworks and organisations such as the National Institute of Clinical Excellence (NICE) are leading an increasing tendency to formulate and disseminate national guidance throughout the NHS. If these national initiatives are to lead to improved patient care and more cost effective use of resources, then local implementation and evaluation are required. For common clinical conditions this requires the collaboration of both primary and secondary care health professionals. Increasingly these professionals will include not only doctors but also nurses, physiotherapists, occupational therapists, dieticians, laboratory technicians, and others. Local research expertise should be harnessed to demonstrate changes in practice, and NHS managers need to ensure that these initiatives are properly resourced to ensure rigorous implementation and evaluation of the impact.

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Preventing exacerbations of chronic bronchitis and COPD

Two recent Cochrane reviews report effective regimens

Papers p 1271

BMJ 2001;322:1259-61

Exacerbations of chronic obstructive pulmonary disease affect quality of life and the cost of managing the disease. Though the long term effects of hypersecretion on the deterioration of ventilatory function in patients with chronic obstructive pulmo-

nary disease have been debated for many years,¹ recent data show a good correlation between hypersecretion and long term deterioration of ventilatory function in these patients.² This is why mucolytics, which seem to have an effect on hypersecretory exacerbations,³ might