



# Physical activity promotion

## Are GPs getting the message?

### BACKGROUND

Physical inactivity is an important but under recognised risk factor for chronic disease. This study explored changes in general practitioners' perceptions and practices in relation to addressing physical activity from 1997–2000.

### METHODS

In 1997 and 2000 GPs in five divisions of general practice in New South Wales were sent a questionnaire about their knowledge, confidence, perceived role, and frequency of talking to patients about physical activity.

### RESULTS

At the second survey, GPs had significantly improved their knowledge and perceived role in physical activity promotion as well as their confidence to address this risk factor. However, GPs reported discussing physical activity with similar numbers of patients in 1997 and 2000.

### DISCUSSION

State wide campaigns and National Heart Foundation efforts may have influenced GPs' knowledge and beliefs about physical activity, but not the extent to which they discuss this with their patients. Greater attention needs to be given to the barriers that hamper these GP efforts.

**Recommending physical activity to patients is as important to overall disease prevention as treating hypertension, cholesterol or obesity.<sup>1</sup> With over half of Australians reported to be inactive, this is a more prevalent risk factor than obesity or smoking.<sup>1</sup>**

Epidemiological evidence shows that regular, moderate intensity physical activity (not only vigorous 'exercise') is beneficial for health.<sup>2,3</sup> National Australian recommendations are that all adults should be moderately physically active for at least 30 minutes per day most days of the week.<sup>4</sup>

General practitioners have a central role to play in efforts to increase physical activity in the population.<sup>5,6</sup> The majority of the population visits their GP annually, and most report their GP as the preferred source of physical activity advice.<sup>7,8</sup> Furthermore, around two-thirds of patients visiting their GP have been found to not attain recommended levels of physical activity.<sup>9</sup> It is generally considered that even brief interventions by GPs can be effective in improving the physical activity of patients in the short term.<sup>10</sup>

Several international studies have examined the beliefs of medical practitioners about the importance of physical activity.<sup>11–18</sup> They found that while this risk factor is considered to be important, most doctors do not discuss

this with more than half of their patients. It appears that only when physical activity is relevant to a presenting problem (eg. obesity, diabetes) are medical practitioners likely to discuss it.<sup>11,15</sup> The range of barriers to addressing physical activity and other preventive health issues have been well documented and include lack of time, limited counselling skills and the absence of reimbursement for these services.<sup>11–19</sup>

Since the publication of the US Surgeon General's 'Report on physical activity and health' in 1996, this issue has achieved greater prominence in public health.<sup>3</sup> In New South Wales there has been a range of initiatives to promote community participation in physical activity and to increase attention to this issue in general practice and other key settings. The current study examined the extent to which these efforts resulted in changes in the knowledge, confidence, role perception, and practices of GPs in NSW in relation to physical activity promotion between 1997 and 2000.

### Methods

Three urban and two rural divisions of general practice were purposively selected to be reasonably representative of the 37 divisions in NSW. All GPs who were members of these divisions were mailed a questionnaire between November 1996 and March 1997 followed by one reminder,

### Hidde P van der Ploeg

PhD, is Research Fellow, Centre for Physical Activity and Health, University of Sydney, New South Wales. hiddep@health.usyd.edu.au

### Ben J Smith

PhD, is Senior Lecturer, Department of Health Sciences, Monash University, Victoria.

### Tony Stubbs

BA, is Community Programs Manager, The Asthma Foundation of NSW, New South Wales.

### Philip Vita

MS, is Manager, Nutrition and Physical Activity Branch, New South Wales Department of Health, Centre for Chronic Disease Prevention and Health Advancement, New South Wales.

### Richard Holford

MS, is Acting Public Health Development Manager, Tobacco Control, Manchester Stop Smoking Service, Manchester Public Health Development Service, Manchester Primary Care Trust, Manchester, United Kingdom.

### Adrian E Bauman

PhD, FAFPHM, is Professor of Public Health, Centre for Physical Activity and Health, University of Sydney, New South Wales.

and the second survey between April and June 2000 followed by two reminders. The study was approved by the Research Committee of The Royal Australian College of General Practitioners – New South Wales Faculty.

The questionnaire had been pilot tested in one division of general practice.<sup>20</sup> It took 5 minutes to complete and recorded information on GP gender, average number of patients seen per week, years in practice and division of general practice. Five items addressed GP knowledge about the amount of physical activity required for health benefit using a 5 point Likert response scale ('strongly agree' to 'strongly disagree'). The same 5 point Likert scale was used to assess GP confidence (two items) and perceived role (three items) in the promotion of physical activity. General practitioners were asked how many patients they discussed physical activity with in the previous week, the percentage of old and new patients they asked about physical activity, and whether they had attended education sessions on his topic in the previous 12 months.

### Statistical analyses

Scaled questions were dichotomised to compare 'agreement' with specific statements to combined 'neutral' and 'disagree' responses. Frequency of discussing physical activity with patients was dichotomised at 10 or more patients per week. For all outcomes, multiple logistic or linear regression analyses were performed comparing the 1997 and 2000 surveys ( $p < 0.05$  for statistical significance).

## Results

Table 1 shows the response rate and the characteristics of the GPs in the 1997 and 2000 surveys. There were no differences in the characteristics of GPs surveyed on each occasion. There were significant improvements shown in all knowledge items, with more GPs in 2000 understanding the recommendations concerning regular moderate exercise and fewer believing that vigorous activity is necessary to obtain health benefits (Table 2). Almost 10% more GPs felt confident in helping their patients undertake physical activity in 2000 than in 1997. By 2000 almost all GPs acknowledged that it was their role to help their patients increase their physical activity participation.

**Table 1. Response rate and characteristics of the GPs in 1997 and 2000**

Characteristic	1997 (n=325)	2000 (n=397)
Survey response rate (%)		
Rural	62%	61%
Urban	53%	48%
Overall	58%	53%
Gender male, n (%)	231 (72)	274 (70)
Mean years in practice (SD), y	17 (11)	18 (10)
Mean number of patients per week (SD)	134 (56)	131 (59)
Area of practice, n (%)		
Rural	180 (55)	193 (49)
Urban	145 (45)	204 (51)
SD = standard deviation		

Despite these improvements in understanding and beliefs, no increases were reported in the number of patients with whom GPs discussed physical activity. Subgroup analyses did reveal however, that GPs who saw <120 patients per week more often discussed physical activity with patients in 2000 than in 1997 (OR=1.94,  $p < 0.01$ ).

Table 2 shows an increase in the proportion of GPs who reported attending a workshop or seminar on physical activity in the past 12 months between 1997 and 2000. Subgroup analyses revealed that the percentage of women who attended a seminar or workshop increased (OR=2.60,  $p < 0.01$ ) but not the percentage of men (OR=1.24,  $p = 0.24$ ). Furthermore, urban GPs increased their seminar attendance (34 to 51%, (OR=2.04,  $p < 0.01$ ) but there was no increase among rural GPs. Additional analyses found that those who attended a seminar or workshop scored better on most knowledge and both confidence outcomes and were more likely to counsel their patients compared with those who did not attend a seminar. This was found in both the 1997 and 2000 surveys.

## Discussion

The current study indicates that there were improvements among GPs from 1997 to 2000 in knowledge about the health benefits of physical activity and beliefs about the importance of addressing this in primary care. However, reported patient counselling did not change, even though this is recommended.<sup>5</sup>

There are several factors that may have contributed to the observed increases in awareness, including the US Surgeon General's Report in 1996 and the development of Australian national physical activity guidelines, together with National Heart Foundation and NSW Health Department efforts to disseminate this information between 1997 and 2000.<sup>3,4</sup> In addition, the epidemic of noncommunicable disease and the media fuelled interest in obesity may have been a contributing factor.<sup>21</sup>

In NSW, educational activities provided for GPs addressed the frequency, duration and type of physical activity required for health, and the skills and resources required to assess and address patient physical activity participation. The present findings suggest that these more effectively reached urban than rural GPs and may have been associated with improvements in knowledge and role perceptions in relation to physical activity promotion. However, those attending these educational programs may have had higher pre-existing knowledge and interest in this issue.

In spite of programs to disseminate materials to GPs to assist in physical activity counselling during the study period, such as the Heart Foundation's 'Active prescription' pad, evidence was not found of a change in GP practices in relation to physical activity promotion. Interestingly the reported prevalence of asking patients about their physical activity was similar to that found in an earlier Western Australian survey where 38% of 'old' and 47%

**Table 2. Outcome variables and linear and logistic regression analyses comparing the 2000 to the 1997 surveys of GPs**

Outcome	1997 (n=325) n agreed (%)	2000 (n=397) n agreed (%)	Regression analysis* Odds ratio (95% CI)	p
Attended a seminar or workshop on increasing physical activity in past 12 months	111 (35)	170 (44)	1.51 (1.11, 2.05)	<0.01
<b>Knowledge of physical activity message (agreed with statement)</b>				
Taking the stairs at work and generally being more active each day is enough physical activity to improve health	106 (33)	215 (55)	2.45 (1.80, 3.33)	<0.01
Half an hour of walking on most days is all the exercise that is needed for good health	213 (66)	326 (83)	2.54 (1.79, 3.62)	<0.01
Vigorous exercise for at least 20 minutes each time, three times per week is needed for good health	163 (51)	149 (38)	0.59 (0.44, 0.80)	<0.01
Exercise that is good for health must make you puff and pant	55 (17)	38 (10)	0.52 (0.33, 0.81)	<0.01
Several short walks of 10 minutes each on most days is better than one round of golf per week for good health	213 (66)	306 (78)	1.76 (1.27, 2.46)	<0.01
<b>Confidence in giving physical activity message</b>				
I feel confident in giving general advice to patients on physical activity	266 (83)	361 (92)	2.26 (1.43, 3.58)	<0.01
I feel confident in suggesting specific physical activity programs for my patients	202 (63)	280 (71)	1.46 (1.07, 2.00)	0.02
<b>Role of GPs (agreed with statement)</b>				
Discussing the benefits of physical activity with patients is part of the GP's role	297 (93)	389 (99)	7.86 (2.70, 22.89)	<0.01
Suggesting to patients ways to increase daily physical activity is part of the GP's role	296 (92)	384 (97)	3.24 (1.53, 6.86)	<0.01
GPs should be physically active to act as a role model for their patients	240 (75)	356 (91)	3.43 (2.24, 5.27)	<0.01
<b>Discussing physical activity with patients</b>				
Physical activity discussed with ≥10 patients per week	140 (43)	182 (47)	1.13 (0.84, 1.52)	0.41
	<b>Mean % (SD)</b>	<b>Mean % (SD)</b>	<b>RC (95% CI)</b>	
New patients asked about physical activity	53 (31)	53 (31)	0.61 (−4.05, 5.27)	0.80
Old patients asked about physical activity	43 (27)	41 (27)	−2.10 (−6.19, 2.00)	0.32

RC = regression coefficient, CI = confidence interval, PA = physical activity  
 For all variables and analyses <6% of the data were missing  
 \* Checks for confounding showed that correcting the regression analyses for other factors did not influence the results and was not necessary

of 'new' patients were reportedly asked about physical activity.<sup>15</sup> In the present study, GPs who saw fewer patients were more likely to counsel about physical activity, these practitioners may have had more time per patient or a greater preventive orientation.<sup>22</sup>

These data indicate that increased understanding and acceptance of physical activity are only the first steps toward addressing

this issue in routine practice. Systems for prevention, with appropriate reimbursement and practice supports are required<sup>23</sup> as well as brief methods of assessing physical activity.<sup>24</sup> For example, the more recently developed *Smoking, Nutrition, Alcohol and Physical activity (SNAP)* program has potential for brief intervention if disseminated widely across Australian general practice.<sup>25</sup> Similarly, the preventive health check

for people aged 45–49 years recently approved by the Commonwealth Health Department (MBS item 717),<sup>26</sup> if adopted widely, could result in more physical activity counselling among people with higher chronic disease risk profiles.

One of the limitations of this study is that selection bias could have influenced the results achieved, as only interested GPs may have participated on both occasions. The possible

consequence is that the actual levels of GP knowledge, confidence, role perceptions and practices in relation to physical activity may not be as high as those found here. The self report measures are another concern, although many have been used before and been found to be reliable.<sup>20,27</sup> It is possible that the increasing media attention to physical inactivity and obesity may have prompted GPs in 2000 to give what they considered to be more socially desirable responses, but if this was the case it would also be seen in positive trends in counselling about physical activity. Strengths of the study were that identical measures were used in 1997 and 2000, reasonable response rates were achieved and the GP participants on each occasion had similar characteristics.<sup>11–15,22</sup> Furthermore, the divisions of general practice included represented diverse geographic and socioeconomic environments.<sup>28</sup>

It is possible that efforts targeting GPs have increased since 2000, with greater attention to guidelines, training programs and tools for use in practice, such as *SNAP*.<sup>25</sup> A further follow up study would be useful in determining how the perceived relevance and practice of physical activity counselling of patients is evolving in the GP's practice.

### Implications for general practice

- Physical activity counselling is as important as other areas of clinical prevention, but is not yet introduced into mainstream primary care practice.
- GPs' understanding about physical inactivity and role perception can be influenced by continuing medical education processes.
- Additional strategies are needed to encourage greater inclusion of physical activity questions with new and old patients, as currently occurs regarding tobacco use.
- Primary care efforts can contribute substantially to integrated physical activity promotion strategies, and to better primary and secondary prevention of chronic lifestyle diseases.

Conflicts of interest: none.

### Acknowledgment

Funding of the survey field work was supported by the National Heart Foundation of Australia.

### References

1. Mathers C, Vos T, Stevenson C. Burden of disease and injury in Australia, AIHW Catalogue PHE 17. Canberra: Australian Institute of Health and Welfare, 1999.
2. Department of Health, Physical Activity, Health Improvement and Prevention. At least five a week. Evidence on the impact of physical activity and its relationship to health: a report from the Chief Medical Officer. London: Department of Health, 2004.
3. US Department of Health and Human Services. Physical activity and health: a report of the Surgeon General. Atlanta (GA): US Department of Health and Human Services, Centers of Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996.
4. Commonwealth Department of Health and Aged Care. National physical activity guidelines for Australians. Canberra: Department of Health and Aged Care, 1999.
5. The Royal Australian College of General Practitioners 'Red Book' Taskforce: Harris M, Bailey L, Bridges-Webb C, Furler J, Joyner B, Litt J, Smith J, Zurynski Y. Guidelines for prevention activities in general practice. 6th edition. Melbourne: The Royal Australian College of General Practitioners, 2005.
6. US Preventive Services Task Force. Guide to clinical preventive services. Available at [www.ahrq.gov/clinic/pocketgd05/pocketgd05.pdf](http://www.ahrq.gov/clinic/pocketgd05/pocketgd05.pdf).
7. Booth ML, Bauman A, Owen N, Gore CJ. Physical activity preferences, preferred sources of assistance, and perceived barriers to increased activity among physically inactive Australians. *Prev Med* 1997;26:131–7.
8. Macera CA, Croft JB, Brown DR, Ferguson JE, Lane MJ. Predictors of adopting leisure time physical activity among a biracial community cohort. *Am J Epidemiol* 1995;142:629–35.
9. Sayer GP, Britt H, Horn F, et al. Measures of health and health care delivery in general practice in Australia. Canberra: Australian Government Publishing Service, 2000.
10. Eakin EG, Smith BJ, Bauman AE. Evaluating the population health impact of physical activity interventions in primary care: are we asking the right questions? *J Phys Activity Health* 2005;2:197–215.
11. Lawlor DA, Keen S, Neal RD. Increasing population levels of physical activity through primary care: GPs' knowledge, attitudes and self reported practice. *Fam Pract* 1999;16:250–4.
12. Walsh JME, Swangard DM, Davis T, McPhee SJ. Exercise counseling by primary care physicians in the era of managed care. *Am J Prev Med* 1999;16:307–13.
13. Sherman SE, Hershman WY. Exercise counseling: how do general internists do? *J Gen Intern Med* 1993;8:243–8.
14. Kennedy MF, Meeuwisse WH. Exercise counseling by family physicians in Canada. *Prev Med* 2003;37:226–32.
15. Bull FCL, Schipper ECC, Jamrozik K, Blanksby BA. Beliefs and behaviour of general practitioners regarding promotion of physical activity. *Aust J Public Health* 1995;19:300–4.
16. Reed BD, Jensen JD, Gorenflo DW. Physicians and exercise promotion. *Am J Prev Med* 1991;7:410–5.
17. Wechsler H, Levine S, Idelson RK, Schor EL, Coakley E. The physician's role in health promotion revisited: a survey of primary care practitioners. *N Engl J Med* 1996;334:996–8.
18. Yeager KK, Donehoo RS, Macera CA, Croft JB, Heath GW, Lane MJ. Health promotion practices among physicians. *Am J Prev Med* 1996;12:238–41.
19. Bauman A, Mant A, Middleton L, et al. Health promotion: a needs assessment of general practitioners. *Med J Aust* 1989;151:262–9.
20. Mark A, Miners A, Bauman, Wallner F. Illawarra physical activity project. Wollongong: University of Wollongong, 1999.
21. World Health Organisation. Preventing chronic diseases: a vital investment. WHO Global Report. Geneva: World Health Organisation, 2005.
22. McKenna J, Naylor PJ, McDowell. Barriers to physical activity promotion by general practitioners and practice nurses. *Br J Sports Med* 1998;32:242–7.
23. Solberg LI, Kottke TE, Conn SA, Brekke ML, Calomeni CA, Conboy KS. Delivering clinical preventive services is a systems problem. *Ann Behav Med* 1997;19:271–8.
24. Smith BJ, Marshall AL, Huang N. Screening for physical activity in family practice: evaluation of two brief assessment tools. *Am J Prev Med* 2005;29:256–64.
25. Harris MF, Hobbs C, Powell Davies G, Simpson S, Bernard D, Stubbs A. Implementation of a SNAP intervention in two divisions of general practice: a feasibility study. *Med J Aust* 2005;183:S54–8.
26. Australian Government Department of Health and Ageing. 45 year old health check (MBS item 717). Available at [www.health.gov.au/internet/wcms/publishing.nsf/Content/health-epc-45check](http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-epc-45check).
27. Bauman AE, Bellew B, Owen N, Vita P. Impact of an Australian mass media campaign targeting physical activity in 1998. *Am J Prev Med* 2001;21:41–7.
28. Ward E, King M, Lloyd M, Bower P, Friedli K. Conducting randomised trials in general practice: methodological and practical issues. *Br J Gen Pract* 1999;49:919–22.