Quest, 2009, 61, 25-38

Transnational Strategies for the Promotion of Physical Activity and Active Aging: The World Health Organization Model of Consensus Building in International Public Health

Wojtek Chodzko-Zajko and Andiara Schwingel

In this paper we focus our attention on an examination of the four-step process adopted by the World Health Organization (WHO) in its systematic campaign to promote physically active lifestyles by older adults across the 193 WHO member states. The four steps adopted by the WHO include (1) Building Consensus Among Professionals; (2) Educating the Public and Building Consumer Demand; (3) Developing an Active Aging Public Policy Framework; and (4) Refining, Expanding, and Evolving the Model. For each of these steps we describe the processes by which the WHO sought input from a wide variety of sources in each of the six WHO regions (Africa, Americas, South-East Asia, Europe, Eastern Mediterranean, Western Pacific). Using this approach they helped to systematically build a transnational consensus with regard to the importance of regular physical activity as a critical component of the prevention of chronic disease and the promotion of high quality of life in the older adult population. The focus of WHO activity has gradually shifted away from advocating for increased physical activity interventions, per se, to a more nuanced approach focusing on articulating the policy requirements for the promotion of active aging across multiple determinants and risk factors. The realization that effective health promotion strategies cannot exist in isolation but rather must be consistent with and reflective of the economic, political, and cultural realities of the societies in which they are to be implemented marks an important advance in the WHO strategy in the area of physical activity promotion. The paper concludes with a brief description of recent WHO efforts to promote Global Age-Friendly Cities and to develop multisectoral strategies to reduce falls in older adult populations. Both of these initiatives underscore the important role that kinesiologists and other health professionals have in the development of, and implementation of, active aging strategies and polices. The goal of this paper is to examine the process by which research findings and other evidence gathered from a variety of sources, countries, and cultures gradually coalesce into a broad transnational consensus with respect to accepted policies and procedures in international public health. To illustrate the complex steps involved in the evolution

The authors are with the Dept. of Kinesiology and Community Health, University of Illinois at Urbana-Champaign, Urbana, IL 61801. Chodzko-Zajko is AAKPE Fellow #407. E-mail: wojtek@illinois.edu

of transnational consensus with regard to best practices and effective public policy, we will examine the role played by the WHO in building awareness and understanding with respect to the importance of regular physical activity for the promotion of health and quality of life of adults over the age of 50 years.

For the past 15 years, the Aging and Life Course Program (formerly known as the Aging and Health Program) at the World Health Organization (WHO) has systematically advocated for a public health agenda that includes an increased focus on chronic disease prevention through the reduction of high risk behaviors, such as smoking and excessive alcohol consumption, and the promotion of healthy lifestyle choices, including increased physical activity and adequate and healthy nutrition (Kalache, 1996). In this paper we focus our attention on an examination of the four-step process adopted by the WHO in its systematic campaign to promote physically active lifestyles by older adults across the 193 member states of the WHO. The four steps adopted by the WHO include (1) Building Consensus Among Professionals; (2) Educating the Public and Building Consumer Demand; (3) Developing an Active Aging Public Policy Framework; and (4) Refining, Expanding, and Evolving the Model. For each of these steps we will briefly describe how the WHO approach sought input from a wide variety of sources in each of the six WHO regions (Africa, Americas, South-East Asia, Europe, Eastern Mediterranean, Western Pacific) to systematically build a transnational consensus with regard to the importance of regular physical activity as a critical component of the prevention of chronic disease and the promotion of high quality of life in the older adult population.

Step One: Seeking Consensus Among Professionals

Twenty years ago, in many regions of the world, it would have been an unusual sight to observe a 70-year-old woman enthusiastically exercising in a public place. At that time, throughout many countries and cultures, old age was considered to be a time in which older persons were expected to take it easy and gradually disengage from many of the trials and tribulations associated with employment and other adult responsibilities. The prevailing models of retirement encouraged older adults to adopt relatively passive lifestyle choices and overtly or subtly discouraged seniors from being physically active (McPherson, 1994). This emphasis on passivity and disengagement was inconsistent with a growing body of knowledge that was emerging at that time regarding the adverse health consequences of sedentary living and the importance of remaining physically active across the life course (Chodzko-Zajko, 2000).

To develop a cohesive strategy with respect to the promotion of health and well-being of older persons throughout the world, in April 1995, the WHO launched a new program on aging and life course. The goal of this program was to respond to the challenges of population aging in a dynamic, life course oriented fashion. Writing in an editorial in the *Journal of Aging and Physical Activity*, Alexandre Kalache, the director of the WHO Aging and Life Course Program, stressed that a major role of the WHO Aging and Life Course Program would be to raise awareness of the importance of lifestyle factors in healthy aging through a combination of advocacy, training, and research (Kalache, 1996).

One of the first initiatives of the new program was to focus on educating health professionals and public policy makers about the importance of avoiding sedentary and disengaged lifestyles in old age. To increase awareness and build consensus among decision makers and other influential professionals, the WHO decided to commission a consensus statement about the importance of physically active lifestyles in old age. In December 1995, a scientific advisory panel composed of researchers, public health officers, and policy makers from each of the six WHO regions met in Germany to formulate a working draft of a scientific consensus statement about physical activity. This draft was subsequently disseminated widely for comment and revision and presented to the scientific community at the fourth World Congress on Physical Activity, Aging, and Sport, which was held in Heidelberg, Germany, in August 1996. The final *WHO Heidelberg Guidelines for Promoting Physical Activity Among Older Persons* were published and translated into numerous languages and disseminated broadly through a wide variety of governmental, nongovernmental, academic, and social outlets.

The Heidelberg Guidelines presented, for the first time, a clear and unambiguous statement from the WHO endorsing the crucial role of regular physical activity as an integral component of healthy aging (see the Appendix). The Guidelines were not intended to be either a comprehensive review of the scientific literature or a practical handbook on how to exercise; rather, the Guidelines were designed to be a definitive and authoritative statement of consensus from the scientific community that was endorsed and disseminated by the World Health Organization. The Guidelines confirmed, with the full weight of the WHO behind them, that the evidence was clear: regular physical activity should be a part of the daily routine for the vast majority of older persons and regular physical activity is one of the most effective means whereby individuals can influence their own health and functional abilities.

An almost immediate impact of the publication of the WHO Guidelines was an increase in interest in the promotion of physical activity in the older adult population across virtually all regions of the WHO. Universities and colleges in many member states began to develop courses and specializations focusing on physical activity for older adults. Consensus curriculum guidelines were published by the International Society for Aging and Physical Activity and endorsed by the WHO (ISAPA, 2004). Gradually, more physical activity opportunities for older adults began to emerge across the member states. Physicians and health professionals around the world were becoming more willing to encourage their patients to participate in exercise and physical activity. A gradual consensus was emerging that WHO member states had a responsibility to promote physical activity as an essential component of an effective national strategy to promote healthy aging.

Step Two: Educate the Public and Build Consumer Demand

Although the publication of the WHO Heidelberg Guidelines marked an important first step in the WHO campaign to promote physically active lifestyles in the older adult population, the Guidelines were targeted primarily at professional

audiences, and they were not designed to increase general public awareness of the importance of maintaining physically active lifestyles. The next phase of the WHO strategy was to initiate a coordinated public information campaign to bring the issue of physical activity to the attention of the general public around the world.

The WHO chose to launch its public information campaign about the importance of physical activity for older persons in the fall of 1999. This was a particularly appropriate time for the WHO to focus on active aging because its parent organization, the United Nations, had designated 1999 to be the International Year of Older Persons (IYOP). The International Year of Older Persons focused the attention of the world on the many challenges facing society as a result of the remarkable aging of the population that had occurred throughout the 20th century. Alexandre Sidorenko, Officer-in-Charge of the United Nations Program on Aging, noted that the IYOP was not intended as a purely celebratory event, but rather 1999 should be viewed as a springboard for launching a wide variety of long-term strategies on aging at both the national and international levels (Sidorenko, 1999). In excess of 300 national and international scientific congresses were organized in conjunction with the IYOP. Conferences were held in more than 75 countries, thousands of symposia and workshops were organized, and tens of thousands of papers were presented.

In conjunction with these efforts around the world, on October 2, 1999, the WHO Aging and Life Course Program launched a campaign to increase public awareness of the importance of physical activity. A central feature of the campaign was a series of coordinated walks for older persons collectively known as the Global Embrace. The goal of the Global Embrace was to emphasize the importance of active and successful aging by organizing walking events across the world synchronized in such a way as to start at the same time of day in every time zone throughout the globe (WHO, 1999). The first walk of the day began in New Zealand and was followed by Australia, Japan, China, India, Africa, and the Middle East, Europe, and the Americas. It is estimated that by the end of the last walk of the day, well over 5,000 communities and in excess of two million individuals had participated in the Global Embrace. The WHO estimates that the Global Embrace was the single largest health-promotion event in history (WHO, 1999).

In a previous meeting of the Academy of Kinesiology and Physical Education, I described the remarkable kaleidoscope of events around the world that marked the celebration of the Global Embrace (Chodzko-Zajko, 2000). See Figure 1. For example, in Brazil, more that 400 cities staged walking events, including a walk starting simultaneously from both ends of Copacabana Beach in Rio de Janeiro. This event culminated with a huge beach party. Accompanied by two samba bands, thousands of people of all ages danced in celebration of successful aging, many of them wearing the bathing suits and bikinis that have made Copacabana beach infamous around the world. In Hiroshima Japan, more than 2,000 people walked arm in arm across the Bridge of Peace linking Shikoku Island with the main island of Japan. In Kibaha Tanzania, a 3-km walk along the Tanzanian coast marked the culmination of a week of celebrations organized under the Kiswahili slogan *Uzi Ni Dhahabu* (Old is Gold). During the week before the walk, free clinics were organized to provide eye and dental examinations, as well as extensive screening for diabetes and hypertension. In the United States, more than

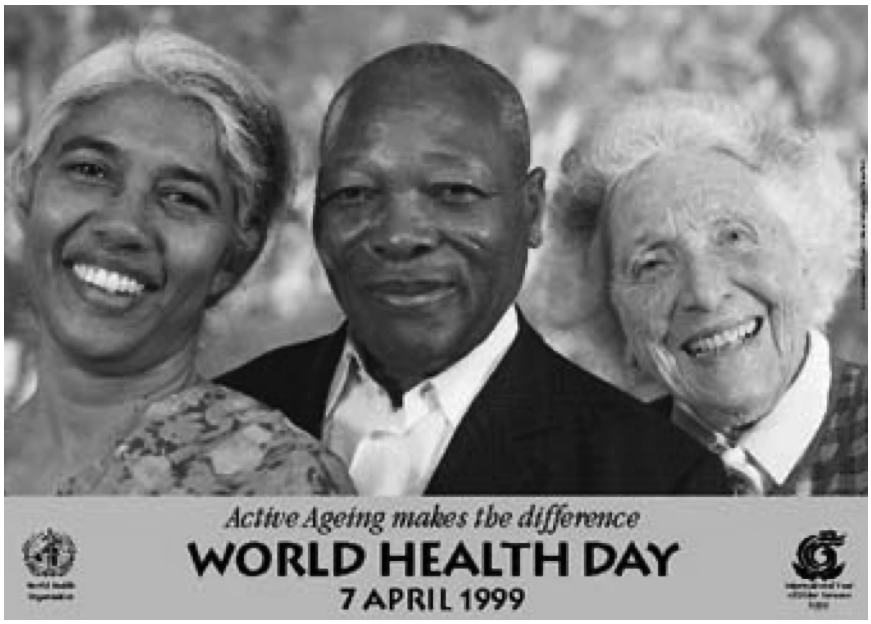

Figure 1 — World Health Day, 1999. WHO Aging and Life Course Program materials have been placed in the public domain and can be freely copied and distributed (WHO, 1999).

100 walks took place; one of the largest marched down New York's Fifth Avenue and around Central Park. The New York organizers selected Aging Out Loud as the theme for their walk. The slogan was chosen to emphasize that aging is something that we can be proud of, rather than something that is to be feared.

It is important to note that media participation in the Global Embrace was extensive with significant television and print media coverage, not only of the events themselves but also of the underlying public health message behind the event. Television stories were carried internationally by the BBC, CNN, and Deutsche Welle, in addition to numerous national and regional television stations. This had the effect of greatly magnifying the reach of this transnational event beyond the two million walkers to a much larger audience around the globe. The wide variety of different types of events serves to underscore the critical importance of developing culturally appropriate messages when attempting to communicate with the general population about important health behaviors.

In addition to its leadership role in high-visibility individual events such as Global Embrace, the WHO Aging and Life Course Program has also worked closely with partners around the world to promote physically active lifestyles through a series of multifaceted public information campaigns. One of the most widespread of these initiatives is the *Agita Mundo* campaign that was launched in conjunction with the World Health Day in 2002. The primary purpose of the *Agita Mundo* campaign is to promote physical activity as a healthy behavior for people of all ages around the world. The *Agita Mundo* campaign is designed to stimulate

and encourage the dissemination of information on the health benefits of physical activity and effective strategies to increase physical activity, advocate for physical activity and health, and support the development of national and local programs for physical activity promotion.

There can be little doubt that the WHO efforts to publicize the importance of physical activity for older adults have been successful in bringing these issues to the attention of both health and policy professionals and the general public at large. Events such as the Global Embrace and campaigns such as Agita Mundo have focused the attention of the world on issues related to active and successful aging. However, these initiatives have focused primarily on disseminating information about the importance of physical activity and have paid limited attention to how to integrate physical activity opportunities into a broader and more comprehensive public policy framework in the area of aging.

Step Three: Build the Active Aging Public Policy Framework

The third major step of the WHO efforts to promote physical activity in the older adult population was a decision to focus their efforts more explicitly on public policy considerations. In the past, the WHO Aging and Life Course Program had advocated for the adoption of specific health promotion strategies without fully considering the economic, cultural, and political realities under which such strategies were to be implemented. As part of the WHO's contribution to the 2002 World Assembly on Aging, the WHO developed an international policy white paper titled *Active Aging: A Public Policy Framework*. The WHO Policy Framework argues that all strategies to promote active and successful aging must be integrated into a comprehensive and far reaching public policy that embraces a multisectoral approach to successful aging (WHO, 2002).

Specifically, the WHO vision of healthy and active aging in the 21st century requires the simultaneous involvement and engagement of many sectors of society including health and social services, education, employment and labor, finance, social security, housing, transportation, and both rural and urban development. Physical activity promotion is no longer considered to be the responsibility of the health and academic sectors alone; rather, a multisectoral coalition will need to be mobilized if our policies and programs are to be effective. The realization that effective health promotion strategies cannot exist in isolation but rather must be consistent with and reflective of the economic, political, and cultural realities of the societies in which they are to be implemented marked an important advance in the WHO strategy to promote physical activity.

The culture that surrounds all individuals and populations shapes and influences all of the determinants of active aging. Cultural values and traditions determine not only how a given society views older people and the aging process but it also influences the types of prevention, detection, and treatment services that are most likely to be successful in a particular country and culture. In this context, the types of programs and strategies that are likely to succeed in the United States might be quite different from those that would be effective in sub-Saharan Africa, Eastern Europe, or Latin America.

The WHO Active Aging Policy Framework reminds us that all effective health promotion strategies will need to be firmly grounded within the local, national, and regional reality. These realities must take into consideration such factors as epidemiological transition, rapid changes in the health sector, globalization, urbanization, changing family patterns, and environmental degradation, as well as persistent inequalities and poverty, particularly in developing countries where the majority of older persons live. Furthermore, the WHO Active Aging Policy Framework recognizes that effective policies and programs designed to promote health and well-being in old age will need to adopt a life-course perspective that acknowledges that many of the determinants of chronic conditions and disability in old age have their roots in childhood and young and middle-age adult life.

Effective physical activity promotion strategies will also need to acknowledge the reality that in all regions of the world, women are at greater risk for disability and physical inactivity related disorders than men. Accordingly, gender issues will need to be taken into consideration in the development of all policies, programs, and practices. The WHO Active Aging Framework reminds us that in many societies, girls and women have lower social status and less access to nutritious foods, education, meaningful work, and health services. Because the consequences of inactivity disproportionately impact older women, it is especially important that these factors be addressed proactively and explicitly within all physical activity promotion strategies.

In the past, the tendency has been for many member states to look to "evidence-based" intervention programs developed and tested in North America or Europe and simply apply these programs in their own country. A key message of the WHO Active Aging Public Policy Framework is that although it is possible for the WHO and other organizations to articulate general principles underlying the promotion of active and successful aging, each member state will need to translate these guidelines into culturally, politically, and economically relevant policy for the community, region, or nation state in which they are to be implemented. A "one size fits all" model of successful aging simply will not work.

But perhaps the most significant message to emerge out of the WHO Active Aging Policy Framework is the notion that there are numerous and diverse determinants associated with active and successful aging (Figure 2). To truly prepare for successful and active aging, national strategies will need to acknowledge a complex combination of economic, social, personal, environmental, and behavioral determinants. Serious deficits in any of these areas can adversely impact the possibility of older adults aging successfully. The clear implication for the field of kinesiology is that participating in physical activity interventions alone will not ensure that an individual ages successfully. It is apparent that kinesiologists and other health professionals will need to partner with specialists from numerous other disciplines if we are to develop policies and programs that are able to accommodate the complex multifaceted reality of aging in contemporary society. To age successfully, older persons will need to be not only physically active, but also socially, intellectually, culturally, and (for many seniors) spiritually active. Somewhat surprisingly, to date, professionals in the area of physical activity and aging have focused little attention to the development and implementation of integrated programming opportunities for seniors. One of the challenges for our profession

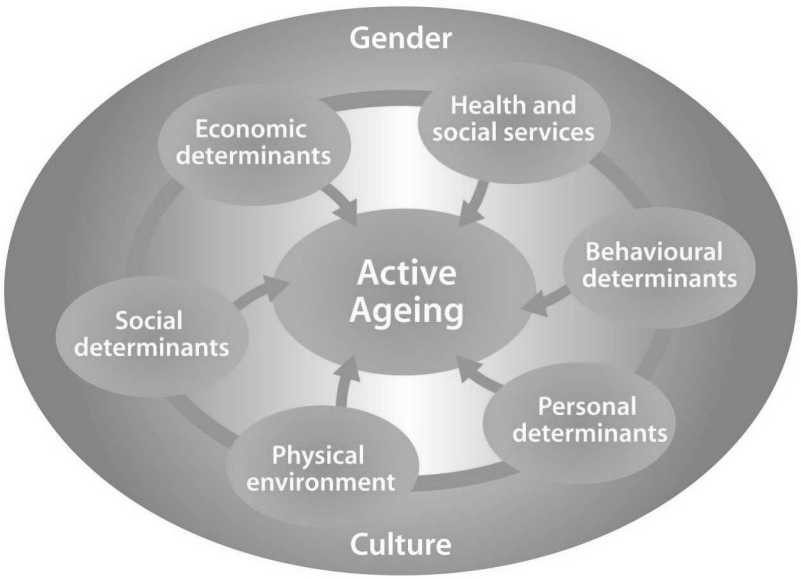

Figure 2 — WHO Multiple Determinants of Active Aging, 2002. WHO Aging and Life Course Program materials have been placed in the public domain and can be freely copied and distributed (WHO, 2002).

will be to learn how to integrate physical activity into the wider social, cultural, and economic context of active aging as a whole.

Step Four: Refining, Evolving, and Expanding the Model

A logical extension of the WHO Multiple Determinants Model of Active Aging has been a move away from the promotion of individual physical activity interventions or campaigns in favor of more complex public health initiatives in which physical activity is embedded as an integral component of a much broader health promotion and disease prevention strategy. For example, in 2007, the WHO launched a worldwide initiative to support the development of Global Age-Friendly Cities.

The goal of the *WHO Global Age-Friendly Cities Guide* is to encourage communities around the world to take action to make the environment more supportive and accommodating to persons of all ages (WHO, 2007). The WHO report suggests that making cities age friendly is one of the most effective policy approaches for responding to global aging. An age-friendly community is one in which policies, services, and structures in both the physical and social environment are designed in such a way as to enable older persons to age actively, to be secure, to enjoy good health, and to participate fully in society.

It is important to note that age-friendly cities are not only beneficial for seniors; on the contrary, age-friendly communities benefit people of all ages. Improving air and water quality protects growing children and older persons who are sensitive to environmental exposure. Secure neighborhoods are safe for children, youth, women, and older adults. Families experience less worry and stress when their older relations have the services and supports they need. Barrier-free buildings and streets enhance the mobility and independence of both younger and older persons with disabilities. The whole community benefits from the participation of older persons in volunteer or paid work and civic activities. Finally, the local economy benefits from the patronage of older adult consumers (WHO, 2007). There can be no doubt that kinesiologists and other exercise and health professionals have an important role to play in assisting with the development of age-friendly communities around the world. We can assist with the inventorying of neighborhoods to assess walkability and support for active lifestyle choices, we can advocate for the development of policies and services that emphasize the prevention of inactivity related disorders, and we can work to promote inclusion and independence of persons of all ages. We have a responsibility to be active leaders in the global campaign to redesign our communities to support activity and inclusion for people of all ages.

Shortly after the release of the Global Age-Friendly City report, the WHO began work on the development of a consensus statement about falls prevention in older age. The *WHO Global Report on Falls Prevention in Older Age* is a further example of how WHO strategy in the area of physical activity promotion has evolved from one that focuses on physical activity alone, into one that develops more complex initiatives that include physical activity as part of a broader public health agenda (WHO, 2008). The WHO Falls Prevention Report describes a cohesive, multisectoral approach to falls prevention that is built on the foundation of a proactive and flexible public health policy grounded in the principles of health promotion and disease prevention.

The WHO report notes that falls among older people are a large and increasing cause of injury, treatment costs, disability, and death in virtually all regions of the world. For injuries of the same severity, older people experience more disability, longer hospital stays, extended periods of rehabilitation, and a higher risk of subsequent dependency, as well as a higher risk of dying. Fortunately, there is now compelling evidence that risk factors for falling can be influenced by the implementation of targeted intervention strategies designed to modify the various intrinsic and extrinsic determinants known to increase the likelihood of falling.

The WHO Falls Prevention Model provides a comprehensive multisectoral framework for reducing falls and fall-related injuries among older persons (Figure 3). The model is designed to identify policies, practices, and procedures that will build awareness of the importance of falls prevention and treatment among older persons; that will improve the assessment of individual, environmental, and societal factors that increase the likelihood of falls; and that will facilitate the design and implementation of culturally appropriate, evidence-based interventions that will significantly reduce the number of falls among older persons.

The WHO Model is built around three pillars that are highly interrelated and mutually dependent: (1) building awareness of the importance of falls prevention

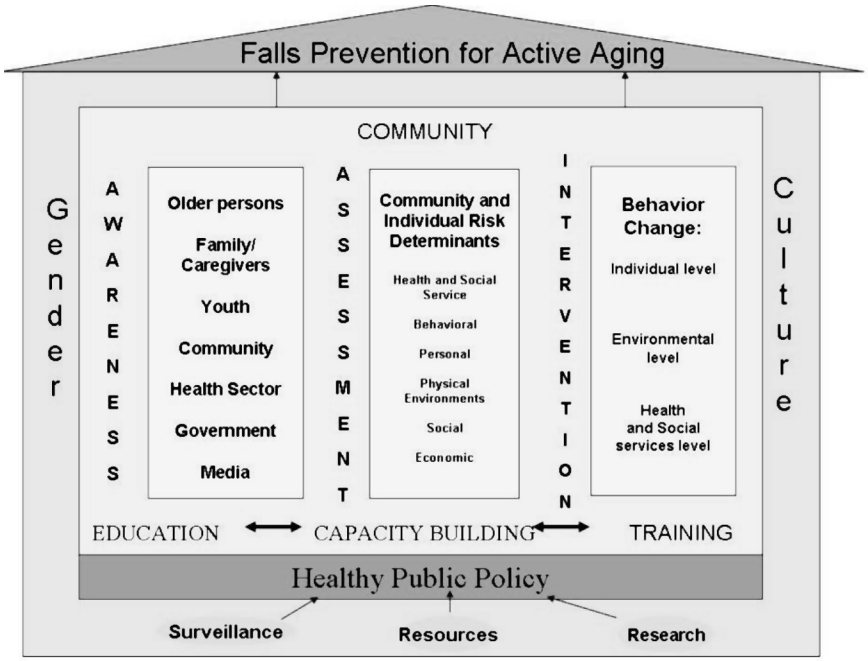

Figure 3 — WHO Falls Prevention for Active Aging Model, 2008. WHO Aging and Life Course Program materials have been placed in the public domain and can be freely copied and distributed (WHO, 2008).

and treatment; (2) improving the assessment of individual, environmental, and societal factors that increase the likelihood of falls; and (3) facilitating the design and implementation of culturally appropriate, evidence-based interventions that will significantly reduce the number of falls among older persons. The WHO suggests that making progress in implementing the strategies identified in each of these pillars will require an ongoing commitment to capacity building, education, and training in all countries and regions.

From the perspective of kinesiology and health, professionals within our discipline have a critical role to play within each of the three pillars of fall prevention. They can help to build awareness of the importance of fall prevention and treatment, they can assist in identifying risk factors and determinants for falls, and they can recommend culturally appropriate, evidence-based interventions for the prevention, treatment, and management of falls and fall-related injuries. The WHO recommends that health professionals be trained to use evidence-based protocols and procedures that help to identify those individuals who are at the greatest risk.

The WHO report notes that regular physical activity has been shown to prevent and/or lower an older person's risk for falling in community and home settings. For healthy older adults at low risk for falls, engaging in a broad range of physical activities on a regular basis is likely to be sufficient to substantially

reduce the risk for falling. In contrast, older adults at higher risk for falls will benefit from engaging in structured exercise programs that systematically target the risk factors amenable to change. Older adults identified at the highest risk for falls will benefit from an individually tailored exercise program that is embedded within a larger, multifactorial intervention approach.

The WHO Falls Prevention Model provides an action plan for making progress in reducing the prevalence of falls in the older adult population. In much the same way that kinesiologists and other exercise and health professionals have a role to play in the development of age-friendly communities, we also have an important role to play in implementing strategies to reduce the risk of falling in older adult populations. We can help to build awareness, we can improve assessment, and we can assist with the development and implementation of appropriate and effective interventions that reduce risk and improve quality of life.

Conclusion

Over the past 15 years, the Aging and Life Course Program at the World Health Organization has enthusiastically advocated for the promotion and adoption of physically active lifestyles in the older adult population as an affordable and effective means to prevent chronic diseases and conditions and enhance independence and high quality of life for older adults. Initially, WHO efforts focused on building awareness of the importance of physical activity among health professionals and policy makers, as well as on implementing wide-scale efforts to disseminate information to the general public.

More recently, the focus of WHO activity has gradually shifted away from advocating for increased physical activity interventions, per se, to a more nuanced approach focused on articulating the public policy requirements for the promotion of active aging across multiple determinants and risk factors. As part of its response to the World Assembly on Aging, the WHO developed an Active Aging Policy Framework, which argues that all strategies to promote active and successful aging must be integrated into a comprehensive and far reaching public policy that embraces a multisectoral approach to successful aging. In this context, physical activity promotion is no longer considered to be the responsibility of the health and academic sectors alone; rather, a multisectoral coalition will need to be mobilized if our policies and programs are to be effective. The realization that effective health promotion strategies cannot exist in isolation but rather must be consistent with and reflective of the economic, political, and cultural realities of the societies in which they are to be implemented marks an important advance in the WHO strategy to promote physical activity.

This paper concludes with a brief description of recent WHO efforts to promote Global Age-Friendly Cities and to develop multisectoral strategies to reduce the risk of falls in older adult populations. Both of these initiatives underscore the important role that kinesiologists and other health professionals have in the development of and implementation of active aging strategies and polices. Working in collaboration with colleagues from other disciplines, we can help to build awareness, we can improve assessment, and we can assist with the development and implementation of appropriate and effective interventions that reduce risk factors and improve quality of life.

References

Chodzko-Zajko, W. (2000). Successful aging in the new millennium—The role of regular physical activity. *Quest, 52,* 333–343.

ISAPA. 2004. *International curriculum guidelines for older adults*. International Society for Aging and Physical Activity. Retrieved November 3, 2008, from http://www.isapa.org/guidelines/index.cfm

Kalache, A. 1996. Aging and health. *Journal of Aging and Physical Activity, 4*(2), 103–104.

McPherson, B.D. (1994). Sociocultural perspectives on aging and physical activity. *Journal of Aging and Physical Activity, 2*(4), 329–353.

Sidorenko, A. (1999). The international year of older persons. *Journal of Aging and Physical Activity, 7*(1), 1–2.

United Nations. 2000. *1999—The international year of older persons*. Retrieved November 3, 2008, from http://www.un.org/esa/socdev/iyop/iyopcal.htm

WHO. (1996). *The Heidelberg guidelines for promoting physical activity among older persons*. Geneva, Switzerland: World Health Organization.

WHO. (1999). *Global embrace, WHO aging and life course program*. Retrieved November 3, 2008, from http://www.who.int/docstore/globalmovement/embrace1999/index.htm

WHO. (2002). *Active aging—A policy framework*. Retrieved November 3, 2008, from http://whqlibdoc.who.int/hq/2002/WHO_NMH_NPH_02.8.pdf

WHO. (2007). *Global age-friendly cities: A guide*. Retrieved November 3, 2008, from http://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf

WHO. (2008). *Fall prevention in older age*. Retrieved November 3, 2008, from http://www.who.int/ageing/projects/falls_prevention_older_age/en/index.html

Appendix

WHO—HEIDELBERG GUIDELINES FOR PHYSICAL ACTIVITY FOR OLDER PERSONS*

Individual Benefits of Physical Activity for Older Persons: Physiological Benefits

Immediate benefits:

- **Glucose levels:** Physical activity helps regulate blood glucose levels.
- **Catecholamine activity:** Both adrenalin and noradrenalin levels are stimulated by physical activity.
- **Improved sleep:** Physical activity has been shown to enhance sleep quality and quantity in individuals of all ages.

---

* The WHO Guidelines have been placed in the public domain and can be freely copied and distributed (WHO, 1996).

Long-term effects:

- **Aerobic/cardiovascular endurance:** Substantial improvements in almost all aspects of cardiovascular functioning have been observed following appropriate physical training.
- **Resistive training/muscle strengthening:** Individuals of all ages can benefit from muscle strengthening exercises. Resistance training can have a significant impact on the maintenance of independence in old age.
- **Flexibility:** Exercise that stimulates movement throughout the range of motion assists in the preservation and restoration of flexibility.
- **Balance/coordination:** Regular activity helps prevent and/or postpone the age-associated declines in balance and coordination, which are major risk factors for falls.
- **Velocity of movement:** Behavioral slowing is a characteristic of advancing age. Individuals who are regularly active can often postpone these age-related declines.

Individual Benefits of Physical Activity for Older Persons: Psychological Benefits

Immediate benefits:

- **Relaxation:** Appropriate physical activity enhances relaxation.
- **Reduces stress and anxiety:** There is evidence that regular physical activity can reduce stress and anxiety.
- **Enhanced mood state:** Numerous people report elevations in mood state following appropriate physical activity.

Long-term effects:

- **General well-being:** Improvements in almost all aspects of psychological functioning have been observed following periods of extended physical activity.
- **Improved mental health:** Regular exercise can make an important contribution in the treatment of several mental illnesses, including depression and anxiety neuroses.
- **Cognitive improvements:** Regular physical activity may help postpone age-related declines in central nervous system processing speed and improve reaction time.
- **Motor control and performance:** Regular activity helps prevent and/or postpone the age-associated declines in both fine and gross motor performance.
- **Skill acquisition:** New skills can be learned and existing skills refined by all individuals regardless of age.

Individual Benefits of Physical Activity for Older Persons: Social Benefits

Immediate benefits:

- **Empowering older individuals:** A large proportion of the older adult population voluntarily adopts a sedentary lifestyle, which eventually threatens to reduce independence and self-sufficiency. Participation in appropriate physical activity can help empower older individuals and assist them in playing a more active role in society.
- **Enhanced social and cultural integration:** Physical activity programs, particularly when carried out in small groups and/or in social environments, enhance social and intercultural interactions for many older adults.

Long-term effects:

- **Enhanced integration:** Regularly active individuals are less likely to withdraw from society and more likely to actively contribute to the social milieu.
- **Formation of new friendships:** Participation in physical activity, particularly in small groups and other social environments, stimulates new friendships and acquaintances.
- **Widened social and cultural networks:** Physical activity frequently provides individuals with an opportunity to widen available social networks.
- **Role maintenance and new role acquisition:** A physically active lifestyle helps foster the stimulating environments necessary for maintaining an active role in society, as well as for acquiring positive new roles.
- **Enhanced intergenerational activity:** In many societies, physical activity is a shared activity that provides opportunities for intergenerational contact thereby diminishing stereotypic perceptions about aging and the elderly.

Societal Benefits of Promoting Physical Activity for Older Persons

- **Reduced health and social care costs:** Physical inactivity and sedentary living contribute to a decrease in independence and the onset of many chronic diseases. Physically active lifestyles can help postpone the onset of physical frailty and disease thereby significantly reducing health and social care costs.
- **Enhancing the productivity of older adults:** Older individuals have much to contribute to society. Physically active lifestyles help older adults maintain functional independence and optimize the extent to which they are able to actively participate in society.
- **Promoting a positive and active image of older persons:** A society that promotes a physically active lifestyle for older adults is more likely to reap the benefits of the wealth of experience and wisdom possessed by the older individuals in the community. A large proportion of the older adult population voluntarily adopts a sedentary lifestyle, which eventually threatens to reduce independence and self-sufficiency.