What is already known on this topic

Transport policies increasingly seek to reduce traffic congestion by discouraging car use and encouraging the use of alternative modes of transport, such as walking and cycling

We lack good evidence either on which interventions are likely to be effective in promoting a shift from using cars towards walking and cycling and on the actual effects of such interventions on population health

What this study adds

Targeted behaviour change programmes can be effective in changing the transport choices of motivated subgroups, but the social distribution of their effects and their effects on the health of local populations are unclear

Evidence that other types of intervention have been effective is inconsistent, of low validity, based on single highly contextual studies, or non-existent

order of magnitude greater than the population effect size of any intervention included in this review.¹⁵⁻¹⁸ It may be unrealistic to expect interventions to produce substantial effects in relatively inactive populations without addressing the other, potentially complex reasons for such variations, such as attitudes towards cars and bicycles. Combining interventions in a genuinely integrated urban transport policy might be more effective, but we currently lack evidence from intervention studies to support this assertion.

Our findings echo Wanless's more general observation that we know relatively little about the likely impact on health of interventions to influence the wider determinants of population health.¹⁹ Many transport policy interventions constitute natural experiments, in which effects on population health could be evaluated using well designed studies assessing changes in physical activity and wellbeing, as well as adverse effects such as

injuries and the potential for widening social inequalities in health and determinants of health.

We are grateful to the numerous colleagues who commented on draft versions of our review protocol and reference list. We also thank David Cumming for advice on literature searching and those who provided clarifications and additional information about studies, particularly Solveig Meland, James Ryle, and Julie Whitehouse.

Contributors: See bmj.com

Funding: Chief Scientist Office of the Scottish Executive Health Department and the ESRC Evidence Network.

Competing interests: None declared.

Ethical approval: Not required.

- 1 McCarthy M. Transport and health. In: Marmot M, Wilkinson R, eds. *Social determinants of health*. Oxford: Oxford University Press, 1999.
- 2 Morris J. Exercise in the prevention of coronary heart disease: today's best buy in public health. *Med Sci Sports Exercise* 1994;26:807-14.
- 3 Dora C. A different route to health: implications of transport policies. *BMJ* 1999;318:1686-9.
- 4 Department for Transport. *A new deal for transport: better for everyone*. London: Stationery Office, 1998.
- 5 Secretary of State for Scotland. *Travel choices for Scotland. The Scottish integrated transport white paper*. Edinburgh: Stationery Office, 1998.
- 6 Carnall D. Cycling and health promotion. *BMJ* 2000;320:888.
- 7 Roberts I. Congestion charging and the walking classes. *BMJ* 2003;326:345-6.
- 8 Petticrew M. Presumed innocent: why we need systematic reviews of social policies. *Am J Prev Med* 2003;24(3 suppl):2-3.
- 9 Morrison D, Petticrew M, Thomson H. What are the most effective ways of improving population health through transport interventions? Evidence from systematic reviews. *J Epidemiol Community Health* 2003;57:327-33.
- 10 Clarke M, Oxman A, eds. *Cochrane reviewers' handbook 4.1.5*. Oxford: Update Software, 2002.
- 11 NHS Centre for Reviews and Dissemination. *Undertaking systematic reviews of research on effectiveness: CRD report no. 4*. York: NHS Centre for Reviews and Dissemination, 2001.
- 12 Egan M, Petticrew M, Ogilvie D, Hamilton V. New roads and human health: a systematic review. *Am J Public Health* 2003;93:1463-71.
- 13 House of Commons Health Committee. *Obesity: third report of session 2003-04*. London: Stationery Office, 2004.
- 14 Alderson P. Absence of evidence is not evidence of absence. *BMJ* 2004;328:476-7.
- 15 ADONIS Project. *Best practice to promote cycling and walking*. Copenhagen: Road Directorate, Danish Ministry of Transport, 1998.
- 16 Jacobsen P. Safety in numbers: more walkers and bicyclists, safer walking and bicycling. *Inj Prev* 2003;9:205-9.
- 17 Commission for Integrated Transport. *European best practice in delivering integrated transport—key findings*. London: Commission for Integrated Transport, 2001.
- 18 Scottish Executive. *Transport across Scotland: some Scottish Household Survey results for parts of Scotland*. Edinburgh: Scottish Executive, 2001. (Statistical Bulletin Trn/2001/4.)
- 19 Wanless D. *Securing good health for the whole population: final report*. London: HM Treasury, 2004.

(Accepted 4 August 2004)

doi: 10.1136/bmj.38216.714560.55

Twitched

I first noticed twitches in my right calf muscle. I could both see and feel them. Over the next week the fasciculations developed in both legs, and I became increasingly worried. The suspicion of an anterior horn cell disease began to form, particularly as I have a close relative with an undiagnosed progressive disorder affecting those very cells. My concern was not without a basis.

I (slowly) convinced myself of the potential diagnosis of motor neurone disease. I had a heightened awareness of my fasciculations, combined with a growing conviction that my motor fitness was failing. My sleep and work started to be affected. I approached my colleague, with subsequent examination and referral. The neurologist made a thorough assessment and requested neurophysiology. The evening before my investigation, I considered, with my wife, the huge implications of a diagnosis of motor neurone disease and how our lives might radically change. Shortly into my neurophysiological assessment, normally recruiting muscles confirmed a diagnosis of benign fasciculations.

I had been spared, so it felt, and I could consider my experience in the light of a benign diagnosis. Fortunately, I was assessed and investigated within a short time with, most importantly, a reassuring outcome. Worry and patience cannot be easy bedfellows for patients having to wait for results. I now appreciate their anxieties even more. And what of my failing motor fitness? The ability of the mind to distort reality, when it is consumed with worry, is quite revealing.

The prospect of a degenerative process, during which I would lose motor control and independence, horrified me and has reinforced my empathy for those who must travel that road. We should not underestimate the level of fear with which our patients may approach us and how it might affect their presentation of symptoms. How someone faces his or her uncertain future with strength, stoicism, and often good cheer poses a personal question that, as yet, I cannot answer.

Angus Graham *consultant in neurological rehabilitation, Brain Injury Rehabilitation Unit, Frenchay Hospital, Bristol*