

Viewpoint

Transport and health: en route to a healthier Australia?

The medical profession can show leadership in promoting "active transport"



Chloë Mason *MJA* 2000; 172: 230-232

Abstract

- We have been slow to recognise the impact that decisions about transport, land use and infrastructure have on health.
- Apart from encouraging a sedentary lifestyle, reliance on motor vehicle transport has a range of adverse health effects (traffic accidents, air and noise pollution, and greenhouse gas emissions).
- Physical activity equivalent to 30 minutes (in total) of brisk walking on all, or most, days of the week provides preventive and protective benefits for a wide range of health conditions (including cardiovascular disease, diabetes, depression and osteoporosis).
- "Active transport" -- walking, cycling and/or using public transport instead of car travel -- could have dual health benefits by providing physical activity and reducing the adverse health effects of motor vehicle transport.
- Doctors, medical administrators and health advocates can encourage the use of "active transport", and influence community-based programs and policy development about land use planning and travel demand management.

Introduction In June 1999, at the Third Ministerial Conference on Environment and Health, held in London, ministers responsible for health, environment and transport from 54 countries adopted the World Health Organization (WHO Europe) Charter on Transport, Environment and Health.¹ A summary substantiation paper reviewing the evidence of health risks from transport concluded that we have been too slow to recognise the full health impacts of motor vehicle transport (traffic accidents, pollution, noise and psychosocial effects), and to appreciate the benefits to health of walking and cycling as a means of transport.¹ While noting that health arguments should be central to the debate about the continuing expansion of motor vehicle transport in Europe (a debate which also applies to Australia and the wider Asian region), the WHO report stresses the

complementarity of transport, land-use policies and health issues.

I review these developments and consider opportunities for doctors in Australia to engage in the debate about transport and health and to support a new transport agenda. Some practical ways in which doctors can promote this agenda in clinical practice, medical administration, and health advocacy are suggested.

Health impacts of transport

The **British Medical Association's report *Road transport and health*** gives the composite picture of the health impacts of transport ("the movement of people and goods between places").² This picture has been obscured by the separate consideration of the impact of health issues, such as traffic accident deaths and injuries, the environmental hazards of motor vehicle pollution, and the health risks of a sedentary lifestyle. Measures to reduce these adverse effects have tended to be implemented in isolation³ rather than as part of an improved, integrated transport policy.

Over the past 50 years in Western countries, several factors have made the links between transport, health and the environment more apparent:

- More trips are being made by car, with increases in both the number and length of car trips, while the share of trips made by foot, bicycle or public transport has declined.⁴ Moreover, the flow of vehicles is given priority, causing difficulties and risks for pedestrians and cyclists.
- From the 1980s, the proportion of Australian adults who are overweight, obese or inactive has increased in parallel with our greater reliance on car transport.⁵
- There is greater recognition of transport's contribution to global warming, added to the other environmental problems of air and noise pollution, which adversely affect health.

Any attempts to moderate these trends, or even to reverse them, by replacing car travel by alternative modes of transport (foot, bicycle, public transport, or even "teleaccess") could have net positive health effects.

The case for "active transport"

Benefits of daily physical activity

Physical activity has been described as "today's best buy in public

health".⁶ Yet a recent analysis of the medical media shows that medical readers, not confined to Australia, are less exposed to research about the benefits of physical activity than they are to the benefits of controlling hypertension, lowering cholesterol levels, and stopping smoking -- the other traditional risk factors for cardiovascular disease.⁷ Compelling evidence attests to physical activity lending preventive and protective benefits to a wide range of health conditions beyond its well-known benefits for preventing cardiovascular disease.^{8,9}

Other important health benefits of physical activity include decreased mortality (all causes); cancer prevention (particularly colon cancer); improved psychological health (relief of symptoms of anxiety and depression); reduced risk of obesity, adult-onset diabetes, and osteoporosis;¹⁰ and better retention of mobility and independence by older people.^{8,9}

People who were fit in early adulthood and become sedentary later in life do not retain the lower risk profiles of their youth. However, it is never too late to become physically active; even people who have a history of being sedentary can obtain a significant health benefit.¹⁰

At a recent national symposium¹¹ on the National Health and Medical Research Council's report *Acting on Australia's weight*, participants supported the strategy of complementing the management of food intake with the promotion of "transport exercise" or "active transport" to prevent weight gain and obesity. Active transport is about walking and cycling, or other physically active ways of travelling, that can be done alone or combined with catching public transport, often involving the benefits of climbing stairs. Active transport modes can displace car travel.

Walking and cycling

Walking is the main option for increasing physical activity in sedentary populations.¹² Brisk walking for 30 minutes on most days of the week fulfils the recommended level of moderate-intensity physical activity and provides a level of protection to confer significant health benefits.⁹

Walking or cycling can be understood as activities fitting more easily into everyday life and life's tasks than the addition of recreational exercise,¹⁴ with its extra time and cost commitments.¹⁵ Walking has the further benefit of being available to most people regardless of income, location or age.

Walking is highly efficient in its use of urban space and energy, it rarely causes injury and it gives streets vitality and personal security. Many car trips are quite short, less than 2 km, indicating that walking could be a feasible alternative and contribute to reducing the pollution from a cold-

start vehicle travelling only a short distance.

Physically active transport in childhood, such as cycling to school, can help to establish the use of cycling for transport later in life, as a habitual physical activity,¹⁶ with considerable benefits for health.¹⁷

Promoting active transport

In the United Kingdom, several local programs promote active transport. In Glasgow, "Fit for life and healthy transport" includes a range of programs for cardiac rehabilitation, as well as health promotion in workplaces and secondary schools, to assist car travellers and school students to adopt healthier travel regimens.¹⁸ The UK Health Education Authority's guide, *Active transport*, aims to encourage local initiatives for promoting walking and cycling. It gives some case studies, for example initiatives by general practice surgeries to foster walking or cycling among patients attending an angina management clinic.¹⁹

There is a need for similar programs in Australia.

Healthier transport policy and urban design

Since existing transport infrastructure tends to support car travel over any other mode of transport, transport policy initiatives are needed to ensure that infrastructure can be modified to make walking and cycling an attractive option and a feasible substitute for car travel.

A UK Health Education Authority briefing paper²⁰ explains that transport has inherent problems that make the alliance with health invaluable. Health and transport policy-makers now recognise that:²⁰

- "It is not possible to build enough roads to meet demand, even if the economic, environmental and health costs were ignored. Consequently, the demand for road space must be managed, and emphasis must be placed on efficient use of existing road space."
- "The need to travel, or to travel longer distances, should be reduced by landuse planning, so that walking, cycling and public transport can be real choices."

The phenomenon of growth in car use is as true for cities and towns in Australia as it is in the United Kingdom. It is this growth that is magnifying the adverse health effects of motor vehicle transport. Implementation of new transport measures needs to be coordinated to secure benefits for health and the environment, as well as a safe arrival at one's destination.²¹ This "new realism" in transport thinking fosters opportunities for converging interests to protect and promote health.²²

Responsibility for changing transport patterns can be shared, as illustrated by a program at the University of New South Wales, a major "trip generator" organisation.²³

Australian planners in cities and regions are coming to recognise how land use and appropriate urban design can reduce the need for motor vehicle transport and allow more walking and cycling trips.²⁴⁻²⁶ Creating neighbourhoods and communities that are less dependent on cars requires a denser pattern of development, with residential areas and services (shops, schools, sports facilities, libraries and clubs) located together (mixed-use neighbourhoods), and good public transport infrastructure linking the communities with employment opportunities. In urban improvement projects (and transport infrastructure development), planners are trying to concentrate employment opportunities around railway stations, provide mixed-use residential areas, and promote the principles of "active transport".

These urban design and infrastructure changes can markedly reduce greenhouse gas emissions. The annual car-related emissions per dwelling vary greatly by neighbourhood type: conventional neighbourhoods remote from services and dependent on road transport produce 3.3 tonnes of CO₂ per dwelling, while mixed-use neighbourhoods that facilitate the use of public and active transport produce 1.4 tonnes of CO₂ per dwelling, a reduction of 57%, with associated health benefits of walking, cycling, and reduced exposure to motor vehicle accidents.²⁷

The health sector's role

The WHO Charter¹ invites health authorities to examine their own use of transport, and the UK Government encourages all hospitals, as organisations generating motor vehicle trips, to show leadership in "promoting active transport" to their communities, while adopting organisational-based programs for cutting car use by staff members and visitors.²⁸⁻³⁰

The [Box](#) outlines ways in which the health sector in Australia can support and foster active transport programs and influence policy development.

References

1. World Health Organization (WHO Europe). Charter on Transport, Environment and Health. <www.who.dk/London99/WelcomeE.htm> Accessed 10 Feb 2000.
2. British Medical Association. Road transport and health. London: British Medical Association, 1997.

3. Report of the Road Safety Committee on the Inquiry into the Incidence and Prevention of Pedestrian Accidents. Walking Safely. Parliament of Victoria. Melbourne: Victorian Government Printer, 1999.
4. Bureau of Transport Economics. Urban transport -- looking ahead. Canberra: Bureau of Transport Economics, 1999. (Information Sheet 14.)
5. National Health and Medical Research Council. Acting on Australia's weight: a strategic plan for the prevention of overweight and obesity. Summary report. Canberra: NHMRC/AGPS, 1997.
6. Morris JN. Exercise in the prevention of coronary heart disease: today's best buy in public health. *Med Sci Sports Exerc* 1994; 26: 807-814.
7. [Dupen F, Bauman AE, Lin R](#). The sources of risk factor information for general practitioners: is physical activity under-recognised? *Med J Aust* 1999; 171: 601-603.
8. US Department of Health and Human Services. A report of the Surgeon General. Atlanta, Ga: Centers for Disease Control and Prevention, 1996. URL: <http://www.cdc.gov/nccdphp/sgr/sgr.htm> Accessed 10 Feb 2000.
9. NSW Health Department. Physical activity and health: a special communication from the Chief Health Officer, 2nd ed. Sydney: NSW Health, 1996.
10. Commonwealth Department of Health and Family Services. Developing an active Australia: a framework for action for physical activity and health. Canberra: The Department, 1998.
11. Commonwealth Department of Health and Aged Care and the Australasian Society for the Study of Obesity. Symposium on the NHMRC's report Acting on Australia's weight. Children and their families; 1999 Aug 23, Sydney.
12. Morris JN, Hardman AE. Walking to health. *Sports Med* 1997; 23 (5): 306-332.
13. Pears A. Global warming: cool it! Canberra: Environment Australia, 1997.
14. US National Heart, Lung and Blood Institute. Simple lifestyle changes boost physical activity/cardiovascular health. January 1999. URL: <http://www.nhlbi.nih.gov/new/index.htm> Accessed 10 Feb 2000.
15. NSW Physical Activity Taskforce. Simply active everyday: a plan to promote physical activity in NSW, 1998-2002. Sydney: NSW Health 1998.
16. Gardner G. Identifying potential cyclists. European Transport Conference, 27-29 September 1999. Cambridge, UK. Proceedings Vol B: Transport planning, policy and practice, p

- 405-414. London: PTRC Education & Research Services Ltd, 1999.
17. Roberts I, Owen H, Lumb P, MacDougall C. Pedalling health: health benefits of a model transport shift. Adelaide: SA Department of Transport, 1996.
 18. University of Glasgow, Greater Glasgow Health Board, Glasgow City Council, Strathclyde Passenger Transport. Fit for life and healthy transport. Undated.
 19. Davis A. Active transport: a guide to the development of local initiatives to promote walking and cycling. London: UK Health Education Authority; 1999.
 20. UK Health Education Authority. Transport and Health: a briefing paper for health professionals and local authorities. London: Health Education Authority; 1998.
 21. Dora C. A different route to health: implications of transport policies. *BMJ* 1999; 318: 1686-1689.
 22. Goodwin P. Are transport policies driven by health concerns? In: Fletcher T, McMichael AJ, editors. Health at the crossroads: transport policy and urban health. Chichester: John Wiley & Sons, 1997: 271-278.
 23. Black J, Mason C, Stanley K. Travel demand management: an application by University of New South Wales (UNSW) as a large trip generator. *Transport Engineering in Australia*. 1999. In press.
 24. NSW Government. Action for Transport 2010: an integrated transport plan for Sydney. Sydney: Department of Transport, 1998.
 25. NSW Government. Action for air: NSW Government's 25 year air quality management plan. Sydney: EPA, 1998.
 26. NSW Government. Shaping our cities. Sydney: Department of Urban Affairs and Planning, 1998.
 27. Greenhouse Neighbourhood Project: the low energy suburb. Summary report. Prepared for Victorian Department of Planning and Development, EPA, and Energy Victoria by Loder & Bayly Consulting Group, RJ Nairn & Partners, Sustainable Solutions, PPK Consultants, 1993.
 28. Peden S. Southampton University Hospitals, NHS Trust, UK: traffic demand management in action, European Transport Conference, 27-29 September 1999. Cambridge, UK. Proceedings Vol D: Civilising the city, p 11-18, London: PTRC Education & Research Services Ltd, 1999.
 29. Transport 2000 Trust. The Healthy Transport Toolkit: a guide to reducing car trips to NHS facilities. Supported by UNISON, the Department of Health, the Health Education Authority and the Department of Environment, Transport and Regions. London: Transport 2000 Trust, 1998.

30. Hanratty B, Patterson W. Three quarters of delegates drove to conference on impact of environment on health. *BMJ* 1998; 316: 775.
31. -2004 Australian cycling. The National Strategy. Sydney: Austroads, 1999.

Authors' details

PO Box A973, Sydney, NSW.
Chloë Mason, PhD, Consultant in Sustainable Transport.
Reprints: Dr C Mason, PO Box A973, Sydney, NSW 1235.
chloemasonATbigpond.com

©MJA 2000
[Make a comment](#)

[Home](#) | [Issues](#) | [Email alerts](#) | [Classifieds](#) |
[More...](#) | [Contact](#) | [Topics](#) | [Search](#)

The Medical Journal of
Australia **eMJA**

Readers may print a single copy for personal use. No further reproduction or distribution of the articles should proceed without the permission of the publisher. For permission, contact the [Australasian Medical Publishing Company](#).
Journalists are welcome to write news stories based on what they read here, but should acknowledge their source as "an article published on the Internet by *The Medical Journal of Australia* <<http://www.mja.com.au>>".
<URL: <http://www.mja.com.au>> © 2000 Medical Journal of Australia.
We appreciate [your comments](#).



Walking or cycling 1km to the railway station instead of driving saves 0.2-0.3kg greenhouse gas emissions, other air pollutants, and fuel cost. The traveller's moderate physical activity in walking to the station and climbing the station steps to the train would meet a third to a half of his or her daily requirements for physical activity.¹³

Practical ways for the health sector to encourage active transport and a new, healthier transport agenda

Clinical practice

- "Prescribe" or encourage active transport, preferably displacing car journeys, at least for some trips.
- Run demonstration projects on the benefits and applications of "active transport" in coronary rehabilitation, the prevention of obesity or the treatment of depression.

Medical administration

Doctors' surgeries, hospitals and other health services, and government health departments all function as "trip generators" by attracting

people to their sites as patients, visitors, or staff members.

- Produce a *Transport access guide* or update *Practice information sheets* to show access to the site -- public transport services, cycling and walking routes and end-of-trip facilities (eg, cycle parking, showering facilities) -- to inform people about the alternatives to car travel, with emphasis on the benefits to health.
- Develop "healthy transport plans" for the organisation and ensure practices are consistent with encouraging people to reduce car travel to reach the site for work, to attend conferences, or to visit patients.

Health advocacy

Doctors can become more actively involved in community education and policy development about land use planning, transport infrastructure, and travel demand management (such as raising car parking charges to discourage car travel) and highlight the health impacts of the transport system.

- Doctors could support new initiatives, such as "Safe routes to school" schemes, and implementation of Australia's national cycling strategy,³¹ and support reforms to reduce subsidies for parking and car travel which operate by fringe benefits taxation concessions.
- Medical professional organisations could produce an Australian version of the BMA's report *Road transport and health*² to influence national and regional transport policy.

[Back to text](#)