have a far greater impact on health than further improvement in biomedical treatment.[7]

What should policymakers do? The real answer is that they should help to transform health care, moving away from systems focused on episodic care for acute illness. Some governments and healthcare systems are already making the switch. Cheah's paper in this issue describes how Singapore has recognised the growing burden of chronic disease and has begun to redesign its healthcare system to meet people's long term needs (p 990).[12] To help healthcare systems around the world to innovate and change in this way, the World Health Organization has launched a project—"Innovative Care for Chronic Conditions"—to analyse and help to disseminate examples of good, affordable care for people with chronic conditions. The strategies arising so far from WHO's review (see box) will be developed further and published soon, giving concrete recommendations for governments and healthcare systems. A wide range of the world's healthcare leaders and policymakers are being consulted by WHO as part of this project, and we would be pleased to hear from *BMJ* readers too. In the meantime, the policymakers and healthcare leaders who met at WHO headquarters in May 2001 have come to several conclusions. Firstly, it is clear that no nation will escape the burden unless its government and healthcare leaders decide to act: the prevalences of all chronic conditions are growing inexorably and are seriously challenging the capacity and will of governments to provide coordinated systems of care. Secondly, the burden of these conditions falls most heavily on the poor. Thirdly, unidimensional solutions will not solve this complex problem: health status and quality of life will not be improved solely by medication and technical advances; and thus healthcare systems will have to move away from a model of "find it and fix it." Lastly, these solutions cannot be delayed—the sooner governments invest in care for chronic conditions, the better.

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1 Murray CJL, Lopez AD. *The global burden of disease*. Boston: Harvard School of Public Health, 1996.
2 Henriksson F, Jönsson B. Diabetes: the cost of illness in Sweden. *J Intern Med* 1998;244:461-8.
3 Sullivan SD, Ramsey SD, Lee TA. The economic burden of COPD. *Chest* 2000;117:5-9s.
4 Rice DP, Miller LS. The economic burden of affective disorders. *Br J Psychiatry* 1995;166:34-42.
5 World Health Organization. *World health report 2001: mental health: New understanding, new hope*. Geneva: WHO, 2001.
6 Dunbar-Jacob J, Erlen JA, Schlenk EA, Ryan CM, Sereika SM, Doswell WM. Adherence in chronic disease. *Annu Rev Nurs Res* 2000;18:48-90.
7 Haynes RB, Montague P, Oliver T, McKibbon KA, Brouwers MC, Kanani R. Interventions for helping patients follow prescriptions for medicines. *Cochrane Database Syst Rev* 2000;(2):CD 000011.
8 Critical overview of antihypertensive therapies: what is preventing us from getting there? Based on a presentation by Munger MA. *Am J Manag Care* 2000;6:s211-21.
9 Mancia G, Grassi G. The role of angiotensin II inhibitors in arterial hypertension: clinical trials and guidelines. *Ann Ital Med Int* 2000;15:92-5.
10 Graves JW. Management of difficult-to-control hypertension. *Mayo Clin Proc* 2000;75:278-84.
11 Van der Sande MA, Milligan PJ, Nyan OA, Rowley JT, Banya WA, Ceesay SM, et al. Blood pressure patterns and cardiovascular risk factors in rural and urban Gambian communities. *J Hum Hypertens* 2000;14:489-96.
12 Cheah J. Chronic disease management: a Singapore perspective. *BMJ* 2001;990-3.

Improving outcomes in depression

The whole process of care needs to be enhanced

Around 450 million people worldwide have mental or psychosocial problems, but most of those who turn to health services for help will not be correctly diagnosed or will not get the right treatment.[1] Even those whose problems are recognised may not receive adequate care. In a World Health Organization study of psychological disorders in general health care carried out in 14 countries around the world patients with major depression were as likely to be treated with sedatives as with antidepressants, although antidepressants were associated with more favourable outcomes at three month follow up. This benefit had dissipated by follow up at 12 months; but patients had only been taking drug treatment for a mean of 11 weeks, with a quarter of them doing so for less than a month.[2] About two thirds of patients whose illnesses were recognised and treated with drugs still had a diagnosis of mental illness at follow up one year later, and in nearly a half the diagnosis was still major depression. Indeed, there are no observational studies of routine care for patients with major depression in the United Kingdom or in the United States that have found most patients to be receiving care consistent with evidence based guidelines.

Improving outcomes for patients with major depression is not as simple as prescribing a new treatment: the whole process of care needs to be enhanced. This requires changes in the organisation and function of healthcare teams, like those already being used to improve outcomes in other chronic diseases.[3] Responsibility for active follow up should be taken by a case manager (for example, a practice nurse); adherence to treatment and patient outcomes should be monitored; treatment plans should be adjusted when patients do not improve; and the case manager and primary care physician should be able to consult and refer to a psychiatrist when necessary.[4 5]

Change is hard work for overtaxed healthcare teams, and many might be tempted to adopt quality improvement strategies that are quick and easy. Such strategies do not usually work, however, as single initiatives. Ineffective interventions include distribution of guidelines;[6] education for doctors and nurses that does not increase their skills or change how the healthcare team works; feedback reports on indicators of quality of care; and stand alone screening programmes. Each of these steps might be useful as part of a comprehensive programme to change the management of

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References cited in the table appear on the BMJ's website

Elements of interventions to improve care of patients with major depression in primary care settings tested in randomised controlled trials: trials with positive versus negative results.

Randomised trial	Evidence based guideline?	Patients identified by screening?	Enhanced patient education?	Employed case management?	Level of mental health specialist involvement	Was the intervention more effective than care as usual?
Katon [w1-3]	Yes	No	Yes	Yes	High	Yes
Katzelnick[w4]	Yes	Yes	Yes	Yes	Medium	Yes
Rost[w5]	Yes	Yes	Yes	Yes	Medium	Yes
Hunkeler [w6]	Yes	No	Yes	Yes	Low	Yes
Wells[w7]	Yes	Yes	Yes	Yes	Variable	Yes
Simon: case management[w8]	Yes	No	Yes	Yes	Low	Yes
Peveler: nurse counselling[w9]	No	No	Yes	Yes	None	Yes (but only for patients with major depression prescribed an adequate antidepressant dose)
Simon: feedback only[w8]	Yes	No	Yes	No	None	No
Peveler: patient education only[w9]	No	No	Yes	No	None	No
Callahan[w10]	Yes	Yes	Yes	No	None	No
Dowrick[w11]	Yes	Yes	No	No	None	No
Thompson[6]	Yes	No	No	No	None	No

The entry for Katon includes the results of three different randomised controlled trials each testing similar collaborative care interventions. All three experiments yielded positive results for collaborative care. The studies by Simon and Peveler are each reported in two different entries. The entries for these two studies represent varying results for different intervention arms evaluated within a single randomised controlled trial.
The references cited in this table (w1-11) appear on bmj.com.

patients with major depression, but in isolation they are largely a waste of time and energy.

Randomised controlled trials reported since 1995, for example those by Schulberg et al [7] and others (see table) have established that enhanced care of major depression can lead to better outcomes than the care that patients with depression usually receive. Moreover, enhanced care improves patients' ability to function,[8] and, although it moderately increases the costs of care per case treated, it is more cost effective than usual care.[9–13] What has been learnt from these trials about how care for depressed patients can be more effectively organised and delivered? The table summarises 12 different trials of enhanced care for major depression in primary care settings.

Both effective and ineffective interventions used treatment guidelines, patient education, and screening for depression. The interventions that consistently improved patient outcomes incorporated some form of case management with specialist support. In these trials case management typically comprised taking responsibility for following up patients; determining whether patients were continuing the prescribed treatment as intended; assessing whether depressive symptoms were improving; and taking action when patients were not adhering to guideline based treatment or when they were not showing expected improvement. In many of these experiments, case management services were provided over the telephone at low cost per case treated. Effective interventions typically employed novel and economical approaches to integrating specialist support into the primary care of patients with depression. In some interventions, the psychiatrist supervised the case manager to provide guidance on difficult clinical problems, provided consultation to the treating physician, or saw patients with more difficult problems when necessary to devise an effective treatment plan.

This evidence suggests that efforts to improve the primary care of major depression should focus on low cost case management coupled with fluid and accessible working relationships among the primary care doctor, the case manager, and a mental health specialist. This model allows most patients with depression to access effective treatment in primary care, while the minority needing ongoing specialist care can be identified and referred more reliably.

Enhanced care for people with depression will go a long way towards improving the lives of these patients. But the large gap in the quality of care cannot be closed only by the increased efforts of individual practitioners who are already overburdened. The question now is whether insurers and organisations that provide patient care will act on the scientific evidence to benefit the millions of people worldwide who are afflicted by major depression.

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1 World Health Organization. *World health report 2001: mental health: new understanding, new hope*. Geneva: WHO, 2001.
2 Goldberg DP, Privett M, Ustun B, Simon G, Linden M. The effects of detection and treatment on the outcome of major depression in primary care: A naturalistic study in 15 cities. *Br J Gen Pract* 1998;48:1840-4.
3 Wagner EH, Austin BT, Von Korff M. Organizing care for patients with chronic illness. *Milbank Q* 1996;74:511-44.
4 Katon W, Von Korff M, Lin E, Simon G. Rethinking practitioner roles in chronic illness: the specialist, primary care physician, and the practice nurse. *Gen Hosp Psychiatry* 2001;23:138-44.
5 Von Korff M, Tiemens B. Individualized stepped care of chronic illness. *West J Med* 2000;172:133-7.
6 Thompson C, Kinmonth AL, Stevens L, Peveler RC, Stevens A, Ostler KJ, et al. Effects of a clinical-practice guideline and practice-based education on detection and outcome of depression in primary care: Hampshire Depression Project randomized controlled trial. *Lancet* 2000;355:185-91.
7 Schulberg HC, Block MR, Madonia MJ, Scott CP, Rodriguez E, Imber SD, et al. Treating major depression in primary care practice. Eight-month clinical outcomes. *Arch Gen Psychiatry* 1996;53:913-9.
8 Ormel H, Von Korff M. Synchrony of change in depression and disability: what next? *Arch Gen Psychiatry* 2000;57:381-2.
9 Lave J, Frank R, Schulberg H, Kamlet M. Cost-effectiveness of treatments for major depression in primary care practice. *Arch Gen Psychiatry* 1998;55:645-51.
10 Von Korff M, Katon W, Bush T, Lin E, Simon G, Saunders K, et al. Treatment costs, cost offset, and cost-effectivness of collaborative management of depression. *Psychosom Med* 1998;60:143-9.
11 Simon G, Manning W, Katzelnick D, Perarson S, Henk H, Helstad C. Cost-effectiveness of systematic depression treatment for high utilizers of general medical care. *Arch Gen Psychiatry* 2001;58:181-7.
12 Simon GE, Katon WJ, Von Korff M, Unutzer J, Lin EH, Walker EA, et al. Cost-effectiveness of a collaborative care program for primary care patients with persistent depression. *Am J Psychiatry* 2001;158:1638-44.
13 Schoenbaum M, Unutzer J, Sherbourne C, Duan N, Rubenstein LV, Miranda J, et al. Cost-effectiveness of practice-initiated quality improvement for depression: results of a randomized controlled trial. *JAMA* 2001;286:1325-30.