
【Special Article】

Global Advocacy for Physical Activity - Development and Progress of the Toronto Charter for Physical Activity: A Global Call for Action

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ABSTRACT There is well established scientific evidence on the role of regular physical activity in promoting health and preventing non communicable disease (NCD) and this provides a solid platform for stronger commitment and national programs aimed at increasing levels of participation in most countries. Globally, NCD's account for 60% of all deaths worldwide and 80% of these occur in low and middle income countries (LMIC). The need to scale up NCD prevention efforts, particularly in LMIC is well recognised, however evidence alone has yet to translate into increased action and investment in prevention strategies.

Using an 'active living' approach, national strategies should promote and support physical activity in different settings, including at home, in 'active transport' (e.g. walking and cycling to get from place to place), and in leisure time (e.g. sports, recreation, exercise and play). However, what is missing in most countries is sufficient political commitment and the necessary long term investment. For this reason, there is a need for greater advocacy work to promote the importance of physical activity, its central role in NCD prevention along side tobacco control and healthy diets, and the co benefits for other related agenda's such as environmental sustainability. The development of the **Toronto Charter for Physical Activity: A global call for action** was undertaken to address these gaps and provide the field with a powerful advocacy tool.

Guided by an expert writing group the development used a stepped approach including an open, global web-based consultation phase allowing a wide range of stakeholder, institutions, governments and individuals to comment on the content and structure. The Charter took about 2 years to develop and received over 2000 individual comments from over 450 individuals or organisations from across 55 countries and all regions of the world.

Overall, there was strong endorsement on the need for a Charter to articulate 'the case' for physical activity and provide an international consensus on a set of common actions that should be implemented to promote physical activity. The Toronto Charter provides a short, clear internationally agreed consensus highlighting all benefits of physical activity, beyond just health. It outlines specific examples of actions and these address all relevant sectors including: education, transport, sports and recreation and urban planning. The Charter was launched during the closing plenary session of the 3rd International Congress on Physical Activity and Public Health in Toronto, May 2010. Since then, the Charter has been translated into 11 languages and has received over 500 individual and 135 organisational indications of support with representation from around the world. Given the forthcoming United Nation's High Level Meeting of the General Assembly on chronic non-communicable disease (Sept 2011) it is timely to have the Toronto Charter, and the recently released supporting document 'NCD Prevention: Investments that work for physical activity', to present at preceding consultation meetings and to support the inclusion of physical activity in relevant discussions.

Key words: advocacy, health promotion, chronic disease, partnership, policy

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Regular physical activity promotes health and well being and prevents disease. The scientific evidence underpinning this statement started over 50 years ago by Jerry Morris in the UK¹⁾ and is now well established. This solid base of epidemiological and experimental evidence has been an essential building block for the promotion of physical activity as an important public health priority.²⁾ Globally, the need to scale up efforts to prevent non communicable disease (NCD) has received much attention, particularly in the last 5 years by the World Health Organization³⁻⁸⁾ and others.⁹⁻¹¹⁾ However, despite the strong evidence and the increasing magnitude of the NCD burden, many are noting that evidence alone has yet to translate into increased action and investment in prevention strategies.¹²⁾

Recent global estimates indicate that approximately two thirds (60%) of the worlds adult population are physically inactive.^{8,13)} Given that NCD account for 60% of all deaths worldwide,⁶⁾ with 80% of deaths occurring in low and middle income countries (LMIC), it is clear that promoting adequate levels of physical activity can contribute to disease prevention in LMIC as well as high income countries (HIC). This is particularly important for regions such as South East Asia, Latin America and Africa where rapid economic and social transitions are underway and increasing amounts of time may be spent in sedentary activity at work, for transport and in leisure and recreation.

One particular concern is the position of physical inactivity within the NCD prevention agenda. Although WHO has made clear efforts to present physical activity within a comprehensive approach to NCD prevention^{7,14)} it is not often visible in national NCD planning and, where present, often does not receive the same attention or resources compared with other behavioural risk factors such as tobacco control and nutrition.¹⁵⁾ This is despite recent global assessments placing physical inactivity as the fourth leading risk factor of chronic disease mortality such as heart disease, stroke, diabetes, cancers; and inactivity contributing to over three million preventable deaths annually worldwide.¹⁶⁾

The benefits of regular physical activity extend beyond primary prevention and there is a solid evidence base on the effectiveness of physical activity

interventions for treating and managing patients with long term conditions.²⁾ The role of physical activity in primary and secondary prevention provides a strong case for a systematic approach to integrating NCD prevention and assessment and counselling on physical activity within national health care systems as part of both prevention and clinical treatment pathways. However, to date few countries have such systems developed and the potential of this entry point for addressing behavioural risk factors remains largely un fulfilled.^{10,17)}

In addition to the public health benefits, an active lifestyle can improve psychological health, social connectedness and quality of life for individuals and community.^{18,19)} The promotion of physical activity can also provide economic benefits^{20,21)} and contribute to environmental sustainability.²²⁾ For example, effective promotion of increased walking and cycling can reduce traffic congestion and contribute to cleaner air.²³⁾ These co benefits are of increasing importance given trends such as the rapid advancements in new technologies, urbanization, population growth, the widespread 'car culture', loss of public and green open space through urban development, and the increase in electronic entertainment options. These contemporary societal changes are highly likely to lead to a decrease in levels of physical activity and total energy expenditure. Such changes are well advanced, particularly in high and middle income countries and if left unchecked will lead to fewer opportunities to be physically active and an increase in preventable disease and widening gaps in the quality of life and health outcomes between the rich and poor. Also, in many low income countries these changes are happening rapidly, and are likely to make it more difficult to maintain an active lifestyle. Alarming increases in overweight and obesity are already being reported²⁴⁻²⁷⁾ and there is evidence that urbanisation, and especially the transition from human-powered transport to automobiles is independently associated with weight gain over time, for example in China²⁸⁾ and Columbia.²⁹⁾

Solutions to increase physical activity are known. An 'active living' approach to different domains and settings, including at home, in 'active transport' (e.g. walking and cycling to get from place to place), and in

leisure time (e.g. sports, recreation, exercise and play). Effective interventions are available to promote physical activity across the life course and there is a very large body of literature on the actions and strategies required at national, regional and local level to support 'active living'.^{23,30-32)} Although much of the evidence is from high income countries, an increasing amount is coming from middle income countries,³³⁾ particularly from Latin America.^{34,35)} Yet, despite this evidence some six years after the launch of the World Health Organization's (WHO) Global Strategy on Diet, Physical Activity and Health,¹⁴⁾ only a dozen or so countries have national plans for physical activity and even in these mostly high income countries, implementation on the ground is often under-resourced.^{15,36)}

What is clearly missing in many countries is the political will to make the necessary long term investments in NCD prevention, and specifically in strategies aimed at physical activity. For this reason, there is a need for greater advocacy to promote the importance of physical activity, develop physical activity relevant policy, and implement programs and policies to support physical activity at the population level.^{37,38)} Advocacy itself has been defined as the "combination of individual and social actions designed to gain political commitment, policy support, social acceptance and systems support for a particular health goal or programme."^{38,39)}

Public health success in reducing tobacco use provides those working on physical activity advocacy with several key lessons⁴⁰⁾ three of which are particularly relevant for the current advocacy agenda for physical activity. Firstly, we must acknowledge and communicate clearly and widely that there is sufficient evidence to act. Secondly, we need a concise 'message' about the benefits of physical activity and one which creates links with other relevant agendas to maximise the reach and salience. Thirdly, we need a clear set of actions that are proven, widely applicable

and easily transferable to different countries and settings. The development of the **Toronto Charter for Physical Activity: A global call for action** was undertaken to address these gaps and provide the field with a powerful advocacy tool.

The Toronto Charter Development Process

In 2009, the Global Advocacy Council for Physical Activity (GAPA) of the International Society for Physical Activity and Health (ISPAH) in conjunction with the 3rd International Congress on Physical Activity and Public Health commenced the development of a global call to action in the form of a physical activity charter. Guided by an expert writing group comprising academics and public health professionals,^{*1} the development process used a stepped (see Figure 1) approach involving initial first draft consultation with a small group of expert colleagues and stakeholders within and outside physical activity and health, and in a wide variety of countries. After valuable feedback on the general structure and direction, the second draft of the Charter was developed and translated into French and Spanish and posted for an open, global web-based consultation with a wide range of agencies, governments and individuals. The consultation sought commentary and indications of support for the content, structure, title and the Charter's potential usefulness. This phase of consultation commenced January 2010 and was completed in April 2010. Over 2000 individual comments were provided from over 450 individuals or organisations from across 55 countries and all regions of the world.

All feedback was collated, French and Spanish comments were translated to English and reviewed. Overall, the comments strongly endorsed the need for a document that articulates 'the case' for physical activity and which provides an international consensus on the common actions to promote physical activity.

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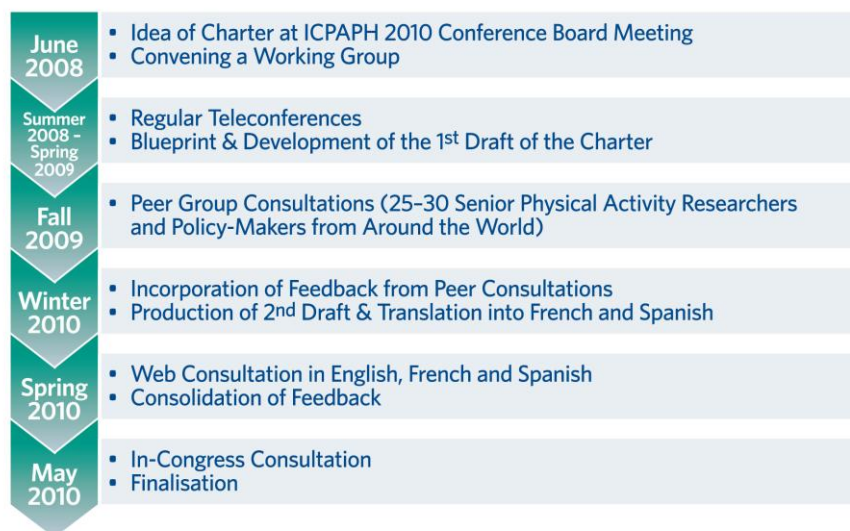


Figure 1 Development steps of the Toronto Charter for Physical Activity: A global call for action

Extensive editing was undertaken to incorporate all relevant feedback and provide a shorter, concise document that highlighted all the varied benefits of physical activity, particularly those beyond the health sector. Clear and specific examples of actions were called for across the different sections of the Charter as well as a stronger more focused final ‘call to act’. One very important revision was to avoid the text ‘coming from’ and ‘speaking to’ only the health sector. We were asked to emphasize the already inclusive nature of the draft Charter and highlight the relevance of physical activity to sectors other than health whose actions and engagement are so important (for example transport, urban design, landscape and architecture, education, sport and recreation). Avoiding ‘health centric’ writing included ensuring that an equal number of examples were provided for each sector and not listing the health related issues first! Other amendments ensure that the Toronto Charter addressed issues of inequalities, safety, gender, access and inclusiveness.

The final text of the Charter was launched during the closing plenary session of the 3rd International Congress on Physical Activity and Public Health in Toronto, May 2010. During the congress over 1,200 delegates had the opportunity to make additional comments and they received a final copy in the

closing session. It was evident from the overwhelming response from the audience that the Toronto Charter for Physical Activity was fully accepted and seen as a landmark document. Further details on the edits and development process can be seen in the video of the final closing session [see www.globalpa.org.uk] or from the author.

The Toronto Charter for Physical Activity: A global call for action

The Toronto Charter for Physical Activity: A global call for action⁴¹⁾ is first and foremost an advocacy tool for use with political leaders, decisions makers, and colleagues at the local, city, regional and national level by all professionals involved in physical activity. The goal is for the Charter to be a representative of an internationally agreed, summary of the need to act on physical activity and the strategies required. The purpose is to gain increased political priority and investment in policy and programs aimed at increasing and supporting active living across the life course in all countries.

The Charter is divided into five sections. The first and second sections provide a short ‘case’ for the Charter and for physical activity outlining the arguments on why physical activity is important across

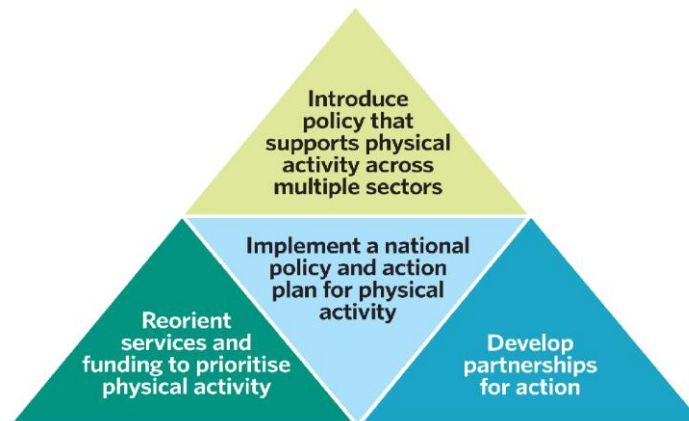


Figure 2 The Toronto Charter platform for Action: Four Areas

several government portfolios, and the multiple co-benefits available from increasing population levels of physical activity. The third section sets out nine principles for action which are consistent with contemporary health promotion and global public health practice. The fourth section provides a framework of four priority areas for strategic action which are relevant and applicable to all countries and consistent with scientific evidence. These are: 1) develop and implement national strategy; 2) introduce policies and regulations; 3) provide and reorientate programs, services and supportive environments; and, 4) develop partnerships for action. These are shown in Figure 2 and in the charter itself each area has a brief description and a set of examples.

The final section of the Charter is the global call to action and this sets out specific ways in which the Toronto Charter can be supported and used for advocacy locally, nationally, and globally. These actions range from individual and institutional endorsement via the GAPA website and a 'virtual sign up' through to actions supporting dissemination by sending the charter itself and the web link to colleagues and networks within countries and worldwide. Both of these are useful in raising the visibility of the Charter with interested stakeholders but they are not sufficient on their own to achieve the main goal of

increased commitment and investment by national governments. The global call invites everyone, individuals, academics, practitioners, government officials and leaders from different sectors, and interested organisations, to use the Charter in at least three ways: 1) to guide their current work; 2) to support the scaling up of efforts within countries and regions; and 3) as a platform to meet with key decision makers to influence their level of knowledge and commitment towards the agenda on physical activity. The power of meeting with decision makers and provision of relevant examples of what can be done should not be underestimated and is a well recognised necessary part of the policy process.^{42,43)} At the Launch of the Toronto Charter in May 2010, these ideas and ambitions were summarised as the 'Call to Action' and delegates were invited to respond to the challenge.

Reflections on the Charter: 9 months on

During the nine months since the May 2010 Charter launch, GAPA has tracked the dissemination and use of the Toronto Charter via: the GAPA website; through searches for use via the internet; through the physical activity networks⁴² and partners; and personal email communications. The most immediate signal that the Charter was well accepted, had global relevance and

⁴² Health Enhancing Physical Activity European Network (HEPA) [www.euro.who.int/hepa]; Physical activity networks of the Americas (PANA/RAFA) [www.rafapana.org]; Asia Pacific Physical Activity Network (APPAN) [www.ap-pan.org]; African Physical Activity Network (AFPAN) [www.essm.uct.ac.za/afpan/index.htm]

fulfilled a need was from the early and ongoing response to voluntarily translate the Charter in to different languages. The Charter is now available in 12 languages, including Japanese and another 8 language translations are underway. Another indication of the support for and the relevance of the Toronto Charter is evident from the GAPA website which as now received over 500 individual and 135 organisational signatures of support with representation from around the world. This is in addition to the hundreds of signatures received in person at the primary launch of the Charter in Toronto and the subsequent launch of the Spanish and Portuguese versions in Sao Paulo in October 2010. It is noted that support to date has been strongest from North America and Europe but is increasing from different countries in other regions as the translated versions become available. For example, in a very short timeframe the Norwegian and Czech translations have reached high levels of downloads. This is important because it shows that it is the combination of internationally agreed content *and* local translation with local adaptation to ensure cultural relevance along with visual illustrations (photographic images are tailored for each language to increase country relevance) are important attributes of this advocacy tool. Although the translation process has been undertaken with only modest resources covering centralized typesetting and design,^{*3} and has relied on voluntary time to cover translation tasks,^{*4} this is an important phase of work to increase dissemination and uptake.

In addition to translation, formal adoption, endorsement and/or letters of support for the Toronto Charter have been received from a variety of sources since May 2010. Examples include: national physical activity initiatives such as ParticipACTION in Canada; State level support (e.g. the whole-of government Physical Activity Task Force in Western Australia); City Government level support (e.g. Major of Bogota); national and international non government support (e.g. Heart Foundation of Australia and the

World Heart Federation); and scientific and professional associations (e.g. The International Union of Health Promotion and Education). This work is ongoing as part of the dissemination agenda and requires the commitment of individuals - in every country - to introduce and secure completion through the relevant formal processes. Further work to secure support and endorsements from local, state, national and international agencies and other stakeholders interested in physical activity, is very much welcomed to further enhance the position of the Toronto Charter as an internationally agreed direction and platform from which to start, and scale up, our efforts to address physical activity. This is a particularly valued feature of the Toronto Charter for those in low and middle income countries where action on physical activity is in a very early stage or as yet to be established. In these contexts there is often very little capacity on physical activity and the direction provided by the Charter, supported by the international 'voice' is vital to gaining and securing attention on the physical activity agenda. Readers of this paper are invited to consider what action they can take to secure awareness, support and use of the Toronto Charter.

Over and above dissemination of the Charter via the websites and scientific and professional list serves, colleagues and collaborators have sought publication in relevant scientific journals and other media outlets. Examples of countries that have led publication of the Charter itself and/or an article on the Charter include Australia, Canada, Germany, Sweden, Japan (in this issue) and the UK. More media coverage is welcomed and support for such activity is available from GAPA.

Influencing the priority given to physical activity and gaining tangible commitment to resource relevant policies and programs is the key goal of the Toronto Charter. Outcome indicators of success would include: new national policies; increased resourcing to physical activity; new partnerships between relevant sectors within a country; commencement and commitment towards surveillance of population levels of activity. Our ongoing tracking has revealed that the Toronto

^{*3} The ongoing support from Art Salmon at Ontario Ministry of Health Promotion, Toronto, Canada and the 3rd International Congress Committee is greatly appreciated

^{*4} See www.globalpa.org.uk/charter/translation.php for full details of those involved in the voluntary translations for each language

Charter is being used as a background template for the development of national strategies. One example is the new work underway in Canada, which despite its well known leadership in physical activity, does not currently have a national strategy on physical activity. Canada is using the Charter as a foundation document for the development of a National physical activity plan for Canada. Other examples include recent developments in Thailand, where work on physical activity is in an early stage and being led by the non government sector and specifically Thai Health Foundation.⁴⁴⁾ The Charter was viewed as providing the internationally agreed direction and a guiding tool for commencing both national policy and program and used as the central platform for a cross sector national meeting in November 2010. GAPA encourages further use of the Toronto Charter in ways that will stimulate and support the agenda of physical activity. Further examples and support is available from GAPA Executive Committee (www.globalpa.org.uk).

The Toronto Charter: Next steps for 2011 and beyond

The Toronto Charter on Physical Activity: A global call to action⁴¹⁾ provides the worldwide physical activity community, including those directly and indirectly working on related issues, with an internationally agreed platform for policy and action to encourage and support active living across the life course. In addition to continuing to support translation and dissemination of the Charter, 2011 represents an important year for GAPA and the global community interested in physical activity and the wider agenda of NCD prevention. The United Nation's High Level Meeting of the General Assembly on chronic non-communicable disease⁴⁵⁾ scheduled for Sept 2011 is recognised as an historic opportunity for gaining greater recognition and response at the global and national levels.⁴⁶⁾ The focus of the meeting will be on the rising incidence and the social and economic impact of non-communicable diseases, particularly in low and middle income countries as well as on the key NCD risk factors and strengthening national capacities and policies for NCD prevention and control. A large coordinated process is underway for a series of

national and international consultations involving the government, non government and private sector, it is vital that the issues related to physical activity are well represented. It is timely to have a document such as the Toronto Charter to present at such meetings and support relevant discussions. As previously stated, it is now essential that the physical activity community communicate clearly and widely that there is sufficient evidence to act. It will be useful to refer to a common concise 'message' about the benefits of physical activity, create links with other relevant agendas and maximise the reach and relevance of action on physical activity.

It is also necessary to provide the international audience with a set of specific program and policy measures that are widely applicable to different countries and settings. The Toronto Charter provides strategic direction however to supplement this and add specificity, GAPA has developed a short document on the 'best buys' for physical activity. *NCD Prevention: Investments that work for physical activity* identifies seven specific interventions which are supported by good evidence of effectiveness and that have worldwide applicability.⁴¹⁾ Although it is known there is no one single solution to increasing physical activity, the seven actions are proposed as well as the recommendation that an effective comprehensive approach will require multiple concurrent strategies to be implemented. To download a copy visit www.globalpa.org.uk.

Advocacy for physical activity requires the economic evidence of cost effectiveness as this is an essential component to policy decisions. It is however an area of weakness in the physical activity literature and more work is urgently required. Nonetheless, all available evidence is being utilized to secure a place for physical activity within the discussions both leading up to the UN meeting and in the national and international debate that follows. Although major initiatives are underway to develop better methods and information on 'what works' both within WHO and by the scientific community,⁴⁷⁾ it is worth highlighting two other relevant key lessons from our colleagues in tobacco control.⁴⁰⁾ Action should not be delayed due to insufficient evidence but rather undertaken based on sound judgement and in ways that allow for critical

evaluation; this seems particularly true for addressing gaps in the economic evidence for interventions on physical activity. Secondly, experience from developed countries, under different political leaderships, has repeatedly shown government action being delayed by hiding behind the debate of ‘individual versus societal’ responsibility.⁴⁰⁾ In all societies there is a role for both, but as Yach et al., (2005) point out, individual action and choice can only be fully realised in societies where governments and private sector interests work to support the provision of individual choice.⁴⁰⁾ The provision of choice and opportunities to lead active lifestyles through enjoyable, safe physical activity in different domains of life is the central focus of the Toronto Charter. 2011 is the year for all interested parties to voice their support for individual and societal action on physical activity, to provide their expertise and guide discussions on physical activity to achieve our shared vision - active and healthy living for all.

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References

- 1) Morris JN, Heady JA, Raffle PAB, Roberts CG, Parks JW. Coronary heart disease and physical activity of work. *Lancet*. 1953; 2: 1053-7.
- 2) Physical Activity Guidelines Advisory Committee. Physical Activity Guidelines Advisory Committee Report, 2008. Washington, D.C., 2008.
- 3) Beaglehole R, Yach D. Globalisation and the prevention and control of non-communicable disease: the neglected chronic diseases of adults. *Lancet*. 2003; 362 (9387) : 903-8.
- 4) Epping-Jordan JAE, Galea G, Tukuitoranga C, Beaglehole R. Preventing chronic diseases: taking stepwise action. *Lancet*. 2005; 366 (9497) : 1667-71.
- 5) Strong K, Mathers C, Leeder S, Beaglehole R. Preventing chronic diseases: how many lives can we save? *Lancet*. 2005; 366 (9496) : 1578-82.
- 6) World Health Organisation. Preventing chronic diseases: a vital investment. WHO, Geneva, 2005.
- 7) World Health Organisation. 2008-2013 action plan for the global strategy for the prevention and control of noncommunicable diseases. WHO, Geneva, 2008.
- 8) World Health Organization. Reducing risk, promoting healthy life. WHO, Geneva, 2002.
- 9) Beaglehole R, Ebrahim S, Reddy S, Voth J, Leeder S. Prevention of chronic diseases: a call to action. *Lancet*. 2008; 370 (9605) : 2152-7.
- 10) Beaglehole R, Epping-Jordan JA, Patel V, Chopra M, Ebrahim S, Kidd M, et al. Improving the prevention and management of chronic disease in low-income and middle-income countries: a priority for primary health care. *Lancet*. 2008; 372 (9642) : 940-9.
- 11) Gaziano TA, Galea G, Reddy KS. Scaling up interventions for chronic disease prevention: the evidence. *Lancet*. 2007; 370 (9603) : 1939-46.
- 12) Beaglehole R, Horton R. Chronic diseases: global action must match global evidence. *Lancet*. 2010; 376 (9765) : 1619-21.
- 13) Bull FC, Armstrong TP, Dixon T, Ham S, Neiman A, Pratt M. Physical inactivity. In: Ezzati M, Lopez A, Rodgers A, Murray C, editors, Comparative quantification of health risks: global and regional burden of disease attributable to selected major risk factors. WHO, Geneva, 2004. p.729-882.
- 14) World Health Organisation. Global strategy on diet, physical activity and health. WHO, Geneva, 2004.
- 15) Bellew B, Schoeppe S, Bull F, Bauman A. The rise and fall of Australian physical activity policy 1996-2006: a national review framed in an international context. *Aust New Zealand Health Policy*. 2008; 5 (1) : 18.
- 16) World Health Organization. Global health risks: mortality and burden of disease attributable to selected major risks. WHO, Geneva, 2009.
- 17) Mendis S. The policy agenda for prevention and control of non-communicable diseases. *Br Med*

- Bull. 2010; 96:23-43.
- 18) Wood L, Giles-Corti B. Is there a place for social capital in the psychology of health and place? *J Environ Psychol.* 2008; 28(2): 154-63.
 - 19) Lund H. Pedestrian environments and sense of community. *J Plan Educ Res.* 2002; 21: 301-12.
 - 20) Wu S, Cohen D, Shi Y, Pearson M, Sturm R. Economic analysis of physical activity interventions. *Am J Prev Med.* 2011; 40(2): 149-58.
 - 21) Roux L, Pratt M, Tengs TO, Yore MM, Yanagawa TL, Van Den Bos J, et al. Cost effectiveness of community-based physical activity interventions. *Am J Prev Med.* 2008; 35(6): 578-88.
 - 22) Giles-Corti B, Robertson-Wilson J, Wood L, Falconer R. The role of the changing built environment in shaping our shape. In: Pearce JW, Witten K, editor, *Geographies of obesity: environmental understandings of the obesity epidemic.* Ashgate, London, 2010.
 - 23) National Institute for Health and Clinical Excellence. NICE public health guidance 8: Promoting and creating built or natural environments that encourage and support physical activity. London: Department of Health; 2008.
 - 24) Abubakari AR, Lauder W, Agyemang C, Jones M, Kirk A, Bhopal RS. Prevalence and time trends in obesity among adult West African populations: a meta-analysis. *Obes Rev.* 2008; 9(4): 297-311.
 - 25) Aekplakorn W, Hogan MC, Chongsuvivatwong V, Tatsanavivat P, Chariyalertsak S, Boonthum A, et al. Trends in obesity and associations with education and urban or rural residence in Thailand. *Obesity.* 2007; 15(12): 3113-21.
 - 26) Cuevas A, Molina A, Rigotti A, Miquel JF, Marshall G, Reyes S, et al. Trends in obesity and diabetes prevalence in a Chilean urban population: 1993-2001. *Metabolic Syndrome & Related Disorders.* 2008; 6(3): 219-22.
 - 27) Monteiro CA, Conde WL, Popkin BM. Income-specific trends in obesity in Brazil: 1975-2003. *Am J Public Health.* 2007; 97(10): 1808-12.
 - 28) Wang Y, Mi J, Shan XY, Wang QJ, Ge KY. Is China facing an obesity epidemic and the consequences? The trends in obesity and chronic disease in China. *Int J Obes.* 2007; 31(1): 177-88.
 - 29) Parra DC, Lobelo F, Gómez LF, Rutt C, Schmid T, Brownson RC, et al. Household motor vehicle use and weight status among Colombian adults: Are we driving our way towards obesity? *Prev Med.* 2009; 49(2-3): 179-83.
 - 30) Kahn E, Ramsey L, Brownson R, Heath G, Howze E, Powell K, et al. The effectiveness of interventions to increase physical activity: A systematic review. *Am J Prev Med.* 2002; 22(4S): 73-107.
 - 31) Marcus BH, Williams DM, Dubbert PM, Sallis JF, King AC, Yancey AK, et al. Physical activity intervention studies: what we know and what we need to know: a scientific statement from the American Heart Association Council on Nutrition, Physical Activity, and Metabolism (Subcommittee on Physical Activity); Council on Cardiovascular Disease in the Young; and the Interdisciplinary Working Group on Quality of Care and Outcomes Research. *Circulation.* 2006; 114(24): 2739.
 - 32) National Institute for Health and Clinical Excellence. Public Health Intervention Guidance no. 2. Four commonly used methods to increase physical activity: brief interventions in primary care, exercise referral schemes, pedometers and community-based exercise programmes for walking and cycling. London: Department of Health; 2006.
 - 33) World Health Organization. Review of best practice in interventions to promote physical activity in developing countries: A report prepared by Bauman A, Schoeppe S, Lewicka M with technical assistance by Armstrong T, commissioned by WHO Headquarters/Geneva and funded by the WHO Centre for Health Development Kobe/Japan; 2008.
 - 34) Pratt M, Brownson R. Project GUIA: A model for understanding and promoting physical activity in Brazil and Latin America. *JPAH.* 2010; 7(Suppl 2): S131-S4.
 - 35) Hoehner CM, Soares J, Parra Perez D, Ribeiro IC, Joshi CE, Pratt M, et al. Physical activity interventions in Latin America: a systematic review. *Am J Prev Med.* 2008; 34(3): 224-33.

- 36) Bull FV, Pratt M, Shephard RJ, Lankenau B. Implementing national population based action on physical activity - challenges for action and opportunities for international collaboration. *Promot Educ.* 2006; 13 (2): 127-32.
- 37) Bull FC, Gauvin L, Bauman A, Shilton T, Kohl III HW, Salmon A. The Toronto Charter for Physical Activity: A global call for action. *J Phys Act Health.* 2010; 7 (4): 421.
- 38) Shilton T. Advocacy for physical activity- from evidence to influence. *Promot Educ.* 2006; 13 (2): 118-26.
- 39) Kickbusch I, Nutbeam D. Health promotion glossary. Notes. WHO, Geneva, 1998.
- 40) Yach D, McKee M, Lopez A, Novotny T. Improving diet and physical activity: 12 lessons from controlling tobacco smoking. *BMJ.* 2005; 330: 898-900.
- 41) Activity GACfP. The Toronto Charter for Physical Activity: A global call to action. Toronto: Global Advocacy Council for Physical Activity The Advocacy Council of the International Society for Physical Activity and Health, www.globalpa.org.uk; 2010 May 20, 2010.
- 42) Geneau R, Stuckler D, Stachenko S, McKee M, Ebrahim S, Basu S, et al. Raising the priority of preventing chronic diseases: a political process. *Lancet.* 2010; 376 (9753): 1689-98.
- 43) Brownson RC, Royer C, Ewing R, McBride TD. Researchers and policymakers: Travelers in parallel universes. *Am J Prev Med.* 2006; 30 (2): 164-72.
- 44) Thai Health Foundation. Physical activity and sports for health. 2011; Accessed Feb 25th 2011. Available from: <http://en.thaihealth.or.th/plans/exercise>.
- 45) United Nations. High-level Meeting of the United Nations General Assembly on the Prevention and Control of Noncommunicable Diseases. 2011; Accessed Feb 25th 2011. Available from: http://www.who.int/nmh/events/2011/ncd_summit/en/index.html.
- 46) Mbanya JC, Squire SB, Cazap E, Puska P. Mobilising the word for chronic NCDs. *Lancet.* 2010; 377 (9765): 536-7.
- 47) Brennan LK, Castro S, Brownson RC, Claus J, Orleans CT. Accelerating evidence reviews and broadening evidence standards to identify effective, promising, and emerging policy and environmental strategies for childhood obesity prevention. *Annu Rev Public Health.* 2011; 32: (pre publication copy).