the likelihood of clinical isolation, can employ more support staff, allow scope for specialisation, and offer a wider range of services than small practices.

However, a more important reason for the decline in the number of small practices could be that they might not feature in the UK government's long term vision for primary care. Small practices are seen as less efficient and more difficult to manage by many policy makers and managers. The case of serial killer Harold Shipman, who was a singlehanded general practitioner, may also have contributed to this desire to reshape general practice.⁴ Among the recommendations arising from the Shipman inquiry was that the NHS should take steps to reduce the clinical isolation of singlehanded practitioners. Encouraging general practitioners to work in larger practices is one way in which the NHS can achieve this objective.⁵

At a conference in March 2005, a new vision of general practice was unveiled, in which primary care services would be provided by a combination of large group practices and walk-in centres.⁶ Will such a model lead to a more efficient and higher quality primary care service than one that includes singlehanded practices? Studies that have compared the quality of care in smaller practices with that in larger practices have found little relation between practice size and the quality—for example, of managing ischaemic heart disease.⁷⁻⁸

Smaller practices are considered by patients to be more accessible and achieve higher levels of satisfaction among patients than larger practices.⁹⁻¹⁰ Hence, the available evidence does not indicate that amalgamating general practices into larger units will lead to more efficient and higher quality primary care services or to increased patient satisfaction. Creating a primary care service based on larger practices also reduces patients' choice, and those patients who prefer the more personalised care they might receive in a small practice will be denied this. This is anomalous at a time when the government is proposing to increase patients' choice in the NHS.¹¹ Is the definition of choice to be confined within limits imposed by the government so that, for example, patients can choose a hospital when they need referral to a specialist but cannot choose the type of general practice that they would like to provide their day to day care?

A better approach might be to use the information on quality of care that will be collected as part of the

new general practice contract to compare the performance of singlehanded practices with that of larger practices.¹² This would provide objective comparative information on the quality of care and provide a rational framework for reducing the number of practices if singlehanded practices were found to be performing below the level of larger practices. This could be combined with making more information about practices available to the public so that patients could make informed choices. The future of singlehanded general practices would be in their own hands. If doctors continued to want to work in them, if they provided health services of comparable quality and cost effectiveness to larger practices, and if sufficient patients wished to register with them then they would continue to exist, and possibly even flourish, in the NHS. If, however, they failed on these criteria they could then die a natural death in which their fate would have been decided by market forces and patients' choice, rather than through a policy based on making general practice an entirely collective endeavour.

Azeem Majeed *professor of primary care*

Department of Primary Care and Social Medicine, Imperial College Faculty of Medicine, London W6 8RP
(a.majeed@imperial.ac.uk)

Competing interests: AM once received a lecture fee from the Small Practices Association. He is currently a principal in a seven doctor general practice.

- 1 Department of Health. *Statistics for general medical practitioners in England: 1994-2004*. London: DoH, 2005.
- 2 Bindman AB, Majeed A. Organisation of primary care in the United States. *BMJ* 2003;326:631-4.
- 3 Loudon I, Horder J. *General practice under the national health service, 1948-1997*. Oxford: Oxford University Press, 1998.
- 4 Neill B. Doctor as murderer. *BMJ* 2000;320:329-30.
- 5 The Shipman Enquiry. transcript for day 16. www.the-shipman-inquiry.org.uk/transcript.asp?from=&day=165 (accessed 4 May 2005).
- 6 Golding C. DoH's radical vision for general practice. *Doctor* 2005;22:1.
- 7 Majeed A, Gray J, Ambler G, Carroll K, Bindman AB. Association between practice size and quality of care of patients with ischaemic heart disease: cross sectional study. *BMJ* 2003;326:371-2.
- 8 Hippisley-Cox J, Pringle M, Coupland C, Hammersley V, Wilson A. Do singlehanded practices offer poorer care? Cross sectional survey of processes and outcomes. *BMJ* 2001;323:320-3.
- 9 Campbell SM, Hann M, Hacker J, Burns C, Oliver D, Thapar A, et al. Identifying predictors of high quality care in English general practice: observational study. *BMJ* 2001;323:784-7.
- 10 Baker R. Characteristics of practices, general practitioners and patients related to levels of patients' satisfaction with consultations. *Br J Gen Pract* 1996;45:654-9.
- 11 Department of Health. Patient choice website. www.dh.gov.uk/PolicyAndGuidance/PatientChoice/Is/en (accessed 4 May 2005).
- 12 Roland M. Linking physicians' pay to the quality of care—a major experiment in the United Kingdom. *N Engl J Med* 2004;351:1448-54.

Thresholds for normal blood pressure and serum cholesterol

Lower thresholds mean that 90% of people over 50 years are identified as patients

For several years, disagreement has been growing in health services about ever lower thresholds for "normal" blood pressure and serum cholesterol, the most common biological risk factors for cardiovascular disease. This was most publicly expressed in 1999, when more than 800 doctors, pharmacists, and scientists from 42 countries signed an open letter to the then director general Gro Harlem Brundtland, outlining fears that the World Health

Organization's new hypertension guidelines would result in increased use of antihypertensive drugs, at great expense and for little benefit.¹⁻² The simplistic linear structuring of many research questions and the extrapolation of research results over prolonged and unstudied time periods produce guidelines that make many doctors, and particularly general practitioners, feel uneasy about the high proportion of their patients who are being labelled as sick.

General practitioners are aware of the side effects of undue medicalisation and tend to question the external validity of randomised controlled trials under experimental conditions.³ They also have to consider the opportunity costs of intervening to alter the risk profile of large numbers of healthy people and the time and resources that this takes away from people who are currently sick.⁴ This does not mean that general practitioners question the efficacy or cost effectiveness of drug treatment for persons with overt atherosclerotic disease or at unquestionably high risk. The uneasiness is about primary prevention being conceived increasingly as a strategy implying individual risk identification and questionable labelling of disease.

The unrest provoked by the earlier WHO guidelines intensified with the publication of the latest European guidelines on prevention of cardiovascular disease in clinical practice in 2003.⁵ These suggest blood pressure above 140/90 mm Hg, with no age correction, and serum cholesterol of 5 mmol/l as the appropriate thresholds for intervention. The guidelines consider other risk factors and recommend a range of lifestyle changes alongside drug treatment but the bottom line is that the doctor is expected to inform the patient that these measurements mean that he or she is at increased cardiovascular risk regardless of the management proposed. In other words, a disease label is to be attached to the patient.

A paper by Getz et al outlines the results of applying these European guidelines to a total county population in Norway.⁶ The Nord Trøndelag health survey provides data on blood pressure and cholesterol for some 62 000 adults aged 20-79 in 1995-7. The figure from that paper, reproduced here, shows the proportion of each age group that would be identified as being at "increased risk." The proportions are disturbingly high even if only the recommended thresholds for blood pressure are applied. However, if the threshold for normal cholesterol is also applied half of the population would be considered at risk by the early age of 24 years. By the age of 49, this proportion rises to 90%. As much as 76% of the total adult population would be considered at "increased risk." The current life expectancy at birth in Norway is 78.9 years, making it one of the longest living populations ever.⁷ This compares with a life expectancy at birth in the United Kingdom of 78.1 years, which implies that even higher proportions may be found if the study is repeated in other populations.

Several issues need to be considered if such a large part of the population is to become a target for individual and lifelong risk interventions. Firstly, the potential benefits for treated patients become less at lower risk levels, indicated by increasing numbers needed to treat,⁸ whereas rates of side effects remain similar regardless of the level of risk. Secondly, evidence for the long term effectiveness of treatment is lacking, since data from short term studies are being extrapolated over the whole of the remaining lifespan. We have recently had sobering news regarding drugs that were thought to reduce cardiovascular events.⁹ Thirdly, the side effects of drugs tend to be under-reported as well as under-published, as with some of the cholesterol lowering drugs, and α receptor blockers. Most randomised controlled trials are powered for efficacy end points and therefore grossly underpowered to detect anything more than common adverse events. Fourthly, we have

Point prevalence of individuals aged 20-79 (men and women combined) with unfavourably high blood pressure or cholesterol concentrations, as defined by the 2003 European guidelines on cardiovascular disease prevention in clinical practice⁶

very limited evidence on the effects of preventive drug treatment when several drugs are used to treat different risk factors simultaneously, and unfavourable drug interactions are an increasing problem. Fifthly, we have far too little understanding of the psychological impact and the wider health consequences of being labelled at risk.¹⁰ Finally, the huge cost of pharmaceutical interventions for an ever greater proportion of the population has the potential to destabilise publicly funded healthcare systems in even the richest nations. Such considerations are urgent as the guidelines from the European Society of Cardiology are in the process of being implemented and the quality and outcomes framework of the new general practitioner contract in the UK can be seen as part of this implementation.

Steinar Westin *general practitioner and professor of social medicine*

Department of Public Health and General Practice, Norwegian University of Science and Technology, Medical Technical Research Centre, N-7489 Trondheim, Norway
(steinar.westin@ntnu.no)

Iona Heath *general practitioner*

Caversham Group Practice, London NW5 2UP

Competing interests: None declared.

- Letter: About the 1999 World Health Organization-International Society of Hypertension guidelines for the management of hypertension. www.uib.no/isf/letter/ (accessed 13 Jan 2005).
- Woodman R. Open letter disputes WHO hypertension guidelines. *BMJ* 1999;318:893.
- Toop L, Richards D. Preventing cardiovascular disease in primary care. *BMJ* 2001;323:246-7.
- Hippisley-Cox J, Pringle M. General practice workload implications of the national service framework for coronary heart disease: cross-sectional survey. *BMJ* 2001;323:269-70.
- De Backer G, Ambrosioni E, Borch-Johnsen K, Brotons C, Cifkova R, Dallongeville J, et al. European guidelines on cardiovascular disease prevention in clinical practice. Third joint task force of European and other societies on cardiovascular disease prevention in clinical practice. *Eur Heart J* 2003;24:1601-10.
- Getz L, Kirkengen AL, Hetlevik I, Romundstad S, Sigurdsson JA. Ethical dilemmas arising from implementation of the European guidelines on cardiovascular disease prevention in clinical practice. *Scand J Prim Health Care* 2004;22:202-8.
- Human Development Report 2004. <http://hdr.undp.org> (accessed 13 Jan 2005).
- Skolbekken J-A. Communicating the risk reduction achieved by cholesterol lowering drugs. *BMJ* 1998;316:1956-8.
- Carlberg B, Samuelsson O, Lindholm LH. Atenolol in hypertension: is it a wise choice? *Lancet* 2004;364:1684-9.
- Getz L, Sigurdsson JA, Hetlevik I. Is opportunistic disease prevention in the consultation ethically justifiable? *BMJ* 2003;327:498-500.